SOEP The German Socio-Economic Panel Study

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

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SOEP Wave Report

2012

DIW SOEP

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Photo: Stephan Röhl

Introduction

Jürgen Schupp
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We are happy to be able to give you another glimpse into our work with the third Wave Report of the SOEP longitudinal study. In the 2012 survey year, we conducted the 29th wave of the SOEP survey and distributed the SOEP data from a total of 28 waves to our over 500 scientific users in Germany and abroad.

Alongside the fieldwork for the core SOEP samples, we added another new sample extension (K) in 2012 with more than 1,500 new households. In addition, we expanded our SOEP Innovation Sample to nearly 2,500 households and invited the scientific community to join us in shaping the content of this survey by contributing their own topics for the first time. A technical report will again be published to provide an overview of the fieldwork.

The short research papers by members of the SOEP group in this year's Wave Report once again give an impression of the current research questions that are being explored with the SOEP data. In the attached list of publications, we also present the most important SOEP-based papers published in the last year.

The Tenth International SOEP User Conference took place in Berlin from June 28-29, 2012. There, with 160 participants, 66 papers and more than a dozen posters were presented, opening SOEP-based research up for discussion. In early summer of 2013, a selection of these papers will be published as conference proceedings in the series *Schmollers Jahrbuch*.

In early 2012, the research and infrastructural services provided by the SOEP team were assessed as part of the Leibniz Association's regular evaluation. The results were released in November 2012 in the Leibniz Association's evaluation report. The entire SOEP team is very proud that the SOEP's performance was rated overall as "excellent."

Berlin, June 2013

Jürgen Schupp

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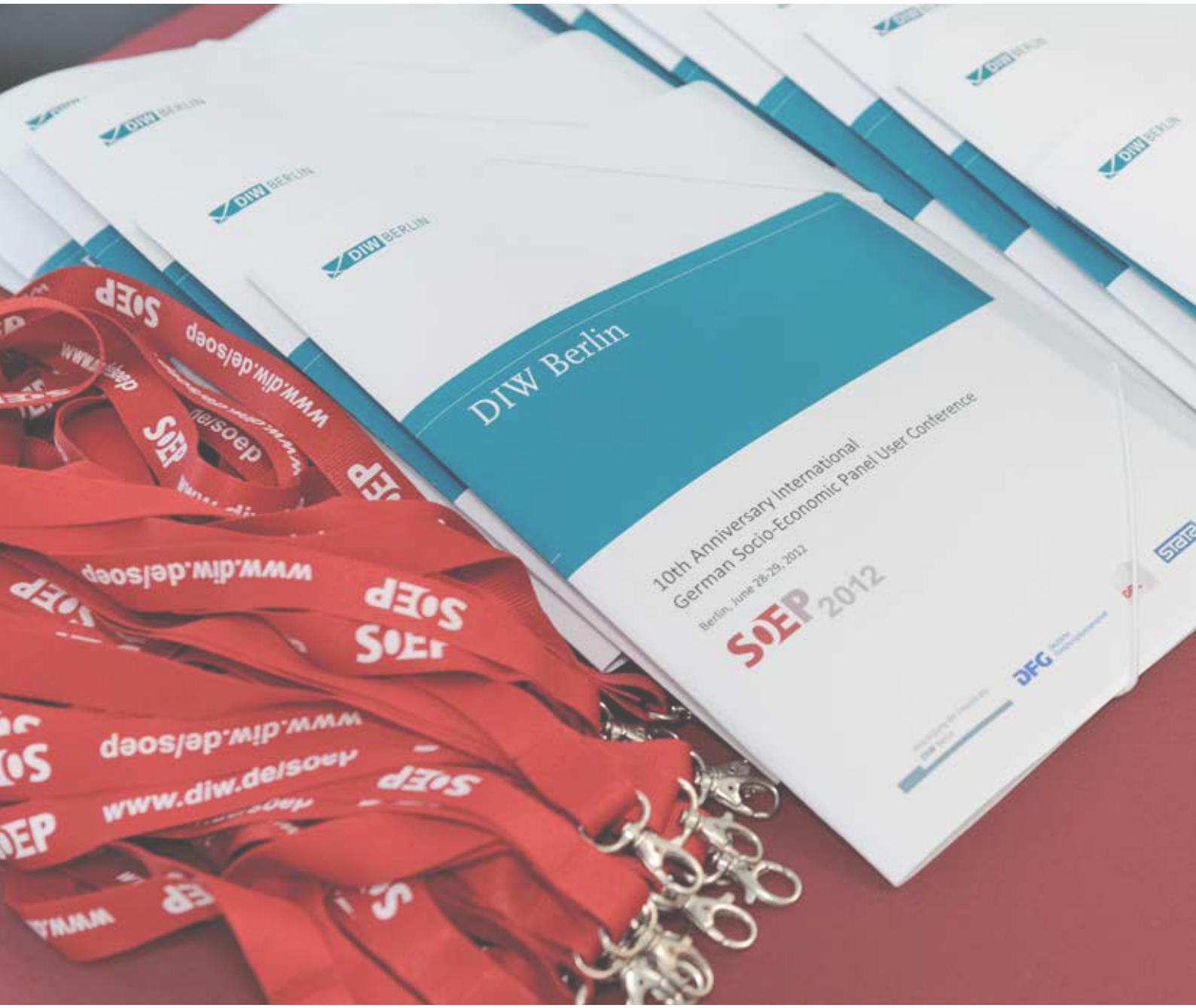
DIW Berlin
10th Anniversary International
German Socio-Economic Panel User Conference
Berlin, June 28-29, 2012
SOEP 2012
www.diw.de/soep

SOEP Mission

The German Socio-Economic Panel Study (SOEP) is a research-driven infrastructure unit which serves an international scientific community by providing nationally representative longitudinal data from a multi-disciplinary perspective covering the entire life span (from conception to memories) in the context of private households (household panel).

The data enables not only policy oriented research ("social monitoring") but mainly cutting-edge research to improve understanding of human behavior in general, economic decisions in detail, and mechanisms of social change embedded in the household context, the neighborhood, and different institutional settings and policy regimes.

The SOEP group's academic excellence and cutting-edge research serve as the foundation for all of its data provision and service activities aimed at fulfilling this mission.

Goals

One of the SOEP´s key goals is to provide panel data that allow users to conduct longitudinal and cross-sectional analyses with state-of-the-art scientific methodologies to better understand mechanisms underlying human behavior and social change, embedded in the household context, the neighborhood, and different institutional settings and policy regimes.

Outcomes

The SOEP unit provides user-friendly high quality panel data for multidisciplinary research primarily in the social and behavioral sciences and economics, including sociology, demography, psychology, public health, and political science. A selection of research questions cooperate life sciences (in particular genetics) and medical science as well.

The SOEP unit is constantly implementing new areas of measurement (including biomarkers and physical measures as well as geo-referenced context data) to improve and strengthen survey methodology, thereby providing advanced assessments of the determinants of human behavior.

The SOEP unit focuses its own research on selected fields and demonstrates expertise in applying substantive and methodologically sound research in economics, psychology, and selected social sciences, including basic research an applied (policy-oriented) research targeted to both: the academic community and the society as a whole.

The SOEP unit cooperates and collaborates with scholars on a national (e.g., colleagues from a variety of research institutions in Berlin) as well as international level, thereby complementing competences from other disciplines that add to the depth of the SOEP research.

The SOEP unit improves scientific foundations for political advice beyond descriptive research (social monitoring).

The SOEP unit provides high-quality training and teaching that enables and fosters knowledge transfer to the next generation of scholars.

The SOEP unit is striving to make the research conducted with the survey data accessible and understandable to a broad audience through the German and international media.

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LIFE: *International Max Planck Research School "The Life Course: Evolutionary and Autogenetic Dynamics (LIFE)."*

Background and Overview

Jürgen Schupp

SOEP is designed and conducted by the SOEP research team at DIW Berlin. Funding comes from the Federal Government (BMBF) and the German Länder governments through the Leibniz Association (WGL). Annual interviews have been conducted from the outset by TNS Infratest Sozialforschung, the widely respected social research company based in Munich. In October 2010, a new long-term contract was signed with TNS Infratest Munich for the next ten years. Thus, two professional teams are running the SOEP: a Berlin team and a Munich team.

The scope of the SOEP is continually being expanded to incorporate new topics of interest to a wide range of scholars. The survey has also established international connections with numerous institutions including other panel studies (Burkhauser and Lillard, 2005). The Cross-National Equivalent File (CNEF) is an eight-country data set, updated each year, comprising national panel surveys from the US, UK, Canada, Australia, South Korea, Russia, and Switzerland as well as the SOEP (Frick et al., 2007). The SOEP was also one of the surveys included in the Consortium of Household Panels for European Socio-Economic Research (CHER) and provided the German data for the European Community Household Panel (ECHP), which ran from 1994-2001. SOEP data are included in two well-known and widely used cross-sectional databases: the Luxembourg Income Study (LIS) and the Luxembourg Wealth Study (LWS). The German data in older versions of EUROMOD (the tax-benefit microsimulation model for the European Union) based on SOEP data and some variables in the current version still do so.

The underlying idea of a national panel sample is to follow representative respondents through all stages of life—from birth through marriage and death and on to subsequent generations. Original sample members are interviewed every year.

> "Longitudinal surveys, which collect information about the same persons over many years, have given the social sciences their Hubble telescope. Both allow the observing researcher to look back in time and record the antecedents of current events and transitions." (Butz and Boyle Torrey 2006: 1899).

If we look back in survey history, social scientists began as early as in the 1930s to design a new kind of longitudinal study: the panel survey (Lazarsfeld and Fiske 1938). Panel surveys measure the same variables in the same individuals at two or more points in time. One of the first panel studies was conducted in the US in 1940 in the field of political science (Lazarsfeld et al. 1944).

In the methodological literature, panel surveys are often described as having a "prospective longitudinal design" (Featherman 1980). In such a design, a group of individuals are interviewed, tracked, and reinterviewed at least once at some future point in time. A "retrospective" panel design, on the other hand, entails collecting data on only one occasion. The longitudinal dimension of such a study is obtained by asking people to recall what things were like at some earlier point in time and to describe how they are at present (de Vaus 2001). This means that it is not strictly necessary to use a longitudinal research design to collect longitudinal data, although there are conceptual distinctions among different types of longitudinal data (Featherman 1980). Here, a crucial question is how reliable retrospective data are as substitutes for direct observations of the past (e.g., concurrent respondent reports in longitudinal panels, independent records, etc.). Such retrospective designs have been used in sociology to collect event history data covering the entire life course. An example of such a study is the German Life History Study (Brückner and Mayer 1998).

In developmental psychology, longitudinal surveys have a clear prospective focus:

> "Longitudinal methodology involves repeated time-ordered observation of an individual or individuals with the goal of identifying processes and causes of intraindividual change and of interindividual patterns of intraindividual change in behavioral development" (Baltes and Nesselroade 1979: 7).

Together with total population designs, which are representative from both a cross-sectional and a longitudinal perspective, longitudinal panel surveys are described as advantageous in several respects:

> "Total population designs and longitudinal panel designs can be used for practically any type of longitudinal analysis, given a sufficient number of cohorts and measurement periods. Other designs are more limited, and their appropriateness must be judged in the context of a particular research problem" (Menard 2002: 33).

High-quality household panel surveys begin, like cross-sectional surveys, with a random sample of a set of households and of the individuals within those households. For decades, the only mode of data collection was through face-to-face, paper-and-pencil interviews. But an increasing variety of other modes of data collection have become common, some reflecting technological advances. For example, mail surveys and web-based surveys are now also being used (e.g., in the Dutch LISS panel). In addition, different modes of assessment are used. In panel surveys, trained interviewers conduct health tests and tests of cognitive ability (e.g., in SHARE or in Understanding Society, UK). Panel surveys differ from cross-sectional surveys in that they continue to follow sampled individuals at regular intervals, usually once per year (wave). Adhering to the basic "follow-up rules" determining who to contact and interview again, household panel surveys produce data on changes in the demographic, economic, and social conditions of their members and thus attempt to remain representative of the cross-sectional population as well. This is in contrast to individual panel studies covering entire birth cohorts of individuals in the population, like the longitudinal design of the 1958 National Child Development Study and the 1970 British Cohort Study (Schoon 2006). These panels represent their cohorts as they age and may gradually decline in representativity for the original age group.

Multiple repeated observations (usually once per calendar year) are used for age-heterogeneous individuals within their household context and based on a random sample of all (private) households of a country. Their theoretical concept and variables cover a wide range of social and economic issues.

The success story of large-scale household panels begins about 45 years ago with the Panel Study of Income Dynamics (PSID) (Brown et al. 1996). Only household panel designs like the PSID, or the designs of the German Socio-Economic Panel (SOEP) and British Household Panel Study (BHPS), represent all individuals and households in the population and contain an endogenous mechanism for representing demographic changes in existing households caused, for example, by new entrants (birth, immigration, regional mobility) as well as drop-outs (death, emigration) reflecting the dynamics of the underlying population.

Household panels start with a representative sample of households and a representative set of individuals residing in those households. If the tracking and following rules used in household panels call for attempted interviews with all household members in the original sample, all individuals born to the original sample members, and any individuals who have moved into those households in the meantime (see Kroh et al. 2008), then this prospective panel design continues to provide a representative cross-sectional picture of the underlying population over the life of the panel. Except for immigration into newly founded households from outside the sampling frame, all demographic events (births, deaths, emigration, and events like divorce and the departure of children from their parents' homes) are covered by a high-quality household panel design. Immigration has to be handled through supplemental samples (see Wagner et al. 2007). In the first two waves of such household panels, retrospective biographical questions provide information completing the prospective development of the individual life course.

Due to initial non-response and attrition of panel respondents over the course of time, high-quality response and attrition analyses and carefully designed re-weighting strategies are crucial to achieve representative population estimates in panel studies (Ernst 1989; Rendtel and Harms 2009). Population estimates (indicating representativity) are an important issue because both longitudinal and cross-sectional results from household panel surveys are always in high demand in both the research and policy advisory community.

Such panel data offer information that can be compared to video evidence, as opposed to the "photographic" evidence of cross-sectional surveys. In social science jargon, panel data tell us about dynamics—family, income, labor, well-being, and health dynamics—rather than statics. They tell us about duration/persistence, about how

long people remain poor or unemployed, and about the correlates of entry into and exit from poverty and unemployment. For these reasons, panel data are crucial for government and public policy analysis. One of the key aims of public policy is to reduce poverty and unemployment, making it vital for policy makers to distinguish among short, medium, and long-term poor and unemployed. Very different policy interventions may be needed to assist these different groups—and to gain an understanding of reasons for entry and exit from these groups. For all these reasons, national panel surveys are vital to policy makers and the social science community. They should be viewed as crucial components of the social science infrastructure.

SOEP started in West Germany in 1984 with two sub-samples. Sample A covered the national population living in private households and Sample B was an over-sample of the five main immigrant groups in West Germany at that time: Greeks, Italians, Spanish, Turks and Yugoslavs. In the two samples combined, there were just over 12,000 respondents in just under 6,000 households.

Interviewing continued in 1985-89 and then the Wall came down. In that unique situation, the SOEP had a special opportunity and challenge. The opportunity was to measure conditions in the GDR before it ceased to exist, and then in subsequent years, to trace social and economic changes and the integration of the two societies. A new sample of East Germans was added in mid-1990 before reunification, when the GDR's occupation and wage structure were still in place. The sample comprised approximately 4,400 individuals in over 2,000 households (Sample C). These respondents are followed in exactly the same way as the original sample members, and this of course includes following people who move from the Eastern to the Western Länder, and vice-versa.

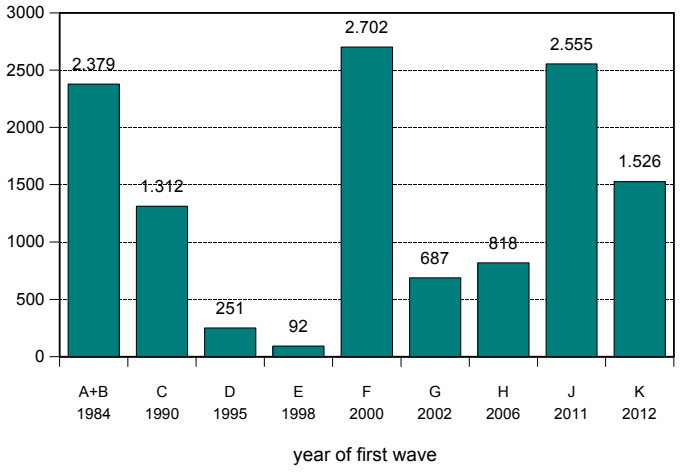
By 1994-1995, about 5% of Germany's population consisted of immigrants who had not been in the country when SOEP started. So it was essential to have a new immigrant sample. This was done, but it was time-consuming and expensive. About 20,000 households had to be screened to identify about 600 that included new immigrants (Sample D).

Supplementary Sample E was added in 1998, extending SOEP by 1,910 individuals in 1,056 households. In this sample, the new survey mode CAPI was randomly introduced as new technology (Schräpler et al. 2010).

Even though the SOEP sample was already large, a problem faced in some analyses was insufficient numbers in key "policy groups"; for example, single parents and

Figure 1

Results of SOEP fieldwork 2012 – Number of realized households by sub-sample



Source: SOEP v29.

DIW Berlin 2012

recipients of specific welfare benefits. Rather than attempt to sample these groups individually, the decision was made to substantially increase the total sample. In 2000, additional funds were raised and the sample was almost doubled to over 10,000 households (Sample F).

A special group that was still inadequately sampled were "the rich"—very high-income households that in some cases also have a high level of wealth. In 2002, SOEP drew a special sample of households in the top 2.5% of the income distribution. In that year, not coincidentally, we did our first individual-level survey of wealth holdings (assets and debts) (Sample G).

In 2006, sample H was drawn comprising 1,506 households and 2,616 individuals. The latest boosts to the sample came in 2011 (Sample J with 3,136 new households) and 2012 (Sample K with 1,526 new households). In total, the fieldwork in 2012 consisted of 12.322 realized households.

When SOEP began, it was run by and was primarily of interest to economists and sociologists. But other branches of science also have much to contribute to analysis of the life course, and their interests are now more fully reflected in the questionnaire. Developmental psychologists and family sociologists are interested in issues relating to child-rearing and nature-nurture debates. For

them, the SOEP has long offered large samples of siblings, stepchildren, adopted children, and now grandchildren. Then in 2001, an age-triggered questionnaire was introduced. 2001 was the year in which the first children who were, so to speak, "born into" the SOEP joined as full 17-year-old respondents. A "Youth Questionnaire" focusing on issues of interest to teenagers was included. In 2003, the first "Mother and Child" (A) questionnaire was introduced, to be completed by mothers who had given birth in the last year. Two years later, these mothers completed an Infant Questionnaire, ("Mother and Child B") reporting on their baby's early development. In 2008, the mother-child questionnaire "Mother and Child C" (children at the age of 5 or 6) was introduced. In 2010, the parent-child questionnaire "Parents D" (children at the age of 8 or 9) was used for the first time; it is given to both mothers and fathers. In 2012, again only mothers were asked about their child at the age of 9 or 10 years ("Mother and Child E").

Psychologists, experimental economists, and the growing community of social scientists interested in life satisfaction and subjective well-being were keen for SOEP to include measures of personal traits that affect, or may affect, economic decision-making and subjective well-being. To respond to this demand, measures of trust and risk aversion were included in 2004. And then in 2005, SOEP included a short version of the Big Five Personality Domains (Costa and McCrae, 1991). The personality traits or domains measured are neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (Lang et al., 2011). In 2006, measures of cognitive ability, given only to small groups of respondents, were included for the first time. New teenage respondents completed a 30-minute test of verbal, numerical, and figural ability (Uhlig et al. 2009), and a sub-sample of adult respondents did a very short cognitive test that was replicated in 2012 (Anger, 2012).

In 2009, the questionnaire for relatives of deceased panel participants "VP" (Die Verstorbene Person) was added (for an example of first results, see Infurna et al. 2013).

Overview

Age-specific Questionnaires

Age-specific questionnaires	Age-cohorts	Start (since)	Content	N (2012)
Youth Questionnaire 17	age 17	2000	residence, job and money, relationships, free time, sport and music, education and career plans, future, attitudes, opinions	4,190
Mother and child (A)-questionnaire	ages 0–1	2003	pregnancy, birth information, health of mother and child, temperament, care situation	2,125
Mother and child (B)-questionnaire	ages 2–3	2005	child health, temperament, activities with the child, care situation, adaptive behavior (modified Vineland-Scale)	1,701
Mother and child (C)-questionnaire	ages 5–6	2008	child health, personality, activities of the child, care situation, socio-emotional behavior (modified Strength and Difficulties Questionnaire)	1,058
Parent (D)-questionnaire	ages 7–8	2010	care and school situation, parental role, parenting goals and practices, educational aspiration	609
Mother and child (E)-questionnaire	ages 9–10	2012	child health, personality, activities of the child, care situation, socio-emotional behavior, school issues, homework, eating habits ...	**222**

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In 2012, we again replicated a set of survey questions that had been asked in previous years to enrich the longitudinal research potentials in those areas. The most important and relevant questions probably will be the fourth replication on questions of wealth and assets.

Overview

Supplementary SOEP-Modules 1986-2012

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	8	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); BigFive; 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
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)
2012	29	BC	Wealth and assets (4th); social security (6th); health (6th); grip strength (4th)

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A New Data Collection Effort by the SOEP to Strengthen Family Research – "Familien in Deutschland" (FiD)

by Mathis Schröder

For the first time, the full range of public benefits for married people and families is evaluated in Germany on behalf of the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ) and the Federal Ministry of Finance (BMF). When the decision for such an evaluation was taken in 2009, it was quickly discovered that the available data sets were not sufficient for in-depth analyses, especially regarding specific family types which might be rare in the German population, but still important as targets for the ministries' policies. Such families are especially single parents, families with more than two children, low-income families, and families with very young children. These groups are included in studies that are representative of the German population (such as the SOEP), but the number of observations is generally too small for sound statistical analyses. As a result, the SOEP group at DIW Berlin was commissioned by the two ministries to conceptualize, collect and provide a data collection specific to the needs of the evaluation.

Sampling

Starting in 2010, the project termed "Familien in Deutschland" (FiD, "Families in Germany") was carried out by SOEP DIW in collaboration with TNS Infratest Sozialforschung. The following four samples of interest had been identified:

1. A sample of families in "critical income brackets"
2. A sample of single parents
3. A sample of families with more than two children
4. A "cohort sample" of young families with children of the 2007, 2008, 2009, and 2010 (first quarter) birth cohorts.

Since there is no sampling frame available that identifies the population for the first three samples, a screening process was used to find families in these groups. In this screening, households were contacted and asked about their income and household composition in a brief telephone interview. According to the data of these interviews, the following constellations led to a selection into the sample:

- *Low income* if the household had a monthly income of less than
  - 2500 Euro, when composed of at least two adults and at least two children
  - 2000 Euro, when composed of at least two adults and one child
  - 1500 Euro, when composed of one adult and at least one child.
- *Single parent* if the household is composed of at most one adult and at least one child.
- *Large family* if the household includes three or more children.

Following this screening process, more than 2,200 families were interviewed in the so called "Screening Sample 2010". Since the groups are not mutually exclusive, it is not possible to exactly count the households belonging to each group (see Table 3 below for an overview of the resulting seven mutually exclusive groups). An ad-

ditional screening took place in 2011 to add more than 400 single parent families and more than 450 large families, the "Screening Sample 2011".

Because the "Cohort Sample" was identified through the children's year of birth, a sampling frame is available and register based sampling could be used. More than 2,000 households (500 for each year of birth) were added in 2010.

Structure and Contents

FiD resembles the SOEP in large parts. The basic concepts of different types of questionnaire is used, i.e.

- there are household questionnaires for the household head (who is defined as the one most suited to asked financial questions in the household);
- each adult person (i.e. those turning 18 or older during the survey year) is asked to answer a personal questionnaire, which, in the first two years includes retrospective questions on relationships, childhood, education, and early work experiences;
- each person turning 17 during the survey year receives a "youth" questionnaire; and
- for children in certain ages (namely those 0-1, 1-2, 2-3, 5-6, 7-8, or 9-10 years old), their parents are asked to fill out so-called parent questionnaires, which are slightly more elaborate than the similar mother-child questionnaires known from the SOEP.

Table 1

Overview of available datasets in FiD

Wave specific data	Data across all waves
$p	ppfad
$h	hpfad
$kind	bioage01
$hbrutto	bioage02
$pbrutto	bioage03
$hgen	bioage06
$pgen	bioage08p1
$lela	bioage08p2
$pkal	bioage10p1
$eltern1	bioage10p2
$eltern2	bioagel
$eltern3	biomars
$eltern4	biocouply
$eltern5	biobirth
$eltern6	artkalen
$paradata	pbiospe
hbrutt10_fid	biojob
hbrutt11_fid	phrf/phrf_soep
$luecke	hhrf/hhrf_soep

Source: FiD.

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For the most part, the contents of the FiD study are very similar to the SOEP, i.e. basic information on the household and each person is asked, including education, past and current labor market experiences, earnings and income, housing characteristics, health, some preferences and life satisfaction for specific aspects and in general. In addition, there is more focus on children and partnership – FiD includes a detailed partnership module, which retrospectively asks for marriages and partnerships lasting longer than six months. Compared to the SOEP, men and women are similarly asked about their biological children in slightly more detail, including information about the partner's location and the marital status at the time of birth. Also, some aspects of child care at the work place are covered.

Completely new in FiD are questionnaires for the 1-2 year-olds, and the 9-10 year-olds, which previously did not exist in the SOEP. Each of the questionnaires includes a module on child care, which, as time goes on, allows comparing child care decisions for one child over time. Also covered are areas such as parenting style and parenting goals. Overall, the additional questions are designed to be comparable across the different parental questionnaires.

The datasets provided in FiD resemble very closely the respective data in the SOEP. Hence FiD also reproduces the general structure users know from the SOEP. There are the basic datafiles such as ppfad and hpfad, with which the user can monitor the development of each person and household through the panel life, along with some generated information. The $pbrutto and $hbrutto files provide similarly important information about the interviewing process for each wave. hbrutt10_fid and hbrutt11_fid contain the gross sample with which the survey started, i.e. the Cohort and Screening Gross Sample in 2010 and the Screening Gross Sample in 2011. Identical to the SOEP, FiD distributes original data files, i.e. those which contain the unaltered data from the questionnaires directly (except for answers to open questions). In resemblance to the SOEP, these files have wave identifiers – „f10" for FiD in survey year 2010, „f11" for survey year 2011, and so on. Along with the original data files, FiD also produces the main generated data files – such as $pgen, $hgen – from the SOEP. In addition, spell files – like artkalen or pbiospe – are also available. A large part of the distribution is taken by the biography data, which – due to the very nature of FiD

– is sometimes more extensive than in the SOEP. For example, the bioage files, which contain detailed information from the parent questionnaires, contain many more variables than their counterparts in the SOEP. However, FiD and SOEP use the same naming conventions in this case to make the joint use of the data easier. Some datasets known from the SOEP are not provided, mainly because the respective information has not been asked (yet). Table 1 shows a list of all datasets available in the FiD distribution 3.0.

The list of datasets in Table 1 suggests a joint use of SOEP and FiD whenever the need for increased sample size exists. This joint use is indeed possible and recommended (bearing in mind that there are some variables only in FiD and not in the SOEP and vice versa) – in the FiD-data, combined weighting factors are provided. The construction of these weighting factors follows the same mechanisms which are used when a new subsample is integrated into the existing samples. Hence the joint weighting factors allow for a representative view of the German population.

Table 2

Observations with and without Interviews from 2010 to 2012

	2010	2011	2012	Total
Household Questionnaire	4,574	4,529	4,186	13,289
Person Questionnaire	7,807	7,664	7,177	22,648
Youth Questionnaire	190	264	293	747
Parent Questionnaire 1	1,321	207	212	1,740
Parent Questionnaire 2	787	647	568	2,002
Parent Questionnaire 3	871	741	555	2,167
Parent Questionnaire 4	473	486	425	1,384
Parent Questionnaire 5	682	902	849	2,433
Parent Questionnaire 6	647	820	768	2,235
Gap ("Luecke") Questionnaire			229	229
Total: Interviews	17,352	16,260	15,262	48,874
Children w/o Questionnaire	4,230	5,701	5,191	15,122
Non-respondents (in participating households)	494	366	413	1,273
Total: Persons	17,502	17,798	16,680	51,980
Total: Adults 17+	8,283	8,016	7,567	23,866
Total: Youth (16-17)	208	278	316	802
Total: Children (0-16)	9,011	9,504	8,568	27,083

Considers all households with at least one interview.
Parent questionnaires 5 and 6 allow up to two observations per child.

Source: FiDv3.0

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Sample Sizes

Since 2010, several thousand interviews have been conducted in FiD. The main interview mode is CAPI (Computer Assisted Personal Interview), with the exception of the parent questionnaires, where PAPI (Pen and Paper Interview) is also possible. Table 2 provides an overview of the observations available until 2012 (Version 3.0 of the data), showing the potential of the FiD-Data especially for research related to children.

Because FiD is a longitudinal dataset with repeated observations for each household and individual, one of the most crucial aspects of this panel dataset is the longitudinal stability as measured by the fraction of observations that remains from the previous year. Table 3 shows the retention rates for all samples, where also the initial sampling characteristics are shown (i.e. cohort year and the screening characteristics *low income, single parent, large family).* Neither new households (i.e. split-offs from old households) nor households with a temporary drop-out are considered in this table. Accordingly, the actual number of interviewed households is higher in 2011 and 2012 than shown in this table.

Table 4 now follows with a view on the individual longitudinal stability. As was the case for households, we do not consider individuals who have dropped out temporarily – however, movers are considered in this case. For reasons of brevity, the distinction between the different screening groups and the different cohorts is not kept up here.

Access

The data from "Familien in Deutschland" are currently (June 2013) accessible for the scientific community similar to the SOEP data. Interested researchers can apply for the data usage at the SOEP-group by filling out a two-page form, including a description of the research proposal. After an initial check for completeness, the applications are sent to the Federal Ministry of Finance (BMF) and the Federal Ministry for Family Affairs (BMFSFJ) which – until September 2013 – have the possibility to veto any research proposal. After the ministries accept the proposal, a contract between the researcher and the SOEP needs to be signed before the data are made available to the new user via one-time downloads.

Summary and Outlook

The FiD data collection effort has become a success story of the SOEP group at DIW Berlin. An entirely new and relatively large sample was drawn and proved to be

Table 3

Household Retention Rates across the FiD-Samples

	2010	2011	2012	Retention 2011	Retention 2012
Total (Screening 2010 + Cohort)	4,337	3,579	3,100	0.83	0.87
Total (Screening 2010, 2011, Cohort)		4,494	3,895		0.87
Screening 2010	2,263	1,938	1,734	0.86	0.89
Low income (LI)	636	535	474	0.84	0.89
Single parents (SP)	444	395	350	0.89	0.89
Large families (LF)	367	335	303	0.91	0.90
LI+SP	494	415	373	0.84	0.90
LI+LF	225	174	154	0.77	0.89
SP+LF	77	71	67	0.92	0.94
LI+SP+LF	20	13	13	0.65	1.00
Cohort	2,074	1,641	1,366	0.79	0.83
2007	515	404	340	0.78	0.84
2008	535	418	357	0.78	0.85
2009	503	404	324	0.80	0.80
2010	521	415	345	0.80	0.83
Screening 2011		915	795		0.87
Single parents (SP)		408	346		0.85
Large families (LF)		466	412		0.88
SP+LF		41	37		0.90

Considers only eligible households with at least one interview.

Source: FiDv3.0.

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Table 4

Individual Retention Rates across the FiD-Samples

	2010	2011	2012	Retention 2011	Retention 2012
Total (Screening 2010 + Cohort)	7,501	6,046	5,106	0.81	0.85
Total (Screening 2010, 2011, Cohort)		7,533	6,424		0.85
Screening 2010	3,731	3,112	2,722	0.83	0.88
Cohort	3,770	2,934	2,438	0.78	0.83
Screening 2011		1,487	1,264		0.85

Considers only eligible individuals.

Source: FiDv3.0.

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of similar longitudinal stability as the regular SOEP samples. With respect to different quality indicators (e.g. item non-response, partial unit non-response) the FiD data adhere to the high standards set by the SOEP. Several new and extended questionnaires were implemented within a very short period of time, which provide new and improved data for research on children. As such, FiD allows for more in depth analyses of families and children.

In this sense it is only fitting that after FiD was financed by the ministries for three years and a fourth wave was commissioned by the BMFSFJ for the collection of 2013, the FiD-samples will be integrated into the main SOEP for the collection of 2014. The data distribution of 2015 will then contain for the first time the complete set of SOEP and FiD cases, with identical variable names and datasets also for those years where FiD was collected in parallel to the SOEP.

Internalized Gender Stereotypes Vary Across Socioeconomic Indicators

by Julia Dietrich, Konrad Schnabel, Tuulia Ortner, Alice Eagly, Rocio Garcia-Retamero, Lea Kröger and Elke Holst

Abstract

In the following we aim to approach the question of why, in most domains of professional and economic life, women are more vulnerable than men to becoming targets of prejudice and discrimination by proposing that one important cause of this inequality is the presence of gender stereotypes in many domains of society. We describe two approaches employed to measure gender stereotypes: An explicit questionnaire based on rating scales and a newly developed Implicit Association Test assessing gender stereotypes representing instrumentality (i.e., agency) and expressivity (i.e., communion). We first present information on psychometric properties of each stereotype measure designed for this purpose. We then present preliminary data based on the SOEP Innovation Sample 2011 indicating differences in explicit stereotypes with reference to occupational position and income. Implicit stereotypic associations concerning expressivity increased with respondents' age and stereotypic associations concerning instrumentality increased with household income, particularly among male participants. Finally, stereotypic associations were related simultaneously to occupational position and participants' gender, such that differences between male and female participants were found in lower occupational positions for the Expressivity IAT and in higher occupational positions for the Instrumentality IAT. This finding indicates that individually held gender stereotypes are related to socioeconomic and social variables.

Introduction

Gender inequality in economic and political participation and in decision-making remains a hot topic in Germany and many other nations. The importance of this matter is demonstrated by efforts such as the ongoing "strategy for equality between women and men 2010-2015" of the European Commission (2010). The key question for policy-makers is why, in most domains of professional and economic life, women are more vulnerable than men to becoming targets of prejudice and discrimination. We propose that one important cause of this inequality is the presence of gender stereotypes in many domains of society. People hold gender stereotypes about personality traits and intellectual abilities. With regard to personality attributes, men are usually perceived as more independent, assertive, courageous, and competitive than women, and women as more sensitive, affectionate, expressive, and tender-minded than men (see Ashmore & Del Boca, 1979; Garcia-Retamero, Müller, & López-Zafra, 2010; Hamilton, 1981; Williams & Best, 1990; Williams, Satterwhite, & Best, 1999).

These stereotypical assumptions about the attributes of men and women are shared across cultures and both reflect and reproduce the traditional social roles of male breadwinners and female caregivers as well as the gender segregation of occupations (Bosak, Sczesny, &Eagly, 2012; Eagly,1987; Eagly & Wood, 2012; Eagly & Wood, 1999; Wood &Eagly, 2012): By the psychological process of inferring traits from observed behaviors (i.e., correspondent inference; Gilbert, 1998), men's concentration in leadership and other high-power roles fosters the ascription of agentic characteristics to them (e.g., self-assertion, dominance), and women's concentration in subordinate and care-taking roles fosters the ascription of communal characteristics to them (e.g., kindness, supportiveness). The male gender stereotype advantages men for most professional and leadership positions because such roles are regarded as demanding agentic qualities, although the perceived attributes of

leadership roles appear to have changed somewhat in an androgynous direction in recent years (e.g., Koenig, Eagly, Mitchell, & Ristikari, 2011). Nevertheless, gender stereotypes provide convenient justifications for existing differences in the roles and status of women and men (Hoffman & Hurst, 1990) and influence people's beliefs by favoring stereotype-consistent information (Hamilton & Trolier, 1986).

In the current paper, we present findings on the relationships between individuals' stereotypes and socioeconomic indicators by assessing the strength of their explicit and implicit individual gender-stereotypic beliefs. We first present information on the properties of each stereotype measure designed for this purpose. We then present preliminary data based on the SOEP Innovation Sample 2011.

Assessment of Explicit and Implicit Gender Stereotypes

There is a relatively large research literature demonstrating the utility of measures assessing stereotypic perceptions of men and women in variuos nations. Diekman and Eagly (2000), for instance, examined peoples' beliefs about men and women in the United States, as assessed by attributes on the dimensions of masculine and feminine personality, cognitive, and physical characteristics. By asking participants about women and men of the past, present, and future, these researchers demonstrated that people perceived women as increasing over time in masculine attributes and men as having more stable attributes. This dynamic aspect of gender stereotypes has also been observed in several countries, including Brazil, Chile, Germany, and Spain (Diekman, Eagly, Mladinic, & Ferreira, 2005; Garcia-Retamero, Müller, & López-Zafra, 2011; Wilde & Diekman, 2005), and in people living in smaller and larger cities.

In the last decades, social cognition researchers have made progress in developing new measurement methods that provide an alternative to traditional, self-report measures. These traditional measures have two important limitations. First, they are susceptible to self-presentational and social desirability biases because they allow participants to slant their descriptions in favorable directions. Second, traditional self-report measures are bound by the limits of introspection because they do not provide access to more implicit and unconscious thoughts, attitudes, and stereotypes.

The most prominent measurement procedure for the assessment of these less accessible representations is the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). The IAT assesses automatic associations between a bipolar target concept (e.g., gender, as represented by female and male names) and a bipolar attribute concept (e.g., warmth, as represented by appropriate warm and cold adjectives) through a series of sorting tasks that require quick responding. Faster responses are expected when highly associated concept poles of these concepts are mapped onto the identical response key instead of different keys.

Dual-process theorists of social cognition (e.g. Gawronski & Bodenhausen, 2006; Strack & Deutsch, 2004) have suggested that both explicit and implicit measures are useful for answering many psychological questions. They suggested that people have two related but distinct representations of beliefs and two types of information processing and behavioural control: automatic (impulsive, intuitive) processes and controlled (reflective, deliberate) processes. Moreover, dual-process theories assume that implicit beliefs are stored in memory as associations between concepts, whereas explicit beliefs are represented in propositional form. Consistent with these theories, empirical studies revealed substantial variability in the strength of correspondence between implicit and explicit attitude measures (see Nosek, 2007). Moreover, recent studies empirically confirmed the differential value of explicit and implicit measures for predicting behaviour and other criterion variables in many domains (e.g., Dislich, Zinkernagel, Ortner, & Schmitt, 2010; Nosek & Smyth, 2007; Peters & Gawronski, 2011).

Scientific Aims of the Present Study

For investigating how women and men differ in professional and economic life, we strongly recommend the use of both traditional explicit measures and implicit IAT measures for assessing gender stereotypes. Past research usually relied on the assessment of explicit gender stereotypes and revealed important findings relevant to the psychology of gender. With the current research, we aimed to go one step further by comparing for the first time findings of earlier research to those of a new study conducted with a large sample of participants that varies substantially in demographic characteristics including age, socioeconomic level, and size of home community.

Relevant to the inclusion of implicit data, a meta-analysis showed that IAT findings are especially valid in socially sensitive domains (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). For example, a cross-cultural study conducted by Nosek et al. (2009; see also www.projectimplicit.net) revealed very promising results by showing that national-level sex differences in science

and math achievement were predicted by national-level implicit gender-science stereotypes, as assessed by IAT, but not by explicit gender-science stereotypes. In this study, the IAT assessed stereotypical associations of gender with science versus arts. Countries in which respondents showed strong stereotypical associations of 'male' with 'science' and 'female' with 'arts' also had larger sex differences in math and science achievement scores on standardized tests administered in international testing programs. In other words, boys attained better math and science test scores than girls in countries with stronger gender-science stereotypes. We therefore expect that individual differences in relevant criteria (e.g., education, income, career level) are correlated with implicit gender stereotypes.

In the following section, we describe the explicit and implicit stereotype measures that we administered in our research. We then present preliminary results from this research.

A Scale for the Assessment of Positive and Negative Explicit Gender Stereotypes

Respondents were instructed to imagine an average woman or man and then estimate the target individual's masculine and feminine attributes on 7-point scales ranging from very unlikely to very likely. Following Diekman and Eagly (2000), attributes reflected the typical feminine and masculine personality. Factor-analytically derived by Cejka and Eagly (1999), these attributes have been tested in various cultural contexts including Germany (Diekman et al., 2005; Wilde & Diekman, 2005). Table 1 shows the attributes used in this study. Gender-stereotypic dimensions result from averaging participants' responses across the attributes.

On the positive personality dimension, the masculine positive attributes focus on self-promotion and assertion and, therefore, are often associated with workers, especially those in agentically demanding occupations; the feminine positive attributes focus on relations with other people and tend to be associated with homemakers and persons in communally demanding occupations (Eagly & Steffen, 1984). On the negative personality dimension, the masculine negative attributes emphasize self-aggrandizement and abuse of power, whereas the feminine negative personality attributes emphasize self-subordination and passive-aggressive methods of influence The present analyses focus on the positive personality attributes listed in Table 1.

Table 1

Items in Gender-Stereotypic Dimensions

Masculine		Feminine	
English	German	English	German
Agressive	Bestimmend	Affectionate	Liebevoll
Courageous	Mutig	Sympathetic	Sanftmütig
Daring	Wagemutig	Gentle	Pflegend
Competitive	Wetteifernd	Sensitive	Feinfühlig

Note. Items from Wilde and Diekman (2005).

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Two Implicit Association Tests for the Assessment of Implicit Gender Stereotypes

We adapted the IAT for the assessment of gender stereotypes representing instrumentality (i.e., agency or masculinity) and expressivity (i.e., communion or femininity). Participants were seated in front of a computer. The Instrumentality IAT included five trial blocks (see Table 2). The first trial block trained participants to press the left response key when a female name appears on the screen and the right response key when a male name appears on the screen. In the second block, participants were trained to press left for 'submissive' words and right for 'assertive' words. The third block combined both discrimi¬nation tasks, and participants were instructed to respond left to 'submissive' or female names and right to 'assertive' or male names. The fourth block was again a single discrimi¬nation task and reversed the attribute discrimination (i.e., 'assertive' words were assigned to the left and 'submissive' words to the right response key). The final block combined again the target and the previously reversed attribute discrimination, and participants responded left to female names or 'assertive' words, and right to male names or 'submissive' words. Only the combined tasks were used for the calculation of IAT scores (IAT effects). Scores were calculated as the difference in mean response latencies of the second minus the first combined task. For instance, if participants were faster in combining 'female'+ 'submissive' and 'male' + 'assertive' relative to 'female'+ 'assertive' and 'male' + 'submissive', they showed small latencies in the first and long latencies in the second combined task. Overall, this pattern resulted in a positive IAT score. According to the IAT logic (Greenwald et al., 1998), positive scores in this example reflect stronger associations for 'female' + 'submissive' and 'male' + 'assertive' relative to the reversed pairings, that is, larger positive scores reflect stronger gender stereotypes.

Table 2

Task sequence and stimuli of two Implicit Association Tests for the assessment of the two implicit gender stereotypes of instrumentality and expressivity[1]

			Response key assignment	
Block	**Trials**	**Task**	**Left key**	**Right key**
1	16	Target discrimination	Female	Male
2	16	Attribute discrimination	Submissive	Assertive
3	32	First combined task	Female, submissive	Male, assertive
4	32	Reversed attribute discrimination	Assertive	Submissive
5	32	Second combined task	Female, assertive	Male, submissive
6	16	Attribute discrimination	Warm	Cold
7	32	First combined task	Female, warm	Male, cold
8	16	Reversed attribute discrimination	Cold	Warm
9	32	Second combined task	Female, cold	Male, warm

	Instrumentality (IAT1)		Expressivity (IAT2)	
Attribute categories	**Assertive**	**Submissive**	**Warm**	**Cold**
Stimuli	Assertive	Submissive	Warmhearted	Coldhearted
	Confident	Adaptive	Understanding	Ruthless
	Firm	Accommodating	Benevolent	Unfeeling
	Persistent	Compliant	Empathetic	Hard
Target categories	**Female**		**Male**	
Stimuli	Julia	Lisa	Sebastian	Jan
	Stefanie	Katrin	Christian	Stefan
	Sabine	Nicole	Thomas	Andreas
	Angelika	Susanne	Michael	Frank

1 Original German stimuli have been translated for this summary.

Note. Instrumentality IAT = mean response latencies Block 5-3; Expressivity IAT = mean response latencies Block 9-7.

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The procedure of the Expressivity IAT was equivalent to the Instrumentality IAT except for the attribute concept that contrasts 'warm' and 'cold' words (see Table 2, block 6 to 9). To control for possible order effects, we counterbalanced across participants the sequence of the Instrumentality and Expressivity IATs and the sequence of the combined blocks within the IATs. In addition, we used positive stereotypically female attributes (i.e., 'warm' in the Expressivity IAT) and positive stereotypically male attributes (i.e., 'assertive' in the Instrumen-tality IAT) because participants typically have tended to associate their own gender with more positive attributes (Rudman, Greenwald, & McGhee, 2001). Names for the IAT stimuli were taken from official names statistics and represent the most common given names of men and women within 25-, 35-, 45- and 55-year-old Germans in 2011. Due to time constraints and the assessment window of five minutes, we reduced the number of trials in the combined blocks from 60 to 32 trials. The current results revealed that the two IATs nevertheless showed acceptable internal consistency (split-half reliabilities) and excellent discriminant validity (the correlation between the instrumentality and expressiveness IATS was below .10).

Gender Stereotypes and Socioeconomic Indicators

Stereotype measures were included in the representative SOEP Innovation Sample 2011. The SOEP Innovation Sample 2011 provides information on 1,040 households with 1,701 persons aged 17 to 92 years (M = 52 years), of whom 883 were women and 818 were men (for more

information on SOEP Innovation Sample see Richter & Schupp, 2012). Data provided estimates of the extent to which implicit and explicit gender stereotypes were associated with socioeconomic indicators.

We conducted analyses of variance (ANOVAs) to examine differences in the mean levels of stereotype measures between different groups (i.e., age groups, household income groups, and higher vs. lower occupational positions). Each ANOVA was based on all available data for the variables involved. Missing data was about 35 participants for explicit gender stereotype measures, and about 700 for implicit gender stereotype measures.

Moreover, household income was distributed as follows: 87 participants had an income of below €750/month, 313 participants €750-1,500/month, 540 participants €1,500-2,500/month, 373 participants €2,500-3,500/month, 206 participants €3,500-5,000/month, 140 participants above €5,000/month. Household income information was missing for 42 participants. 139 participants were in higher occupational positions (leading and/or highly qualified employees) while 677 were in lower positions (other occupational positions). Occupational position data was missing or not applicable for 885 participants.

Results on Explicit Gender Stereotypes

How strongly participants endorsed explicit gender stereotypes varied across socioeconomic indicators, such as participants' age, occupational position, and household income. For example, gender stereotypes were related to participants' age in that young participants held stronger stereotypic beliefs about their own gender than older participants. That is, young males in particular described the typical man with masculine attributes, whereas young females described the typical woman with feminine attributes.

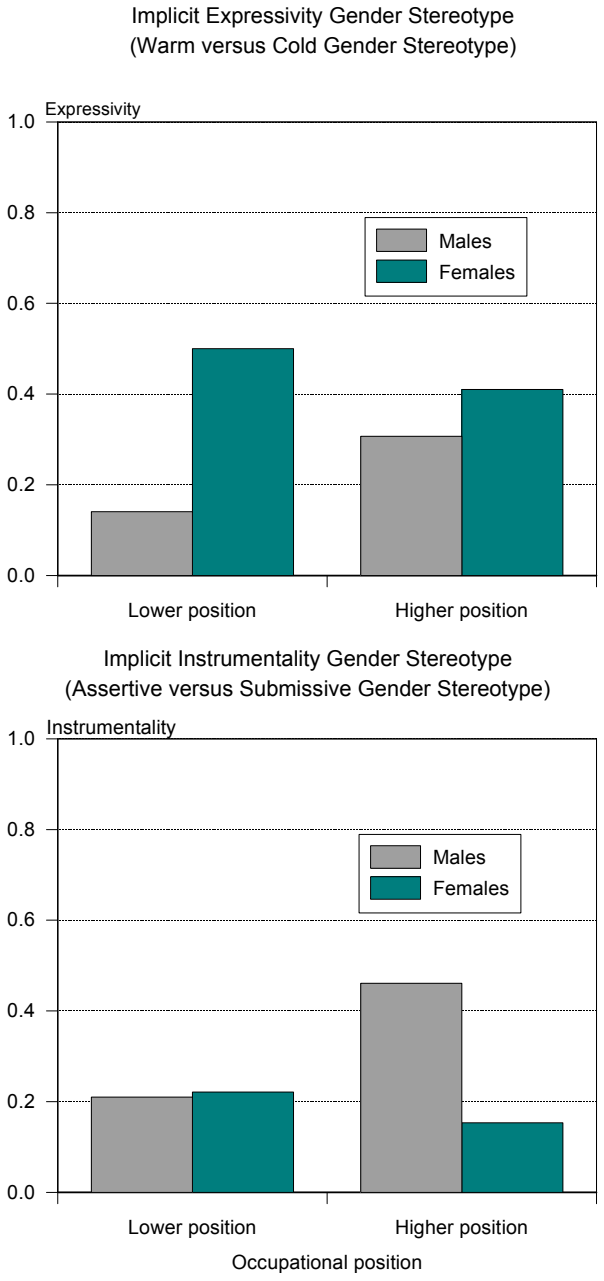
Traditional gender stereotypes were also associated with household income. Data indicate that people with lower incomes showed stronger traditional stereotypes: People from households with an income of more than €5,000 ascribed lower levels of masculine personality to women than people with lower income levels. Moreover, men from households with an income of more than €5,000 ascribed lower levels of feminine personality to men than did people with lower income levels.

Finally, holding stereotypic beliefs about men and women was especially prevalent among participants in higher occupational positions. Both male and female participants in higher occupational positions described women as less feminine but also as less masculine than did participants in lower occupational positions. Men were described as less feminine by participants in higher positions.

This indicates that the description of typical men and typical women differs in relation to income and the occupational position held. Whereas for the ascription of

Figure 1

IAT Implicit Gender Stereotypes as a Function of Occupational Position



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typical women respondents' higher occupational positions seem to be related to less pronounced gender typical ascriptions to women in general, results indicate that higher household income is related to more feminine ascriptions of typical women. For the description of typical men, higher incomes as well as higher occupational positions are related to lower ascription of femininity.

Results on Implicit Gender Stereotypes

Implicit gender stereotypes as measured with the Expressivity IAT (warm versus cold gender stereotype) and the Instrumentality IAT (assertive versus submissive gender stereotype) also related to various socioeconomic indicators.

While implicit stereotypic associations concerning expressivity increased with age, stereotypic associations concerning instrumentality increased with household income, particularly among male participants. Finally, stereotypic associations were related simultaneously to occupational position and participants' gender, such that differences between male and female participants were found in lower occupational positions for the Expressivity IAT and in higher occupational positions for the Instrumentality IAT. The effects are illustrated in Figure 1.

Conclusion and Outlook

The current results indicate that implicit and explicit gender stereotypes vary differently across socioeconomic indicators. Whereas implicit stereotypes increased with respondents' age, the opposite was found for explicit stereotypes. However, both implicit and explicit gender-instrumentality stereotypes were found to be stronger in participants with higher income levels and higher occupational positions, and these effects were mainly attributable to male participants. Different correlational patterns of implicit and explicit gender stereotypes with participants' age may be explained by different social desirability concerns for different age groups. Whereas older participants may be more motivated to underestimate gender differences on the explicit measure, an opposite motivation may hold for younger participants. In contrast, the implicit gender stereotypes may be a more valid indicator for the automatic gender stereotypic biases that are endorsed by participants, and these automatic biases may be more pronounced in older than in younger participants. The different effects that were found for the instrumentality and the expressivity stereotype measures and the low correlation between the measures provide further evidence of their discriminant validity. Together, these preliminary results indicate that implicit and explicit stereotypes show different as well as similar relationships across socioeconomic indicators. Further data analyses are in progress and planned.

For example, the finding that stronger gender stereotypes were found particularly in male participants with higher income and higher occupational positions merits further thought and exploration. Because gender stereotypes reflect the traditional female-male division labor, this finding is consistent with the traditional social role of men as breadwinners (Eagly & Wood, 2012). Future research is needed to examine the extent to which such stereotypic beliefs, if held by people in leadership positions, disadvantage women in obtaining these kinds of positions. Moreover, strongly held gender stereotypes could also influence people's career development through the decisions they make. That is, women who strongly endorse gender stereotypes might want to emphasize the traditional caregiving role and thus decrease their occupational aspirations. Using the longitudinal data structure of the SOEP-IS offers the possibility to investigate these kinds of research questions.

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Data Distribution SOEP.v28

by Jan Goebel

The SOEP data released in 2012 were Version 28, which means that 28 waves of SOEP data are now available. The data provided are from the years 1984 to 2011, or in the logic of our alphabetical wave names, waves A to Z followed by waves BA and BB.

New Subsample J

In 2011, the SOEP microdata were expanded to include yet another sub-sample—supplementary sample J, containing more than 3,000 households. These new survey households, which are representative for Germany as a whole, were also included in the weighting scheme.

New additional missing codes

An important change is that with the integration of sample J in 2011, the biographical questionnaire was shifted from the second to the first wave and combined with the individual questionnaire into one integrated instrument. This means that there are some slight differences in the survey instruments between the old samples A-H and supplementary sample J. The following additional missing codes have been introduced to the survey data to document these possible differences:

-4 "Inadmissible multiple response"

-5 "Not included in this version of the questionnaire"

-6 "Version of questionnaire with modified filtering"

Sample I now part of our new Innovation Sample

Our new SOEP Innovation Sample was launched in 2011 and includes SOEP sample I. Sample I is therefore no longer part of the main survey as of 2011. See http://www.diw.de/soep-is for further information about the Innovation Sample and the possibility of proposing your own questions.

New biographical data on partnership and family

We have also introduced several new biographical datasets. We now provide spell data on partnership histories from the first to last personal interview of a respondent, measured on a monthly basis in the new dataset BIOCOUPLM. And using annual information (BIOCOUPLY) we provide the partnership status since the respondent's year of birth, including available retrospective data and annually updated information.

We also expand our available data on family relations with the new file BIOSIB. The dataset provides information on siblings living in the SOEP households. The dataset contains the personal ID numbers of all siblings in an observed family (not only household). It includes information on the gender, year of birth, and relationship of each observed sibling to the others. BIOSIB is included as a beta version in the current data release. Please do not hesitate to send both positive and negative feedback or suggestions to Daniel Schnitzlein (dschnitzlein@diw.de)

We have been asked frequently for a variable that could differentiate between rural and urban regions. Up to the present data distribution, this was only possible when using the more differentiated regional data, which requires that our users have an additional data protection concept in place. The $HBRUTTO dataset will include a new variable to distinguish between urban, suburban, and rural regions without the need for an additional data protection concept. This is based on regional classifications by settlement structure (as of December 31, 2009) used by the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR).

Why do values for highest educational attainment sometimes shift downwards after the question is repeated?

Panel surveys always involve asking the same people the same questions year after year. This is also true of the SOEP, but does not apply to all of the SOEP questions. Some questions, like those dealing with highest educational attainment, are asked in the first survey and then only repeated in subsequent years if the respondent reports a change.

Over the years, however, more and more assumptions have been needed to carry forward values if no change is reported. To address this issue, in the year 2000, all SOEP participants—whether first-time or long-time respondents—were asked again to state their highest level of educational attainment. As could be expected, this produced a series of inconsistencies between the most recent values from 2000 and the generated values from previous years, which had been based in part on information collected many years prior.

These inconsistencies in response behavior—which include both upward and downward shifts in the values for highest educational attainment—are not just due to the repetition of the educational attainment question in 2000. They also occur more regularly, although to a lower degree, in the second survey wave of new samples when respondents to individual and life history questionnaires are asked to state their educational attainment. In both situations, inconsistencies appear when respondents are asked to state their highest level of educational attainment after having answered the question previously. In our view, there is no means of correcting for these inconsistencies unequivocally. Decisions on which assumptions are appropriate have to be made by researchers on a case-by-case basis depending on the particular research question at hand.

So far, we have found no evidence that respondents with a change in the year 2000 differed systematically from other respondents. One possible approach would therefore be to exclude these individuals from the analysis when sample size allows. Alternatively, one could replace values from previous years in which no changes were recorded with the new values from 2000 and test whether the results differ from those obtained when these individuals are left out. With the 2012 SOEP data release (SOEPv28), we provide, along with the existing educational data in $PGEN, flag variables[1] that show which answers to education questions are inconsistent from the cross-sectional perspective, making it easier for users to deal appropriately with such inconsistencies. Since last year, a Beta version of BIOEDU has also been made available, containing new data on consistent longitudinally tested educational transitions. In the future, through the increased use of CAPI surveying in the core SOEP, we also plan to utilize the potentials of "dependent interviewing" to prevent inconsistencies from occurring in the first place, and thus to offer "consistent" educational histories.

1 BILZTCH$$ indicates whether the respondents' answers suggest a downward shift in the number of years of education or training ($BILZEIT) since the last observation or an upward change since the last year that is inconsistent with additional information on recently completed education or training. And BILZTEV$$ is a flag variable that indicates whether the respondent showed an inconsistent change in $BILZEIT either upwards or downwards over the entire observation period.

Revised Topic list and SOEPlong

We are constantly working to improve and adapt our documentation materials. With the 2012 data distribution, we provide a thoroughly revised and abridged topic list in the existing SOEPinfo. We have reduced the number of topics at the first level from 21 to 11. This revision not only affects SOEPinfo, but also our new SOEPlong data format.

The cross-sectional survey data with variable names that vary over time, transferred into a consistent "long" format—PL and HL—form the core of SOEPlong. These two files contain all variables obtained directly from survey questions for all respondents (excluding surveyed adolescents) and all surveyed households in the survey period (1984-2011) that are also distributed in the wave-specific files (that is, without any names or written answers to open questions, which are not distributed in compliance with data protection laws). In the process of generating the "long" files, we already integrated the data files from immigrant and East samples.

The number of files and variables was thus reduced significantly in the long format. To provide the survey data in long format, the naming conventions and to some extent also the codes had to be adapted. The corresponding original values are also distributed in correspondingly named variables (see naming conventions below). In the current data version, SOEPv28l, the long variables are not only referred to as individual and household variables, each designated with sequential numbers, but now for the first time also categorized by variable type and topic:

1st digit: population
- P = survey respondent
- H = survey household

2nd digit: variables
- L = numerical "long" variable
- A = alphabetically ordered "long" variable
- C = (numerical) variable, which typically includes the original information (when recoded).

3rd digit: topics
- A = Demography and population
- B = Work and employment
- C = Income, taxes, and social security
- D = Family and social networks
- E = Health and care
- F = Home, amenities, and contributions of private households
- G = Education and qualifications
- H = Attitudes, values, and personality
- I = Time use and environmental behavior
- J = Integration, immigration, and transnationalization
- K = Survey methodology

4th to 7th digits: Consecutive four-digit number (xxxxvt) by variable ID and topic

Experimental data now available

Starting with the data distribution of 2012, data are provided on two experiments conducted in the SOEP Survey between 2003 and 2006. The first dataset (TRUST) on the Economic Behavior Experiment on Trust and Trustworthiness was in the 2003, 2004, and 2005 SOEP survey. This experiment measuring trust is based on the investment game introduced by Berg et al. (1995), a one-shot game for two players or movers who interact with each other anonymously. The first mover receives an endowment of 10 points and can transfer zero to ten points to the second mover. Every point that is transferred is doubled by the experimenters. The second mover is also given an endowment of ten points. After receiving points from the first mover, he/she decides how much of the endowment to transfer back to the first mover (zero to ten points). As with the first mover's transfer, the back-transfer by the second mover is doubled by the experimenters. After the second mover's decision, the game ends and the subjects are paid their income in euros (one point equals one euro) by a check sent a few days later. A key component of the game is that the participants actually receive money in accordance with the fixed payout function, i.e., all the decisions always have monetary consequences. This version of the game was developed by Fehr, Fischbacher, Schupp, von Rosenbladt & Wagner (2002). The combination of represen-

tative survey and behavioral experiment was used in the main SOEP surveys in 2003, 2004, and 2005 with only minor modifications. Of the 1,432 original participants in 2003, 1,202 also took part in the experiment in 2004 and 2005.

The second dataset (TIMEPREF) on the Economic Behavior Experiment on Time Preferences in the 2006 SOEP Survey. In this experiment on economic behavior, respondents were asked to decide how they would like to receive 200 euros in prize money: if they would rather receive it immediately by check, or if they would prefer to wait and receive a larger amount later—that is, with interest. By splitting the sample (N = 1,503 persons) into random subsamples (splits), it was possible to vary both the time horizon and the implied interest rate to test possible incentive effects on the choice between a low payoff in the short term and a high payoff in the long term. The scientific director of the project was Prof. Dr. Armin Falk, CENs, University of Bonn.

In generating the survey data in long format, extensive process-produced data is generated out of the cross-sectional variables. These are then condensed and compiled in an Excel file as documentation. The documentation files on the prepared individual and household-related survey data give information about the fit and comparability of the particular variables over time.

Part II: A Selection of 2012 Publications by the SOEP Team

Risk Attitudes and the Choice for Parenthood

Christian Schmitt

The transition to parenthood and the decisions associated with it are among the most momentous that people make in the course of their lives. What has been widely neglected in past research on fertility is the question of whether and how individual risk attitudes[1] affect the decision to postpone or even forego parenthood. The empirical analysis presented here uses data from the Socio-Economic Panel Study (SOEP) to compare the transition to parenthood in East and West Germany. The comparison is motivated by two general ideas: 1. The welfare states of East and West Germany differed in their influences on the emergence of individual risk attitudes, with the GDR providing men and women with a more clearly structured life course and a lower level of exposure to economic risks and uncertainty than the FRG. 2. The sweeping societal changes that followed German reunification were accompanied by increased exposure to risks in private and working life. This led some individuals to modify their fertility behavior in line with their assessment of objectively given risks, depending on their individual risk tolerance. The basic assumption underlying this analysis is that when faced with economic uncertainty, risk-averse individuals are likely to differ from risk-affine individuals in decision processes that are as significant as the transition to parenthood.

Theoretical Background

The reflections below follow from the assumption that childbearing decisions should be understood as a result of a *rational choice*.[2] It is also assumed that since such decisions are irreversible, they are well thought-out and based on a thorough planning process[3] requiring the coordination of different plans across the life course. The difficulty of reconciling competing life goals in the career and family domains have led to an extended postponement of childbirth (in West Germany in particular)—in many cases lasting until after people have established themselves in a career.[4]

This raises the question of how fertility-related planning processes unfold in the context of high or low risk propensity. Whereas the psychologically oriented research has analyzed risk propensity mainly in the context of personality characteristics,[5] studies in behavioral economics address the topic of risk propensity primarily in analyses of monetary assets, savings and investment behavior, and decision processes relevant to career and income.[6] In the empirical social sciences, the importance of risk propensity has seldom been examined in relation to demographic decisions.[7]

1 The terms "risk attitudes" and "risk propensity" will be used synonymously in this article to describe the individual willingness to take risks.

2 See, for a general discussion: Harvey Leibenstein, "Economic Decision Theory and Human Fertility Behavior: A Speculative Essay," Population and Development Review 7, no. 3 (1981).

3 See Icek Ajzen, "The Theory of Planned Behavior," Organizational Behavior and Human Decision Processes 50 (1991).

4 See Christian Schmitt, "Labour Market Integration, Occupational Uncertainties, and Fertility Choices in Germany and the Uk," Demographic Research 26 (2012).

5 Stephen Soldz and George E. Vaillant, "The Big Five Personality Traits and the Life Course: A 45-Year Longitudinal Study," Journal of Research in Personality 33, no. 2 (1999).

6 See e.g. Jesper Ekelund et al., "Self-Employment and Risk Aversion. Evidence from Psychological Test Data," Labour Economics 12, no. 5 (2005).

7 Excetions are Lucie Schmidt, "Risk Preferences and the Timing of Marriage and Childbearing," Demography 45, no. 2 (2008) or Christy Spivey, "Desperation or Desire? The Role of Risk Aversion in Marriage," Economic Inquiry 48, no. 2 (2010).

More recent studies on the conceptual structure of risk propensity or risk aversion suggest that this characteristic is rooted in an individual's personality structure as reflected in the "Big Five" personality inventory.[1] Borghans et al. (2008)[2] distinguish risk aversion, as a non-cognitive personality trait, from a person's cognitive repertoire. If one accepts this understanding of risk propensity as a component of personality structure, one can assume that this trait remains broadly stable over time, analogously to the Big Five personality dimensions.[3] Experimental analyses based on hypothetical lottery games support this view. A study by Sahm (2007)[4] based on data from the US Health and Retirement Study (HRS) shows that individual risk propensity remains largely stable over time.[5] Steinberg (2004)[6], notes that risk aversion declines significantly in adolescence, and then increases again continuously, although slowly, across the life course.[7] Aside from this slow increase over the life course, however, the aforementioned studies do not object to a general stability of risk attitudes over time. This is relevant for the present study, since—if risk propensity is indeed a factor influencing the childbearing decision—the trait of individual risk propensity should display a latent and not merely a situation-dependent effect.

Further studies have shown that women are significantly more risk-averse than men[8] and that body height is positively correlated with risk propensity.[9] A higher level of educational attainment has been found to be associated with a higher degree of risk aversion.[10] Some studies have even suggested that there is an intergenerational transmission of risk propensity.[11]

Alongside these findings, which describe inter-individual differences in the largely stable personality trait of risk propensity, the assessment of a situation or choice as being risky varies, ceteris paribus, with the degree of insecurity about contextual conditions. Sources of such insecurity may be variations in the general labor market situation or in the economy at large, which in turn influence individual employment opportunities and risks. The decision-making context is thus influenced by the objectively given risks (in the example above, uncertainties in the economic circumstances), which are evaluated through the lens of individual risk propensity.[12]

Currently, the only existing empirical study dealing specifically with the effect of risk propensity on childbearing decisions uses US data. Schmidt (2003) concludes that women who display high risk propensity and have a university education tend to postpone childbearing, whereas high risk propensity at a younger age is associated with less effective use of contraceptives, which tends to favor teenage pregnancies.

In general, the transition to parenthood in western societies is usually accompanied by an intensive process of consideration and planning.[13] These considerations revolve around the pros and cons of long-term emotional, temporal, and financial commitments. Fixed-term jobs or jobs that are uncertain in duration; impending unemployment; and a significant worsening of the labor market situation are all factors that threaten future investments in children's needs. In the context of such objectively given uncertainties, childbearing tends to

1 Sampo V. Paunonen and Douglas N. Jackson, "The Jackson Personality Inventory and the Five-Factor Model of Personality," Journal of Research in Personality 30, no. 1 (1996).

2 Lex Borghans et al., "The Economics and Psychology of Personality Traits," Journal of Human Resources 43, no. 4 (2008).

3 John M. Digman, "Five Robust Trait Dimensions: Development, Stability, and Utility," Journal of Personality 57, no. 2 (1989).; Soldz and Vaillant, "The Big Five Personality Traits and the Life Course: A 45-Year Longitudinal Study"; Thomas Dohmen et al., "Individual Risk Attitudes: Measurement, Determinants, and Behavioral Consequences," Journal of the European Economic Association 9, no. 3 (2011).

4 Claudia R. Sahm, "Stability of Risk Preference," Finance and Economics – Board of Governors of the Federal Reserve System Discussion Paper Series, no. 66 (2007).

5 Likewise: Thomas Dohmen et al., "Individual Risk Attitudes: Measurement, Determinants, and Behavioral Consequences", Journal of the European Economic Association, no. 9 (2011).

6 Laurence Steinberg, "Risk Taking in Adolescence: What Changes and Why?," Annals of the New York Academy of Sciences 102, no. 1 (2004).

7 See also Bertrand Bas, Melenberg Donkers, Arthur van Soest, "Estimating Risk Attitudes Using Lotteries: A Large Sample Approach.," Tilburg Center for Economic Research Discussion Paper, no. 9912 (1999)., Sahm, "Stability of Risk Preference."

8 Borghans et al., "The Economics and Psychology of Personality Traits."; Catherine C. Eckel and Philip J. Grossman, "Men, Women and Risk Aversion: Experimental Evidence " in Handbook of Experimental Economic Results, ed. Charles Plott and Vernon Smith (Amsterdam: Elsevier 2008).

9 Dohmen et al., "Individual Risk Attitudes: Measurement, Determinants, and Behavioral Consequences."

10 Martin Halek and Joseph G. Eisenhauer, "Demography of Risk Aversion," The Journal of Risk and Insurance 68, no. 1 (2001).; David A. Jaeger et al., "Direct Evidence on Risk Attitudes and Migration," The Review of Economics and Statistics 92, no. 3 (2010); Harrison Steffen, Glenn W. Andersen, Morten I. Lau, and E. Elisabet Rutström, "Eliciting Risk and Time Preferences," Econometrica 76, no. 3 (2008).

11 See Thomas Dohmen et al., "The Intergenerational Transmission of Risk and Trust Attitudes," IZA Discussion Paper Series, no. 2380 (2006)., Allan M. Williams and Vladimir Baláž, "Migration, Risk, and Uncertainty: Theoretical Perspectives," Population, Space and Place 18, no. 2 (2011).

12 Borghans et al., "The Economics and Psychology of Personality Traits."

13 John Hobcraft and Kathleen E. Kiernan, "Becoming a Parent in Europe," Prepared Paper: European Population Conference, September 4-8, 1995, Milano, Italy (1995).; Guy Moors, "The Valued Child. In Search of a Latent Attitude Profile That Influences the Transition to Motherhood," European Journal of Population 24, no. 1 (2008).

be postponed.[1] It can therefore be assumed that—in the context of economic uncertainties—the decision to start a family is affected by individual risk propensity.[2] In other words, the lower an individual's risk tolerance is, the more that individual will perceive uncertain conditions as threatening, and the more the individual's childbearing propensity will decline.[3]

Distinguishing between East and West Germany appears to be a promising analytical approach due to the far-reaching changes that the fall of the Wall brought about in the living situations of East Germans. We can assume that risk-averse individuals perceived the uncertainties resulting from this historic event as significantly more severe than other, less risk-averse individuals.

Fertility and Risk Attitudes in East and West Germany

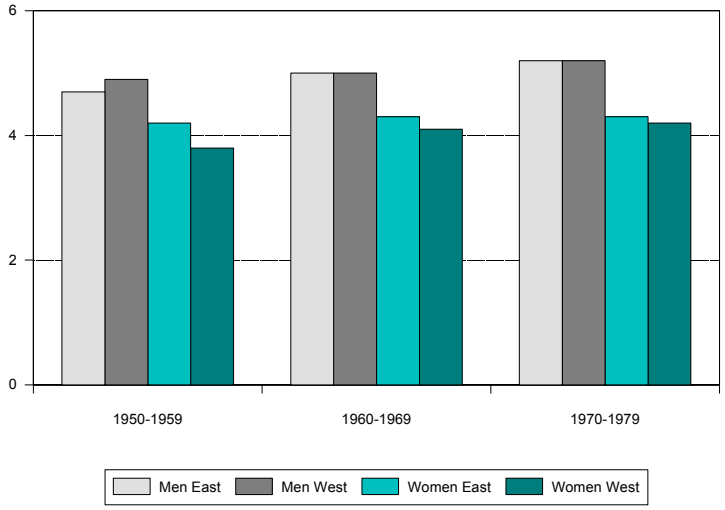
In the years following reunification, East Germany underwent a sharp decline in the total fertility rate (TFR), while the fertility rate in West Germany has remained at a low level up to the present day. Despite the fact that TFRs in East and West Germany have now converged, the institutional differences between East and West that persisted over many years (especially regarding female labor market activity) continue to have a decisive impact on childbearing behavior. The transition to first parenthood still occurs significantly earlier in the East than in the West.

In contrast to women in West Germany, whose efforts at pursuing a career alongside family life were often stymied by the dominant male breadwinner model of the 1950s and 1960s, women and particularly mothers in the GDR were strongly integrated into the labor market. Female employment and the expansion of childcare options were goals expressly pursued in the GDR—not least because women were urgently needed to contribute as workers in an economic system with low overall productivity.[4] The historic framework in East Germany established cultural and institutional structures that still have a significant effect to this day. The labor market participation of East Germany women is still higher than that of West German women, while the percentage of women working part-time in the East is significantly lower. There is still a dense network of childcare institutions in the East, and the social acceptance of childcare for infants is much higher there than in the West. The situation of social upheaval in the years after the end of the GDR, the confrontation of former GDR citizens with the competitively oriented labor market, and the high degree of subjective and objective uncertainties that accompanied economic transformation processes led to a widespread—although temporary—postponement of childbearing.

Against this backdrop, we will first examine the question of what role a possible difference in risk propensity between East and West Germany has played in fertility behavior. While German reunification was a period

Figure 1

Risk Propensity in East and West Germany by Cohorts
2006 and 2010



Source: SOEP v28, 2006 und 2010, author's calculations; weighted values; n =21.618.

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1 Sumon Kumar Bhaumik, "Does Economic Uncertainty Affect the Decision to Bear Children? Evidence from East and West Germany," IZA Discussion Paper Series 1746 (2005).; Michaela Kreyenfeld, "Uncertainties in Female Employment Careers and the Postponement of Parenthood in Germany," European Sociological Review 26, no. 3 (2010).

2 Leonard Green and Joel Myerson, "A Discounting Framework for Choice with Delayed and Probabilistic Rewards.," Psychological Bulletin 130, no. 5 (2004).

3 Peter McDonald, "Sustaining Fertility through Public Policy: The Range of Options," Population (English Edition, 2002-) 57, no. 3 (2002)., Peter McDonald and Ann Evans, "Family Formation and Risk Aversion. " (paper presented at the Negotiating the Lifecourse - NLC Workshop, The Australian National University, 17-18 May 2002 2002).

4 Hana Hašková and Christina Klenner, "Why Did Distinct Types of Dual-Earner Models in Czech, Slovak and East German Societies Develop and Persist?," in Special Issue: Zeitschrift Für Familienforschung/Journal of Family Research 3/2010: Gender Relations in Central and Eastern Europe - Change or Continuity?, ed. Christian Schmitt and Heike Trappe (Leverkusen: Budrich, 2010).

of upheaval for the East German population in particular, its effect on fertility may well have been multiplied by higher risk aversion in the East. This is based on the assumption that the socialization in a welfare state like the GDR—which offered limited possibilities for political participation, exercised a degree of control over personal living situations, and established clear limitations on individual economic options—had a long-term effect on individual risk propensity. This is especially true since these framework conditions were accompanied by very low economic insecurities. Unemployment and the threat of extreme financial hardships were de facto nonexistent. This external constraint on the range of personal experiences may have resulted in a stronger aversion to risk in the East than in the West.

Figure 1 presents a descriptive analysis of risk propensity in the East and West.[1] At first glance, the results seem to present a familiar picture of gender-specific differences in risk propensity[2]. Women from East and West Germany are more risk-averse than men, independent of the cohort. Interesting differences appear in a direct East-West comparison of gender groups for those cohorts, which went through all (cohorts 1950-1959) or most of their adolescence and post-adolescence (cohorts 1960-1969) before reunification and thus in a different institutional framework from the present one. East German men from birth cohorts 1950-1959 show a somewhat higher risk aversion than West German men. In the most recent cohorts under examination (1970-1979), which went through their socialization in stable institutional settings, however, no further significant differences in risk propensity appear in East-West comparison among men, while the differences remain fairly small among women.

Surprisingly, in contrast to the hypothesis above of higher risk propensity in the East, the results show that risk aversion is higher among West German women than among East German women. This is true of all cohorts under consideration, even if the magnitude of the difference is most pronounced for the oldest of the cohorts. A possible explanation was the incorporation of East German women into the labor market at an early stage in the life course, which also led to their integration into non-private social networks. West German women—especially in the oldest of our cohorts—were more focused on family and particularly on housekeeping and caregiving responsibilities due to the dominance of the male breadwinner model in West Germany. The widespread integration of East German women into the labor market, in contrast, may have played a significant role in how this group dealt with risks and uncertainties.

The initial findings thus give a number of indications that the welfare state does indeed play a decisive role in the emergence of individual risk attitudes. The relationship does not, however, follow the simple formula "a high level of security promotes risk aversion." Rather, the social structuring of gender-specific areas of experience appears to play a key role: among West German men, who show a high risk propensity, the necessity of personal economic initiative is particularly important (the idea inherent in the male breadwinner model of establishing oneself in a career as protection against financial insecurities). Among East German women, the salient factor in their higher risk propensity compared to West German women appears to be a result of their focus on labor market activity (entailing wider social circles, independent areas of professional competence, and thus greater security when faced with uncertainties).

Methodological Framework

The multivariate analysis examines the effect of risk propensity on the decision to become a parent. The data used were taken from the Socio-Economic Panel (SOEP) 1995-2008. The SOEP is a longitudinal survey of private households in Germany repeated annually since 1984. An additional East survey was carried out in the years 1990/1991. The dataset offers, in addition to extensive birth histories for men and women, detailed occupational histories, information on career and fertility preferences, as well as a survey of individual risk propensity, which has been carried out since 2004. The empirical analyses consider all subsamples in the SOEP up to 2001 with the exception of the immigrant sample (Sample D).

The empirical models are based on discrete time event history analyses of the transition to first- parenthood or of the decision to become a parent. The population at risk thus consists of childless men and women from the 1965-1979 birth cohorts. The key explanatory variable is individual risk propensity. Risk propensity has been measured in SOEP every two years since 2004 on an 11-point Likert scale. The question is "How do you see yourself: Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?"

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1 In the SOEP, risk propensity was measured in the years 2004 and 2010 on a scale from 0 ("unwilling to take risks") to 10 ("completely willing to take risks"). The analyses were differentiated by cohort groups, to distinguish between whether socialization occurred primarily within the GDR institutional framework, in West Germany before the fall of the Wall, or to some extent in reunified Germany.

2 Cathrine C. Eckel and Philip J. Grossman, "Men, Women and Risk Aversion: Experimental Evidence". In: C. Plott, V. Smith (Hrsg.) and in Handbook of Experimental Economic Results, S. 1063-1078, Verlag Elsevier; Dohmen et al., "Individual Risk Attitudes: Measurement, Determinants, and Behavioral Consequences."

The scale of answer options runs from 0 ("unwilling to take risks") to 10 ("completely willing to take risks"). This wording may sound very abstract at first, and may raise doubts about the validity of the item. It appears particularly questionable if one accepts the idea that risk-taking is a multidimensional construct.[1] At the same time, a number of studies haveconfirmed the high construct validity of such abstract measures of risk propensity.[2]

In the empirical model, risk propensity is operationalized based on scale values ranging from 0 (very risk-averse) to 10 (very risk-affine) both as pseudo-metric variables and in dichotomized form. The dichotomization is aimed at separating out those who present themselves as very risk-loving (risk propensity > 6). An initial analysis of the decision to have a first child examines various functional specifications of risk propensity (see Table 1).

The further analysis of the influence of risk propensity on the decision to become a parent is based on a discrete hazard rate model.[3] We took into account the cohorts born between 1965 and 1979 for the years 1995 to 2008. The empirical analyses differentiate between survey regions (West/East) and between men and women. This was done to take into account differences in risk propensity between East and West Germany, as well as the assumption that the fertility decisions of men and women are affected by different factors (particularly due to different opportunity costs).

Table 1

Risk Propensity and the Decision to Have a First Child 1995-2010

	♂ West	♀ West	♂ Ost	♀ Ost
Cohorts 1965-1979	**exb(b)**	**exb(b)**	**exb(b)**	**exb(b)**
(1) Dichotomous				
Risk propensity > 6	0.88	1.03	0.80	0.92
	0.09	0.13	0.14	0.24
(2) Linear				
Risk propensity (0-10)	1.02	1.03	1.02	1.05
	0.02	0.02	0.04	0.04
(3) Curvilinear				
Risk propensity (0-10)	1.48***	1.17*	1.45*	1.68***
	0.16	0.10	0.32	0.33
(Risk propensity)²	0.96***	0.99	0.97*	0.95***
	0.01	0.01	0.02	0.02
n of subjects / events	1033/530	1110/591	290/171	259/169

**p< 0.10, **p< 0.05, ***p< 0.01; not shown: controls for age effects and constants.*

Method: discrete time complementary log-log.

Source: SOEP v28 1995-2011, author's calculations.

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Findings

The initial analysis of the influence of risk propensity on the decision to have a first child in East and West Germany was conducted based on a rudimentary estimation model (Table 1) that examines the effect of risk propensity based on different specifications of this indicator. While the dichotomized and linear measurements of risk propensity do not provide clear results, the curvilinear specification shows that increasing risk propensity is accompanied by an increasing hazard rate of the decision to have a first child, although the hazard rate declines again when risk propensity increases further. In the birth cohorts born between 1965 and 1979, this effect is significant in all subgroups, that is, among women and men in East and West Germany. The peak of the curve is at around 5 points for those with a moderate risk propensity (men West 5.4; women West 5.5; men East 5.4; women East 5.2). These initial findings show a higher likelihood to first-time parenthood among individuals with a moderate risk propensity of around 2.5 to 7.5 points. Individuals with an extremely high or extremely low risk propensity showed a lower likelihood to have a first child.

Risk propensity and the transition to parenthood

The finding of a higher propensity to first-time parenthood among individuals with a moderate risk propensity (that is, individuals who are neither extremely risk-averse nor extremely risk-loving) was also confirmed in the extended empirical models (Tables 2 and 3). It should also be emphasized that no significant gender-specific differences appeared in the relation between risk propensity and fertility. However, these findings suggest

1 That is, a person may be highly risk-prone in their health behavior, and at the same time highly risk-averse in their financial matters. See Yaniv Hanoch, Joseph G. Johnson, and Andreas Wilke, "Domain Specificity in Experimental Measures and Participant Recruitment," Psychological Science 17, no. 4 (2006).

2 Dohmen et al. (2011) also come to this conclusion based on the SOEP. In the 2004 survey wave, alongside the general question of risk propensity, respondents are also asked to rate their specific willingness to take risks in their leisure time, when driving a car, in their health behavior, in saving money, in career decisions, and in trusting other people. The authors confirm a high explanatory value of the general question of risk propensity for all these areas. See also Schmidt, (2008) "Risk Preferences and the Timing of Marriage and Childbearing.", or Arnaud Reynaud and Stephane Couture, "Stability of Risk Preference Measures: Results from a Field Experiment on French Farmers," (2010).

3 Complementary-Log-Log with time-varying controls for age. See Janet Box-Steffensmeier and Bradford S. Jones, Event History Modelling. A Guide for Social Scientists, Analytical Methods for Social Research (Cambridge: Cambridge University Press, 2004).

Table 2

Risk Propensity and the Decision to Have a First Child 1995 – 2010

West Germany	(1)		(2)	
	♂	♀	♂	♀
Cohorts 1965-1979	exb(b)	exb(b)	exb(b)	exb(b)
Risk propensity				
Risk propensity (0-10)	1.40***	1.15*	1,43***	1,21**
(Risk propensity)²	0.97***	0.98*	0.96***	0.98***
Period				
Period 2000-2010	1	1	1	1
Period 1995-1999			1.21*	1.45***
Period x Risk propensity				
1995-1999*Risk propensity (0-6)	1.14	1.15*		
1995-1999*Risk propensity (> 6)	0.79*	0.78*		
Employment[a)]				
Employed Full-Time(Ref.)	1	1	1	1
Precarious & Part-Time	0.82*	0.83*		
Precarious/PT*Risk p.(0-6) propensity. 0-6			0.83	0.79**
Precarious/PT*Risk p. (>6)			0.87	1.43
Umemployed	0.87	1.49**		
Umempl.*Risk prop. (0-6)			0.95	1.57*
Unemployed *Risk p. (> 6)			0.65	1.05
In Education/Training	0.72**	0.39***	0,72**	0,39***
Partner unemployed	1.07	0.94	1,07	0,99
n of subjects / events	1100/612	1143/667	1100/612	1143/667

*p< 0.10, **p< 0.05, ***p< 0.01;
a) Not shown: residual category "others" and indicator variable for missing values.
Omitted controls: age groups, fertility preferences, migration background, marital status, educational attainment
Method: discrete time complementary log-log.
Source: SOEP v28, 1995 - 2011, author's calculations.

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that a higher risk propensity is not associated with a generally higher hazard rate of the transition to parenthood. At the same time, the results do not confirm the counter-assumption outlined by Friedman, Hechter, and Kanazawa (1994)[1] that risk-averse individuals favor family formation as a source of stability and security against uncertainties in the life course. It is conceivable, however, that the mechanisms described work in parallel. According to this idea, parenthood initially offers an increase in stability. Here, making the step to first-time parenthood requires a minimum level of risk propensity (i.e., a higher risk propensity fosters the transition to parenthood). Individuals with a level of risk propensity below this threshold level tend to postpone the decision. In contrast, those with very high level of risk propensity behave similarly in delaying family formation, albeit with a different motivation, namely to postpone parenthood at a stage that they may perceive as being too early and instead invest their time in pursuing other life goals.

The employment situation and precarious employment

Regarding the interaction between employment uncertainties and risk propensity, the results show that among unemployed West German women, those with a low to moderate level of risk propensity (values < 6) tend to postpone parenthood when working in insecure jobs and precarious employment (fixed term contract or casual employment). At the same time, however, risk averse women show the highest likelihood of deciding to have a first child during unemployment (Table 2, Model (2). This gives an indication that the focus on family formation can serve to compensate for uncertainties in other areas. This is particularly true when failure to find a job suggest dismal chances of re-entering the labor market. The association between risk aversion and unemployment that appears for West German but not East German women could appear due to the fact that in the West, motherhood remains a socially accepted alternative to a career due to the long dominance of the male breadwinner model there. In the East, however, because of the traditionally strong integration of East German women into the labor market,[2] there was less social recognition for this kind of lifestyle, which therefore offered little to no increase in security.[3]

Economic framework conditions and risk propensity

The great insecurity of many East German men and women resulting from the economic transformation after the end of the GDR is reflected in the results differentiated by historic periods (1995-1999 vs. 2000-2010; Table 2, Models (1) & (2). Here we see that there was a significant decline in individual childbearing propensity far into the 1990s. One not insignificant reason for this was the confrontation of GDR citizens with the com-

1 Debra Friedman, Michael Hechter, and Satoshi Kanazawa, "A Theory of the Value of Children," Demography 31, no. 3 (1994).

2 Annemette Sørensen and Heike Trappe, "The Persistence of Gender Inequality in Earnings in the German Democratic Republic," American Sociolgoical Review 60, no. 3 (1995).

3 The limited number of cases, however, might also be relevant in suppressing significant effects.

petitively oriented West German labor market and their high subjective and objective insecurities in the wake of the post-reunification political and economic transformation process. The threat of labor market uncertainties and the sharp increase in unemployment that occurred after the fall of the Wall were new experiences for most East German citizens.

Surprisingly, the opposite effect appears for West German men and women compared to their East German counterparts: the childbearing propensity among West Germans increased in the period from 1995-1999 (Table 2, Models (1) & (2)). This translates into lower fertility in the reference period (2000-2010). This may have been the result of increasing flexibilization of the labor market starting in the late 1990s and early 2000s. Although the relevant labor market processes also affected the East German population, the associated economic upheavals represented a much more dramatic rupture in the securities upon which the West Germans had long relied. In this sense, the higher individual-level childbearing propensity found for West German men and women in the period up to 1999 can be interpreted as meaning that the economic uncertainties resulting from the flexibilization of the labor market were accompanied by a *postponement of parenthood starting in the late 1990s*.

These findings are reinforced by the interaction effects between the historic periods and risk propensity (Tables 2 and 3, Model (2)). Here, a lower transition rate to first-time parenthood appears for East German women with a low to moderate level of risk propensity in the period 1995-1999. For West German men and women with a low risk propensity, however, we again see the opposite effect of *higher* childbearing propensity in the relatively stable period in the West from 1995-1999, which implies a reduced childbearing propensity among risk-averse individuals in the reference period starting in 2000. The connecting element between East and West here is that in both parts of the country, it was mainly risk-averse individuals who tended to postpone first-time parenthood when faced with economic uncertainties resulting from macro-structural transformation processes.

Table 3

Risk Propensity and the Decision to Have a First Child 1995 – 2010

East Germany	(1)		(2)	
	♂	♀	♂	♀
Cohorts 1965-1979	exb(b)	exb(b)	exb(b)	exb(b)
Risk propensity				
Risk propensity (0-10)	1.42*	1.24	1.38*	1.22
(Risk propensity)^2	0.97*	0.97*	0.97*	0.98
Period				
Period 2000-2010	1	1	1	1
Period 1995-1999			0.64**	0.62***
Period x Risk propensity				
1995-1999*Risk prop. (0-6)	0.58***	0.63**		
1995-1999*Risk prop. (>6)	0.81	0.33		
Employment[a)]				
Employed Full-Time(Ref.)	1	1	1	
Precarious & Part-Time	0.84	0.90		
Precarious/PT*Risk p.(0-6) propensity. 0-6			0.76	0.90
Precarious/PT*Risk p. (>6)			1.17	0.84
Umemployed	0.77	1.50		
Umempl.*Risk prop. (0-6)			0.88	1.64
Unemployed *Risk p. (> 6)			0.31	0.72
In Education/Training	0.60*	0.55**	0.61	0.54*
Partner unemployed	1.92**	0.60	1.98**	0.63
n of subjects / events	315/182	279/182	315/182	279/182

*p< 0.10, **p< 0.05, ***p< 0.01;
a) Not shown: residual category "others" and indicator variable for missing values.
Omitted controls: age groups, fertility preferences, migration background, marital status, educational attainment
Method: discrete time complementary log-log.
Source: SOEP v28, 1995 - 2011, author's calculations.

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Summary

The findings presented here support the idea that a moderate level of risk propensity promotes the transition to first-time parenthood, while a high level of risk aversion tends to lead to a postponement of parenthood. The results of this study do not, however, confirm the simple formula "a high risk propensity is expressed in a high childbearing propensity." The finding that both a high risk aversion and a very high risk affinity have a negative effect on the transition to parenthood is central. In this regard, no differences were found either between men and women or between East and West Germany.

The inner-German comparison is particularly interesting, however, with regard to the differentiation of phases of insecurity in the economic framework conditions. In the East, the political and economic transformation process in the years after the fall of the Wall continued to influence fertility decisions far into the 1990s. In the West, the crucial factor was the shift from stable em-

ployment patterns to increased destandardization and flexibilization in the labor market in the late 1990s. The relevant processes of upheaval led, at different points in time in East and West Germany, to a postponement of the transition to parenthood.

Here, it was particularly individuals with a low risk propensity who postponed first-parenthood in the context of macrostructural uncertainties. At the individual level, however, the results give only limited indications that persons choose to start a family formation as safe haven that offers a sense of stability in the face of increasingly precarious and insecure employment patterns. One of the few findings that indicate such a relation is the marked childbearing propensity of unemployed West German women with a *low* risk propensity. For these women, who perceive their employment prospects as dismal, family formation offers social recognition and stability in a life course that is otherwise fraught with uncertainties.

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Add-On Premiums Increase Price Transparency—More Policy Holders Switch Health Plans

by Peter Eibich, Hendrik Schmitz and Nicolas Ziebarth*

The German health care reform implemented in 2009 led to a considerable increase in price transparency within the statutory health insurance (SHI) (Gesetzliche Krankenversicherung, GKV) system and also made it more consumer-friendly which, in turn, has encouraged policy holders to react to price hikes by switching to a different health insurance fund ("sickness fund"). In 2009, the government established a central "health care fund" (Gesundheitsfond) which standardized contribution rates. Price differences between the sickness funds are now listed separately on the policy holder's bill as add-on or reimbursed premiums. It is above all these add-on premiums that gave policy holders a clear price signal. According to SOEP representative survey data, in 2010 this resulted in one in ten individuals affected by add-on premiums switching health plans. Aggregated sickness fund level data show that the add-on premiums introduced by the DAK and KKH-Allianz resulted in a 7.5 percent average annual loss of members.

However, at the beginning of 2011, a generous increase in the uniform contribution rate for all sickness funds and the extravagant filling of the health care fund with the additional reserves means that in 2012, it is likely that no sickness fund will have to charge add-on premiums thus thwarting any price transparency previously achieved by the add-on premiums. As of 2013 the situation could change again as a result of increasing health care spending and a downturn in the economy. However, the government should not count on this happening, and instead should introduce new incentives to strengthen price competition, for example by capping the health care fund's payments to the sickness funds.

* The authors would like to thank all mentioned health insurance funds for providing the data. Special thanks goes to Tobias Schmidt and the German Federal Social Inusrance Office, Ann Marini and the National Association of Statutory Health Insurance Funds (GKV-Spitzenverband), and the BKK Federal Association (BKK-Baundesverband) for information and advice.

The German Act to Strengthen Competition within the Statutory Health Insurance System[1] stipulated the establishment of the central health care fund which came into effect on January 1, 2009. One of the key objectives of the reform was to foster more price transparency among the, at the time, 200 SHI providers or sickness funds in Germany.[2] The aim of this move was to increase price competition between the sickness funds which, in spite of the introduction of free choice among sickness funds in 1996, barely existed. From 2000 to 2009, only five percent of policy holders switched sickness funds each year.[3] This is astonishing as, during this period, significant price differences already existed between the different sickness funds. A sample of universally accessible sickness funds shows that, in 2008, contribution rates ranged from 13.4 to 17.4 percent[4] (Table 1). Based on the average gross monthly wage which was 2,550 euros[5] at the time, for policy holders this equated to a price difference of up to 51 euros per month.[6] Individuals whose income reached the contribution assessment threshold could even have saved up to 72 euros per month by switching from the most expensive to the least expensive health plan. People's reluctance to switch health plans during that period is even more surprising if we bear in mind that approximately 95 percent of insurance benefits were classified as mandatory benefits by Vol-

1 Act to Strengthen Competition within the Statutory Health Insurance System (GKV-Wettbewerbsstärkungsgesetz, GKV-WSG), BGBl. I No. 11, 30/03/2007, available online at: www.bgbl.de

2 Federal Health Monitoring (Gesundheitsberichterstattung des Bundes) (2011), available online at: www.gbe-bund.de

3 Schmitz, Hendrik and Nicolas R. Ziebarth, In absolute or relative terms? How framing prices affects the consumer price sensitivity of health plan choice. SOEPpaper 423 (2011), DIW Berlin, available online at: www.diw.de/soeppapers

4 Including special premiums. Only those sickness funds with nationwide coverage are considered.

5 Federal Statistical Office (Statistisches Bundesamt), Federal Ministry of Labour and Social Affairs (BMAS), German Statutory Pension Insurance Scheme (Deutsche Rentenversicherung Bund), available online at: www.forschung.deutsche-rentenversicherung.de

6 By switching, the employer could also save an additional 51 euros.

Table 1

Overview of Maximum Contribution Rate Differences between Sickness Funds in 2008[1]

Sickness fund	Contribution rate in percent	Employee contribution per month in euros[2]	Policy holders	Coverage	Notes
City BKK	17.4	233.51	207,000	15 federal states	Closed on 01/07/2011
AOK im Saarland	16.7	224.58	230,000	1 federal state	
AOK Mecklenburg-Vorpommern	16.7	224.58	487,995	1 federal state	Merged with AOK Nordost on 01/01/2011
AOK Berlin	16.7	224.58	712,000	1 federal state	Merged with AOK Nordost on 01/01/2011
Gemeinsame BKK Köln	16.6	223.30	40,000	Countrywide	Merged with mhplus BKK on 01/01/2011
BKK BVM	16.6	223.30	70,657	Countrywide	Merged with Schwenninger BKK on 01/01/2009
...	...	...	...	...	
...	...	...	...	...	
...	...	...	...	...	
BIG direkt gesund	13.4	182.47	338,000	Countrywide	
BKK der Thüringer Energieversorgung	13.3	181.19	98,874	2 federal states	
IKK Thüringen	13.2	179.92	230,000	3 federal states	Merged with IKK Classic on 01/01/2010
IKK Südwest Direkt	13.2	179.92	500,000	3 federal states	
BKK MEM	13.1	178.64	2,100	1 federal state	
IKK Sachsen	12.7	173.54	690,000	3 federal states	Merged with IKK Classic on 01/01/2010

1 Does not include "closed" company health insurance funds (BKK).
2 Compared with the average income in 2008 of 2,552 euros.
Sources: Focus, The National Association of Statutory Health Insurance Funds (GKV-Spitzenverband), information from the sickness funds, company annual reports, press releases, German Research Foundation Ranking (dfg-Ranking) 8/11.

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In 2008, switching sickness funds saved policy holders large sums of money.

ume 5 of the German Social Insurance Code (SGB V). This means that variations in the cost of health plans were, for the most part, pure price differences, reflecting very little difference in benefits.

The primary reason behind the reluctance to switch health plans was the lack of price transparency. The framing of price differences as contribution rate differences in percentage points made it even more difficult for the policy holder to compare the prices of the different sickness funds. Box 1 illustrates the arithmetic steps that were required to calculate the monthly price difference between sickness fund A, with a 15 percent contribution rate, and sickness fund B, with a 14 percent contribution rate. Based on the 2008 average gross monthly wage, a difference of one contribution point was equal to a monthly saving, for the employee, of 12.76 euros.

In order to calculate this figure, firstly the policy holder would have had to know their exact gross monthly wage. Secondly, they would also have needed information about the current contribution assessment threshold up to which contributions have to be paid. Moreover, the contribution rate is based not only on the employee's share of the policy premium, but also on the employer's share. Last but not least, the employer contributes directly to the sickness fund, which further limits the policy holder's price consciousness.

2009 Reform: Framing Price Differences in Absolute Values Promotes Competition on the Health Insurance Market

With the establishment of the central health care fund in January 2009, the government introduced a uniform contribution rate for all those within the SHI system. Since 2009, the newly-created health care fund has pooled all contributions collected as a result of this standardized contribution rate. Sickness funds, in turn, no longer collect contributions directly from the employer. Instead, the central health care fund redistributes the monies to the sickness funds according to a standardized premium per insured individual. "Standardized" means that a risk structure equalization (RSA) formula is applied which equalizes the different risk profiles in the pools of policy holders between the sickness funds (SGB V, Sections 265–273). In other words: the sickness funds with a large number of sick policy holders receive a higher payout from the health care fund than those with an above average share of healthy members.

Box 1

Calculation of Monthly Health Insurance Contributions Based on Contribution Rates

Sickness fund A: contribution rate 15 percent

Average gross wage 2008[a]: 2,552 euros

Contribution assessment basis threshold 2008[b]: 3,600 euros

Employee share of contribution rate[c]: (15–0.9)/2 + 0.9 = 7.95

Monthly health insurance contribution: 7.95 percent*2,552 euros = 202.88 euros

Sickness fund B: contribution rate 14 percent

Average gross wage 2008[a]: 2,552 euros

Contribution assessment basis threshold 2008[b]: 3,600 euros

Employee share of contribution rate: (14–0.9)/2 + 0.9 = 7.45

Monthly health insurance contribution: 7.45 percent*2,552 euros = 190.12 euros

Saving with sickness fund B vs. A: 202.88 euros – 190.12 euros = 12.76 per month 12.76 euros*12 = 153.12 euros per year

Conclusion:

By switching from sickness fund A to fund B, the employee could save 12.76 euros per month. Moreover, the employer would also save 11.96 euros per month which he could pay out to the employee in the form of a wage increase.

a Federal Statistical Office (Statistisches Bundesamt), Federal Ministry of Labour and Social Affairs (Bundesministerium für Arbeit und Soziales), German Statutory Pension Insurance Scheme (Deutsche Rentenversicherung Bund)
b Federal Ministry of Finance (Bundesministerium der Finanzen).
c Since July 1, 2005 employees have had to pay a special premium of 0.9 percent. (Act to Adjust the Financing of Dentures (Gesetz zur Anpassung der Finanzierung von Zahnersatz), December 15, 2004).

The leveling of the premium price differences and the payment of average contributions by the health care fund led to a redefinition of the sickness funds' premium autonomy. If the transfers received from the health care fund do not cover the sickness fund's costs, they are obliged to charge "add-on premiums" on their members' invoices expressed as a monthly euro value. Conversely, sickness funds generating a surplus can now also reimburse their members' premiums. This makes it far easier for the policy holder to identify price differences between the sickness funds.

The increase in competition on the health insurance market resulting from the introduction of the health care fund and add-on premiums has put sickness funds under greater pressure to economize more efficiently and to keep health plan prices low either by avoiding add-on premiums or through premium reimbursements. This contributes to an increase in internal efficiency reserves.

Moreover, the concentration of sickness funds has also increased due to mergers and even the closure of individual funds.[1] The total number of sickness funds has fallen from 241 in 2007 to 153 in 2012.[2] Voluntary mergers of sickness funds can contribute to a better mix of risks, particularly for smaller sickness funds, and lead to synergy effects by dismantling duplicate administrative machinery.

All Add-On Premiums Likely to be Abolished in 2012

It is anticipated that, in 2012, all sickness funds will do entirely without add-on premiums or will abolish these during the course of the year. When this article went to print in December 2011, eleven health insurance companies were still charging add-on premiums of between 6.50 and 15 euros per month (Table 2). This included two of the biggest German sickness funds—DAK and KKH-Allianz with 6 million and 1.9 million members respectively. On the other hand, there are currently 7 sickness funds reimbursing their members' premiums at a rate of between 2.50 and 10 euros per month. Admittedly, this includes very small and less well-known funds, two of which only operate in certain federal states and three of which are "closed" i.e., only accept employees from specific companies. Currently, there are a total of approximately 10.5 million people who are insured with sick-

1 Examples are City BKK on July 1, 2011 or the BKK for health professionals on December 31, 2011.

2 The National Association of Statutory Health Insurance Funds (Spitzenverband der Gesetzlichen Krankenkassen) (2011), available online at: www.gkv-spitzenverband.de/Presse_Zahlen_und_Grafiken.gkvnet

Box 2

Debate on the Further Development of the Risk Structure Equalization Scheme "Morbi-RSA"

In the media debate regarding add-on premiums and the workings of the health care fund, it is frequently pointed out that the sickness funds charging add-on premiums were being hastily abandoned by healthy policy holders in particular, which only serves to exacerbate these funds' difficulties. However, this argument primarily criticizes an allegedly flawed risk structure equalization scheme (RSA) and not the add-on premiums themselves. If the RSA were to function effectively, increased switching of young and healthy policy holders would not be a problem, as it is precisely policy holders' health status that the RSA is supposed to balance through redistribution among the sickness funds.

The RSA was introduced in 1994 with a view to implementing free choice between sickness funds (1996). Until 2002, the scheme only equalized outcome medical consumption differences based on age, gender and disability status. In 2002, the equalization factors were extended to include policy holders participating in disease management programs and a risk pool was established to compensate sickness funds for policy holders with very high medical expenses. With the introduction of the health care fund, the RSA underwent another reform. The risk pool was abolished and, based on expert recommendations, replaced with a "morbidity-oriented risk structure equalization scheme" (Morbi-RSA) which balances differences in claims according to 80 defined diseases[1].

A recent comprehensive evaluation report by the Scientific Advisory Council for the Risk Structure Equalization Scheme at the German Federal Social Insurance Office provides the reformed Morbi-RSA with a positive review stating that the new structure has increased the accuracy of the allocation of funds. On the other hand, the report also states that there is probably (still) a marked surplus for healthy policy holders created by transfers from the health care fund, and rejects reform proposals for a reduction in the number of diseases covered by the RSA.[2]

A more accurate and effective RSA is an essential prerequisite for fair competition between sickness funds irrespective of how price differences are framed. Hence, the discussion regarding the further development of the RSA should be decoupled from the fundamental debate about the health care fund and the add-on premiums.

1 See IGES, Lauterbach, K.W., and J. Wasem, Klassifikationsmodelle für Versicherte im Risikostrukturausgleich (2004), report commissioned by the Federal Ministry of Health and Social Security, available online at: www.iges.de/publikationen/gutachten__berichte/rsa_gutachten/e5166/infoboxContent5168/EndberichtRSA-Gutachten_ger.pdf.

2 Scientific Advisory Council for the Further Development of the Risk Structure Equalization Scheme at the German Federal Social Insurance Office, Evaluationsbericht zum Jahresausgleich 2009 im Risikostrukturausgleich (2011), available online at: www.mm.wiwi.uni-due.de/fileadmin/fileupload/BWL-MEDMAN/Aktuelle_Meldungen/Gutachten_mit_Anlagen.pdf.

ness funds charging add-on premiums. The funds reimbursing premiums encompass over 500,000 members.[1]

The price differences between the 153 sickness funds currently operating have not increased as a result of the reform—on the contrary. Whereas the maximum monthly price range in 2008 was approximately 50 euros per month for an average earner, this figure is currently 20 euros.[2] There are 135 sickness funds whose members are currently being charged the same percentage point contribution rate of 15.5 percent and no add-on premiums. They constitute more than 90 percent of all SHI policy-holders.[3]

Sickness funds charging add-on premiums were already systematically levying higher contributions before the

1 It should be noted that this does not mean that 10.5 million statutory health insurance policy holders pay add-on premiums. The number of policy holders also includes, for example, non-contributory co-insured family members, who do not have to pay add-on premiums. The DAK currently has 4.7 million 'paying' members and KKH-Allianz 1.4 million.

2 Restricted to sickness funds with nationwide coverage.

3 This figure is based on the approximately eight million statutory health insurance policy holders paying add-on premiums (approximately 75 percent of the total 10.5 million people insured with sickness funds charging add-on premiums) as well as the total number of 69.9 million statutory health insurance policy holders (Federal Health Monitoring 2011, www.gbe-bund.de).

Table 2

Overview of Sickness Funds with Add-On Premium and Premium Reimbursement

Sickness fund	Add-on premium /premium	Amount in euros/ month[1]	Introduced	Discarded	Contribution rate in 2008 in percent[3]	Employee contribution per month in euros (2008)	Number of policy holders (as at: 2010)	Coverage	Notes
BKK Hoesch	Add-on premium	15.00	01/01/2011	[5]	15.8	213.09	99,415	10 federal states	Possibly discarding add-on premium in 2012
City BKK	Add-on premium	15.00	01/04/2010	01/07/2011	17.4	233.51	168,000	Countrywide	Closed on 01/07/2011
BKK für Heilberufe	Add-on premium	10.00	01/01/2011	01/01/2012	16.2	218.20	185,000	Countrywide	Closed on 01/01/2012
BKK Westfalen-Lippe	Add-on premium	12.00	01/02/2010	30/09/2010	15.7	211.82	27,355	Countrywide	Merged with BKK Vor Ort on 01/10/2010
DAK	Add-on premium	8.00	01/02/2010	31/03/2012[2]	15.4	207.99	6,049,941	Countrywide	Merged with DAK-Gesundheit on 01/01/2012
KKH-Allianz	Add-on premium	8.00	01/03/2010	01/03/2012[2]	14.8	200.33	1,900,057	Countrywide	
Deutsche BKK	Add-on premium	8.00	01/02/2010	[4]	15.1	204.16	916,765	Countrywide	Plans to discard add-on premium in 2012
BKK Gesundheit	Add-on premium	8.00	01/02/2010	31/03/2012[2]	14.9	201.61	1,200,000	Countrywide	Merged with DAK-Gesundheit on 01/01/2012
BKK Phoenix	Add-on premium	8.00	01/01/2010	[4]	16.3	219.47	10,663	Countrywide	Plans to discard add-on premium in 2012
Novitas BKK	Add-on premium	8.00	01/07/2010	31/12/2010	15.4	207.99	450,000	Countrywide	
Esso BKK	Add-on premium	8.00	01/04/2010	31/12/2010	14.5	196.50	26,000	Countrywide	
BKK Publik	Add-on premium	8.00	01/01/2011	–	15.5	209.26	6,849	3 federal states	
BKK Axel Springer	Add-on premium	8.00	01/01/2010	31/03/2012[2]	16.5	222.02	12,142	Closed	Merged with DAK-Gesundheit on 01/01/2012
BKK Merck	Add-on premium	8.00	01/04/2010	[4]	14.3	193.95	28,000	Closed	
e.on BKK	Add-on premium	8.00	01/03/2010	30/06/2011	14.5	196.50	8,900	Closed	
BKK advita	Add-on premium	6.50	01/07/2011	[4]	15.7	211.82	43,000	Countrywide	Plans to discard add-on premium in 2012
Gemeinsame BKK Köln	Add-on premium	1 percent of income	01/09/2009	31/12/2010	16.6	223.30	29,414	Countrywide	Merged with mhplus BKK on 01/01/2011
						Total	*11,161,501*		
						Total 12/2011	*10,451,832*		
BKK A.T.U.	Premium	2.50	01/01/2011	–	14.4	195.23	100,223	Countrywide	
hkk	Premium	5.00	01/01/2009	–	14.1	191.40	325,511	Countrywide	
BKK Wirtschaft und Finanzen	Premium	5.00	01/01/2011	–	14.4	195.23	10,000	12 federal states	
BKK PWC	Premium	5.00	01/01/2011	–	14.1	191.40	17,091	Closed	
BKK ALP Plus	Premium	5.83	01/07/2009	30/03/2010	14.8	200.33	107,773	Countrywide	
G+V BKK	Premium	6.00	01/10/2009	–	12.2	167.16	1,000	2 federal states	
IKK Südwest	Premium	8.33	01/01/2009	01/01/2010	13.8	187.57	680,000	3 federal states	
BKK Groz-Beckert	Premium	8.33	01/01/2009	–	13.1	178.64	6,280	Closed	
BKK Würth	Premium	10.00	01/01/2009	–	13.5	183.74	12,432	Closed	Premium payment not yet officially set for 2011
						Total	*1,260,310*		
						Total 12/2011	*472,537*		

1 As at: 15/12/2011. Premium and add-on premium levels have varied in previous years.
2 Discard is yet to be approved by the German Federal (Social) Insurance Office.
3 Including a special premium of 0.9 percent in compliance with Section 249, Subsection 1 SGB V.
4 Planned to be discarded in 2012, pending approval by German Federal (Social) Insurance Office.
5 Significant reduction or discard planned for 2012.
Sources: German Federal (Social) Insurance Office (Bundesversicherungsamt), National Association of Statutory Health Insurance Funds (GKV-Spitzenverband), information from the sickness funds, company annual reports.

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Almost all sickness funds plan to discard the add-on premiums again in 2012.

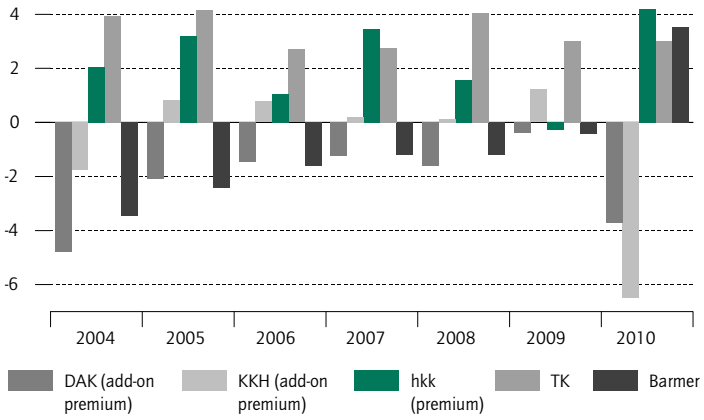
reform. Conversely, those sickness funds which are currently reimbursing premiums were already charging lower contributions in 2008. This can be seen as an indication that it was above all the differences in the structure of policy holders or in administration costs that led to contribution rate differences (Box 2).

One of the government's primary objectives—to promote price transparency—has been achieved by the reform. At least this applies to price differences between sickness funds. The employee's share of the overall contribution rate, which is currently 15.5 percent of the gross wage up to the contribution assessment threshold, will

Figure

Development of the Number of People Insured with Selected Sickness Funds from 2004 to 2010

Difference in number of policy holders compared with previous year, in percent (based on approximate annual averages)



Notes: in order to ensure comparability over the years, mergers are excluded from the calculation of the number of policy holders. The calculation assumes that, after the merger, the switching rates are the same for both merger parties. The number of people insured with hkk was, in part, measured on different appointed dates over the course of a year and is, therefore, only conditionally comparable over time.
Sources: annual company reports from the sickness funds, personal inquiries, graph by DIW Berlin.

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DAK and KKH-Allianz lost a large number of members after increasing their add-on premium.

continue to be shown only on the employee's payslip. The following empirical analyses demonstrate that the add-on premiums are a significant incentive to switch health plans.

Add-On Premiums Significantly Increase Willingness to Switch Health Plans

The figure shows the development of the number of people insured with five selected sickness funds, which, together, cover a market share of 30 percent of all policy holders.[1] Two of these sickness funds charged add-on premiums of 8 euros per month as of February or March 2010 (DAK and KKH-Allianz); the other two PHI companies refrained from doing this (BARMER-GEK, TK). The figure also shows the development of the number of people insured with the hkk, the biggest German sickness fund currently reimbursing contributions.

1 Within the framework of this analysis it was not possible to obtain data on the other important market-players such as the number of people insured with the Allgemeine Ortskrankenkasse, (AOK) or with the Betriebskrankenkassen (BKK).

Even before the establishment of the health care fund and the transition to the new price framing system, there were significant differences in the market performance of the different sickness funds. This meant that the growth in membership of the TK and the hkk was consistently higher than that of the DAK and KKH-Allianz.

The DAK and KKH-Allianz introduced add-on premiums respectively in February and March 2010. In a comparison of the average annual figures between 2009 and 2010, the DAK and KKH-Allianz lost a significant number of members: DAK –3.7 percent and KKH-Allianz –6.5 percent.[2] Conversely, the hkk, which was reimbursing premiums, gained, on balance, 4.2 percent new members. BARMER-GEK also recorded similar increases in members during this period, whereas TK did not experience any further growth.

Table 3 shows the results of a simple statistical analysis. The basic data is the same as for Figure 1. Howev-

2 It should be noted that this data only refers to 2010. More recent reports, according to which the DAK has, to date, lost up to ten percent of its members, do not contradict this information.

Table 3

Impact of Contribution Rates, Add-On Premiums and Premium Reimbursements on the Development of the Number of Policy Holders

	Change in number of policy holders
Contribution rate in percentage points	-3.82**
Add-on premium	-7.61**
Premium reimbursement	0.71
Consideration of time effects	Yes
R^2	0.87
Number of cases	35

*Error probabilities: ***under 1 percent, **under 5 percent, *under 10 percent. The dependent variable is the change in the number of policy holders in percent. OLS estimates, standard errors are clustered at the level of the sickness fund. The regression also controls for persistent differences between sickness funds with add-on premiums and premiums on the one hand and the other two sickness funds on the other hand. The data source is the same as for Figure 1, i.e., it is based on annual averages of the number of people insured with the respective sickness funds.*
Sources: DAK, KKH, BARMER, TK, hkk annual reports, Federal Statistical Office, written information, calculations by DIW Berlin.

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Many policy holders cancel their insurance when they have to pay an add-on premium.

er, Table 3 considers the overall market trend of the five sickness funds since 2004; time effects[1] are excluded.

Before the 2009 reform, a 1 percentage point increase in the contribution rate brought about the loss of an average of 4 percent of members (Line 1, Table 3).

As a result of the introduction of the add-on premium, both of the selected sickness funds, DAK and KKH-Allianz, lost, on average, 7.5 percent of their members relative to other sickness funds and to market trends (Line 2, Table 3). The effect of the hkk's premium reimbursements is, at 0.7 percent, positive, but from a statistical point of view no different from zero.

Reform Significantly Increases Consumer Price Sensitivity and Achieves Key Objective

Although, even before the introduction of the health care fund, increases in insurance contributions led to significant losses in members, and, although the sickness funds selected for this study also experienced different growth trends before the health care reform, the following is evident: by increasing price transparency, the reform increased the willingness to switch health plans. Whereas before the introduction of the health care fund a monthly contribution rate increase of 1 percentage point or 13 euros[2] led to a 4 percent loss of members among the 5 sample sickness funds, after the introduction of an add-on premium of 8 euros, the loss of members increased to more than 7.5 percent per month. Relatively speaking, the effect is three times larger: previously an increase in contribution rates of 1 euro per month led to a 0.3 percent loss in members, today, the same increase results in an almost 1 percent loss. Price competition has increased dramatically.

When interpreting these figures, it must be borne in mind that they are based on a limited number of observations and do not represent all SHI companies. The statements refer exclusively to the five selected sickness funds and, regarding the add-on premium, they only refer to a short-term effect from 2009 to 2010.[3] The mid to long-term effects for individual sickness funds are likely to be less significant as policy holders only had extraordinary rights to cancel their contracts and switch funds within two months of the introduction of the add-on premium.

The significance of the selective aggregate sickness fund data can be verified using estimates based on representative survey data from the Socio-Economic Panel Study (SOEP)[4].

Individual-Level Switching Probability Doubles Due to Add-On Premium

Based on SOEP data, an extensive research study was conducted by the authors of this work. The study confirms the aforementioned findings and conclusions:[5] before the introduction of the health care fund and add-on premiums—when price differences were still expressed as percentage point contribution rate differences—the individual-level switching probability was five percent. This means that, on average, five percent of all paying SHI members switched their health plans every year. Due to the new legal requirement of sickness funds to express the price differences between health plans in absolute euro values, the individual-level switching probability for members paying an add-on premium doubled to more than ten percent. After the reform, members of sickness funds which were not charging add-on premiums had a switching probability of only 3.5 percent. This is not surprising as the prices for this group no longer differ.[6]

If the actual subsequent health plan switch is related to the preceding price increases, the difference becomes even more apparent. This can be shown by analyzing those being charged add-on premiums: before the reform, with a monthly increase of ten euros (veiled by

1 Time effects are systematic unobserved annual effects which have the same impact on all sickness funds. In our case study it could, for example, have been the case that all the sickness funds analyzed here launched special advertising campaigns in one specific year. This would have led to an observed increase in members for all sickness funds which would, however, be statistically excluded.

2 Based on the average gross wage.

3 Moreover, the add-on premium effect was slightly underestimated because the calculations were based on the average number of policy holders in 2010 whereas the DAK and KKH-Allianz only introduced the add-on premium on 1/2/2010 and 1/3/2010 respectively (Table 2).

4 The Socio-Economic Panel Study (SOEP) is a longitudinal study that has been carried out annually, sampling the same households and individuals, since 1984. The SOEP gathers information on, inter alia, employment, income, health and choice of sickness fund. See Wagner, G.G., J.R. Frick, and J. Schupp, "The German Socio-Economic Panel Study (SOEP) – Scope, Evolution and Enhancements," Schmollers Jahrbuch, 127 (1) (2007), 139–169.

5 Hendrik Schmitz and Nicolas R. Ziebarth (2011): "In absolute or relative terms?"How framing prices affects the consumer price sensitivity of health plan choice. SOEPpaper 423 (2011), DIW Berlin, available online at: www.diw.de/soeppapers

6 The switching probability of members of sickness funds who have to pay an add-on were reimbursed part of their premium was not analyzed. The number of observations is too low.

Box 3

Further Development of the Social Compensation Scheme by the SHI Financing Act 2010

The public debate frequently gives the impression that add-on premiums are socially unacceptable and have a disproportionately negative impact on poor households, in particular. In order to allay this criticism, up until 2010 a hardship provision existed which limited the maximum add-on premium to one percent of monthly income. Income testing was not a requirement for add-on premiums of up to eight euros per month, however, which explains why the majority of add-on premiums are eight euros per month. However, this rule had two undesirable effects. The hardship provision was at the expense of the individual sickness fund which was not able to charge more than one percent of income even if it had greater financial requirements. Moreover, the regulation reduced the policy holder's incentive to switch to a less expensive sickness fund regardless of add-on premiums.

The GKV-FinG rescinded the hardship provision on 1/1/2011. Sickness funds were permitted to charge unlimited add-on premiums. When the average add-on premium exceeds two percent of the individual's assessable income, the policy holder is eligible for tax-financed social compensation. They then receive the difference between the average add-on premium and the two-percent-threshold with their salary or pension payment i.e., their income-dependent contribution is reduced by this difference. The average add-on premium is calculated according to Section 272a, Subsection 1 of the GKV-FinG "based on the difference between the sickness funds' estimated annual expenditure and the health care fund's estimated annual income [...]." Further, Subsection 2 states that: "After analyzing the results presented by of the Council of Experts, the Federal Ministry of Health shall determine the average add-on premium for the subsequent year in euros with the consent of the Federal Ministry of Finance [Bundesministerium der Finanzen]."

The New Social Compensation Scheme is Incentive-Compatible

As a result of the reform, the social compensation scheme was restructured to increase its incentive compatibility. As policy holders who receive tax-financed social compensation still have to pay the full add-on premium, it is worth them switching to sickness funds which charge a small or no add-on premium. This is a very unproblematic process and does not conflict with the social acceptability of the add-on premiums. Those insured by sickness funds which only charge a small (or no) add-on premium can even receive social compensation which is higher than the add-on premium itself. On the whole, from the point of view of incentive compatibility, the reform can certainly be regarded as successful. However, the new social compensation scheme is occasionally criticized as being too bureaucratic.

As the health care fund's income for both 2011 and 2012 exceeds the estimated expenditure of the sickness funds, the current average add-on premium is zero euros. No social compensation is planned for 2012 either as the health care fund's income is enough to cover forecast sickness fund expenditure in its entirety.

Example:

Policy holder I:		**Policy holder II:**	
Income:	1,000 euros	Income:	600 euros
2-percent threshold[1]:	20 euros	2-percent threshold:	12 euros
Add-on premium charged by sickness fund A:	25 euros	Add-on premium charged by sickness fund B:	6 euros
Share of income:	2.50 %	Share of income:	1.00%

1 Based on income subject to health insurance contributions.

Scenario A: average add-on premium of 0 euros
Result: no social subsidy is awarded.

Scenario B: average add-on premium of 20 euros
Result: policy holder I receives no social subsidy but could save 19 euros by switching to sickness fund B. Policy holder II receives an eight-euro reimbursement. subsidy with their salary or pension payment, independent of the actual add-on premium charged.

the price framing system) the individual-level switching probability increased by one percentage point. After the reform, this figure increased by six times in comparison. With a ten euro higher monthly contribution, the switching probability increased by six percentage points.

At the same time, representative SOEP data also shows that it is primarily the young, healthy and childless policy holders who have an above average rate of switching health plans. This is a predictable result of non-contributory family insurance as the costs of an increased premium price work out less per person in this case. A possible explanation as to why older people are less likely to switch health plans could be higher switching costs due to more limited internet access. Alternative explanations refer to habitual effects or brand loyalty resulting from longstanding membership.

Dubious Premium Price Increases at the Beginning of 2011

On January 1, 2011 in the course of the implementation of the Statutory Health Insurance Financing Act (GKV-FinG), the overall uniform contribution rate was increased again to 15.5 percent after having been temporarily reduced to 14.9 percent on July 1, 2009. The official argument given by the German Government to justify the increase, which came into effect at the beginning of 2011, was that the standardized contribution rate was supposedly only previously cut as part of the economic stimulus package.[1] However, this is only half the truth as the initial standardized contribution rate which was fixed at 15.5 percent on January 1, 2009 was heavily criticized as being too high. With the increase to 15.5 percent on January 1, 2011 the German government obviously wanted to buy some peace on the health care front until the next General Elections in 2013 and counteract the threat from various sickness funds to introduce add-on premiums. Moreover, this helped the government avoid having to pilot the new social compensation scheme (Box 3).

The fear is that the generous contribution rate increase has thwarted an effective instrument for fostering competition between sickness funds.[2] The big funds charging add-on premiums such as DAK or KKH-Allianz have already announced that they are going to discard the premium again in spring 2012.[3] Almost all the sickness funds listed in Table 2 intend to drop the add-on premium again during the course of 2012.[4] From a competition point of view, however, it would be preferable if there were greater price differentiation between the sickness funds. The government would be able to achieve this by capping transfers from the health care fund to the sickness funds at 95 or 98 percent, for example.[5] Planned transfers for 2012 amount to 185 billion euros, five percent less would be equal to 9.25 billion euros or 15 euros per member per month. This would, however, be a politically brave step as the increasing reserves in the health care fund are already now inciting envy.[6] As it is undisputed that SHI expenditure will, however, continue to increase in the future, the growing fund reserves are, at most, a short-term phenomenon.

The GKV-FinG explicitly states that future increases in expenditure may only be covered by add-on premiums and not by increasing the uniform contribution rate or through higher tax subsidies. However, due to the bad

1 See The Federal Ministry of Health (Bundesministerium für Gesundheit, BMG), available online at: www.bmg.bund.de/krankenversicherung/gesundheitsreform/zusatzbeitrag.html

2 If the contribution rate were not to be increased by 0.6 percentage points, the health care fund would still have recorded a surplus of approximately two billion euros at the end of 2011 year end due to the stable economic situation and the unexpectedly low sickness fund transfersexpenditures. Moreover, the law has stipulated a three billion euro minimum reserve as well as two billion euros for tax-financed social compensation from 2012 to 2014. Federal Ministry of Health (Bundesministerium für Gesundheit, BMG (2011)): press release of 05/09/2011.

3 However, this is yet to be approved by the German Federal (Social) Insurance Office (Bundesversicherungsamt, BVA).

4 This is primarily due to the good financial position of the SHI sickness funds, which is, for the most part, the result of a specific effect: the health care fund allocates monthly advance payments to the individual sickness funds. These are based on the total SHI expenditure estimate which is carried out in the fall of the previous year by the Council of Experts (Schätzerkreis) of the German Federal (Social) Insurance Office. In the previous year, the Council of Experts forecast an increase in statutory health insurance expenditure of 4.3 percent. However, in reality the increase was only 2.8 percent. This means that the individual sickness funds are currently receiving more money from the health care fund than they actually need to cover their expenditure. The overestimated development of statutory health insurance expenditure can be traced back to the German Government's pharmaceuticals austerity package (Act on the Reform of the Market for Medicinal Products (Gesetz zur Neuordnung des Arzneimittelmarktes, AMNOG)). Pharmaceutical expenditure dropped by 6.3 percent in the first two quarters of 2011 for the first time in many years. German Ministry of Health (Bundesministerium für Gesundheit, BMG (2011)): press release of 05/09/2011, www.bmg.bund.de/ministerium/presse/pressemitteilungen/2011-03/gkv-finanzentwicklung-1-halbjahr-2011.html)

5 The 0.3 percent point reduction in the premium pricestandardized contribution rate which is currently being discussed would not necessarily lead to more add-on premiums, as the health care fund would still have sufficient reserves to completely cover all sickness funds' expenditure. Moreover, this would strengthen the impression that the Government behaves inconsistently, as the overall contribution rate was only codified in Volume 5 of the German Social Insurance Code (SGB V) at the beginning of the year. If the fund were to have a sudden deficit due to an economic slowdown, demands for a further increase in the contribution rate would doubtless not fall on deaf ears.

6 See "Krankenkassen sitzen auf 10 Milliarden Euro," Handelsblatt, September 15, 2011.

reputation of the health care fund and its add-on premiums, this announcement has little credence.[1]

If the government does not have the courage to cap sickness fund transfers, it should at least urge the financially strong sickness funds to make more use of the premium reimbursement instrument. At year end, some sickness funds had pooled reserves of more than three billion euros.

Conclusion

The primary goal of the health care reform implemented by the Grand Coalition and effective as of 2009 was to make the price differences between the sickness funds more transparent and, thus, more consumer-friendly. This aimed to increase the policy holders' willingness to switch health plans and, thus, foster competition between the sickness funds. This goal was achieved. The standardization of contribution rates led to price differences between health plans being expressed in absolute euro values as add-on and reimbursed premiums. This resulted in a strong increase in the willingness to switch health plans of those policy holders who were being charged add-on premiums. This, in turn, led to both big PHI funds, which had been charging add-on premiums since spring 2010, losing approximately 7.5 percent of their members. Add-on premiums doubled the switching probability of those affected from five to ten percent.

The health care fund refom works by making it much easier for the policy holder to identify the price signal for the add-on premium than with the previous contribution rate differences. This, in turn, significantly increases their willingness to switch health plans. This should also lead to an increase in price competition and efficiency. There exists still potential to decrease costs and increase efficiency maintaining quality of care; for example in efficiency reserves for the sickness funds. One way of ensuring this would be to reduce administrative costs , where there is potential for savings, without impairing the funds' performance.[2]

Regrettably, the health care fund and add-on premiums have a rather negative public image and are either vilified as "bureaucratic monsters" or a step on the slippery slope into "GDR-style state-controlled socialized medicine". In response, the government should be defending its chosen path with greater conviction and, moreover, should refrain from further hampering the add-on premium instrument with more increases in the overall contribution rate. In order to prevent the competition between insurance companies coming to a halt, the government should ensure that, in 2012 and in the more distant future, a significant price differentiation is maintained between the sickness funds. This can be made possible through greater premium reimbursements by the most financially strong sickness funds.

Efficiency in the market reserves could be further increased if there were greater differences between the sickness funds in terms of the range of benefits offered. If, for example—in a strictly legally regulated way—the funds had the option of selective contracting – entering into contracts with individual hospitals covering specific services –, they would be able to pass on the efficiency pressure exerted by the health care fund to the service provider. The sickness funds would then, for example, have the option of sending their policy holders who have been waiting for operations for some time, selectively to those hospitals providing the best quality or most efficient care.[3] The present price competition could then develop into a real quality competition—to the benefit of the policy holder. The willingness of the policy holders to select the sickness fund that is most suited to them is essential to successful competition. Policy holders have proven over the last two years that they are increasingly prepared to do this.

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1 Moreover, there are, at least in part, inconsistencies between these government statements and the current wording of the SGB V. It implies that total sickness fund expenditure will be equalized in compliance with the health care fund's provisions. This would mean that the fund's ability to cover all health care expenditure in the long-term is (significantly) below 100 percent. Simultaneously, a minimum reserve (Section 271, 2), reserves for tax-financed social compensation, and tax subsidies (Sections 221, 221a, 221b) are stipulated by law. Section 271, Subsection 3 states: "If the liquidity reserve is not sufficient to carry out all transfers, the Government shall provide the health care fund with an interest-free liquidity loan to the sum of the missing amount. The loan shall be paid back during the given fiscal year. Repayment by year end shall be ensured using appropriate measures." It remains unclear what is meant by "appropriate measures".

2 See RWI and ADMED, Einsparpotenziale bei den Verwaltungskosten gesetzlicher Krankenversicherungen (2010). The authors estimate that the sickness funds have a possible administrative cost saving potential of a total of 1.4 billion euros per annum.

3 Of course, emergencies must be legally codified exceptions and, particularly in rural regions, the accessibility of the hospital must be guaranteed.

Has Income Inequality Spiked in Germany?

by Markus M. Grabka, Jan Goebel and Jürgen Schupp

New analyses of personal income distribution in Germany, based on data from the German Socio-Economic Panel (SOEP), show that real market income in private households rose significantly from 2005 to 2010. An increase in real disposable income was also observed. At the same time, income inequality decreased in both western and eastern Germany. However, the latter showed a further spread at the lower end of disposable income distribution. In the course of this development, the poverty risk in western Germany fell slightly from 2009 to 2010, while it remained unchanged in the eastern part of the country.

This report updates and expands on previous studies by DIW Berlin on income inequality and poverty risk (relative income poverty) up to 2010.[1] Compared to previous publications by DIW Berlin, in which the results were assigned to the survey year, this report shows the year when the income was received (income year). This means that annual income is shown for the year before the relevant survey year. However, the demographic structure of private households relates to the survey year, as in all previous publications by DIW Berlin. Consequently, the current data on annual income from the 2011 survey relates to income for the 2010 calendar year with the demographic structure of the first half of 2011.[2]

The empirical basis of the data collected by DIW Berlin, in cooperation with the fieldwork organization TNS Infratest Sozialforschung, was from the German Socio-Economic Panel study (SOEP),[3] which enables the development of personal income distribution in Germany to be analyzed over consistent time frames due to repeated annual data capture.

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1 See M.M. Grabka and J.R. Frick (2010), „Weiterhin hohes Armutsrisiko in Deutschland: Kinder und junge Erwachsene sind besonders betroffen," Wochenbericht des DIW Berlin, no. 7 and J. Goebel and M.M. Grabka (2011), „Zur Entwicklung der Altersarmut in Deutschland," Wochenbericht des DIW Berlin, no. 25.

2 By changing the income year, DIW Berlin is following the procedure laid out in the draft of the 4th Poverty and Wealth Report by the Federal government, the Federal Ministry of Labor and Social Affairs 2012: Living circumstances in Germany, and in the report by the German Council of Economic Experts, last Annual Report 2011/2012: Taking responsibility for Europe.

3 The SOEP is an annual, representative follow-up survey of private households which has been conducted in West Germany since 1984 and in eastern Germany since 1990, see G.G. Wagner, J. Goebel, P. Krause, R. Pischner, and I. Sieber (2008), „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, no. 4: 301–328.

2005-2010: Increasing Incomes...

The average equivalized and inflation-adjusted market incomes of persons in private households remained virtually unchanged from 1991 to 1998. At the end of the '90s, they increased significantly in line with the economic boom, but then decreased again up to 2005 (see Figure 1, see Box 1 for the definition and measurement of income). In western Germany, average market incomes declined by approximately 1,000 euros (-4 percent) from 1999 to 2005, while in eastern Germany it was about 2,000 euros (-13 percent). This decrease was primarily due to a deterioration in the labor market; the number of unemployed in eastern Germany increased significantly more than in western Germany during this period.

The significant reduction in unemployment observed since then has been accompanied by a change to the income development trend. From 2005 to 2010, market income, the main component of which was earned income, increased by almost 1,000 euros or four percent in western Germany. Consequently, average market income was once again as high as it was at the turn of the century. In eastern Germany, where unemployment declined more than in the west, income growth was much stronger at just under 2,900 euros or 20 percent. On average, income in eastern Germany was just under 71 percent of that in western Germany.

Box 1

Definitions, Methods and Assumptions in Measuring Income

The analyses presented in this report are based on the German Socio-Economic Panel Study (SOEP), a longitudinal survey of primarily annual household income. Here, all the income components affecting the surveyed household as a whole, as well as all the individual gross incomes of the respondents currently in the household (market income is the sum of capital and earned income, including private transfers and private pensions) are added together in the survey year *(t)*—with its demographic structures (in the first half of each observation year) for the relevant calendar year *(t-1)* (income year). In addition, income from state pensions and social transfers (income support, housing benefit, child benefit, support from the German Employment Agency, and others) are taken into account, and then net annual income is calculated using a simulation of tax and social security contributions—one-time payments are also taken into account (13th and 14th month salaries, Christmas bonuses, holiday pay, etc.).

The annual burden of personal income tax and social security contributions is based on a micro-simulation model,[1] which implements a tax assessment taking into account all types of income covered by the German Income Tax Act, as well as allowances, advertising costs, and special expenses. Due to the complexity of German tax law, not all special tax regulations can be simulated with the aid of this model. On the basis of net income calculated by the SOEP, it should be assumed that actual income inequality is underestimated.

Since the reference to the income year has now become established in reports on poverty and wealth published by the German government, contrary to earlier publications by DIW Berlin, results in this report refer to the income year (and no longer to the survey year). Here, it should be pointed out that the demographic structure of households refers to the survey year, which, for this reason, was chosen as a temporal reference point in previous publications.

According to international literature,[2] notional (net) income components from owner-occupied housing ("imputed rent") are also added to income. In addition, non-monetary income components from cheaper rental housing (social housing, private or employer-subsidized housing, households paying no rent) are also taken into account in the following, as required by the European Commission for EU-wide income distribution accounting based on EU-SILC.

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

2 See: J.R. Frick, J. Goebel, and M.M. Grabka (2007), „Assessing the distributional impact of „imputed rent" and „non-cash employee income" in microdata," European Communities (ed.): Comparative EU statistics on Income and Living Conditions: Issues and Challenges. Proceedings of the EU-SILC conference (Helsinki, 6-8 November 2006), (EUROSTAT: 2007): 116-142.

The development of disposable household income was broadly similar to that of market income.[1] It can be divided into three phases. Up to 1999, real equivalized household income rose only slightly in western Germany. In eastern Germany, however, it increased dramatically during the transformation process, bringing the two parts of the country closer in line with each other (see Figure 2). In the subsequent years up to 2005, disposable income stagnated in the west, or in terms of average income, the median,[2] it even declined. At more than six percent in eastern Germany, this decline was more pronounced than in western Germany. From 2005 to 2010, real incomes rose again in Germany. However, the severe economic crisis of 2008/2009 has—unlike, for example, in the United States[3]—not had any long-

1 Disposable household income consists of market income, statutory pensions, and state benefits such as child benefit, housing benefit, and unemployment benefit, less direct taxes and social security contributions.

2 If the population is sorted according to level of income and then two groups of equal size are formed, the median shows the income received by the income earners at the center of the distribution.

3 As a result, the median of total income (before payments for personal income taxes, social security, union dues, medicare deductions, etc.) in the US from 2007 to 2010 in real terms has decreased by 6.7 percent, U.S. Census Bureau, „Current Population Survey," Annual Social and Economic Supplement. www.census.gov/hhes/www/income/data/historical/household/2011/H10AR_2011.xls.

The income situations of households of various sizes and compositions—according to international standards—are compared by translating them into equivalized incomes (per capita incomes weighted to needs). This involves using a generalized demand scale proposed by the OECD and universally accepted in European statistics, and each household member is assigned a calculated equivalized income, with the assumption that all household members benefit equally from the joint income. The head of the household is given a needs weighting of 1; each additional adult is given a weighting of 0.5 and children up to 14 years are given a weighting of 0.3. Thus an economy of scale is assumed for larger households. This means that, for example, the household income for a four-person household (parents and a 16 and 13-year-old child) is not divided by 4 as in a per capita calculation (= 1 +1 +1 +1) but by 2.3 (= 1+0.5+0.5+0.3).

One particular challenge in all population surveys is the proper inclusion of missing information for individual interviewees, particularly for questions considered sensitive, such as those about income. Households often refuse to give information, especially if the household's income is either above or below average.

In the SOEP data analyzed here, missing data are replaced using complex, cross-sectional and longitudinal-based imputation procedures.[1] This also applies to missing information where individual members of otherwise willing households have refused to provide details. In these cases, a multi-level statistical method is applied to six individual components of gross income components (earned income, pensions and transfer payments in the event of unemployment, training/study, maternity pay/child benefit/parental benefits and private transfers).[2] As a result, not only is data from even earlier survey years (for example, data from *t-2* for *t-1*) used for missing data in earlier survey years (up to *t-1*), but also for future data (for example, data from t for *t-1*). All the missing data are imputed, also retroactively, for each new data survey which can lead to changes in previous evaluations (as between SOEP version v27 and v28, see Box 3). However, these changes are generally minor. Since no information for *t+1* is available at the current boundary (*t*), the imputation for the current survey boundary is less certain than that for *t-1* and earlier survey years, which is why a further wave of collected data at the current boundary may lead to relatively larger changes in imputed values.

Since first-time respondents provide less accurate information, especially for income data, than people familiar with the SOEP, the first wave of individual SOEP random samples is excluded from the calculations. Studies show that the respondents' behavior is subject to learning effects after the first survey.[3]

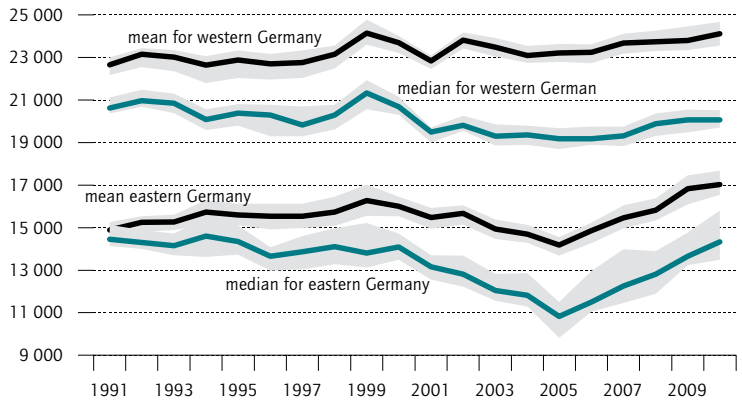
1 J.R. Frick and M.M. Grabka (2005), „Item Non-response on Income Questions in Panel Surveys: Incidence, Imputation and the Impact on Inequality and Mobility," Allgemeines Statistisches Archiv, 89(1): 49–61.

2 J.R. Frick, M.M. Grabka, and O. Groh-Samberg (2012), „Dealing with incomplete household panel data in inequality research," Sociological Methods and Research, 41 (1): 89-123.

3 J.R. Frick, J. Goebel, E. Schechtman, G.G. Wagner, and S. Yitzhaki (2006), „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 vol. 34 no. 4: 427–468.

Figure 1

Real Household Market Income[1]
In euros at 2005 prices



1 Data on annual incomes gathered in the following year, market income including a nominal employer contribution for civil servants, needs-weighted in line with the modified OECD equivalence scale. The gray shading shows the 95-percent confidence bands (see Box 3).

Source: SOEPv28.

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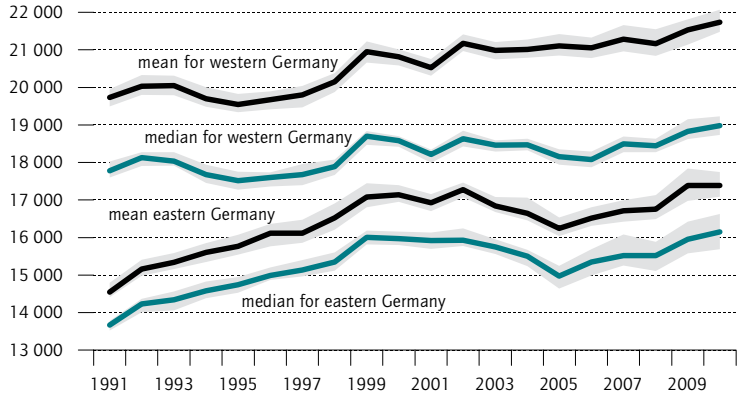
Market incomes have increased more in eastern Germany than in western Germany since 2005.

Figure 2

Real Disposable Household Income[1]
In euros at 2005 prices



1 Data on annual incomes gathered in the following year included the rental value of owner-occupied housing, needs-weighted in line with the modified OECD equivalence scale. The gray shading shows the 95-percent confidence bands (see Box 3).

Source: SOEPv28.

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Disposable incomes and market income developed along similar lines.

term impact on the labor market and consequently on the disposable income of private households.[1] In western Germany, the increase in real disposable income from 2005 to 2010 amounted to just over 600 euros (three percent). Income in eastern Germany increased by more than 1,100 euros (seven percent). Nevertheless, incomes in eastern Germany still average only four-fifths of western German income levels.

Looking only at the development from 2009 to 2010 for Germany as a whole, there are clear differences between the income groups. The lower 40 percent of the population were able to increase their disposable income in real terms by an above-average two percent. This development was accompanied by an increase in the number of people with earned income by around 700,000.[2] Moreover, the collective wage increases during this period were higher than in previous years and this is likely to have also been reflected in actual earnings.[3] In contrast, medium and high disposable incomes remained static in 2010. The decline in income from assets would have played a considerable role here.

...and Reduced Income Inequality

The standard unit for measuring income inequality is the Gini coefficient. It can have values between 0 and 1. The higher the value, the more pronounced the inequality. According to this measurement, the inequality of market incomes in eastern Germany during the transformation process was statistically significant and rose from 0.37 in 1991 to 0.55 in 2005 (see Figure 3). The inequality of market incomes in western Germany also rose appreciably during this period, but much less than in eastern Germany. Since the mid-90s, the distribution of market incomes in eastern Germany has been significantly less equal than in the west.

From 2005 onwards, during the economic upturn and the subsequent improvements in the labor market situation, income inequality in the whole of Germany de-

1 M.C. Burda and J. Hunt (2011), „What Explains the German Labor Market Miracle in the Great Recession?," NBER Working Paper, no. 17187, and J. Hunt (2012), „Flexible Work Time in Germany: Do Workers Like It and How Have Employers Exploited It Over the Cycle?," SOEP papers, no. 489, DIW Berlin. Despite this, it cannot be ruled out that the type of survey in the SOEP underestimate the effects of the financial market and economic crisis, since it does not ask about the precise gross income from gainful employment for every month in the previous year but only an average amount.

2 The number of employees paying social insurance contributions increased to 550,000 from December 2009 to December 2010, see Federal Employment Agency, Arbeitsmarkt in Zahlen (2012). Beschäftigungsstatistik. Beschäftigung nach Ländern in wirtschaftlicher Gliederung (WZ 2008). (June 2012).

3 R. Bispinck (2011), Tarifpolitischer Jahresbericht 2010. (Wirtschafts- und Sozialwissenschaftliches Institut in der Hans-Böckler-Stiftung (WSI).

creased. This development was more pronounced in eastern than in western Germany. The Gini coefficient decreased by almost nine percent in the east, and by three percent in the west. In both parts of the country, market income inequality declined to where it was at the beginning of the last decade.[1]

In addition to the Gini coefficients, income inequality in terms of disposable household income is also measured using mean logarithmic deviation (MLD). This indicator is more sensitive to changes in the lower half of the distribution than the Gini coefficients.

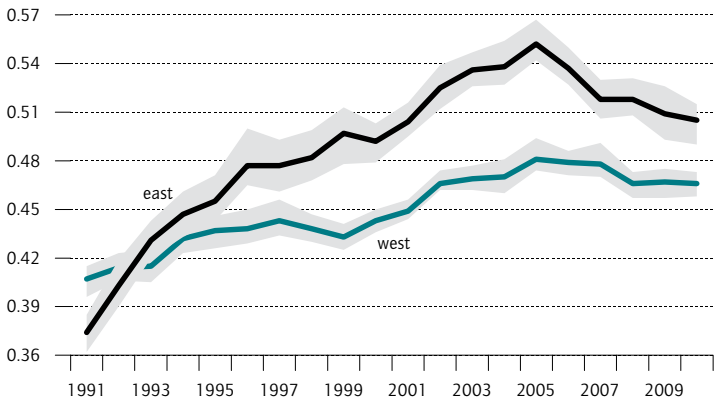
Changes since 1991 can be roughly divided into three phases. From 1991 to 2000, inequality in the distribution of disposable household income barely changed, but it then increased significantly up until 2005 (see Figure 4). Consequently, income inequality from the early 1990s to 2005, measured using the Gini coefficients, increased by almost 20 percent in both parts of the country. From 2005 to 2010, the inequality of disposable income in western Germany declined, parallel to the development of market income (Gini coefficient: -4 percent, MLD: -9 percent). However, this trend is only statistically significant in the choice of a somewhat narrower confidence band with only 90 per cent (instead of 95 percent) robustness over random statistical errors.

The situation is different in eastern Germany. Here, disposable income inequality remained static between 2005 and 2010. For MLD coefficients with 90 percent certainty, there was even an increase from 2007 to 2010. This suggests growing inequality in the bottom half of income distribution.

Disposable income inequality did not decline in eastern Germany, despite decreases in market income, because the employment rate in eastern Germany continued to be lower than in the west and pensioners' income has a greater weight in eastern Germany. Certainly, pensioners have suffered real income losses since 2000 but positive developments among the employed have not compensated for this.

Figure 3

Inequality of Real Market Household Income[1]
Gini coefficient



1 Data on annual incomes gathered in the following year, market income including a nominal employer contribution for civil servants, needs-weighted in line with the modified OECD equivalence scale. The gray shading shows the 95-percent confidence bands (see Box 3).

Source: SOEPv28.

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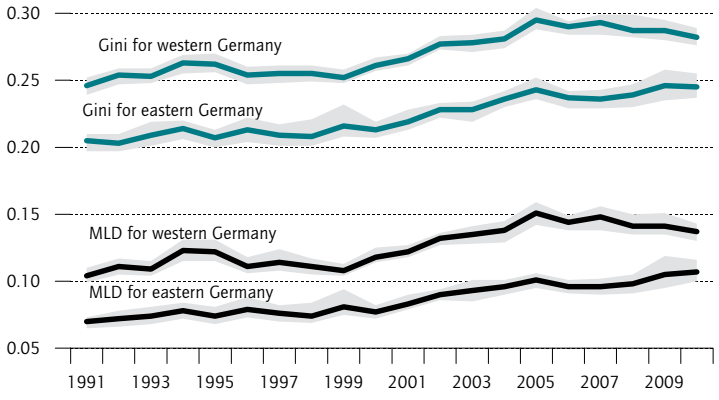
In eastern Germany, market incomes are distributed less equally than in western Germany, but the gap is closing.

Figure 4

Inequality of Real Disposable Household Income[1]
Gini coefficient and mean log deviation



1 Data on annual incomes gathered in the following year included the rental value of owner-occupied housing, needs-weighted in line with the modified OECD equivalence scale. The gray shading shows the 95-percent confidence bands (see Box 3).

Source: SOEPv28.

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Contrary to the trend in market income, the inequality of disposable income in the east remains high.

1 The figure for per capita market income is also influenced by changes in the population structure because people with no market income—in particular, pensioners—are given a value of zero in the calculations. The SOEP data for individual earnings show an almost continuous increase in inequality up to the middle of the last decade, and this is especially true when using the MLD coefficient which is sensitive to changes in the lower part of the distribution. During this period, the low-pay sector in Germany became increasingly important, see T. Kalina and C. Weinkopf (2012), „Niedriglohnbeschäftigung 2010: Fast jede/r Vierte arbeitet für Niedriglohn," IAQ Report, no. 1; K. Brenke and M.M. Grabka (2011), „Schwache Lohnentwicklung im letzten Jahrzehnt," Wochenbericht des DIW Berlin, no. 45. The increase in employment, which began in 2005, put an end to the trend of rising income inequality.

Poverty Risk Trends Differ in Eastern and Western Germany

According to the concept of relative income poverty, a person is threatened by poverty if they have to survive on less than 60 percent of the median net household income of total population (see Box 2). Accordingly, the poverty risk threshold in 2010 based on annual income in the SOEP was around 990 euros per month.[1]

Eleven million people or 14 percent of the total population were below this threshold in 2010. This is a slight and statistically insignificant decline in the poverty risk rate after it reached a record high of almost 15 percent in 2009 due to the economic crisis.[2] The main reason for this decline may have been the overall positive developments in the labor market.

Basically, the poverty risk has stabilized at a high level since 2005. At that time, it reached 14 percent largely due to negative labor market developments in Germany, while the rate fluctuated more in the '90s between ten and twelve percent (see Figure 5).

The poverty risk rate for eastern Germany was significantly higher than the corresponding figure in western Germany which developed similarly to the trend in the whole of Germany. The high ratio in eastern Germany is probably related to higher unemployment, lower wages, and often a lack of additional revenue, such as rental income or other investment income.[3] In the course of the transformation process since reunification, the poverty risk rate decreased significantly in the east because of initially high income growth of almost 19 percent in 1991 to 13 percent in the late '90s. How-ever, after that, it rose again sharply and in 2005 it was at almost 20 percent, more than six percentage points higher than in western Germany. In subsequent years, the poverty risk rate remained at roughly the same level. Further longitudinal analyses are needed to determine whether these developments lead to an increasing number of people at short-term poverty risk, or whether there are signs that households will remain in low-income positions.

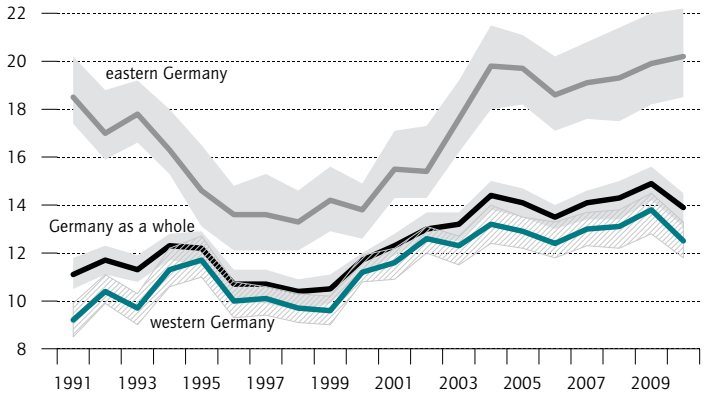
1 This represents a higher poverty risk threshold than social reporting by the Federal Statistical Office based on the microcensus (see www.amtliche-sozialberichterstattung.de).

2 The average number of short-time workers in 2009 was 1.1 million, see Federal Employment Agency (2012), Der Arbeits- und Ausbildungsmarkt in Deutschland, Monatsbericht (May).

Figure 5

Poverty Risk Ratio[1] by Region

Figures in percent



1 People with less than 60 percent of median disposable income. Data on annual incomes gathered in the following year included the rental value of owner-occupied housing, demand-weighted in line with the modified OECD equivalence scale. The gray shading shows the 95-percent confidence bands (see Box 3).

Source: SOEPv28.

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After an all-time high, the percentage of people at risk of poverty in Germany fell slightly in 2010.

Adolescents and Young Adults at Highest Poverty Risk of All Age Groups

Poverty risk among the individual age groups has developed steadily over the past ten years (see Figure 6). Adults in the two middle age groups (35 to 44 and 45 to 54 years) are still at the least risk of income poverty because in this period of life labor force participation is high and they achieve the highest average incomes. However, in both these groups, the proportion of those threatened by poverty within ten years has increased from seven and eight percent, respectively to roughly ten percent in 2010. However, that is still four percentage points less than the average for the total population, and also the trend has been reversing since 2005: at that time, the proportion was actually at eleven and twelve percent, respectively.

Poverty risk among 65 to 74-year-olds is roughly on a par with the average for total population. However, when considering only the former East German Länder, this finding is no longer valid. The proportion of people threatened by poverty at the age of 65 years or older is now at 15 percent—a significant increase from 9.5 percent in 2003 and higher than the national average. One reason for this could be that statutory pension contribu-

3 P. Krause and I. Ostner (2010), Leben in Ost- und Westdeutschland. Eine sozialwissenschaftliche Bilanz der deutschen Einheit 1990–2010. Campus.

Box 2

Definitions, Methods, and Assumptions Used in Poverty Risk Measurement

The procedure chosen for this report for empirically recording income inequality and poverty risk follows recommendations by the European Commission and the Statistical Office of the European Union (Eurostat) in calculating national Laeken indicators.[1] These indicators are part of national action plans initiated by the EU to combat poverty and social exclusion in Europe. The measurement methods are largely taken into account in the German government's Poverty and Wealth Report.[2]

According to this report, those whose income falls below the relative poverty line are at risk of poverty. European convention determines this figure to be 60 percent of the median of annual net equivalized income per household (based on the whole of Germany), including the net rental value of owner-occupied housing ("imputed rent," see also Box 1).

The concept of relative income poverty is often criticized[3] for not sufficiently taking overall wealth gains into account, and therefore shows an equal poverty risk level—even if the income of all persons increases by a certain percentage. However, this property ensures, among other things, that poverty risk remains unchanged irrespective of the currency used to measure the incomes. It is often overlooked that this relative poverty threshold does not describe a minimum subsistence level, but rather the level of income considered necessary to achieve a minimum level of socio-cultural participation in society as it is currently developing.

Table

Poverty Risk Threshold of Selected Household Types in 2010 Based on Nominal Net Household Income[1]

	Equivalence weight according to the new OECD scale	In euros per month		
		Lower threshold[2]	Estimated value	Upper threshold[2]
1-person household	1.0	981	993	1,005
(Married) couple with no children	1.5	1,472	1,490	1,508
(Married) couple with 1 child	1.8	1,766	1,788	1,809
(Married) couple with 2 children	2.1	2,060	2,086	2,111
(Married) couple with 3 children	2.4	2,354	2,384	2,412
Single parent with 1 child	1.3	1,275	1,291	1,307
Single parent with 2 children	1.6	1,570	1,589	1,608

1 For information: median of nominal equivalized net household income 19,866 and 1,655 euros per month. 2 Threshold values of 95-percent confidence band.

Source: SOEPv28.

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1 The Laeken indicators are calculated annually for each EU Member State. See T. Atkinson, B. Cantillon, E. Marlier, and B. Nolan, Social Indicators. The EU and Social Inclusion (Oxford: 2002), and P. Krause and D. Ritz, EU indicators on social inclusion in Germany, Vierteljahrshefte zur Wirtschaftsforschung 75 (1), (DIW Berlin, 2006): 152–173.

2 See Federal Ministry of Labor and Social Affairs (2008): Lebenslagen in Deutschland. Der 3. Armuts- und Reichtumsbericht der Bundesregierung. Bonn.

3 For example, H.-W. Sinn (2008), „The demand-weighted cheese and the new poverty," Ifo Schnelldienst 61(10): 14-6.

tions for new pensioners in eastern Germany have declined continuously since 2003.[1]

Elderly people aged 75 and over have an above-average rate of poverty risk: 16 percent of this age group have to live on an income below the poverty threshold. The reason is that many of these people live alone; often they are widows due to the higher life expectancy of women. In addition, single persons have to bear the fixed costs of a household alone, limiting their spending capabilities.[2]

Adolescents (10 to 17 years) and young adults (18 to 24 years) are currently most at risk of being poor. Among young adults, this finding is due to an increasing percentage of people in tertiary education, in particular uni-

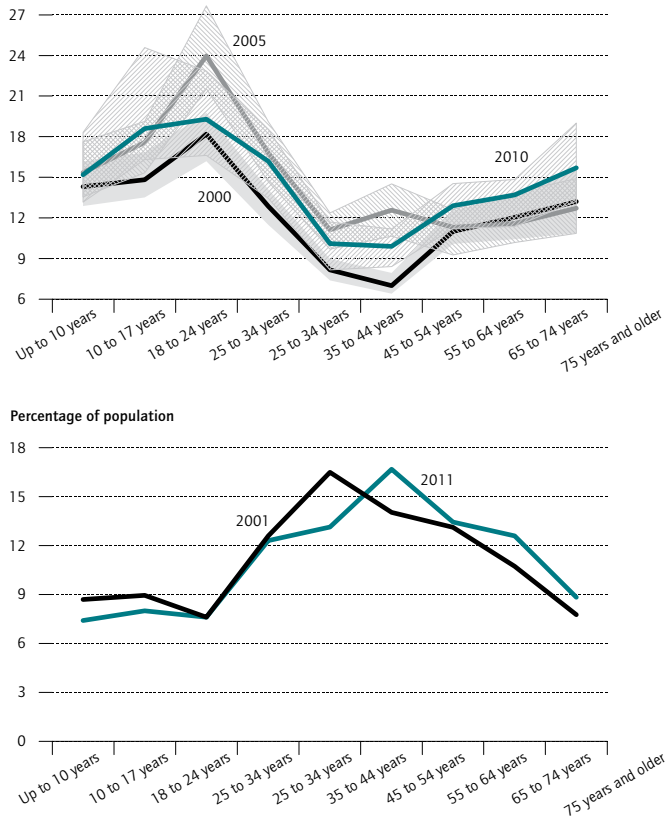
1 See Goebel and Grabka (2011), „Altersarmut in Deutschland." The average contribution for new pensioners in eastern Germany in 2010 was only 785 euros for men and 666 euros for women.

2 Moreover, since 2005, there has been a structural change to those living in poverty. While the proportion of people of working age to all those affected by poverty declined in 2005, this figure has been increasing for those aged 55 and over since 2005. The poverty risk is therefore increasingly concentrated on older people.

Figure 6

Poverty Risk Ratio[1] by Age Group

Figures in percent



1 People with less than 60 percent of median disposable income. Data on annual incomes gathered in the following year included the rental value of owner-occupied housing, demand-weighted in line with the modified OECD equivalence scale, population structure of the subsequent year. The gray shading shows the 95-percent confidence bands (see Box 3).

Source: SOEPv28.

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Middle-aged adults are at the lowest risk of poverty, adolescents and young adults at the most.

versity education, which has delayed entry into the labor market and earning an income.[1] The trend of young people moving out of the parental household increases the risk of young adults living close to the poverty risk threshold.[2] In addition, entry into the labor market is increasingly dependent on precarious employment,[3] low paid internships, and in some cases vocational training does not necessarily protect against precarious income situations. As a result, over half of young adults are working in the low-pay sector.[4]

Following a significant increase in poverty risk to 24 percent in 2005, its ratio fell to 19 percent in 2010.[5] This decline was not as sharp in any other group.[6] Among 25 to 34-year-olds, the poverty risk rate was lower, at over 16 percent in 2005 and 2010, but still above average for the total population. The much-discussed and precarious employment situations here could also be the main cause.[7]

It is evident in all three years under review that children and young adults[8] have an above-average poverty risk. This has increased slightly since 2000, but this increase is not statistically significant. The household constellation is instrumental to the risk of growing up in poverty, whether there is only one parent living in the household and, in particular, whether the adult members of the household are in employment.

Single Parents and Young Adults Living Alone Particularly Affected by Precarious Income Situations

Of all the household types surveyed, single parents still have by far the highest poverty risk rates. Almost half of all single parents with two or more children were

1 See OECD (2011), Education at a glance.

2 S. Scherger (2008), Flexibilisierte Lebensläufe? Die Dynamik von Auszug und erster Heirat, M. Szydlik, Flexibilisierung. Folgen für Arbeit und Familie, (Wiesbaden), 193–212.

3 B. Keller, S. Schulz, and H. Seifert (2012), „Entwicklungen und Strukturmerkmale der atypisch Beschäftigten in Deutschland bis 2010," WSI Diskussionspapier, no. 182, Dusseldorf.

4 Kalina and Weinkopf, „Niedriglohnbeschäftigung.", l.c.

5 In the group of young adults living alone, it is possible that they receive transfers from the parental home, which cannot be fully taken into account here (this applies, for example, to taking over housing costs or financing commodities or consumer goods).

6 This finding is also explained by the increase in the number of 20 to 25-year-olds in employment subject to social insurance contributions. This figure increased by 180,000 or eight percent between March 2006 and March 2010. Federal Employment Agency (2012), Arbeitsmarkt in Zahlen – Beschäftigungsstatistik. Sozialversicherungspflichtige Beschäftigte nach Altersgruppen; see also K. Brenke (2012), „Unemployment in Europe: Young People Affected Much Harder than Adults," Economic Bulletin no. 9.

7 It is important to note here that people in the low-pay sector work more hours than the average, presumably to achieve a certain standard of living, and not to fall into poverty, see K. Brenke (2012), „Long Hours for Low Pay," Economic Bulletin, no. 7.

8 See also P. Krause, H. Falkenberg, I. Herzberg, and J. Schulze-Buschhoff, Zur Entwicklung von Armutsrisiken bei Kindern, Jugendlichen und jungen Erwachsenen. Evaluations based on SOEP. Unpublished draft of the 14th Children and Youth Report will probably be published in the first quarter of 2013. According to the draft of the 4th Poverty and Wealth Report of the Federal Government, all relevant data sources, such as the microcensus, EU-SILC, or the Income and Consumption Survey, reveal an above-average poverty risk for children.

threatened by income poverty in 2010 (see Figure 7). One third of all single parents with one child are affected. The corresponding rate for both groups has increased by six percentage points since 2000, although this is not statistically significant due to the small sample size in this population group. The main reason for the low income of single parents is most probably the problem of reconciling family and career.

By contrast, both married and unmarried couples of working age with only one child or no children have the lowest poverty risk at less than six percent. These households benefit from having more than one earned income and are able to share basic household costs. After an interim increase in the poverty risk rate of three percentage points between 2000 and 2005, this figure is now the same as it was at the beginning of the decade.

The fact that an increasing number of children means an increasing risk of poverty also applies to cohabiting households: if a couple has three or more children, their poverty risk in 2010 was almost 14 percent. But the evidence shows that even for this group, the poverty risk declined between 2005 and 2010.

Compared to couples, those who live alone have an above-average poverty risk. In the 30 to 65-year age group, one in five singles were affected by income poverty in 2010, representing a significant increase since 2000 of approximately five percentage points or almost 600,000 people. 22 percent of people living alone at retirement age were threatened by poverty, especially widows living alone.

Young people living alone up to the age of 30—almost three percent of the population—are most at risk of poverty. Due to the size of the group, the increase in poverty risk is not significant, but at nine percentage points (49 percent in 2010 compared to 40 percent in 2000) very appreciable. This age group is likely to be particularly affected by the expansion of the low-pay sector and precarious forms of employment, which has an adverse effect on their income situation so, for example, the proportion of full-time workers in this age group has declined from 60 percent in 2000 to 45 percent in 2010.

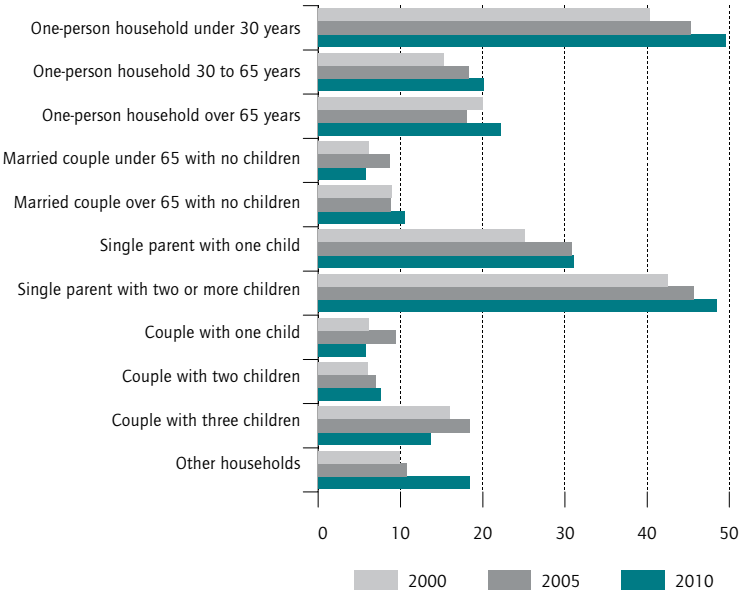
Poverty Risk Despite Employment

Gainful employment is generally considered the best protection against poverty. Also, the amount of future state pension is linked to social contributions paid. Against the background of a low-pay sector that has been increasing for many years and employment situations not requiring the payment of social insurance contributions which are usually limited to monthly earnings of 400 euros, the question arises as to whether household income earned from employment is sufficient to exceed the poverty risk threshold at working age, and, more importantly, at retirement age.

If at least one person in a household is employed, regardless of whether the job is full or part-time, the poverty risk was reduced by about a quarter, or three percentage points, in 2010 (see Figure 8). If at least one person has a full-time job, then the poverty risk decreases by up to ten percentage points less than the total working-age population. In the long term, the development of poverty risk for individuals living in households in which at least one person is employed (whether full or part-time) is similar to overall developments in poverty risk rates. This means that up to 2005, a significant increase was observed, but since then, poverty risk has remained at eleven percent. The situation is different for households where at least one member has a full-time job. In this case, only about five percent have been at risk of poverty over the last 15 years. Consequently, it can be asserted that full-time employment reduces the

Figure 7

Poverty Risk Ratio[1] by Household Type
Figures in Percent



1 People with less than 60 percent of median disposable income. Data on annual incomes gathered in the following year included the rental value of owner-occupied housing, demand-weighted in line with the modified OECD equivalence scale, population structure of the subsequent year.

Source: SOEPv28.

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Young single-person households and single parents are most at risk of poverty.

Box 3

Updating SOEP Data and Comparison with Other Data Sources

The SOEP microdata (version v28 based on the 28th data collection wave in 2011) underlying these analyses produce a representative picture of the population in private households, taking into account extrapolation and weighting factors, thereby allowing conclusions to be drawn about the entire population. The weighting factors correct differences in the design of the various SOEP random samples, and the participation behavior of respondents. People living in institutional households (for example, in retirement homes) are not generally considered here.

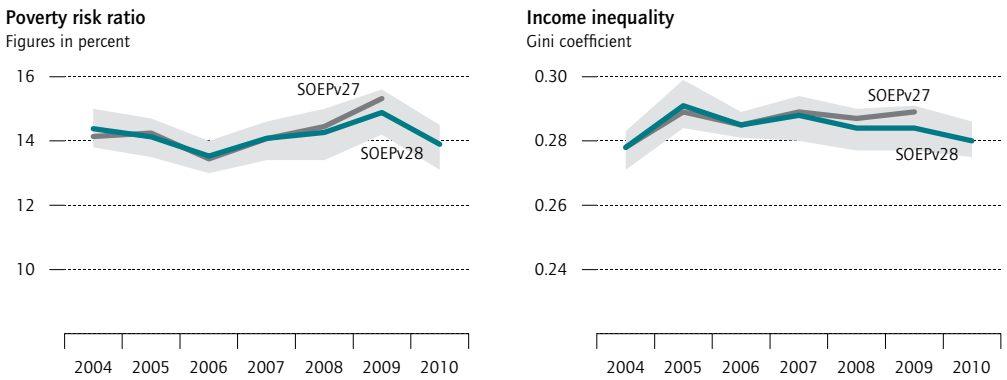
As well as updating imputations of missing values from the previous year's income, a targeted revision of extrapolation and weighting factors has also been undertaken. To increase compatibility with official statistics, these factors will be adapted to currently available framework data from the microcensus of official statistics. Among other things, this includes information regarding the ownership rate of apartments and residential houses from the microcensus. This information is only collected in the microcensus every five years, however, so an interpolation is necessary for the intervening years. In 2011, data on the ownership rate was captured again in the microcensus, so a revision of the weighting factors in SOEP's current data supply was implemented retroactively.

For income years 2004 to 2008, this revision only has a minor effect on measured income inequality and the poverty risk rate (see Figure 1). But for the 2009 income year, both the degree of inequality and the poverty risk rate were overestimated by almost three percent in the non-revised version where no account was taken of the current ownership rate. According to SOEP v27, the poverty risk rate in 2009 was 15.3 percent, while according to the data in SOEP v28 it is now 14.9 percent. The results do not differ significantly from each other in statistical terms, that is, they are not outside the statistical random error rate which is taken into consideration in any case when interpreting the results.

The use of random samples to estimate, for example, the median of income distribution will necessarily lead to random sampling fluctuations. The median income and the poverty risk threshold and rate derived from this can therefore only be determined to within a certain range. As well as taking confidence bands into account, which have a 95-percent probability of identifying the appropriate range of values, only clear differences should be interpreted as real changes. If one considers, for example, the poverty risk rate for the whole of Germany in the last decade, it shows that only the increase from income year 1999 to income year 2004 was statistically significant, so it can be assu-

Figure 1

Impact of Revised Data on the Poverty Risk Ratio[1] and Inequality



1 People with less than 60 percent of median disposable income. Data on annual incomes gathered in the following year included the rental value of owner-occupied housing, demand-weighted in line with the modified OECD equivalence scale. The gray shading shows the 95-percent confidence bands.

Sources: SOEPv27 and SOEPv28, calculations by DIW Berlin.

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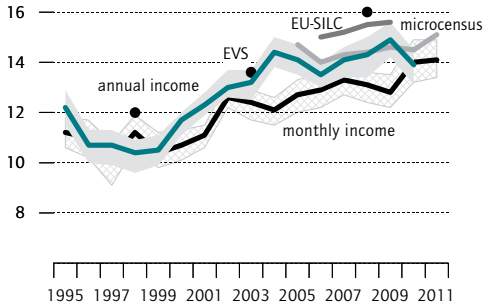
med with great probability that the increase calculated from the SOEP sample actually took place. After 2004, it can be observed that the upper boundary of the significance band in 2004 was already higher than the lower boundary in subsequent years. Accordingly, this cannot be considered a significant increase in the poverty risk rate.

Compared to social reporting by the Federal Statistical Office based on the microcensus (see www.amtliche-sozialberichterstattung.de) and the draft of the 4th Poverty and Wealth Report by the German government, the threshold at which a person is considered at risk of poverty is higher here (826 euros compared to 993 euros). This can be explained primarily by two factors: the microcensus asked about net monthly income—using income classes—in which typically irregular incomes such as investment income, Christmas or other bonuses are under-recorded, and also fluctuations in income streams during the year, for example, due to seasonal unemployment, cannot be adequately accounted for. In addition, the rental value of owner-occupied housing is not included in the microcensus. This notional, but highly relevant income component makes up an average of five percent in terms of disposable income.

Figure 2

Poverty Risk Rates Based on the Different Data Sources

Figures in percent



The gray shading shows the 95-percent confidence bands.

Sources: Draft of the 4th Poverty and Wealth Report by the German government: Lebenslagen in Deutschland (2012). BMAS, monthly and annual income from SOEP: SOEPv28; EVS 1998: 3rd Poverty and Wealth Report by the German government, Lebenslagen in Deutschland (2008). BMAS, EU-SILC (2010): Press release by the Federal Statistical Office no. 362, October 17, 2012.

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Both these income concepts (current monthly income and previous year's income) are included in the SOEP to measure poverty in such a way that their development can be directly compared to one other. The boundaries of relative poverty based on monthly income are determined using a similar method to annual income, with two restrictions: irregular income components and "imputed rents" are not accounted for. Since monthly income is based on information coming directly from the householder, these income figures are rounded much more than annual income comprising many individual components. However, the median and therefore the poverty risk threshold are sensitive to rounding effects.[1]

In SOEP's 28th data collection wave, 84 percent of monthly income figures are rounded to 50 euros. In order to prevent any jumps occurring in the poverty risk ratio, all households in the SOEP study that gave a rounded figure were allocated a normally distributed random value with a median of 0 and a standard deviation of 1.[2] This means, for example, the 333 values that were exactly 800 uros are spread among the 796 to 803 euro range. According to the selected random distribution, the change is less than 0.5 euros in approximately 38 percent of cases; as a result, they remain at the original value of 800.

The draft of the 4th Poverty and Wealth Report by the German government (2012) and official social reporting have also provided results for the poverty risk rate from microcensus surveys, the Income and Expenditure Survey (EVS) and the EU-SILC European panel.[3]

Figure 2 compares the five different sources for calculating the poverty risk rate. A direct comparison illustrates the differences arising from variations in income concepts, sampling methods, response rates, and statistical random error rates (the confidence bands for EU-SILC and EVS are not available, while the confidence band for the microcensus is extremely narrow due to the sample size). Despite clear methodological differences, the tendencies of these different measurements of poverty are largely congruent, that is, a significant increase in poverty risk up to around 2005 and since then it has remained constant.

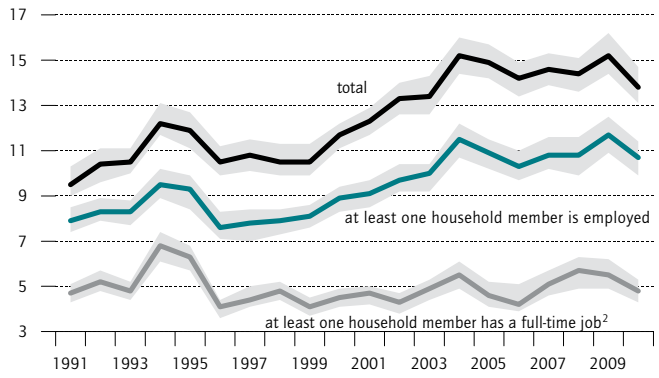
1 J. Drechsler and H. Kiesl (2012), „MI double feature: multiple imputation to address nonresponse and rounding errors in income questions simultaneously,". Paper presented at the FCSM Research Conference, Federal Committee on Statistical Methodology (FCSM), Washington, D. C., 12.01.2012.

2 Coincidentally, the poverty threshold in the data for 2009 was a nominal 800 euros which in turn was given by 333 households. As a result, the poverty rate jumped from 12.3 to 12.8 percent. Had the poverty threshold been 801 euros, the rate would have been correspondingly lower.

3 For a discussion of the advantages and disadvantages of each study, see also J.R. Frick and K. Krell (2011), „Einkommensmessungen in Haushaltspanelstudien für Deutschland: Ein Vergleich von EU-SILC und SOEP," AStA —Wirtschafts- und Sozialstatistisches Archiv 5 (3): 221–248.

Figure 8

Poverty Risk Ratio[1] by Employment in Household
Figures in percent



1 People with less than 60 percent of median disposable income. Data on annual incomes gathered in the following year included the rental value of owner-occupied housing, demand-weighted in line with the modified OECD equivalence scale.
2 In the previous year, mostly (6 months or more) in a full-time job. The gray shading shows the 95-percent confidence bands (see Box 3).

Source: SOEPv28, persons in households with members aged up to 65 years.

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Full-time employment significantly reduces the risk of poverty.

risk of households falling into relative income poverty in the long term.

Conclusion

Income inequality and poverty risk did not increase overall in Germany between 2005 and 2010. Recent results from the German Socio-Economic Panel Study (SOEP) even show a decline in the inequality of market incomes since 2005; however, it is not currently possible to draw any conclusions from SOEP data for the period after 2010. Improvements in the labor market situation have had a significant influence on the development of income inequality and poverty risk. Unemployment figures have fallen significantly since 2005, and the number of workers—including those paying social insurance contributions—has increased notably. However, when considering disposable income, that is, income after government transfers and net of direct taxes and social security, the picture is more mixed.

While in western Germany the development of inequality in disposable household income has declined slightly, it continues to rise in the eastern part of the country because of the added divergence of the income gap at the lower end. But overall the inequality of disposable income in the east is still less than that of the west, in contrast to the relation in market income.

Nevertheless, income growth and the reduction of inequality in income distribution have not led to a significant decline in poverty risk. While in Germany overall 14 percent of the total population had to live on no more than 60 percent of median income in 2010, and were therefore considered at risk of poverty, poverty risk in the new Länder has steadily increased since 2006, and in 2010 it reached the 2005 record of 20 percent again.

Adolescents and young adults are still subject to an above-average poverty risk. Differentiated by type of household, single parents and young adults living alone aged up to 30 are particularly endangered with a poverty risk rate of almost 50 percent. Minor jobs or part-time work may only restrict poverty risk to a certain degree. In addition, the longer someone remains in what is frequently referred to as precarious employment, the greater the poverty risk in old age, because not only do they have minimal claims on statutory pensions but private or occupational pension insurance is normally not financially feasible because of the low income.[1]

Against this background, it is still too early to refer to a sustained decline in poverty risk in Germany, especially as there has been negative news recently about the labor market and economic development in Germany.[2]

But clearly Germany has succeeded in limiting the social and economic risks of the economic and financial crisis of 2009 to the extent that poverty risk did not increase. Although large numbers of jobs with reduced working hours did not prevent the poverty risk rate rising briefly in 2009, SOEP results indicate that during the recovery phase economic actors succeeded in applying the brake to the previously increasing inequality of income distribution.

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Keywords: income inequality, poverty risk, SOEP

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1 See V. Steiner and J. Geyer (2010), „Erwerbsbiografien und Alterseinkommen im demografischen Wandel – eine Mikrosimulationsstudie für Deutschland," Policy Advice Digest, no. 55, DIW Berlin.

2 See Federal Ministry of Finance (2012), Monatsbericht. www.bundesfinanzministerium.de/Content/DE/Monatsberichte/2012/09/Inhalte/Kapitel-5-Wirtschafts-und-Finanzlage/5-1-konjunkturentwicklung-aus-finanzpolitischer-sicht.html, September 21; see also F. Fichtner et al. (2012) , „Herbstgrundlinien 2012," Wochenbericht des DIW Berlin, no. 40.

Affluent Persons Live Longer

by Martin Kroh, Hannes Neiss, Lars Kroll and Thomas Lampert

In Germany, those from affluent households have a significantly higher further life expectancy at the age of 65 than those with low incomes (males: 5 years, females: 3.5 years). The present analysis, which is based on the German Socio-Economic Panel Study (SOEP), indicates that the lower life expectancy of women in low-income households is associated with psychological pressure caused by a shortage of money as well as the lack of social networks. In men from low-income households, low education and a physically demanding job appear to have a negative impact on further life expectancy. Even when a wide range of additional factors are taken into account, a significant income effect remains at least for men: those with a high income at age 65 can expect to live a longer life on average.

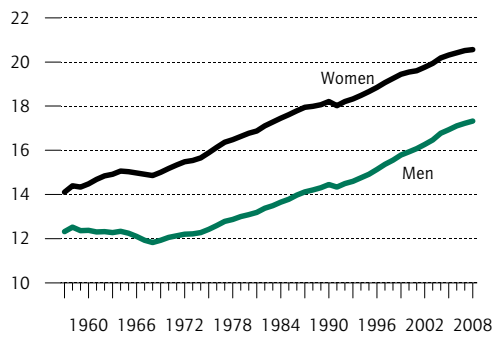
In terms of equal opportunities with regard to healthy aging, the clear statistical correlation between income and life expectancy presents a challenge to those responsible for health policy in the narrowest sense as well as social policy in the broadest sense. To align life expectancy of low-income persons with that of those from affluent households, reform of occupational safety standards and improvements in the promotion of health in the workplace would make sense, as would behavior-related preventive measures and targeted health information campaigns that focus more on raising health awareness among the less educated than has been the case to date.

Since World War II, Germany has seen a sustained improvement in general living and working conditions, social security, and medical care. This is reflected in a significant increase in life expectancy. Based on mortality tables compiled by the German Federal Statistical Office, Figure 1 shows that the further life expectancy of persons who have reached an age of 65 years has progressively increased (see Box 1). Women continue to have a significantly longer life expectancy than men. Whereas at the end of the 1950s 65-year-old men in western Germany could expect to live another 12.3 years on average, this figure had increased to 17.3 years by 2008. Women's further life expectancy at 65 increased from 14.1 to 20.6 years over the same period of time.

At the same time, numerous empirical studies show a difference in life expectancy between low and high

Figure 1

Further Life Expectancy of 65-Year-Olds
In years



Source: mortality tables compiled by the Federal German Statistical Office 1957–2008, for West Germany only up until 1990.

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Box 1

Data and Methods

Definition of Further Life Expectancy

Life expectancy is generally defined as the average age an individual reaches before his or her death. Further life expectancy is the average number of years that an individual or a group of individuals still has to live on average when he or she has reached a certain age. The equation below shows the average life expectancy at age t as

$$e_t = \frac{e_t l_t}{l_t}$$

where $e_t l_t$ is the total number of remaining years of expected life of all individuals in a mortality table at age t and l_t is the number of people in the table still alive at age t. Here, l_t is calculated according to the formula

$$l_t = l_{t-1}\, p_{t-P}\; t > 0$$

where p_t is the probability of survival at age t.[1]

Further life expectancy is used in the reported analyses as it is the only basis for calculating individual income at a particular age. For reasons of comparability with other data sources such as pension insurance statistics, further life expectancy after the age of 65 is taken into consideration. The disposable income measurement therefore always refers to the year in which an individual turned 65.

Data Sources

In many countries, for analysis of differences in life expectancy according to income groups, data from the death registers or the census, on the one hand, are linked with register data of the social or tax statistics, on the other hand. Since this is not possible in Germany, for relevant research questions, either data from the German statutory pension insurance scheme (DRV) or, as in the present analysis, data from the German Socio-Economic Panel Study (SOEP) are used instead.[2]

The advantages of the official pension insurance statistics are a large number of cases and the reliability of the information on income subject to contributions. One of the disadvantages is the fact that the information on income is restricted to employees subject to compulsory social security contributions, meaning that the income of the self-employed or civil servants, as well as, for example, capital gains, income from renting out or leasing, or transfer payments from other individuals are not taken into account. Another problem is the lack of other personal characteristics such as health status at the age of 65 or health-related behavior.

The German Socio-Economic Panel Study is a representative longitudinal survey of households conducted in the western part of Germany since 1984 and in eastern Germany since 1990.[3] Currently, over 20,000 individuals in more than 10,000 households are interviewed in each survey year. The period of observation from 1984 to 2010 allows analysis of the further life expectancy of the 1919 to 1944 cohorts. These comprise around 6,400 individuals, approximately 1,200 of whom passed away during the observation period.

The SOEP has the advantage that a broad definition of disposable income from various sources of income can be used as a basis for the analysis. Also, a large number of socio-economic and health-based characteristics on the 65-year-old respondents are available. Since, however, the sample is considerably smaller than the official statutory pension insurance statistics, the accuracy of life expectancy estimates are compromised, particularly for small sub-groups. In addition, participation in the SOEP is voluntary, which may result in selective participation rates.[4] In the reported analyses, this only concerns those entering the analysis at the age of 65 but not the status of respondents in the following years, since the SOEP

1 M. Eisenmenger and D. Emmerling, "Amtliche Sterbetafeln und Entwicklung der Sterblichkeit," Statistisches Bundesamt: Wirtschaft und Statistik, no. 3 (2011): 219–238.

2 L. E. Kroll and T. Lampert, "Soziale Unterschiede in der Lebenserwartung – Datenquellen in Deutschland und Analysemöglichkeiten des SOEP," Methoden, Daten, Analysen 3, no. 1 (2009): 3–30.

3 See G. G. Wagner et al., "Das Sozio-oekonomische Panel (SOEP): Multidisziplinäres Haushaltspanel und Kohortenstudie für Deutschland – Eine Einführung (für neue Datennutzer) mit einem Ausblick (für erfahrene Anwender)," AStA Wirtschafts- und Sozialstatistisches Archiv 2(4) (2008): 301–328.

4 R. Schnell and M. Trappmann, "Konsequenzen der Panelmortalität im SOEP für Schätzungen der Lebenserwartung," Arbeitspapier 2, (Zentrum für Quantitative Methoden und Surveyforschung, Universität Konstanz: 2006); M. Kroh, "Documentation of Sample Sizes and Panel Attrition in the German Socio Economic Panel (SOEP) (1984 until 2010)," DIW Data Documentation 59/2011, (Berlin: 2011).

regularly calibrates the vital status of former respondents using the population register and thus determines the year of death of SOEP respondents independently of participation in the survey.

Mortality Analyses Using SOEP Data

Numerous analyses on differences in mortality and life expectancy according to income groups have already been conducted using SOEP data.[1] For instance, on the basis of SOEP data from the years 1984 to 1997, Reil-Held (2000) reports that the average life expectancy at birth of men with a low income (bottom quartile of the income distribution) is six years lower than that of those with a high income (top quartile). For women, the difference is four years. According to Lampert et al. (2007), these differences might have further increased in subsequent years. Using SOEP data from the years 1995 to 2005, these authors established a difference in average life expectancy at birth of eleven years for men and eight years for women when comparing the lowest with the highest income group (< 60 percent compared with 150 percent or more of the average net equivalent income). For further life expectancy after the age of 65, Lampert et al. calculated a difference of seven years for men and five years for women.

The results of a study by Groh-Samberg and Voges (2012) are also interesting because, in addition to income, other aspects of the life situation, for instance, housing, financial reserves, experience of unemployment, and the length of time spent living in poverty are taken into account. This study indicates that not only persistent and deep-rooted poverty but also temporary and transient poverty is accompanied by an increased mortality risk or a reduced life expectancy.

Methods of Analysis and Interpretation of Findings

Event analysis models were estimated for the analysis of mortality rates. Since the function of mortality correlated to age is known, a parametric model can be used on the basis of a Gompertz distribution. This approach is comparable to other studies. Robustness analyses show that the substantial findings also have lasting validity if alternative model specifications are utilized (for example, the Cox model). Using the Gompertz distribution, the *hazard function h* (dependent on time t and covariates X_i) is calculated as

$$h\,(t|X_i) = e^{\lambda t}\, e^{(\beta 0 + X_I \beta_X)}.$$

According to this model, if λ is positive, the risk of dying increases with age. This is the case in all models in this report and is also used for analysis of mortality in biology and medicine.[2] X_i includes factors that statistically model life expectancy (income, etc.), and β denotes the influence of these factors.

The results of the model estimates should be interpreted as follows: hazard denotes the risk of dying at a particular point in time. A *hazard ratio* indicates the correlation between the *hazards* of two groups. If the value is greater than one, this means that at all times the relevant group has a consistently higher risk of dying in comparison to the reference group. Values between zero and one mean that the risk of dying in comparison to the reference group is always reduced. The further from one the value is, the greater the difference between the groups taken into consideration, with the differences to be interpreted logarithmically, not linearly. A *hazard ratio* of 0.1 (or: 0.01), indicating a decrease in the mortality risk, thus corresponds to a *hazard ratio* of 10 (or: 100), indicating a similar sized increase in the mortality risk.

For example, a *hazard ratio* value for men in both of the lower income groups of approximately 1.8 (income model) means that for individuals from precarious households or those at risk of poverty, the risk of dying at any point in time is 1.8 times that of the reference group with the highest income.

1 A. Reil-Held,"Einkommen und Sterblichkeit in Deutschland: Leben Reiche länger?," Beiträge zur angewandten Wirtschaftsforschung, no. 580-00 (Mannheim: Universität Mannheim, Institut für Volkswirtschaftslehre und Statistik, 2000). The large number of SOEP-based analyses began with J. Schepers and G. G. Wagner, "Soziale Differenzen in der Lebenserwartung – Neue empirische Ergebnisse für die Bundesrepublik Deutschland," Zeitschrift für Sozialreform, 35 (11/12) (1989): 670–682. There are more recent studies by F. Breyer and J. Marcus, "Income and Longevity Revisited: Do High-Earning Women Live Longer," WZB Discussion Paper 1037 (2010); T. Lampert, L. E. Kroll, and A. Dunkelberg, "Soziale Ungleichheit der Lebenserwartung in Deutschland," Aus Politik und Zeitgeschichte (2007): 42, 11–18; T. Klein and R. Unger, "Einkommen, Gesundheit und Mortalität in Deutschland, Großbritannien und den USA," Kölner Zeitschrift für Soziologie und Sozialpsychologie 53 (2001): 96–110; W. Voges and O. Groh-Samberg, "Arme sterben früher. Zum Zusammenhang von Einkommenslage und Lebenslage und dem Mortalitätsrisiko," in E. Brähler, J. Kiess, C. Schubert, and W. Kiess, (eds.), Gesund und gebildet. Voraussetzungen für eine moderne Gesellschaft (Göttingen: 2012): 146–167; K. Lauterbach, M. Lüngen, B. Stollenwerk, A. Gerber, and G. Klever-Deichert,"Zum Zusammenhang zwischen Einkommen und Lebenserwartung," Studien zu Gesundheit, Medizin und Gesellschaft 1 (2006).

2 M. Cleves, W. Gould, R. Gutierrez, and Y. Marchenko, An Introduction to Survival Analysis Using Stata, 2nd ed. (2008), 258–259.

earners.[1] In debates triggered by questions from the parliamentary group *Die Linke* (the Left Party) to the German government, it was even speculated that the influence of income on life expectancy has increased over the past ten years.[2]

Being able to assess the reasons for differences in life expectancy between income groups is a prerequisite for both effective and efficient policy measures aimed at aligning the life expectancy of individuals with a low income with that of those with a high income. Two lines of discussion can be distinguished in the political debate:

1. The possibility that the lower life expectancy of people with low income is due to their more limited access to the health care system would place the onus on policy-makers to bridge the gaps in the system. The current political demands which refer to the lower life expectancy of people with low incomes range from the abolition of practice fees and additional payments to the revocation of retirement at the age of 67.[3]
2. Conversely, there is the possibility, also under discussion, that differences in life expectancy can largely be attributed to the type of occupational stress and behavior that could be detrimental to people's health that is more common among those in a low-income bracket.[4] In this case, there is a need for reform of occupational safety standards and improvements in the promotion of health in the workplace, as well as for behavior-related preventive measures and targeted health information campaigns that focus more on low earners than previously.

The present article will examine to what extent differences in life expectancy are in fact linked to income disparities and what role is played by other factors such as education and behavior using data from the German Socio-Economic Panel Study (SOEP) collected by DIW Berlin in cooperation with the fieldwork organization TNS Infratest Sozialforschung. Since it is a matter of analyzing observation data, the results, although enlightening, can not necessarily be interpreted causally.

Unlike the mortality rates of the Federal Statistical Office, SOEP data allow us to use the income position of 65-year-olds for statistical modeling of further life expectancy. The SOEP is based on a representative sample[5] and is not an exhaustive record of all deaths in Germany. For control purposes, we compare the official mortality figures compiled by the Federal Statistical Office with the SOEP data (see Figure 2). The analysis is restricted to the observation period of the SOEP from 1984 to 2010. Therefore, we include women and men of the birth cohorts 1919 to 1944. The analysis proves that the SOEP sufficiently accurately describes the official data on mortality within the parameters of the sampling error and is therefore also suitable to use as a data basis for estimating life expectancy.

Figure 2 shows the cumulative survival rates based on an event analysis model. This graph can also be interpreted in terms of further life expectancy. Thus, it can be established that 50 percent of 65-year-old men will live to at least the age of 81 while 50 percent of women of this age will live to at least 86.

Strong Statistical Correlation Between Income and Life Expectancy

To study the correlation between income and further life expectancy, we differentiate according to individuals' position in the distribution of disposable income in the year they turn 65. Disposable income—net household equivalent income to be precise —is defined as the total income and transfers coming in to the household taking account of taxes and social security contributions in relation to the number of adults and children in the household.6 Since there is relatively little change in income after retirement, particularly for those with a very low income,7 measurement at the age of 65 provides a good indicator of what their financial circumstances will be in old age. In addition, data on the income situation also include indirect information about the job history of these individuals before they retire.

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1 For example, T. Lampert, L. E. Kroll, A. Dunkelberg, "Soziale Ungleichheit der Lebenserwartung in Deutschland," *Aus Politik und Zeitgeschichte* 42, (2007): 11-18.

2 Bundestag printed paper 17/4332 and Bundestag printed paper 17/7966, press release, December 12, 2011, Matthias W. Birkwald, the Left Party, www.linksfraktion.de/pressemitteilungen/rente-erst-67-altersarmut-per-gesetz; "Geringverdiener leben immer kürzer," *Süddeutsche Zeitung,* December 12, 2011, www.sueddeutsche.de/leben/zahlen-zur-lebenserwartung-geringverdiener-leben-immer-kuerzer-1.1232208; "Lebenserwartung von Geringverdienern sinkt," *Spiegel Online,* December 12, 2011, www.spiegel.de/politik/deutschland/trendwende-lebenserwartung-von-geringverdienern-sinkt-a-803085.html

3 "Leben in ständiger Sorge," *Süddeutsche Zeitung,* December 12, 2011, www.sueddeutsche.de/leben/lebenserwartung-von-geringverdienern-sinkt-dramatische-zuspitzung-der-einkommenskluft-1.1232605.

4 The German government's response to the parliamentary question by the Left Party. See also T. Lampert, "Armut und Gesundheit," in T. Schott and C. Hornberg, (ed.), *Die Gesellschaft und ihre Gesundheit. 20 Jahre Public Health in Deutschland: Bilanz und Ausblick einer Wissenschaft* (Wiesbaden: 2011): 575-597.

5 J. Schupp, "Das Sozio-oekonomische Panel (SOEP)," *Bundesgesundheitsblatt* 55 (6/7) (2012): 767-774.

6 What are equal scales? OECD, www.oecd.org/social/familiesandchildren/35411111.pdf.

7 A. Zaidi, J. R. Frick, and F. Büchel, "Income mobility in old age in Britain and Germany," *CASEpaper* 89, (London: Centre for Analysis of Social Exclusion, London School of Economics and Political Science, 2004).

This applies mainly to men, and only to a lesser extent to women, since for the cohorts studied they contribute a smaller share of the household income through their individual pension and are more dependent on their partner's income.[1]

We identify five categories according to relative income position at age 65: households with a disposable income at a particular point in time that is 50 percent above the average (to be precise, the median) of the income distribution constitute the affluent group. Incomes between 100 and 150 percent or 80 and 100 percent of the median are classified as middle income. For incomes between 60 and 80 percent, we refer to households with a precarious income and below 60 percent to households at risk of poverty.

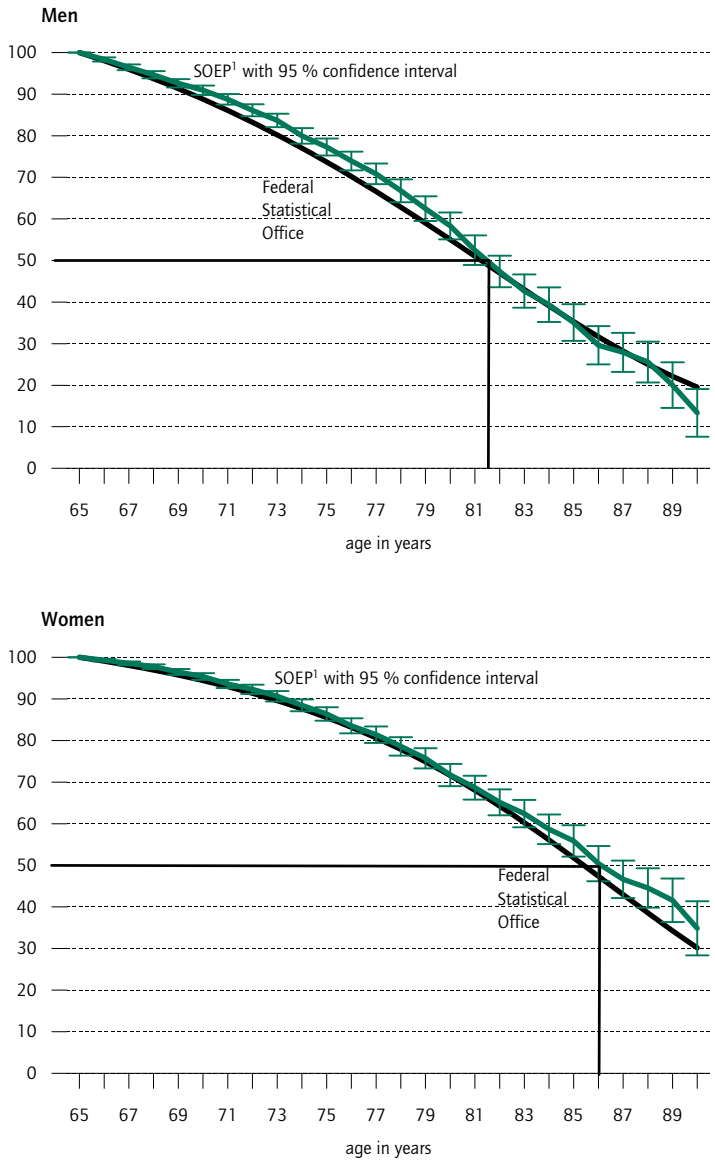
The absolute differences in mortality between the income groups may be presented as risk ratios (or hazard ratios) of death. Figures lower than one mean a lower mortality rate than in the group used in the comparison, figures higher than one point to factors associated with a higher mortality rate. If the highest income group is taken as a reference, then statistically, the mortality risk tends to increase more sharply, the lower the individual position in the income distribution is (see the income model in Tables 1 and 2 and Figure 3, without control variables).

According to the SOEP-based estimates, men from households at risk of poverty and those with a precarious income live five years less on average than men from affluent households. The differences are slightly smaller in the middle-income categories: men from households with 80 to 100 percent of the median income have a four-and-a-half-year-lower life expectancy. For households with 100 to 150 percent, the difference from the highest income groups is still just over three years.

Differences according to income are much less pronounced for women than for men. In comparison to wealthy women, those from households at risk of poverty live three and a half years less. In households with precarious incomes or 80 to 100 percent of the median income, the difference is around two and a half years and it is only one and a half years for 100 to 150 percent of the median income. For interpreting the findings, the above-mentioned sampling error in the estimate of further life expectancy must be taken into account. For men, the intervals of variation of all estimated differences from the highest income group exclude the value zero with 95 percent reliability and we can therefore assume actual statistical differences in life expectancy with a high degree of probability. For women, this only applies to the comparison of those from affluent households and those from households at risk of poverty or with an income between 80 and 100 percent of the median. It should also be noted that the differences calcu-

Figure 2

Mortality Rates According to SOEP and Official Mortality Tables
Cumulative survival rate in percent



1 Kaplan-Meier estimator of the survivor function of SOEP respondents from the age of 65.

Sources: SOEP v28, 1984-2010; mortality tables compiled by the German Federal Statistical Office 1984-2008; calculations by DIW Berlin.

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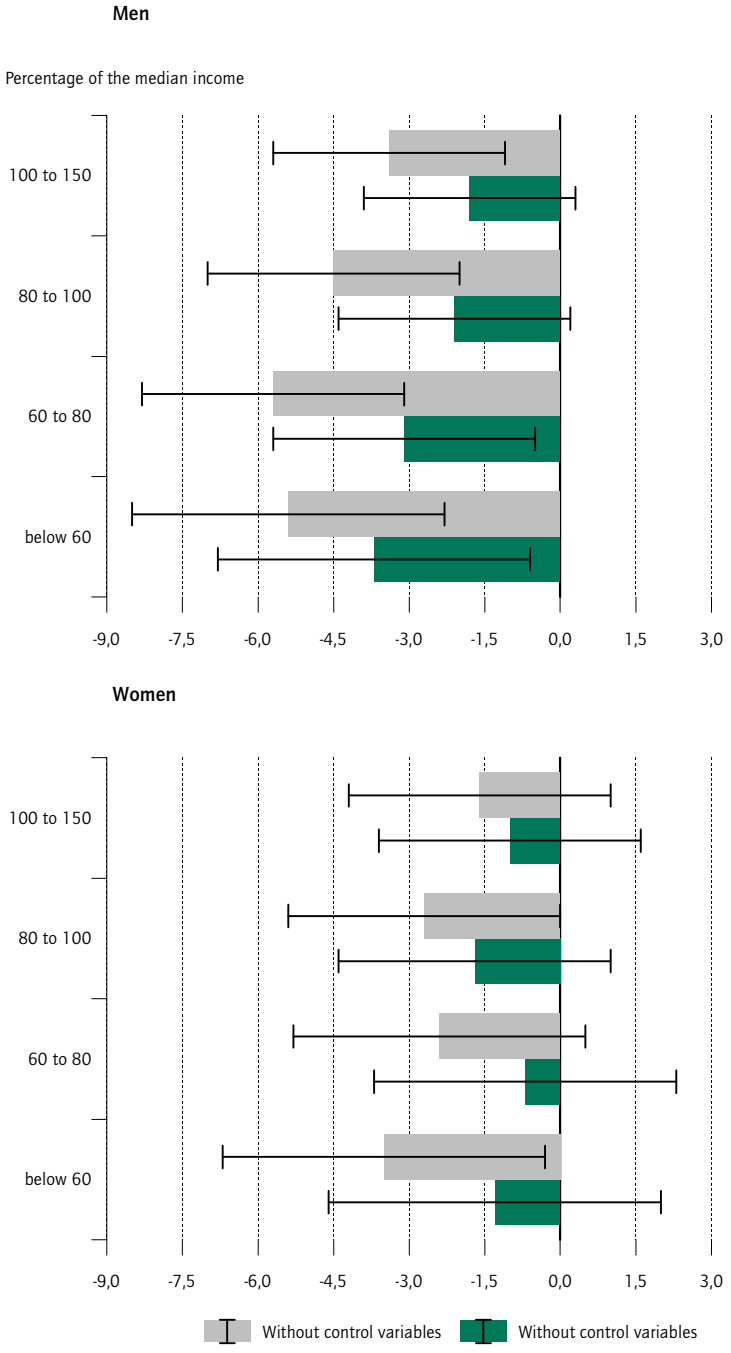
1 H. Engstler, T. Wolf, and A. Motel-Klingebiel, "Die Einkommenssituation und -entwicklung Verwitweter in Deutschland," *Vierteljahrshefte zur Wirtschaftsforschung* 80 (4) (2011): 77–102.

Figure 3

Life Expectancy of 65-Year-Olds by Income Group
Differences in years compared with the highest income group[1]



1 The highest income group includes households with a disposable income which is at least 50 percent higher than the median income.
Sources: SOEP v28, 1984-2010; calculations by DIW Berlin.

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lated between medium income on the one hand and low income on the other hand are not statistically significant.

Possible Causes of Differences in Life Expectancy

The statistical correlation between income and life expectancy presented here can certainly not be interpreted as a causal relationship. Rather, income differences are linked to various factors, which in turn may be connected to life expectancy. In the following sections, attempts will be made to adjust the income effect on life expectancy by other significant influencing factors in order to estimate the pure income effect for life expectancy at least descriptively (if not causally). According to the chronological order of events, we incrementally include characteristics of early adulthood (education, demography, and parental home), of the life course (occupational stress), and the situation at retirement age (financial insecurity, leisure activities and social networks, and health) in the analysis.

Education

The importance of education is often referred to in the literature and considered to be more relevant to men than to women: income effects alone are not meaningful, since individuals with a high income are often simultaneously also those with a high level of education who differ from those with a low level of education in terms of health-related behavior.[1] In order to empirically test the argument, the income effect is calculated again in the education model, taking into account differences in education. The findings indicate that, irrespective of their income situation, in particular men with no school-leaving qualification or only a Hauptschule (low-track secondary school) or Realschule (intermediate-track secondary school) qualification, show a significantly higher mortality risk than men with an Abitur (school-leaving certificate that serves as a qualification for German university entrance) or university education (hazard ratio 1.5; this corresponds to approximately three years of further life expectancy). Education has no significant impact on women's life expectancy.

Taking differences in education into account has virtually no effect on the correlation between income and further life expectancy in the SOEP data analyzed for women, whereas for men the correlation diminishes significantly. At least for men, the result is consistent with

1 T. Klein, S. Schneider, and H. Löwel, "Bildung und Mortalität. Die Bedeutung gesundheitsrelevanter Aspekte des Lebensstils," Zeitschrift für Soziologie 30 (5) (2001).

the hypothesis that differences in education are behind income effects to a certain extent. It should be noted, however, that the differences reported in the mortality rates between the lowest and the highest income group exert a similarly strong influence as the category with the lowest level of education in comparison to that with the highest level of education. In both cases, the calculated risk factor is approximately 1.5.

Demography

Some studies reveal regional differences in the prevalence of life-threatening medical conditions such as cardiovascular diseases[1] and, at the same time, there are also regional income fluctuations. Moreover, taking location and east-west differences into account when estimating the correlation between income and further life expectancy has virtually no bearing on the findings. Neither size of place of residence nor differences between eastern and western Germany are statistically significant for estimates of further life expectancy.

The demography model also indicates that people with a migration background have a significantly lower mortality rate (hazard ratio of 0.6 for men and 0.5 for women). This is presumably a result of the "healthy migrant effect" described in the literature, according to which immigrants tend to be of above average health and thus live longer than natives of the countries of origin and destination.[2]

Because individuals with a migration background have relatively low incomes but long life expectancy, taking migration into account strengthens the statistical correlation between income and life expectancy. This particularly applies to the difference between men from affluent households and those from households at risk of poverty.

Parental Home

Factors from childhood and youth have a major impact on the health of adults. Thus, material deprivation in an individual's early years can have a direct effect on long-term health, and also on the learned health-related behavior that is maintained over the life course. Further, isolated research findings also indicate that, for biological reasons, the longevity of parents and children are positively correlated.[3]

As income position is, to a great extent, transferred from parents to their children, the calculated statistical correlation between income and life expectancy could also reflect characteristics of the parental home. Therefore, in the next step, the effects of features of the parental home on mortality are factored into estimates of the correlation between income and life expectancy. For this purpose, the study considers information from SOEP respondents on parental occupational status when the respondent was aged 15, and highest level of educational attainment of the parents.[4] Further, the study examines whether longevity is transferred from parents to their children by comparing individuals with at least one parent who survived to age 85 or older with those whose parents had both died before reaching this age.

Parental education had no relevant additional impact on calculated further life expectancy, either for men or women. Similarly, parental occupational status is also insignificant for women's life expectancy. However, men whose parents were white-collar workers demonstrated a lower mortality rate than the male children of blue-collar workers. While parental longevity has no proven additional effect on men's own mortality, women with at least one parent surviving until the age of 85 or older live significantly longer than those whose parents both died earlier.

While the parental home has an impact on life expectancy, it does not contribute to lessening the correlation between income and life expectancy. According to SOEP data, different starting conditions during youth, therefore, make very little contribution to diminishing the differences in further life expectancy between income groups.

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1 J. Müller-Nordhorn, S. Binting, S. Roll, and S.N. Willich, "An update on regional variation in cardiovascular mortality within Europe," European Heart Journal 29 (2008): 1316-1326.

2 Parallel to this, there can also be an "unhealthy re-migration effect", see O. Razum, H. Zeeb, S. Akgün, and S. Yilmaz, "Low overall mortality of Turkish residents in Germany persists and extends into a second generation: merely a healthy migrant effect?" Tropical Medicine and International Health 3 (4): 297–303. An alternative explanation is that the life expectancy of immigrants only appears to be longer due to an under-recording of deaths. It is possible that people who return to their country of origin in old age and pass away there continue to be registered in the target country and are therefore recorded as living. See E. Kibele, R. Scholz, and V.M. Shkolnikov, "Low migrant mortality in Germany for men aged 65 and older: fact or artifact?" European Journal of Epidemiology 23 (2008): 389–393.

3 M. McGue, J. W. Vaupel, N. Holm, and B. Harvald, "Longevity Is Moderately Heritable in a Sample of Danish Twins Born 1870–1880, " Journal of Gerontology 48 (6) (1993): 237-244; H. Gudmundsson, D.F. Gudbjartsson, M. Frigge, J. R. Gulcher, and K. Stefánsson, "Inheritance of human longevity in Iceland," European Journal of Human Genetics (EJHG) 8 (10) (2000): 743–749.

4 Occupational status is based on the father's status or, if this is not available, the status of the mother is used. Education is based on the highest educational qualification of the parents.

Table 1

Mortality Risk for Men

Hazard ratios[1]

	Disposable income	Education	Demography	Parental home	Occupational stress	Financial insecurity	Leisure activities and social networks	Health status
Disposable income (reference: > 150 percent of median income)								
< 60 percent	1.773*	1.497*	1.636*	1.640*	1.500*	1.466*	1.473*	1.574*
60 to 80 percent	1.831*	1.613*	1.670*	1.647*	1.573*	1.568*	1.486*	1.457*
80 to 100 percent	1.609*	1.446*	1.470*	1.459*	1.388*	1.380*	1.378*	1.301
100 to 150 percent	1.427*	1.327*	1.348*	1.338*	1.283	1.280	1.328*	1.254
Education (reference: Abitur/degree) leaving qualification								
Hauptschule/Realschule/no school		1.510*	1.651*	1.682*	1.845*	1.850*	1.677*	1.407
vocational qualification		1.171	1.172	1.168	1.179	1.184	1.123	1.069
Demography								
East/west (reference: west German Länder)								
east German Länder including Berlin			0.998	0.989	0.945	0.939	1.003	1.058
Number of inhabitants in place of residence (reference: < 20,000)								
20,000 to 100,000			0.960	0.936	0.935	0.939	0.940	0.993
> 100,000			1.016	1.009	1.009	1.003	1.011	1.039
Migration background (reference: no)								
yes			0.633*	0.633*	0.626*	0.622*	0.593*	0.672*
Parental home								
Parental education (reference: Abitur/degree)								
no school leaving qualification Hauptschule/Realschule				0.758	0.755	0.753	0.744	0.710
vocational qualification				0.845	0.867	0.864	0.839	0.778
Occupational status of parents (reference: blue-collar worker)				0.886	0.925	0.924	0.958	0.974
self-employed/freelance/farmer				0.958	0.987	0.988	0.986	1.056
civil servant				0.657*	0.677*	0.679*	0.725	0.770
white-collar worker								
Longevity of parents (reference: no parent lived longer than 85 years)								
at least one parent lived longer than 85 years				0.885	0.889	0.881	0.861	0.843
Occupational stress								
Physical stress (reference: low/average)								
high stress					1.302*	1.293*	1.264*	1.159
Length of full-time employment (reference: < 20 years)								
40 years					1.158	1.120	1.306	1.199
> 40 years					0.800	0.779	0.910	0.998
Experience of unemployment (reference: none)								
unemployed at least once during working life					0.955	0.951	0.974	1.048
Financial insecurity								
Worries about own financial situation (reference: no worries)								
some worries						0.846	0.901	1.024
significant worries						0.882	0.937	1.147
Satisfaction with household income (reference: low level of satisfaction)								
Average level of satisfaction						1.116	1.141	1.244
high level of satisfaction						1.052	1.121	1.396
Leisure activities and social networks								
Meet friends (reference: never/less than once a month)								
at least once a month							1.057	1.152
Cinema(reference: never/less than once a month)								
at least once a month							0.794*	0.845
Cultural events (reference: never/less than once a month)								
at least once a month							0.744*	0.862
Help from neighbors (reference: never/less than once a month)								
at least once a month							0.702*	0.779*
Political activity (reference: never/less than once a month)								
at least once a month							1.206	1.252
Voluntary work (reference: reference: never/less than once a month)								
at least once a month							0.824	0.846
Partnership (reference: no partner)								
partner							0.793	0.764*
Health status								
Hospital stays (reference: less than ten nights a year)								
ten nights or more								1.181
Visits to the doctor (reference: less than five in the last three months)								
five or more visits								1.196
Sport (reference: never/less than once a month)								
at least once a month								0.595*
Registered disability (reference: no registered disability)								
degree of disability 0 to 50 percent								1.175
degree of disability over 50 percent								1.489*
Health satisfaction (reference: low level of satisfaction)								
average level of satisfaction								0.663*
high level of satisfaction								0.504*
Individuals	3,097	3,097	3,097	3,097	3,097	3,097	3,097	3,097
Deaths	699	699	699	699	699	699	699	699

1 Multivariate event analysis model: Gompertz model; * = statistically significant effects at the 95-percent level.

Source: SOEP v28, 1984-2010; calculations by DIW Berlin, under statistical control for cohorts, missing values in person characteristics are accounted for using separate categories in the models but not reported here.

Table 2

Mortality Risk for Women

Hazard ratios[1]

	Disposable income	Education	Demography	Parental home	Occupational stress	Financial insecurity	Leisure activities and social networks	Health status
Disposable income (reference: > 150 percent of median income)								
< 60 percent	1.475*	1.444*	1.479*	1.447*	1.456*	1.291	1.101	1.168
60 to 80 percent	1.310	1.289	1.299	1.293	1.313	1.216	1.089	1.086
80 to 100 percent	1.361*	1.341	1.365	1.373*	1.403*	1.348	1.245	1.226
100 to 150 percent	1.199	1.187	1.178	1.176	1.193	1.175	1.130	1.124
Education (reference: Abitur/degree)								
Hauptschule/Realschule/no school leaving qualification		1.053	1.069	1.073	1.151	1.181	1.066	1.181
vocational qualification		1.047	1.053	1.050	1.058	1.073	1.020	1.096
Demography								
East/west(reference: west German Länder)								
east German Länder including Berlin			0.699	0.706	0.722	0.709	0.713	0.699
Number of inhabitants in place of residence(reference: < 20,000)								
20,000 to 100,000			0.926	0.923	0.927	0.921	0.948	0.929
> 100,000			0.963	0.946	0.938	0.926	0.950	0.928
Migration background(reference: no)								
yes			0.507*	0.469*	0.460*	0.461*	0.464*	0.454*
Parental home								
Parental education(reference: Abitur/degree)								
no school leaving qualification Hauptschule/Realschule				0.997	0.997	1.015	0.961	0.904
vocational qualification				0.934	0.917	0.928	0.949	0.837
Occupational status of parents (reference: blue-collar worker)								
self-employed/freelance/farmer				0.960	0.957	0.955	0.983	1.027
civil servant				1.056	1.061	1.085	1.127	1.148
white-collar worker				1.213	1.221	1.261	1.268	1.286
Longevity of parents (reference: no parent lived longer than 85 years)								
at least one parent lived longer than 85 years				0.607*	0.583*	0.579*	0.610*	0.615*
Occupational stress								
Physical stress (reference: low/average)								
high stress					0.655*	0.645*	0.632*	0.643*
Length of full-time employment (reference: < 20 years)								
20 to 40 years					1.055	1.058	1.019	1.072
> 40 years					1.058	1.072	1.048	1.151
Experience of unemployment (reference: none)								
unemployed at least once during working life					0.939	0.928	0.951	0.952
Financial insecurity								
Worries about own financial situation(reference: no worries)								
some worries						0.966	0.972	1.077
significant worries						0.991	0.995	1.181
Satisfaction with household income (reference: low level of satisfaction)								
Average level of satisfaction						0.721*	0.725*	0.757
high level of satisfaction						0.682*	0.694*	0.782
Leisure activities and social networks								
Meet friends(reference: never/less than once a month)								
at least once a month							0.664*	0.738
Cinema(reference: never/less than once a month)								
at least once a month							0.948	0.993
Cultural events (reference: never/less than once a month)								
at least once a month							0.729*	0.785*
Help from neighbors(reference: never/less than once a month)								
at least once a month							0.815*	0.865
Political activity (reference: never/less than once a month)								
at least once a month							0.651	0.691
Voluntary work(reference: reference: never/less than once a month)								
at least once a month							1.027	1.045
Partnership(reference: no partner)								
partner							0.872	0.866
Health status								
Hospital stays(reference: less than ten nights a year)								
ten nights or more								0.890
Visits to the doctor(reference: less than five in the last three months)								
five or more visits								1.167
Sport (reference: never/less than once a month)								
at least once a month								0.872
Registered disability (reference: no registered disability)								
degree of disability 0 to 50 percent								0.757
degree of disability over 50 percent								1.961*
Health satisfaction (reference: low level of satisfaction)								
average level of satisfaction								0.610*
high level of satisfaction								0.596*
Individuals	3,286	3,286	3,286	3,286	3,286	3,286	3,286	3,286
Deaths	538	538	538	538	538	538	538	538

1 Multivariate event analysis model: Gompertz model; * = statistically significant effects at the 95-percent level.

Source: SOEP v28, 1984-2010; calculations by DIW Berlin, under statistical control for cohorts, missing values in person characteristics are accounted for using separate categories in the models but not reported here.

Occupational Stress

Individuals in the low-income bracket at retirement are more likely to have had a physically demanding working life which may, in turn, be correlated with a lower life expectancy. This possibility is analyzed in the occupational stress model. Since, due to health problems, individuals frequently move to a less demanding occupation during the course of their working life, most recent employment is not a suitable indicator for the long-term stress they experienced during their professional life. Therefore, this study considers the physical stress of the occupation for which the individual first trained.[1] Further, years spent in full-time employment and periods of unemployment during working life are used as indicators of occupational stress.

The number of years in full-time employment and experience of unemployment demonstrate no independent statistical effect on the mortality risk for either men or women. However, men whose initial occupation was physically demanding have a higher mortality risk (the estimated hazard ratio of 1.3 corresponds with a life expectancy which is approximately two years shorter). Conversely, women who choose physically demanding employment actually increase their life expectancy. The latter finding—which is contrary to expectations—is either due to the fact that the women selected had certain types of physically demanding jobs or due to longer career breaks; further analysis is necessary here. Thus, only in the case of men can it be proven that the statistical correlation between income and further life expectancy diminishes when occupational stress is taken into account.

Financial Insecurity

Another possible factor that could explain differences in mortality according to income group is financial insecurity. The stress and psychological impact of this results, whether directly or indirectly—via health-related behavior—in poorer health, thus reducing the individual's life expectancy.[2] Two indicators are used to measure observed insecurity: financial worries and income satisfaction.

The findings of the financial insecurity model indicate that factoring the individual's own financial situation into the estimation model does not result in improved statistical modeling for life expectancy. However, the second indicator—income satisfaction—is, at least for women, statistically significant. For women, an average or high level of satisfaction up to the age of 65 is correlated with a longer life expectancy (the estimated hazard ratio of 0.7 corresponds with a life expectancy that is approximately two years longer). For women, the statistical correlation between income and life expectancy is lessened to some extent by taking the level of psychological stress caused by low income into account.

Leisure Activities and Social Networks

Social networks provide day-to-day support and help individuals to cope with health problems,[3] and leisure activities also contribute to preserving good health.[4] Both are more prevalent among those in high rather than low-income brackets.[5] Therefore, it is possible that taking different activity patterns and networks into account may further decrease the statistical correlation between income and life expectancy.

It is clear that, for 65-year-old women, a positive correlation was evident between contact with friends and neighbors and also participation in cultural events and further life expectancy. Furthermore, for 65-year-old men, partnerships also have a positive effect.

While also taking leisure activities and networks into account has very limited impact on the effect of income on life expectancy for men, once again, for women, this effect is reduced. To a certain extent, the correlation between income and life expectancy is weakened by factoring different network patterns and various levels of social participation into the analyses.

However, it must be borne in mind that the impact of leisure activities and social networks diminishes for 65-year-olds once health status is factored into the analysis. This indicates that some of the effect of activities can be attributed to health status at age 65. In older age, possible social participation is naturally dependent on physical fitness and is primarily only feasible for those

1 L. E. Kroll, "Konstruktion und Validierung eines allgemeinen Index für die Arbeitsbelastung in beruflichen Tätigkeiten anhand von ISCO-88 und KldB-92," MDA – Methoden, Daten, Analysen 5 (1) (2011): 63–90.

2 R. Moynihan, "Job insecurity contributes to poor health," BMJ (clinical research ed.) (2012): 345, 5183.

3 K. J. Langlie, "Social Networks, Health Beliefs, and Preventive Health Behavior," Journal of Health and Social Behavior 18 (3) (1977): 244–260.

4 A. Bowling and P. D. Browne, "Social Networks, Health, and Emotional Well-being Among the Oldest Old in London," Journal of Gerontology 46 (1) (1991): 20–32; L. C. Giles, G. F. V. Glonek, M. A. Luszcz, and G. R. Andrews, "Effect of social networks on 10 year survival in very old Australians: the Australian longitudinal study of aging," Journal of Epidemiology and Community Health 59 (7) (2005): 574–579.

5 D. E. Belle, "The Impact of Poverty on Social Networks and Supports," Marriage & Family Review 5 (4) (1983): 89–103; V. Cattell, "Poor people, poor places, and poor health: the mediating role of social networks and social capital," Social Science & Medicine 52 (10) (2001): 1501–1516.

Box 2

Conclusions for Policy-Making

In terms of equality of opportunity with regard to healthy aging, the clear statistical correlation between income and life expectancy presents a challenge to those responsible for health policy in the narrowest sense as well as social policy in the broadest sense. For policy-makers to be able to base their actions on empirical findings, a causal interpretation of statistical correlations is required. As with all observation studies, causal interpretation is, methodologically, not 100 percent reliable but does allow us to draw political conclusions from the detailed multilevel analysis outlined in the present study. However, ultimately, the only rationale can be a political one. According to the findings, for men, reform of occupational safety standards and improvements in the promotion of health in the workplace, for example, would make sense, as would behavior-related preventive measures and health information campaigns that focus more on raising health awareness among the less educated than has been the case to date.

If health prevention and targeted workplace campaigns do not successfully align the life expectancy of those in low-income with those in high-income brackets, this could have implications for the debate about fair distribution of wealth in Germany: currently, not only do low earners receive lower monthly pensions, but they also systematically claim this benefit for a shorter period of time.[1] The fact that statutory pension insurance has no risk differentiation mechanism or that population groups with a particularly long life expectancy are not obliged to work longer is usually justified by the lack of popular support for such a system.[2] Furthermore, a range of mortality factors resulting from individual lifestyles (for example, nutrition or smoking) and also inherent characteristics (for example, hereditary diseases) are not appropriate for classification in risk categories.[3] However, should the empirical finding that the parental home and related statistical average educational achievements and entry into working life (and thus the size of future contributions) has a systematic impact on life expectancy (and thus the size of expected benefits) be substantiated and remain unchanged in the foreseeable future, then the question of social redistribution could arise. The US pension system, where increasing income or contributions is not accompanied by linear growth in pension payments but rather weak growth, was already introduced to the discussion as a model for a potential, though in no way mandatory, reform.[4] In view of the problems associated with a pension formula that is linked to life expectancy, the logical conclusion is that preference should be given to dismantling social differences in life expectancy rather than to equalizing differences in life expectancy within the pension insurance system.

1 F. Breyer and S. Hupfeld, "Neue Rentenformel – mehr Gerechtigkeit und weniger Altersarmut," Wochenbericht des DIW Berlin, no. 5 (2009).

2 Bundesministerium für Gesundheit und Soziale Sicherung, "Nachhaltigkeit in der Finanzierung der Sozialen Sicherungssysteme," Bericht der Kommisson, 121 (2003), www.bmas.de/DE/Service/Publikationen/c318-ruerup-bericht.html.

3 See G. G. Wagner, "Umverteilung in der gesetzlichen Rentenversicherung", (Frankfurt am Main and New York: 1984).

4 Breyer and Hupfeld, "Neue Rentenformel" (2009).

who are in good health and thus already have a longer life expectancy.

Health Status

Finally, the health status of 65-year-olds is taken into account to predict their further life expectancy. There are two plausible findings: the correlation between income and life expectancy might diminish in the long term. This finding could be interpreted as indicating that the statistical association is dependent on events which largely took place before retirement age and cumulated in particularly poor or particularly good health at age 65. On the other hand, taking health into account might have barely any impact on the correlation between income and life expectancy. This finding could be interpreted as indicating that the statistical association is dependent on events which largely took place after retirement age, the effects of which are independent of the particularly good or poor health of the individual at age 65.

To describe the health status of 65-year-olds, indicators such as hospital stays, visits to the doctor, sporting activity, registered disability, and also subjective satisfaction with health status are used. For men, a high level of satisfaction with their own health status and also sporting activity are associated with a longer life expectancy, and a high degree of disability is correlated with a shorter life expectancy. Hospital stays and visits to the doctor at age 65 do not affect the validity of predictions

for further life expectancy. The situation for women is similar. However, disability has a slightly stronger impact for women than for men and no measurable correlation is observed between sporting activity and further life expectancy.

Although, as expected, there is a correlation between health at age 65 and further life expectancy, factoring health status into the analysis does not lessen the statistical correlation between income and life expectancy, for either men or women.

Residual Correlation Between Income and Life Expectancy

Alongside the absolute differences in further life expectancy between income groups, Figure 3 also presents the differences which emerge when factoring in a variety of further explanatory factors (with control variables).

While, in absolute terms, men from affluent households live more than five years longer than men from households with a precarious income or at risk of poverty, taking other influences on life expectancy into account reduces this difference by two years to three and a half years. A similar decrease is observed in the differences between affluent men and those with an income of between 80 and 100 percent (from four and a half to slightly more than two years) and men with an income of between 100 and 150 percent (from three and a half to just under two years) of the median income.

For women, the differences in life expectancy between income groups were already smaller than for men even before further factors were taken into account; after taking these factors into consideration, the differences were no longer significant. For women, the residual differences in life years between the income groups were between six months and one and a half years. In all cases, the uncertainty of the estimate is too significant to be able to empirically test the assertion that, after adjustment for further factors, there is still a limited statistical correlation between income and life expectancy for women. For men, this constraint only applies to the difference between average and high income brackets. Apart from this, when alternative factors are taken into account, significant differences in life expectancy are evident between affluent men and those from households with a precarious income or at risk of poverty (see Box 2).

Conclusion

In Germany, individuals from affluent households have a significantly longer further life expectancy at age 65 than those from low-income households. Statistical analyses strengthen the hypotheses which have appeared in the literature for some time that the reasons for this difference are extremely complex. Though the present analyses do not allow us to draw any conclusions about causal effects, they do, however, suggest that the lower life expectancy of women in low-income households could, at least in part, be associated with psychological pressure caused by a shortage of money as well as a paucity of social networks and leisure activities. For men from low-income households, a low level of education and a physically demanding job appear to have a negative impact on further life expectancy. Against this backdrop, measures which take these differences into consideration would seem particularly appropriate for reducing the differences in life expectancy.

The detailed analyses indicate that the impact of income differences on further life expectancy in Germany is significantly smaller than simple correlation studies lead us to believe. Even when a wide range of additional factors are taken into account, a significant income effect remains, at least for men: those with a high income at age 65 can expect to live a longer life on average.

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Part III:
Summary Report SOEP Fieldwork in 2012

Leben in Deutschland
Das Sozio-oekonomische Panel (SOEP)
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tns infratest
SOEP
DIW BERLIN

Summary Report

SOEP Fieldwork in 2012

TNS Infratest Sozialforschung

by Nico A. Siegel, Simon Huber, Anne Bohlender

Foreword: SOEP at TNS Infratest

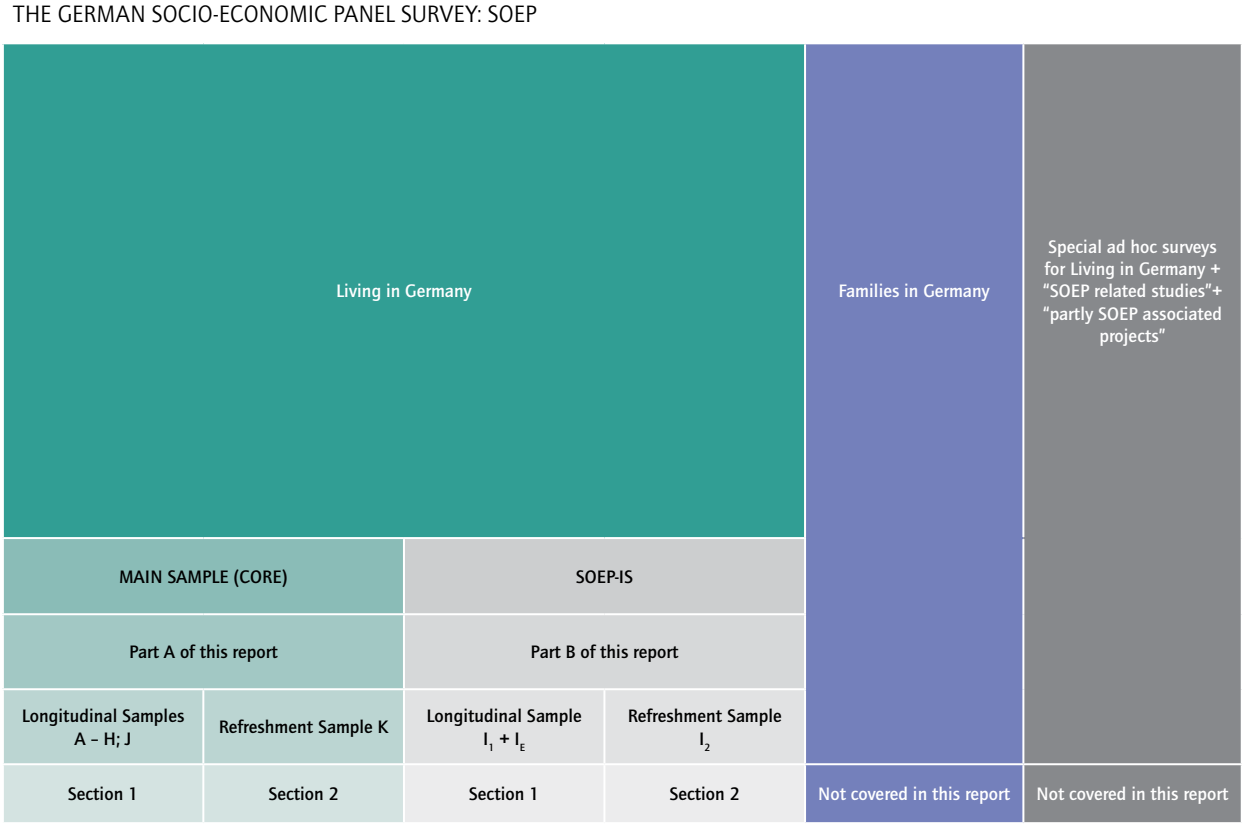
TNS Infratest Sozialforschung (Social Research) has been responsible for data collection ever since the first wave of the German Socio-economic Panel (SOEP) in 1984. The SOEP research unit at TNS Infratest Sozialforschung in Munich, consists of 20 survey researchers, project managers, data editing officers and related support staff members. This SOEP unit is involved in the various core processes and stages of data collection and editing. In addition to this specialized unit within TNS Infratest Sozialforschung, members from the various central service units of TNS Infratest – such as the "Face-to-face Production Line", "Data Processing" and the "Applied Marketing Science" department – are involved in various special project tasks. The services provided from these central units cover tasks like CAPI scripting, fieldwork management and weighting. Finally, more than 500 of TNS Infratest's interviewers are involved in the fieldwork per panel wave, ensuring that sufficient face-to-face resources are available for the extensive and complex data gathering process in a regionally extremely dispersed panel sample.

The organization of the SOEP unit as a separate research unit within TNS Infratest Sozialforschung indicates the commitment to provide sufficient qualitative and quantitative resources for a unique project infrastructure that is capable to meet the special requirements. This commitment does for example manifest itself in the fact that TNS Infratest provides the resources for managing a total of 100 interviewers who exclusively work for SOEP conducting face-to-face interviews.

Generally speaking, during the last decade data collection for the SOEP has grown in respect to both, complexity of tasks and quantity of interviews. Since its very beginning in the early 1980s the SOEP has not only grown in sample size, but also with regard to its "internal" complexity. Over the years, various new refreshment samples have been added to compensate for panel mortality and to cover important new subpopulations, resulting in significant quantitative growth measured by sample size. In addition to the quantitative growth of various subsamples, the SOEP has witnessed impressive qualitative growth and innovations: new questionnaires and other survey instruments (like cognitive tests and choice experiments) have been integrated into fieldwork procedures, summing up to a large number of innovations, particularly over the last decade. As a consequence of its quantitative and qualitative growth, meanwhile, based on the SOEP's infrastructures in Berlin and Munich, the SOEP's project and more general governance structure is used for different "sub-studies", including the core panel "Living in Germany" (the phrase commonly used in all the communications with interviewers and respondents), its innovation sample SOEP-IS, but also "Families in Germany", a new longitudinal household panel survey that was established in 2010 as part of a general evaluation of family polices commissioned by two ministries of the Federal government. In addition, an annual "pretest survey" with approximately 1.000 respondents and various "related" or at least "partly SOEP-associated" studies are conducted by TNS Infratest on behalf of the SOEP division at the DIW, using all ma-

Figure 1:

Overview German Socio-Economic Panel Survey



jor modes of data collection and covering a wide range of innovative survey approaches for sampling and data collection (including biomarkers, central location studies etc.). Meanwhile, the SOEP fieldwork procedures cover all major data collection modes: face-to-face as the core method for the main sample, with paper and pencil as well as computer assisted interviewing, mail survey as a fallback option for households who are not willing to cooperate f2f, telephone assisted refusal conversion methods, and, finally, online for special population subsamples but also as parts of the refusal conversion process in SOEP-IS.

This chapter will exclusively focus on the various segments of the fieldwork for the 2012 wave of "Living in Germany." Hence it is restricted to the various longitudinal subsamples and the refreshment sample of the so-called "SOEP main sample". Additionally, it covers a concise summary of the fourth wave of sample I which was launched in 2009 and represents the "base sample" for the new "SOEP-innovation sample" (SOEP-IS). SOEP-IS did officially start in 2011 with the remaining households from sample I. In 2012, not only was a second refreshment sample included into the SOEP-IS sample system (sample I_2), but the existing subsample E (established in 1998) from the main sample was 'transferred' into SOEP-IS to integrate a long existing longitudinal sample into SOEP-IS. We will summarize fieldwork procedures and results for SOEP-IS in part II of this chapter, but first the focus in part I will be placed on the SOEP's main sample whose 29th wave of data collection was completed in October 2012.

Section A – The Main Sample

1 Longitudinal Samples

1.1 Summary Overview

The data set of a respective SOEP wave is made available by the SOEP ResearchData Center for users as an integrated "cross section sample". For this purpose, TNS Infratest delivers the various data files (gross and net sample files, question-item-variable correspondence lists, all documentation) to the SOEP team in Berlin in the same cross-sectional format in December of each year. As a matter of fact the SOEP does, however, represent a complex sampling system. It comprises various sub-samples that were integrated into the household panel at different times since the general launch of SOEP in 1984. The various sub-samples were based on different target populations and therefore were drawn using different random sampling principles. In table 1 we provide an overview over the trend of absolute sample sizes at the individual level (participating persons in a respective SOEP wave) from 1984 to 2012, covering nine (major) subsamples launched between 1984 and 2011. **Figure 2** provides an overview of the samples sizes of the various main subsamples at the household level for 2012.

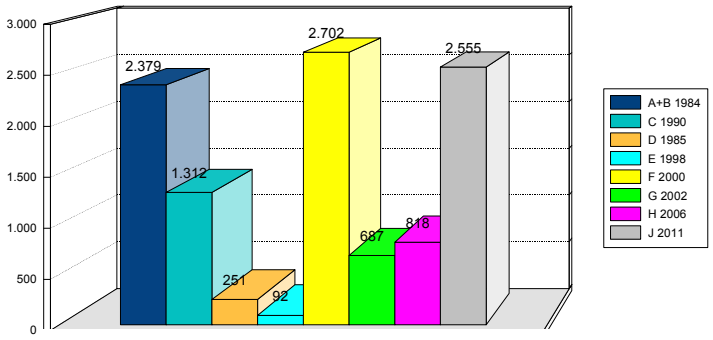
Households and individuals with the longest history of (continuous) panel participation took part for the 29th time in 2012 (samples A and B). The following extensions to the main sample were realized since the beginning of the new millennium:

- Sample F, designed as a general population refreshment sample initially comprising more than 6,000 households in the year 2000
- Sample G, aiming at an oversampling of high income households and integrated into the SOEP sample system in 2002
- Sample H, a general population refreshment sample adding 1,500 new households to the main sample in 2006
- Sample J, representing the first of a series of general population refreshment which are planned for the coming years. Data collection in sample J started in 2011, thus during the fieldwork of 2012 wave 2 was conducted in this subsample.

In 2012, the 29th wave of SOEP was conducted and resulted in a total of 12,322 households and 18,577 individual interviews in the samples A – J. **Table 1** on the next page provides an overview of the existing longitudinal samples of the main panel.

Figure 2

Number of Participating Households in 2012 from Various Sub-Samples



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1.2 Fieldwork Indicators

The field results of a longitudinal sample can be measured in different ways. Two sets of indicators appear to be most relevant. First, from a long term perspective, **panel stability** can be regarded as a decisive indicator that is crucial for monitoring and predicting a panel sample's development in terms of overall size. Panel stability is calculated as the number of participating households of the current year (t) compared to the corresponding number of the previous year (t-1). Thus it reflects the net total effects of *panel mortality* on the one hand and *panel growth* (due to split-off households and temporary drop-outs from previous samples) on the other hand. This approach is particularly helpful in household surveys, where split-off households are tracked, i.e. if an individual from a participating household moves into a new household the survey institute will try to track the address change and conduct interviews with the new household. Within the context of a panel survey, a second group of households can contribute to the stabilization of the sample, namely so-called "temporary drop-outs", i.e. households for which in the previous wave(s) no interview could be realized (due to various reasons) but which "re-join" the panel at a given panel wave.

The mean value for panel stability across the SOEP samples achieved in 2012 was 94.6%. Therefore, after several years of decreasing values for panel stability and a positive trend in last year's value, the panel stability stayed stable compared to the value of 2011 (94.7%). However, panel stability varies substantially across sub-samples: it ranges from a low of 88.5% (-0.2% compared to the previous year) in sample B up to 97.3% in sample G

Table 1

SOEP Subsamples 1984-2011

Sample	Year	1984	1990	1995	1998	2000	2002	2006	2009	2010	2011	2012
A + B	"SOEP West" and main groups of foreign nationalities	1	7	12	15	17	19	23	26	27	28	29
C	"SOEP East" general population sample GDR 1990	-	1	6	9	11	13	17	20	21	22	23
D	Immigration sample	-	-	1	4	6	8	12	15	16	17	18
E	Refreshment sample 1998 (general population)	-	-	-	1	3	5	9	12	13	14	15
F	Refreshment sample (general population)	-	-	-	-	1	3	7	10	11	12	13
G	High income sample	-	-	-	-	-	1	5	8	9	10	11
H	Refreshment sample 2006 (general population)	-	-	-	-	-	-	1	4	5	6	7
J	Refreshment sample 2011 (general population)	-	-	-	-	-	-	-	-	-	1	2

Individual interviews per sample	1984	1990	1995	1998	2000	2002	2006	2009	2010	2011	2012
A+B	12,239	9,518	8,798	8,145	7,623	7,175	6,203	5,196	4,790	4,541	4,204
C	-	4,453	3,892	3,730	3,687	3,466	3,165	2,769	2,559	2,392	2,262
D	-	-	1,078	885	837	780	684	565	488	461	435
E	-	-	-	1,923	1,549	1,373	1,199	1,024	978	961	160
F	-	-	-	-	10,886	8,427	6,997	5,824	5,316	4,984	4,610
G	-	-	-	-	-	2,222	1,801	1,487	1,438	1,358	1,285
H	-	-	-	-	-	-	2,616	1,737	1,587	1,478	1,392
Total A – H	-	-	-	-	-	-	22,665	18,602	17,156	16,175	14,348
J	-	-	-	-	-	-	-	-	-	5,161	4,229
Total	**12,239**	**13,971**	**13,768**	**14,692**	**24,582**	**23,443**	**22,665**	**18,602**	**17,156**	**16,175**	**18,577**

1 The low number of participants in sample E in 2012 compared with the previous years results from transferring the face-to-face-households into the SOEP-IS.

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(+2.3% against 2011). For the refreshment sample J, established in 2011, panel stability from wave 1 to wave 2 was 81.5%. For the first time since more than a decade, the panel stability of a new refreshment sample passed the benchmark level of 80 %. Due to increased investment into cash incentives and intensified fieldwork monitoring the long term trend towards declining panel stability could be reversed in 2012.

Panel stability indicators should not be confused with longitudinal response rates. Table 2 presents key indicators of 2012 fieldwork, among others showing response rates by types of fieldwork procedures and household. Overall, the headline response rate for 2012 in samples A – H was 91.2% for previous wave's respondents. That's exactly the same rate than the year before during which a positive turn after several years of decreasing longitudinal response rate could be achieved. Although the improved headline response rate for 2012 (as for 2011) was lower than during earlier periods of SOEP, the end of declining response rates is worth to be emphasized. The SOEP has, to a certain extent, suffered from the same although remarkably weaker trend which has been well known for other social surveys in Germany for the last two decades: a general decline of response rates. This decline is almost exclusively the result of an increase in the share of target households who explicitly refuse to provide an interview – even if additional or improved measures for refusal avoidance and refusal conversion are integrated into fieldwork procedures.

The response rates presented in table 2 do not focus on previous wave's households only. Nor are they calculated in a way that would correct for households which have stopped to be part of the target population. All the "denominators" in our response rate calculations were not "corrected" as this is usually done by subtracting "out of scope" target households from the gross sample. If we readjust the gross sample in this way, the resulting response rates would be 1 – 2 percentage points

Table2

Key Fieldwork Indicators: SOEP 2011 and 2012 Compared

	A – H 2011 abs. figures	A – H 2012 abs. figures	A – H 2011 in %	A – H 2012 in %
(1) Sample composition by types of households				
Previous wave's respondents	9,665	8,710	91.7	92.2
Temporary drop-outs	544	429	5.2	4.5
New households	332	303	3.1	3.2
Total	10,541	9,442	100.0	100.0
(2) Sample composition by type of fieldwork				
Interviewer-based	7,952	7,037	75.4	74.5
Centrally administered (mail)	2,589	2,405	24.6	25.5
Total	10,541	9,442	100.0	100.0
(3) Interviewers				
Number of interviewers	490	471	-	-
Average number of household interviews	17.2	14.9	-	-
(4) Response rates by type of household				
Previous wave's respondents	-	-	91.2	91.2
Previous wave's drop-outs ("re-joining former panelists")	-	-	32.5	29.8
New households (split-off HH.s)	-	-	50.3	56.1
Total response rate	-	-	86.8	87.3
(5) Response rates by type of fieldwork procedure				
Interviewer-based	-	-	93.0	88.6
"Mail/telephone" assisted	-	-	68.0	71.2

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higher than the figures printed in table 2. The response rate in refreshment sample J for previous wave's households was 80.0%.

Within-Wave Fieldwork Progress

The fieldwork period for data collection in the main SOEP samples covers a period of almost nine months, starting at the beginning of February and being completed when the "refusal conversion" processes are collected in mid-October.

As is indicated by the figures in **table 3**, almost 80 % of all household interviews are conducted during the first three months, and more than 90 % within the first five months of fieldwork. This indicates that the vast majority of interviews – and therefore data – is produced within a comparatively comprehensive fieldwork period. The remaining months are almost exclusively dedicated to households which are either extremely difficult to contact or for which various refusal conversion strategies (per telephone or by reissuing addresses to interviewers) are used.

Individual Response Rates

Response rates at the individual level reached 92.3 % for samples A – J. Thus, 18,544 target persons in the participating households could be convinced to answer the individual or the youth questionnaire.

The figures on individual response rates we have presented relate to the (main) individual questionnaire, for which the target population were all persons in participating SOEP households born 1994 or earlier. However, response rates can also be calculated for the various special or supplementary questionnaires – we will include these performance indicators in the next section which deals with questionnaires.

1.3 Questionnaires

The SOEP introduces itself to participating respondents and interviewers by the catchy study title "Living in Germany". Under this heading up to 14 different field instruments, one contact protocol and 13 questionnaires were processed, most of them for Paper-and-Pencil-Interviewing (PAPI) as well as for Computer-Assisted Personal Interviewing (CAPI):

(1) **Address/Contact protocol** (PAPI only)
(2) **Household questionnaire**
(3) **Individual questionnaire**, for all persons aged 16 years and older (criteria in 2012: born in 1994 or earlier)
(4) Supplementary questionnaire **"life history"**, for all new persons joining a panel household
(5) **Youth questionnaire**, for all persons born in 1995
(6) Additional **cognitive competence tests**, for all persons for whom the youth questionnaire is completed (PAPI and f2f only)
(7) Supplementary questionnaire **"Mother and Child A"**, for mothers of children who were born in 2012 (and for those mothers of children born in 2011 for whom the questionnaire was not issued in 2011 because the child was born after field work had been completed)
(8) Supplementary questionnaire **"Child B"** ("Your child at the age of 2 or 3") for mothers of children born in 2009. In households where the father takes the role of the main childcarer fathers are asked to provide the interview.
(9) Supplementary questionnaire **"Child C"** ("Your child at the age of 5 or 6") for main childcarer of children born in 2006.
(10) **Questionnaire for parents "Child D"**, both for mothers and fathers of children born in 2004 ("Your child at the age of 7 or 8"). In contrast to the mother-and-child questionnaires, **both parents** of the child, if living in the same SOEP household as the child, are asked to provide an interview.
(11) Supplementary **questionnaire "Mother and Child E"** ("Your children at the age of 9 or 10") for mothers

Table 3

Fieldwork Progress 2011 and 2012 Compared: Processing of Household Interviews in per Cent of Gross Sample[1]

	2011 A – H	2012 A – H
February	38 %	36 %
March	65 %	64 %
April	78 %	80 %
May	88 %	88 %
June	93 %	94 %
July	97 %	97 %
August	99 %	99 %
September	99 %	100 %
October	100 %	100 %

Note: Denoted are cumulative percentages based on the month of the last household contact. Figures for second wave of refreshment sample J have not been included due to reasons of comparability: as with most resent refreshment sample K fieldwork in sample J starts two weeks later due to deviant fieldwork procedure rules (e.g. cash incentives and CAPI only approach).

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of children born in 2002. In households where the father takes the role of the main childcarer fathers are asked to provide the interview.

(12) Supplementary **questionnaire, for temporary drop-outs** of the previous wave to minimize "gaps" in longitudinal data of panelists (therefore referred to as "Lückefragebogen", i.e. "gap" questionnaire)

(13) Supplementary questionnaire, for panelists who experienced a death in their household or family in 2011 or 2012: **"The deceased person"**

(14) Short **questionnaire to collect the employer address** for all participants who were employed in 2011

The questionnaires do not only vary in terms of their length but also with respect to target populations.

Table 4 provides an overview of the number of interviews for the various supplementary questionnaires and the respective response rates. As can be seen by these figures, the range of interviews is between 167 and 366. The response rates are on average between 85 % and 95 % and are particularly high for the various mother-and-child modules.

Because of a slightly shorter household questionnaire, the mean interview length for a model household consisting of two persons dropped by 5 minutes compared to the questionnaire used in 2011 (**table 5**).

Given the interview lenght trends over the last 10 years for the core questionnaires and the integration of new supplementary questionnaires for subgroups of respondents, it is highly unlikely that the historically defined interview length of 75 minutes for a model household can be achieved in coming years. Rather, the new benchmark length for a two person household should be set at a maximum of 90 minutes – bearing in mind that the overall stay of a interviewer in an household will be approximately 30 minutes longer. A target that seems to become more reachable given the reductions in interview duration that could be achieved in the 2011 and 2012 waves.

Table 4

Supplementary Individual Questionnaires: Volumes and Response Rates, Samples A – J

	Interviews	Response Rate
Youth	216	85.4
Cognitive competence tests[1]	173	91.5
Life history[2]	128 (257)	95.5
Mother and child questionnaire A	167	88.2
Mother and child questionnaire B	190	95.0
Mother and child questionnaire C	187	96.3
Questionnaire for parents D	366	92.7
Mother and child questionnaire E	222	95.6
Questionnaire for temporary drop-outs 2011 (and 2010)[3]	204 (224)	-
Supplementary questionnaire "the deceased person"[4]	258	-

1 Test can only be implemented if fieldwork is administered by interviewer and youth questionnaire is completed. Therefore the denominator for the respective gross sample of the target population is different to that of the youth questionnaire itself.

2 Response rate refers to new panelists only (n= 128 out of 134). In addition 129 interviews were completed by established panelists who did not answer the life history questionnaire in previous waves.

3 Response rate refers to the number of temporary drop-outs with completed personal interview in 2011 (n =204 out of 328). In addition 20 interviews were completed by respondents without personal and/or household questionnaires. Two drop-out cohorts are integrated in the figures because as a general rule households classified as drop-outs from the two previous waves are defined as part of the gross sample of a wave for whom special refusal conversion policies apply.

4 Response rate calculation is not possible as actual size of target population is not defined.

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1.4 Interview Modes

The interview mode in the SOEP is usually referred to as a *mixed mode approach*. The goal of such multi-method approaches is to achieve a higher overall response rate compared to one that is based on one-mode survey designs, which is particularly relevant in a household sample for which partial unit response should be kept as low as possible. In order to achieve this goal, it is critical to employ a pool of various modes on which is decided upon on a case-by-case basis in the individual households. As the SOEP looks back on a long history of paper-based interviews only (from 1984-1998), this was particularly important when CAPI was introduced as a kind of "regular choice" mode: both, because respondents had been used to PAPI for a long time and because some older interviewers with a long project tenure which were exclusively working for SOEP had a strong preference for working only with paper-based questionnaires. Finally, in multi-person households the option to drop a PAPI questionnaire for individuals who can not provide an interview during the stay of the interviewer offers a suitable option particularly for younger household members and persons who are difficult to meet in the household.

The methods used in the SOEP are *face-to-face* interviews and the s*elf-administered interview* that requires respondents to answer the questionnaire by themselves. The latter one is performed in two different ways:

- As an alternative option to the face-to-face interview in line with processing through the interviewer (SELF-interview)

Table 5

Mean Interview Length for Face-to-Face Interviews in Samples A - H (Minutes per Interview)

Year		Household Questionnaire		Individual Questionnaire		Time Occupied for a Model Household[1]	
		2011	2012	2011	2012	2011	2012
	Target length	15		30		75	
	Actual mean length						
A	SOEP West	23	18	36	35	95	88
B	Foreigners	23	19	38	37	99	93
C	SOEP East	28	23	39	39	106	101
D	Immigrants	25	21	39	38	103	97
E	Refreshment sample 1998	27	19	41	42	109	103
F	Refreshment 2000	27	21	38	38	103	97
G	High income	25	19	35	37	95	93
H	Refreshment H	28	23	38	40	104	103
Total (A – H)		26	21	38	38	102	97

1 Household with two interviewed adult individuals

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- As a mail-interview in line with central processing (MAIL-interview)

In general, a distinct pattern can be detected across the various SOEP samples: the "older" the sample, the higher the share of MAIL-interviews. This is mainly the result of the transition from interviewer-based to centrally administered fieldwork, which reflects a major pillar of the SOEP's refusal conversion strategy: households that are no longer willing to participate in the survey-based on face-to-face interviewing, are offered to participate via mail interviewing. Thus the proportion of MAIL-interviews differs substantially across samples revealing a clear pattern of increased mail shares over a "life span" of a sample. In sample H, for instance, mail interviews account for just 8% of all interviews conducted in 2012, whereas the proportion of households participating via mail stood at 25% for samples A – D.

1.5 Special Innovation Modules

Enquiry of workplace addresses

In 2012/2013 TNS Infratest Sozialforschung conducted an employer survey („Arbeitgeber in Deutschland –

Table 6

Interviewing Methods by Sub-Samples (in per cent of All Individual Interviews)

	Interviewer-Based						Centrally Administered	
	CAPI		PAPI		SELF		MAIL	
	2011	2012	2011	2012	2011	2012	2011	2012
A – D	17	21	20	18	39	37	24	25
E	34	–	22	–	26	–	18	100
F	26	31	25	20	33	32	14	15
G	30	32	13	12	43	42	13	14
H	54	60	13	12	25	21	7	8
A – H	25	29	21	17	35	34	18	20
J	100	100	–	–	–	–	–	–

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Zwischen Rahmenbedingung und Zielvorstellungen") based on a dependent sampling approach using enterprise addresses provided from SOEP panelists. The contracting authority was the German Institute for Economic Research (DIW Berlin) in cooperation with the University of Bielefeld. The theory behind the enquiry of workplace addresses and the succeeding enterprises survey is the assumption that someone's work environment has significant influence on his life success. Therefore, especially from the perspective of inequality research, linked employer-employee data sets are crucial to investigate the correlation between work environment and specific subjects such as health, work-life-balance and personal life success. The linkage between the SOEP data and the data of the DIW employer survey provides an enormous source of information for this research area. The addresses for the employer survey were gathered within the SOEP main sample (samples A – J).

Table 7

Sample Indicators for Workplace Address Collection

	Total	%
Gross sample 1 (employed respondents in 2011)	11,229	
Gross sample 2 (personal questionnaire completed in 2012)	9,804	100.0
Questionnaire returned	9,261	94.5
Incomplete/no contact data	1,182	12.1
Not in target population (not employed or self-employed in 2011)[1]	949	9.7
Excluded due to establishment size (< 5 employees)	581	5.9
Net sample (=gross sample DIW employer survey)	6,549	66.8

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The "original sampling frame" was consisting of all SOEP panellists who had reported in the 2011 wave that they were employed at the time of the interview. For these panel lists (if their households were issued to fieldwork), a short questionnaire was fielded in the context of the SOEP survey 2012 to collect the respective enterprise addresses (as the sample address material for the employer survey). The short questionnaire contained the address of the respondent's workplace and some additional answer options such as "not employed in 2011" or "self-employed in 2011".

The original gross sample for the supplementary survey based on the numbers from the 2011 survey amounts to 11,229 cases. In 9,804 cases the SOEP personal questionnaire was completed in 2012 – and therefore the first precondition for collecting the workplace addresses fulfilled. In 9,261 cases the short questionnaire was sent back by the interviewers. A total of 2,712 cases were excluded for the fielding of the DIW employer survey due to several reasons: the contact data was not given at all or not sufficiently, the respondents are not in the target population or the establishment size is too small (< 5 employees). The latter was necessary due to data protection reasons.

Grip strength measurement

The measurement of grip strength acts as a reliable objective health indicator, especially in longitudinal studies. First tested within the frame of the SOEP Pretest in 2005 grip strength measurement has been conducted in the SOEP main sample since 2006 in a two-year rhythm. Therefore in 2012 the grip strength of respondents was measured for the 4th time. The measurements are run by the interviewers in the context of the usual interviewing situation. Due to a limited quantity of measurement devices in 2006 (about 100 devices) the sample is interviewer based according to regional criteria and a high number of households per interviewer. Grip strength measurement is highly accepted by the most respondents and seen as an interesting diversion of the common interviewing procedure. In 2012 a total of 6,079 measurements were conducted in the samples A – J (compared to approx. 5,300 in 2006, 5,500 in 2008, 5,000 in 2010). From a longitudinal point of view for 2,275 panelists grip strength measures are present for all four measurement times (2006, 2008, 2010, 2012).

2 The Refreshment Sample K

2.1 Sampling

As with previous general population samples, the refreshment sample K was realized by using a multi-stage stratified sampling design. We will describe the two main stages of sampling separately in a summarized way, thereby ensuring that the most important methodological aspects are given, leaving aside a detailed "method and process description".

Generally speaking, the sampling of a new SOEP household sample uses the so-called ADM face-to-face sampling system and modifies it in way that maximizes the methodological advantages so that a best-practice design for a non-registry-based household sample frame can be derived. Thus, before starting to describe the specific sampling design of refreshment sample K, we provide

some background information why the ADM sampling system for face-to-face interviews is used for SOEP.

The most important background information to bear in mind is that in Germany no centralized population (let alone household) directory is available that would contain the addresses of all private households or individuals. The data which are collected by the local authorities (Städte und Gemeinden) for the personal registers are available for surveys which prove to be of "public interest": but this information is mainly useful for sampling individuals. Due to the lack of a central household registry the so-called "Arbeitsgemeinschaft ADM-Stichproben Face-to-Face" has developed the basic methodology and the ingredients for a sampling frame suitable for market and social research samples based on random sampling. The ADM-Sampling-System (F2F) is designed as an area sample that covers all populated areas of the Federal Republic. It is "based on Germany's topology, organized by states, counties and communities, the statistical areas within communities described by public data, and the geographical data created for traffic navigation systems"[1]. Based on the combination of the data, the sample is made up of about 53,000 areas which constitute the primary sampling units. Each sampling unit contains on average 700 private households, the minimum number being 350.

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

Stage 1: Random Selection of Sample Points

A total of approximately 53,000 spatial areas, the sample points constitute the first selection stage's units. In each unit the number of sample points is drawn with a probability that is proportional to the number of households in each sample point. The criteria that define the stratification layers are federal state, administrative district and community type. A total of 126 sample points was drawn with a selection probability proportional to the share of households in the sampling point – with states, administrative districts ("Regierungsbezirke") and the BIK classification system (a settlement structure typology) used as the layers.

The distribution of sample points of the gross sample, both in absolute and relative figures, is shown in **tables 8 and 9**. The relative share of sample points is contrasted with the share of private households in the respective layers. As we will discuss fieldwork results in the next sub-section, in the last column of **tables 8 and 9** we present the actual share of households in the net sample. By comparing the information on the net sample composition according to two major regional layers, it is possible to observe the deviations from the "target shares" for the inference populations in the respective regional segments. As the SOEP does not know any kind of quota balance according to which during the fieldwork period adjustments of the gross sample could be justified, deviations from the target figures can only be used within the given gross address sample to increase the efforts in sample points and regions where significant deviations can be observed. This leads, in general, to an underrepresentation of households in urban areas, due to lower response rates in the more densely populated regions.

Table 8

Distribution of Sample Points by Federal State

Federal State	Number Sample Points	Share Sample Points	Share Households in Germany[1]	Share Households in Net Sample
Schleswig-Holstein	4	3.2 %	3.4 %	4.5 %
Hamburg	4	3.2 %	2.4 %	2.8 %
Lower Saxony	12	9.5 %	9.6 %	9.6 %
Bremen	1	.8 %	.9 %	.7 %
North Rhine-Westphalia	27	21.4 %	21.6 %	19.6 %
Hesse	9	7.1 %	7.3 %	7.6 %
Rhineland-Palatinate	6	4.8 %	4.7 %	5.2 %
Saarland	2	1.6 %	1.2 %	1.0 %
Baden-Wuerttemberg	15	11.9 %	12.5 %	11.3 %
Bavaria	19	15.1 %	14.8 %	16.3 %
Berlin	8	6.3 %	5.0 %	5.6 %
Brandenburg	3	2.4 %	3.1 %	2.2 %
Mecklenburg-West Pomerania	2	1.6 %	2.1 %	1.8 %
Saxony	7	5.6 %	5.5 %	6.0 %
Saxony-Anhalt	4	3.2 %	3.0 %	2.7 %
Thuringia	3	2.4 %	2.8 %	3.1 %
Total	126	100.0 %	100.0 %	100.0 %

1 Mikrozensus 2011

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1 ADM: The ADM-Sampling-System for Face-to-Face Surveys 2012

Stage 2: Random Route Walk and Address Listing

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

- Since the addresses are available before start of fieldwork, they can be checked with regards to plausibility and correctness. In other words: There is an exactly defined list of addresses that can be prepared at the best for fieldwork.
- The interviewer that collects the addresses can be another one than the one who is chosen to conduct the interviews: This approach minimizes interviewer effects and can be used to check whether the random route has been correctly implemented by the interviewer who has listed the addresses.
- Address listing is a prerequisite for the fieldwork institute to use measures to increase response rates and decrease unit non response such as an advance information letter and the sending of a study brochure before fieldwork commences. Given the declining willingness to participate in population surveys and selection effects of the standard random walk routine these measures constitute important aspects of a best-practice design.
- For fieldwork the interviewer receives exactly specified addresses whose handling can be recorded in detail on contact sheets (in SOEP called the "address protocol"). This facilitates the generation of important data on the "gross sample", regardless of whether a households participates or does not participate in the survey. For this purpose, special household context questions ("Wohnumfeldfragen") have to be answered by the interviewers. On the basis of this (subjective, interviewer-based) information and (objective) micro-contextual social context data from the commercial provider MICROM, important indicators are generated, particularly for non-response analyses.

For each of the 126 sample points the goal was to list 80 addresses on a random walk with a step interval of three, i.e. every third household unit on the random walk route was to be listed by an interviewer. Finally, a random selection of 36 addresses was drawn which was issued for fieldwork.

Table 9

Distribution of Sample Points by Community Type (BIK)

BIK-Type[1]	Number Sample Points	Share Sample Points	Share Households in Germany[2]	Share Households in Net Sample
0	37	29.4 %	28.3 %	24.4 %
1	11	8.7 %	9.0 %	8.2 %
2	20	15.9 %	15.8 %	14.2 %
3	18	14.3 %	14.1 %	15.3 %
4	3	2.4 %	2.4 %	2.2 %
5	8	6.3 %	7.9 %	7.1 %
6	13	10.3 %	10.3 %	11.8 %
7	10	7.9 %	8.0 %	10.1 %
8	4	3.2 %	2.5 %	4.6 %
9	2	1.6 %	1.7 %	2.2 %
	126[3]	100.0 %	100.0 %	100.0 %

1 Community type (BIK) groups regions into categories according to the number of inhabitants and the location:
0 = more than 500,000 inhabitants (centre);
1 = more than 500,000 inhabitants (periphery),
2 = 100,000 to 499,999 inhabitants (centre);
3 = 100,000 to 499,999 inhabitants (periphery);
4 = 50,000 to 99,999 inhabitants (centre);
5 = 50,000 to 99,999 inhabitants (periphery);
6 = 20,000 to 49,999 inhabitants;
7 = 5,000 to 19,999 inhabitants;
8 = 2,000 to 4,999 inhabitants
9 = less than 2,000 inhabitants
2 Gemeindedatei, last update 31.12.2010
3 One sample point is spread over two BIK-regions

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2.2 Fieldwork Results

Household Level

Table 10 shows the progress of the fieldwork over the whole face-to-face period.

Since the year 2000 for all social surveys in Germany declining response rates mark one of the fundamental challenges for face-to-face surveys. Whereas for the refreshment sample F in the year 2000 a response rate still above 50% was possible, the years 2000-2010 witnessed a decline of response rates. For refreshment sample H, conducted in 2006, a headline response rate of 40.2% could still be achieved. Yet, in the year 2009, where sample I – now the base sample of the so-called SOEP innovation sample – was processed, the headline response rate was 32%. For the refreshment sample J, established in 2011, the headline response rate for the adjusted gross sample was 33.1%. Refreshment sample K resulted in a very similar response rate of 34.7 %. Thus, the general downward trend could successfully be stopped by a range of measures, including centralized face-to-face interviewer training, improved payment for interviewers

Table 10

Fieldwork Progress by Month

	Gross Sample	Net Sample
March	21.9 %	19.0 %
April	56.3 %	57.5 %
May	72.3 %	70.0 %
June	74.2 %	71.4 %
July	83.8 %	86.2 %
August	91.9 %	96.9 %
September	100.0 %	99.9 %
October	100.0 %	100.0 %

Note: Denoted are cumulative percentages based on the month of the last household contact.

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and more attractive incentives for respondents. **Table 11** shows an overview on the main fieldwork result codes.

Table 11

Response Rates at Household Level, Refreshment Sample K

	Gross Sample		Adjusted Gross Sample	
	Number	In %	Number	In %
Total	4,536			
QNDs	132	2.9	-	-
Deceased	6	.1	-	-
Expatriates	1	0.0	-	-
			4,397	
Realized	1,526	33.6	1,526	34.7
Completely	1,303	28.7	1,303	29.6
Partly	223	4.9	223	5.1
Not realized	2,871	63.3	2,871	65.3
No Contact	458	10.1	458	10.4
Interview not possible[1]	311	6.9	311	7.1
Refusals	2,068	45.6	2,068	47.0
Temporary	103	2.3	103	2.3
Final	1,965	43.3	1,965	44.7
Other	34	.7	34	.8

1 Due to sickness, mental disease, permanent absence during fieldwork period or other reasons etc.

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Individual Level

As for all longitudinal samples, one of the major challenges of the refreshment samples is that all household members aged 16 and older define the target population for the individual questionnaires. Basically, there are two key performance indicators which monitor the extent to which the ambitious goal to interview 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" of data which are particularly problematic for all household indicators which can only be correctly generated if an individual interview has been provided (e.g. household income, assets etc.). The share of households for which at least one person could not be interviewed although she or he belonged to the target population for the individual or youth interviews was 14.6 per cent.

The second indicator to assess the participation patterns at the individual levels are the response rates for the individual and the youth questionnaire. We report the figures for these two questionnaires in **table 12** in the subsequent subsection but use them in this section on field results for the response rate reporting for individuals: The response rate for the individual questionnaire was 90.9%, indicating that 9 out of 10 target persons could successfully be interviewed. Compared to the refreshment sample J, a slight increase of .5 percentage points was therefore achieved.

2.3 Questionnaires

Fieldwork in the refreshment samples is exclusively conducted via CAPI interviewing: as with the previous refreshments H (2006), I (2009), and J (2011), no Paper-and-Pencil-Interviews were conducted in sample K. The switch to CAPI-only is due to three rationales. The first major advantage of CAPI is better data quality as typical respondent (but also interviewer) errors of PAPI can be avoided by including consistency and plausibility checks and fully automated routing. Second, CAPI increases the potential for a central monitoring during the fieldwork period compared to PAPI: this is particularly important as increasing efforts are necessary to meet certain response rate goals and to react early during the fieldwork period to underperformance of individual interviewers in specific sample points. Third, an increasing number of innovative questionnaire modules can only be administered in CAPI. This is not only true as e.g. for complex modules with event triggered question loops, but also for the integration of cognitive tests, implicit association tests or behavioral experiments.

In comparison to the longitudinal samples, data collection is focused on the main three questionnaires: the household, the individual and the youth questionnaire. Thus, any supplementary questionnaires were not integrated into the wave 1 survey programme for respondents. The reason to focus on the key questionnaires is to avoid an "overburdening" of respondents by a too lengthy wave 1 interview. As the household composition is not known beforehand, more time is needed to fill in in the household contact protocol in wave 1 than in subsequent waves where usually only contact details and household composition have to be checked and for a minority of households changes have to be recorded. Even more importantly than the additional time for the household protocol, a major design shift for sample J concerned the collection of life history via the so-called "biography questionnaire". This module with an average interview length of 17 minutes was integrated into the individual questionnaire for wave 1 of the refreshment sample and will no longer be a separate questionnaire for all wave 2 respondents. Due to the increased panel mortality from wave 1 to wave 2 that could be observed for the refreshment samples F, H, and I, the life history module was integrated into wave 1 since refreshment sample J as otherwise, for approximately 20% of all SOEP respondents who will probably not participate in wave 2, no biographical data would be available for analysis at all. In other words: for all target persons in participating households which provided an individual interview in the first wave of sample K, biographical information will be available, as the life history questions were integrated into the CAPI script of the individual questionnaire and not administered as a separate CAPI or PAPI questionnaire generating the risk that for some individuals the whole life history data would be missing as they reject the supplementary questionnaire.

Section B – The SOEP Innovation Sample

Overview

Institutionalized in 2011, the so-called SOEP innovation sample (SOEP-IS) constitutes a relatively new household longitudinal survey which complements the SOEPs main sample system by providing a survey infrastructure to test innovative questionnaire modules and fieldwork procedures. A set of key design features such as sampling design and core fieldwork procedures are similar to the main sample but the SOEP-IS offers special design features that ease the piloting and testing of innovative survey modules.

The base sample of the SOEP-IS is sample I_1 which was launched in 2009. Originally the basic methodological design of sample I_1 was modelled on the then most recent refreshment sample H (2006) and therefore on the main sample's methodological foundations. However, from the very beginning in 2009, sample I_1 was used for various survey innovations and tests, e.g. an onomastic screening procedure to oversample households with migration background in the gross sample and the experimental testing of different incentives.

After the official instalment of the new SOEP-IS in 2011, 2012 was the year to enhance total sample size by including a refreshment sample (sample I_2) and transferring households from the main SOEP's sample E (established in 1998, to which we will refer to as sample I_E in the following). Sampling design, questionnaire and fieldwork

Table 12

Volumes and Mean Interview Length

	Number of Interviews	Response Rate	Mean interview length (in Min.)
Household	1,526	34.7 %	17
Individual[1]	2,447	90.9 %	43
Youth[2]	26	83.9 %	32

1 Target population: persons in participating households born in 1994 or earlier
2 Target population: persons born in 1995

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Table 13

Fieldwork Progress 2012/2013: Processing of Household Interviews[1]

	Gross Sample	Net Sample
September[2]	4%	3%
October	52%	58%
November	76%	82%
December	90%	93%
January	90%	94%
February	98%	99%
March	100%	100%

1 Cumulative percentages based on the month of the last household contact
2 Including households who refused to take part in the survey prior to start of fieldwork

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results for refreshment Sample I_2 are described in the last section of this report. The respondents of sample E were "transferred" to SOEP-IS to add households with a longer history in the SOEP and therefore enrich the longitudinal data infrastructure of SOEP-IS.

The year 2012 also witnessed the first Computer Assisted Web Interviews (CAWI) in the SOEP-IS. From the start of the Sample I_1 the interview mode in the SOEP-IS was almost entirely restricted to Computer Assisted Personal Interview (CAPI)[1]. This was also true for refreshment sample I_2 that was processed between June and September 2012. But in the refusal conversion process during fieldwork for the longitudinal samples I_1 and I_E a second additional CAWI-fieldwork period was added on top of the usual additional face-to-face fieldwork period in which households that could not be interviewed during the main fieldwork period are contacted again.

1 Longitudinal Samples I_1 and I_E

1.1 Fieldwork Results

Fieldwork Progress

To distinguish fieldwork of SOEP-IS from fieldwork in the main sample that traditionally starts in February and lasts up until September or October, fieldwork for the SOEP-IS usually starts in September. Data collection in the main fieldwork wave goes on until December and is then followed up by an additional fieldwork period at the beginning of the next year because the roughly four months between September and December do not provide sufficient time to process all households as thoroughly as it is needed for a high longitudinal response rate.

In 2012 the process was similar apart from the instalment of a second additional fieldwork period using Computer Assisted Personal Interviewing (CAWI). Again, the main fieldwork period lasted from September to December 2012 with few interviews being conducted in January 2013. As is indicated by the figures in **table 13** 94 % of the households were processed within this period. The remaining gross sample was re-issued for the next fieldwork stage, in which households that could not be interviewed during the main fieldwork period were tried to be re-contacted face-to-face. This stage lasted until February 2013. Additionally, in a third separate fieldwork period 63 households that could not be successfully interviewed by their face-to-face interviewer were selected for the test of a CAWI-based refusal conversion process in March.

As expected by TNS Infratest, the conversion rate of 14 % that could be achieved in combination with the number of interviews conducted (9 on the household and 18 on the individual level) strongly indicates the limits of a CAWI based response rate maximization strategy. However, beyond the short term rationality to increase the response rate within an already intensely processed face-to-face sample, the main long term rationale for extending SOEP-IS' data collection modes is to open the SOEP's overall innovation potential by integrating CAWI into the already existing mixed-mode-design.

Fieldwork Indicators (Household Level)

Table 14 presents final fieldwork results for samples I_1 and I_E at the household level. The total gross sample consisted of 1,610 households. This includes previous wave's respondents as well as previous wave's temporary dropouts and new households (see also **table 15**). At the end of the main fieldwork period 1,267 households were realized, i.e. at least one person in the household answered the personal and the household-related questions. The share of fully completed households – where all persons aged 16 and above living in the household provided an individual interview – was 90.9%. In 9.1% of the participating households at least one target person did not provide an individual interview.

The households of sample E that were selected to move from the main sample to SOEP-IS in 2012 were the households that were still in the face-to-face mode in the year 2011. The transfer was accompanied by a cou-

1 Only during the wave 2 refusal conversion process a Paper-and-Pencil interview was possible.

ple of changes with respect to these households' survey experiences. First, the fieldwork period was no longer February to September but September to March; second, 54 % of households experienced a mode-switch from PAPI to CAPI; and third – and most important – in 44 % of households is was also necessary to switch interviewers that had often accompanied them for many years. Against the background of these challenging preconditions for transfer, the share of 71.4 % of households in the sample I_E that could be convinced to take part in the SOEP-IS seems to be rather satisfying. On the other hand, this response rate is notably lower than the one that could be achieved in sample E in 2011 (94.9 %).

The composition of gross and net sample is specified among other key field indicators in **table 15**. 1,487 (92.4%) of the 1,610 gross sample households were previous wave's respondents either in SOEP-IS or the main sample. 62 households (3.9%) were temporary drop-outs from previous wave(s) which were contacted anew as there was reference that participation in the next wave is presumable. The last subsample "new households" emerges during the fieldwork period: split-off households, e.g. when children move out of their parents' home and establish new households. In 2012 61 new households were integrated in the gross sample.

The field results of longitudinal samples can be measured in two basic ways: from a long-term perspective, *panel stability* is the decisive indicator to evaluate the development of a household panel survey. Since the panel stability is calculated as the number of participating households of the current wave compared to the corresponding number of the previous wave, panel mortality and panel growth (split-off households) respective "re-growth" ("re-joiners" from previous wave's drop-outs) are taken into account. Another decisive parameter is the *response rate*. Response rates indicate the ratio between the number of realized interviews – in this case household interviews – and the number of interviews in the gross sample. In **table 15** the overall panel stability and response rates for all relevant subgroups are listed. With 89.2 % the panel stability achieved in sample I_I in 2012 is slightly higher than last wave's (I_I 2011: 88.5 %).

Table 16 compares the response rates for previous wave's respondents of sample I1 to sample H – the last population-representative SOEP-sample before sample I1 was established. The figures indicate that the gap between completion rates of samples I1 and H have diminished over the course of the last waves. Whereas the 4th wave response rate in the sample H seems to have almost leveled out at a similar level as in wave 3, the response rate for sample I1 could be enhanced more notably by 5 percentage points, albeit at a generally lower level than sample H.

Table 14

Fieldwork Results (Households)

	Total		Sample I_I		Sample I_E	
	Num.	In %	Num.	In %	Num.	In %
Total	1,610	100.0	1,135	100.0	475	100.0
QNDs	-	-	-	-	-	-
Deceased[1]	8	0.5	5	0.4	3	0.6
Expatriates[2]	2	0.1	1	0.1	1	0.2
Realized	1,267	78.7	928	81.8	339	71.4
Completely	1,152	71.6	845	74.4	307	64.6
Partly	115	7.1	83	7.3	32	6.7
Not realized	333	20.7	201	17.7	132	27.8
No Contact	36	2.2	18	1.6	18	3.8
Interview not possible[3]	37	2.3	21	1.9	16	3.4
Refusals	259	16.1	161	14.2	98	20.6
Temporary	78	4.8	62	5.5	16	3.4
Final	181	11.2	99	8.7	82	17.3
Other	1	0.1	1	0.1	0	0.0

1 i.e. last person in the household deceased
2 whole household moved abroad
3 Due to sickness, mental disease, permanent absence during fieldwork period or other reasons

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Individual Response Rates

A total of 2,750 persons were living in the 1,267 households who participated in SOEP-IS in the longitudinal samples I_I and I_E. 2,308 of these household members were at least 16 years old and were therefore supposed to complete the personal questionnaire. So the 2,052 personal interviews that could be conducted, result in a response rate of 88.9 %.

1.2 Questionnaire

Since the third wave of SOEP-IS in 2011 an integrated core questionnaire based on standard questionnaires from the main sample sets the recurring frame of variables for SOEP-IS. It consolidates the basic elements of the SOEP household and personal questionnaires, also including core elements of the life history questionnaire for first time panelists and three mother-child-modules. The questionnaire was programmed in one CAPI/CAWI-script in order to provide a fluent and smooth interview situation.

Table 15

Key Fieldwork Indicators

		Absolute Number	In %
(1)	Gross sample composition by types of households		
	Previous wave's respondents[1]	1,487	92.4
	Temporary drop-outs previous wave(s)[1]	62	3.9
	New households (split-off households)	61	3.8
	Total	1,610	100.0
(3)	Net sample composition by types of households		
	Previous wave's respondents	1,217	96.1
	Temporary drop-outs previous wave(s)	27	2,1
	New households (split-off households)	23	1.8
	Total	1,267	100.0
(5)	Response rates by type of household		
	Previous wave's respondents	-	82.4
	Temporary drop-outs previous wave(s) ("re-joiners")	-	43.5
	New households (split-off households)	-	37.7
	Total response rate	-	79.2
(4)	Panel stability[2]	-	89.2
(2)	Interviewer		
	Number of interviewers	207	-
	Average number of household interviews	7.6	-

1 Adjusted by deceased persons and expatriates
2 Number of realized interviews 2012 divided by previous wave's respondents (former non response households included) – for reasons of comparability restricted to sample I_1

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The rationale behind the integration of the household and individual questionnaires into one shorter core interview was to allow more interviewing time for innovative questionnaire module and tests. Thus, on top of the core elements different innovation modules were integrated in the questionnaire for the SOEP-IS in 2012.

The SOEP-IS core questionnaire that was used in the longitudinal samples in 2012 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 the interests of the household and its members)
- Core elements of the SOEP **individual questionnaire**, to be completed by each person aged 16 and above living in the household
- Core elements of the **life history questionnaire** for first time panelists (new respondents in split-off households as well as initially interviewed adolescents born in 1995)
- Three **mother-child modules**, to be completed by:
  Mothers of children up to 23 months old
  Mothers (respectively the main childcarer) of children between 24 and 47 months old
  Mothers (respectively the main childcarer) of children older than 48 months

The following so-called innovation modules were part of the questionnaire as well:

- A short evaluation of the **SOEP image film** that was produced to motivate SOEP respondents
- **Implicit Association Test (IAT)** and corresponding questions to measure self-esteem
- Module **language proficiency**, surveying language repertoire and skills
- Module **control striving**, measuring respondent's possibilities and strategies to control his or her life in the areas of family, work and health
- Module **Day Reconstruction Method (DRM)**, which – building on a model first introduced by Daniel Kahneman – asks target persons to systematically reconstruct and evaluate their previous day

Furthermore a more enhanced version of the electronic household protocol was tested. This short questionnaire was piloted in 2011 and specifies the composition of the participating households, information that is currently being documented in a paper-based household protocol. For future waves this electronic tool is supposed to be developed into a more sophisticated address and contact protocol in order to replace the traditional paper protocol.

Table 16

1st to 4th Wave's Response Rates of Population-Representative SOEP-Samples

	H 2006	I 2009[2]
Response rate wave 1	40.2 %	32.0 %
Response rate wave 2[1]	77.8 %	71.9 %
Response rate wave 3[1]	91.2 %	80.8 %
Response rate wave 4[1]	89.8 %	85.7 %

1 Response rates of previous wave's respondents (i.e. without new households and re-joiners), adjusted by deceased persons and expatriates
2 Sample I_1

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2 Sample I_2

2.1 Sampling

The refreshment sample I_2 was established in 2012 to enhance the sample size of SOEP-IS by adding approximately 1,000 newly recruited households on top of the households that were transferred from the main SOEP's sample E. Similar to all previous general population samples in the SOEP (including most recent refreshment samples J and K), the sample I_2 was realized using a multi-stage stratified sampling design. This design was almost identical to the approach that was used for sample K and was described earlier in some detail. So we refer to these descriptions for a summary of the general approach in terms of drawing sample points and addresses and other general sampling procedures.

There was only one difference in the sampling designs of I_2 and K. Before start of fieldwork in sample K all interviewers were trained in SOEP-related issues in training sessions that were held by the SOEP-team and the face-to-face fieldwork department at TNS Infratest and members of the SOEP-team at the DIW (Deutsches Institut für Wirtschaftsforschung Berlin). To be able to make use of this SOEP-specific training for the fieldwork in sample I_2 as well, the standard sampling procedure for enhancement samples in the SOEP was slightly altered in a way that allowed assigning households from sample I_2 to the trained interviewers from sample K.

So the sample points for sample I_2 needed to be drawn in spatial proximity to the sample points from sample K. Therefore so-called "twin-points" to the points from sample K were identified, that were similar in terms of the stratification criteria federal state, administrative district and community type. In a radius of 25 km from the center of the community or urban district in which the point from sample K was set, all sample points that were identical to sample K in terms of structure were listed.

These points formed the universe from which the 125 sample points for refreshment sample I_2 were drawn by chance. From there the sampling procedures, e.g. the random walk or the listing of addresses prior to start of fieldwork were identical to the standard procedures applied in SOEP refreshment samples. For each of the 125 sample points an interviewer listed 48 addresses on a random walk with a step interval of three, i.e. every third household unit on the random walk route was to be listed by an interviewer. Then 24 addresses were randomly drawn from this set to be issued during fieldwork.

Table 17

Distribution of Sample Points by Federal State

Federal State	Number Sample Points	Share Sample Points	Share Households in Germany[1]	Share Households in Net Sample
Schleswig-Holstein	4	3.2 %	3.4 %	4.0 %
Hamburg	4	3.2 %	2.4 %	2.2 %
Lower Saxony	12	9.6 %	9.6 %	10.8 %
Bremen	1	0.8 %	0,9 %	1.2 %
North Rhine-Westphalia	27	21.6 %	21.6 %	18.9 %
Hesse	9	7.2 %	7.3 %	7.1 %
Rhineland-Palatinate	6	4.8 %	4.7 %	5.8 %
Saarland	2	1.6 %	1.2 %	1.7 %
Baden-Wuerttemberg	15	12.0 %	12.,5 %	13.1 %
Bavaria	19	15.2 %	14.8 %	16.6 %
Berlin	7	5.,6 %	5.0 %	4.2 %
Brandenburg	3	2,4 %	3.1 %	2.2 %
Mecklenburg-West Pomerania	2	1.6 %	2.1 %	1.7 %
Saxony	7	5.6 %	5.5 %	5.3 %
Saxony-Anhalt	4	3.2 %	3.0 %	3.1 %
Thuringia	3	2.4 %	2.8 %	2.2 %
Total	125	100.0 %	100.0 %	100.0 %

1 Mikrozensus 2011

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The distribution of sample points by federal state and community type is displayed in the following two tables (**table 17** and **table 18**).

2.2 Fieldwork Results

Fieldwork Progress

Fieldwork in the SOEP-IS refreshment sample lasted from June to September 2012. 70% of households were processed within the first 3 months. The progress of the fieldwork over the whole 4-month period is displayed in **table 19**.

Fieldwork Indicators (Household Level)

The growing challenges in attaining optimal response rates that have occurred since the year 2000 have already been brought to attention in the section on refreshment sample K. Of course these issues are also highly relevant for fieldwork in the SOEP-IS, maybe even

Table 18:

Distribution of Sample Points by Community Type (BIK)

BIK-Type[1]	Number Sample Points	Share Sample Points	Share Households in Germany[2]	Share Households in Net Sample
0	36	28.8 %	28.3 %	24.5 %
1	11	8.8 %	9.0 %	6.9 %
2	20	16.0 %	15.8 %	14.3 %
3	18	14.4 %	14.1 %	16.9 %
4	2	1.6 %	2.4 %	1.5 %
5	9	7.2 %	7.9 %	8.2 %
6	13	10.4 %	10.3 %	11.0 %
7	9	7.2 %	8.0 %	9.6 %
8	5	4.0 %	2.5 %	4.4 %
9	2	1.6 %	1.7 %	2.8 %

1 Community type (BIK) groups regions into categories according to the number of inhabitants and the location:
0 = more than 500,000 inhabitants (centre)
1 = more than 500,000 inhabitants (periphery)
2 = 100,000 to 499,999 inhabitants (centre)
3 = 100,000 to 499,999 inhabitants (periphery)
4 = 50,000 to 99,999 inhabitants (centre)
5 = 50,000 to 99,999 inhabitants (periphery)
6 = 20,000 to 49,999 inhabitants
7 = 5,000 to 19,999 inhabitants
8 = 2,000 to 4,999 inhabitants
9 = less than 2,000 inhabitants
2 Gemeindedatei, last update 31.12.2010

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Table 19:

Fieldwork Progress 2012: Processing of Household Interviews in Percent of Gross and Net Sample[1]

	Gross Sample	Net Sample
June[2]	17 %	12 %
July	53 %	57 %
August	69 %	70 %
September	100 %	100 %

1 Cumulative percentages based on the month of the last household contact
2 Including households who refused to take part in the survey prior to start of fieldwork

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more so because innovative survey instruments and procedures – even though they are planned thoroughly – can put a higher strain on both survey respondents and interviewers.

So it is even more pleasant to be able to report that the additional measures such as face-to-face interviewer trainings or more attractive incentives also seem to have had a positive effect on fieldwork results in the refreshment sample I_2. As presented in **table 20** 1,010 households could be motivated to take part in the SOEP-IS (34.7 % of the adjusted gross sample). This response rate is on a similar level as response rates in the most recent refreshment samples in the SOEP (J 2011: 33.1 %; K 2012: 34.7 %).

Individual Response Rates

In accordance to the other samples in the SOEP or SOEP-IS, all household members from the age of 16 were target persons in the refreshment sample I_2. Fieldwork results indicating how well this key target is met are the share of all households for which at least one person has not completed the individual interview and the response rate for the individual questionnaire.

The share of all households in sample I_2 for which at least one person has not completed the individual interview is 22.0 %. So in 222 of the 1,010 households at least one interview is missing. This means that the level of Unit Non-Response in sample I_2 is slightly higher than in the first waves of the most recent refreshment samples J and K (J 2011: 15.9 %; K 2012: 14.6 %). Two possible reasons for the more positive results in samples J and K could be their longer fieldwork period that allows a much more detailed processing of households and the more complex questionnaire in sample I_2.

Looking at the same issue from another angle, the response rate for the individual questionnaire was 87.2 % (table 21), so almost 9 out of 10 target persons could be motivated to take part in the survey. Coverage for the mother and child questions is usually relatively high in all SOEP samples. The refreshment sample I_2 is no exception: the child-related questions were answered by the mother or other primary caregiver of approximately 96 to 98 % of children in the participating households.

2.3 Questionnaire

In the refreshment sample the questionnaire was also built around the SOEP-IS core questionnaire that was established in 2011 and was described in more detail in the section about the SOEP-IS longitudinal samples. In addition to these core questions a relatively high num-

ber of so-called innovation modules were integrated. So the questionnaire was divided into four split groups that were assigned different innovation modules in addition to the core questions that were identical for every target person.

These innovation modules were included in the four different versions of the questionnaire:

- An **adaptive test** measuring environmental behavior
- A **behavioral experiment of investment behavior** in which target persons could earn real money by investing a fictional sum
- Questions about **mothers and their work histories**
- Test of module **control striving** for the use in the SOEP-IS longitudinal samples 2012
- Test of module **Day Reconstruction Method (DRM)** for the use in the SOEP-IS longitudinal samples 2012
- Question-based module **GeNECA** (Just sustainable development based on the capability approach)
- Additional short question sets on:
- Size of the social network
  Integration
  Fear of dementia

Table 20

Fieldwork Results (Households)

	Gross Sample		Adjusted Gross Sample	
	Num.	In %	Num.	In %
Total	3,000			
QNDs	87	2.9	-	-
Deceased1	-	-	-	-
Expatriates2	-	-	-	-
			2,913	
Realized	1,010	33.7	1,010	34.7
Completely	788	26.3	788	27.1
Partly	222	7.4	222	7.6
Not realized	1,903	63.4	1,903	65.3
No Contact	177	5.9	177	6.1
Interview not possible[3]	164	5.5	164	5.6
Refusals	1,562	52.1	1,562	53.6
Temporary	50	1.7	50	1.7
Final	1,512	50.4	1,512	51.9
Other	-	-	-	-

1 I.e. last person in the household deceased
2 Whole household moved abroad
3 Due to sickness, mental disease, permanent absence during fieldwork period or other reasons

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Table 21:

Individual Questionnaires: Preliminary Volumes and Response Rates of Main Fieldwork Period

	Interviews	Response Rate
Individual questionnaire	1,644	87.2 %
New born mother and child questionnaire A[1]	44	95.7 %
Mother and child questionnaire B[2]	44	97.8 %
Mother and child questionnaire C[3]	287	96.0 %

1 Mothers (or main childcarer) of children up to 23 months old
2 Mothers (or main childcarer) of children between 24 and 47 months old
3 Mothers (or main childcarer) of children older than 48 months

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SOEP
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Part IV: Conferences and Events

Report of the SOEP 2012 User Conference

10th International SOEP User Conference 2012
Berlin, June 28 to 29, 2012

The 10th International SOEP User Conference (SOEP2012) took place in Berlin on June 28–29, 2012. The popular event, attended by over 160 participants from 10 countries, included presentations of 66 papers and 15 posters, all followed by lively discussions. The first day of the conference was held at the Hertie School of Governance in their building on Friedrichstraße, and at DIW Berlin around the corner, and continued on the second day at the new headquarters of the Leibniz Association (the umbrella organization of SOEP and DIW Berlin) on Chausseestraße in Berlin-Mitte.

The wide range of topics presented at this year's SOEP conference shows that SOEP data are being used to investigate increasingly complex research questions. As noted in the opening address by Permanent Secretary of the Senate Administration for Economics, Technology and Research, Nicolas Zimmer, it is of great social relevance when this research is able to provide policy makers with findings on the health consequences of unjust income distributions or with answers to the question of how parental affluence or poverty affects children's educational attainment.

Many of the papers at this year's conference dealt with the trends, causes, and consequences of the distribution of social resources—a core interest shared by a large number of SOEP researchers. Some of these addressed specific questions of access to education and jobs, opportunities for upward social mobility, and also effects of unemployment and downward social mobility.

The conference was opened by the Head of SOEP, Jürgen Schupp. In his opening speech, he thanked two very special guests for attending, both of whom played pivotal roles in the founding of SOEP 30 years ago. The first of these guests was Hans-Jürgen Krupp, the founding father of the SOEP and President of DIW Berlin in the 1980s. He was responsible for bringing the SOEP to Berlin as part of a multidisciplinary Collaborative Research Centre (Sonderforschungsbereich 3, (Sfb 3)) of the German Research Association (Deutsche Forschungsgemeinschaft (DFG)). The second guest, Wolfgang Zapf, was Speaker of this Collaborative Research Centre for many years, and also President of the Social Science Research Center Berlin (WZB). He also acted as Deputy Director of SOEP for almost one year between 1988 and 1989 after Hans-Jürgen Krupp was elected Senator in Hamburg. Both of these SOEP founders agreed to speak at a special Brown Bag Seminar that took place parallel to the conference and was attended by a large number of younger SOEP users and doctoral students. There, the two SOEP founders reflected on their experi-

ences and discussed the historical context of the founding of SOEP all those years ago.

The scientific program of the conference started on June 28 with a special plenary session in memory of our esteemed colleague Joachim R. **Frick** and in honor of his scientific achievements. The session, with three papers, was chaired by Conchita **D'Ambrosio,** Professor at the University of Milan, and co-author of numerous papers with Joachim.

An impressive keynote speech was delivered by Shelly **Lundberg,** Professor of Demography at the University of California, Santa Barbara, and Professor at the University of Bergen on "Personality and Educational Inequality."

That afternoon and the following morning, researchers discussed their current work in 13 different sessions. Before the first evening's wine and cheese reception, Dean **Lillard,** CNEF project director opened the first poster session.

The next day, Janet C. **Gornick,** Director of the LIS—Cross-National Data Center in Luxemburg —and Professor at the City University New York, held the second keynote speech, "Gender, Work, Family, and Social Policy: A Cross-National Perspective."

Parallel sessions took place that afternoon, again with a large number of extremely interesting presentations. The second poster session was introduced by Thorsten **Schneider,** Professor at the University of Leipzig.

The closing ceremony at the end of the second day was opened by Jürgen **Schupp**. He thanked longtime member of the SOEP team at TNS-Infratest down in Munich, Fritz **Stutz,** for over 20 years of valuable work managing and updating the SOEP "panel file," the confidential list of all SOEP addresses, and wished him well for his upcoming retirement this fall.

Thereafter Deputy Chairman of the Board of the Society of Friends of DIW Berlin, Arne **Brekenfeld,** presented the winners of the awards for outstanding achievements in research with the use of SOEP-Data. The awards are made possible by the generous contributions of the VdF.

Winner of the 2012 Felix Büchel Award: Bruce Headey

This year, the Felix Büchel Award was given to Bruce W. **Headey** of the University of Melbourne for his over 20 years of work and the astounding and impressive number of 49 refereed papers based on SOEP data. The previous Felix Büchel Award winner from 2010, Rich **Lucas,** Professor at Michigan State University, gave a speech in honor of Bruce Headey's work.

Winners of the Joachim R. Frick Memorial Prize for best papers presented at SOEP2012

For the first time this year, Joachim R. Frick Memorial Prizes was awarded for the best papers presented at the SOEP2012 conference. The Conference Program Com-

mittee selected the following from the over 60 papers presented, also based on the recommendations of the session chairs (listed in alphabetical order).

Anja **Oppermann,** University of Cologne, for her paper: "A New Color in the Picture – The Role of Educational Fields on Fertility in Western Germany." Committee's comments: The paper by Anja Oppermann makes an original contribution to the extensive literature on educational attainment and fertility behavior. The author used a sophisticated measure of education considering not only the level of educational attainment but also the field of education, a variable that has recently been included in the SOEP data release. She grouped educational fields according to the share of women in them and studied how long after graduation the first child is born. The results show that the field of education is of significance for women but not for men. The paper makes a valuable contribution to family and educational sociology, was presented clearly and effectively, and shows a good fit between theory and empirical modeling.

Katrin **Sommerfeld,** University of Freiburg, for her paper: Higher and Higher? Performance Pay and Wage Inequality in Germany. Committee's comments: Katrin Sommerfeld's paper deals with the dramatically rising wage inequality in Germany over the last 20 years. The specific question addressed is whether the increased use of variable pay schemes is related to the increasing wage dispersion. Her key finding is that performance pay has led to an upward shift in the wage structure, but not to an increase in wage inequality. The presentation was clearly structured and used cutting-edge methods. The paper has outstanding chances of being published at a very high level.

The Joachim R. Frick Memorial Prize for the best poster went to Frieder **Kropfhäußer** and Marco **Sunder,** University of Leipzig, for: "A Weighty Issue Revisited: The Effect of Body Weight on Earnings and Satisfaction in Germany." Committee's comments: Not only the research question but also state-of-the-art methods and the attractive layout contributed to the outstanding nature of this poster.

This year, a special prize was awarded for the best lecture in the Special Session in Memory of Joachim R. Frick to Fabian T. **Pfeffer,** University of Michigan, and Martin **Hällsten,** University of Stockholm: "Wealth Effects in Three Mobility Regimes. The United States, Germany, and Sweden." Committee's comments: This year, we decided to add one more award. Most of you were at yesterday's special plenary session in memory of Joachim R. Frick. The presentations were not invited papers, but were sent in as part of the normal submission process, and we selected three that seemed especially fitting for this session. We want to honor one of these, by Pfeffer and Hällsten, not only for the quality of the presentation but also for the value of the research findings.

The conference ended with a dinner and reception in the atrium of the new Leibniz Association headquarters.

SOEP representatives visit German Federal President Gauck

In a meeting with SOEP representatives, President Joachim Gauck commended Socio-Economic Panel (SOEP) respondents for their longtime commitment to the study, which is now entering its thirtieth year. The meeting took place November 8, 2012, at the presidential palace, Schloss Bellevue, in Berlin.

As Jürgen Schupp explained to President Gauck, it is nothing short of extraordinary that thousands of people in Germany have been participating the last 30 years and that the number of private households that agree to take part in such studies every year is rising.

SOEP researcher Ingrid Tucci presented recent findings from the migration research, which met with great interest on the part of the president. Christina Lendt, SOEP interviewer at TNS Infratest in Munich, described her activities as an interviewer and typical interactions with respondents to President Gauck.

President Joachim Gauck and SOEP Director Jürgen Schupp (left).

President Joachim Gauck is the fifth president of Germany to meet with SOEP representatives to learn more about our study. Further information about past visits with German federal presidents can be found in the 2008 DIW Vierteljahrsheft on pages 206 and 207 and on our homepage.

Left: SOEP researcher Ingrid Tucci (right), SOEP Interviewer Christina Lendt, and SOEP Director Jürgen Schupp talked to President Joachim Gauck about the SOEP and the commitment of participants in long-term representative surveys.

Right:SOEP Interviewer Christina Lendt from TNS Infratest presents the SOEP questionnaire "Life in Germany" to President Joachim Gauck.

Part V: Publications

SSCI-Publications 2012 by SOEP Members

Social Sciences Citation Index (SSCI) is an interdisciplinary citation index product of Thomson Reuters' Healthcare & Science division. It was developed by the Institute for Scientific Information (ISI) from the Science Citation Index.

Böckenhoff, Anke, Jörg **Dittmann,** and Jan **Goebel.** 2012. Armut und Resilienz : über die Bedingungen von gymnasialem Schulerfolg bei Jugendlichen mit Armutserfahrung. Zeitschrift für Soziologie der Erziehung und Sozialisation 32, no. 4, 379-395.

Bruhn, Anja, Denis **Huschka,** and Gert G. **Wagner.** 2012. Naming and War in Modern Germany. Names: A Journal of Onomastics 60, no. 2, 74-89.

Coneus, Katja, and C. Katharina **Spieß.** 2012. The Intergenerational Transmission of Health in Early Childhood: Evidence from the German Socio-Economic Panel Study. Economics and Human Biology 10, no. 1, 89-97.

Coneus, Katja, and C. Katharina **Spieß.** 2012. Pollution Exposure and Child Health: Evidence for Infants and Toddlers in Germany. Journal of Health Economics 31, no. 1, 180-196.

D'Ambrosio, Conchita, and Joachim R. **Frick.** 2012. Individual Well-being in a Dynamic Perspective. Economica 79, no. 314, 284-302.

Drobetz, Reinhard, Simon **Forstmeier,** Andreas **Maercker,** C. Katharina **Spieß,** and Gert G. **Wagner.** 2012. A Household Study of Self-Regulation in Children: Intergenerational Links and Maternal Antecedents. Swiss Journal of Psychology 71, no. 4, 215-226.

Frick, Joachim R., Markus M. **Grabka,** and Olaf **Groh-Samberg.** 2012. Dealing with Incomplete Household Panel Data in Inequality Research. Sociological Methods & Research 41, no. 1, 89-123.

Frick, Joachim R., Markus M. **Grabka,** and Olaf **Groh-Samberg.** 2012. The Impact of Home Production on Economic Inequality in Germany. Empirical Economics 43, no. 3, 1143-1169.

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SOEP Survey Papers 2012

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Running since 1984, the German Socio-Economic Panel Study (SOEP) is a wide-ranging representative longitudinal study of private households, located at the German Institute for Economic Research, DIW Berlin.

The aim of the SOEP Survey Papers Series is to thoroughly document the survey's data collection and data processing.

The SOEP Survey Papers is comprised of the following series:

Series A – Survey Instruments (Feldinstrumente)
Series B – Survey Reports (Methodenberichte)
Series C – Data Documentations (Datendokumentationen)
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Series E – SOEPmonitors
Series F – SOEP Newsletters
Series G – General Issues and Teaching Materials

Editors:

Prof. Dr. Gert G. Wagner, DIW Berlin and Technische Universität Berlin
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Part VI: Evaluation 2012 of the DIW Berlin

Statement by the Senate of the Leibniz Association on the German Institute for Economic Research, DIW Berlin (Institut für Konjunkturforschung) Berlin[1]

1 Translation of selected parts of the official report by SOEP. The complete report, published November 29, 2012 (in German): http://www.leibniz-gemeinschaft.de/fileadmin/user_upload/downloads/Evaluierung/Senatsstellungnahmen/DIW_-_Senatsstellungnahme_2012-11-29_mit_Anlagen_01.pdf

1 Evaluation and Recommendations

The Senate agrees with the assessments and recommendation of the group of evaluators. The "German Institute for Economic Research, DIW Berlin (Institut für Konjunkturforschung)" is dedicated to basic and applied research in economics, the social and behavioral sciences, and survey statistics. It provides extensive, and with the "Socio-Economic Panel (SOEP)" outstanding research infrastructures. The institute uses the results of its work in the provision of economic policy advice and conveys its findings to the general public.

The Senate approves of the process of restructuring introduced by the current leadership of the institute in February 2011 and the increased focus on the tasks carried out at the institute. The structural organization is now much clearer. The four clusters are connected to existing research areas, and tie these together effectively. Since the last evaluation, one cluster has produced work results ranging from "good" to "very good," and two have produced "very good" results. The SOEP, which has been successfully incorporated into one of the clusters evaluated as "very good," has been achieving consistently outstanding performance for many years.

With its research, the DIW Berlin is working in a broad range of fields in the economic and social sciences. It carries out important economic and social policy advisory activities for policy makers, government administrators, and the broader public. With the "Socio-Economic Panel," DIW Berlin is providing a widely recognized research infrastructure. It would be impossible for a university to carry out the range of tasks that are conducted by DIW Berlin. DIW Berlin fulfills the demands that should be placed on an institution of supraregional importance and of national economic policy interest.

Annex B: Evaluation Report German Institute for Economic Research, DIW Berlin (Institut für Konjunkturforschung)

1. Summary: Evaluation and Importance of the Institution and Main Recommendations

As stated in the Statutes, the "German Institute for Economic Research, DIW Berlin (Institut für Konjunkturforschung)" observes and investigates economic processes in Germany and internationally. The work carried out at the institute includes both basic and applied research and covers a wide range of fields in the economic and social sciences. The DIW provides wide-ranging and extraordinarily important research infrastructures, especially with the Socio-Economic Panel (SOEP). The institute uses its research results to provide policy advice and communicates its findings to the broader public.

2. Overall Concept and Focal Points of Research

The **cluster "Public Finances and Living Conditions"** unites one department, one thematically focused research department, and the SOEP (Socio-Economic Panel), with its specific tasks and structure.

The **"Socio-Economic Panel (SOEP)"** provides data that have been collected since 1984 in annual surveys of approximately 13,000 German households with approximately 25,000 adults and over 5,000 children living in them. The data contain comprehensive information about these individuals' living and working conditions. This extraordinarily long-term data collection is of great importance for national and international social and economic research.

In addition to building and expanding the panel, the SOEP also provides related research services, advises policy makers, and, not least in importance, conducts independent research. The SOEP, which carries out research infrastructure tasks to a considerable degree, has a special position within DIW Berlin. This was set down in the institute's Statutes and in the SOEP's By-laws with good reason some time ago. There is also a SOEP Survey Committee, which deals primarily with specific methodological questions around the panel. It is regarded as positive that from 2013 on, the SOEP's contribution to the DFG will be paid out of the institutional funding of the SOEP (as is the case with the rest of the DIW). **The overall performance of the department is evaluated as excellent.**

Research Infrastructure Tasks and Research Services: The SOEP is among the leading panel studies of its kind in the world today. It has an impressive international reputation. With the SOEP, the DIW possesses an outstanding unique selling point. The SOEP is currently being expanded very successfully. This has been made possible by a significant increase in institutional funding as the result of a recommendation of the German Council of Science and Humanities (*Wissenschaftsrat*). The methodological changes that have been made are substantial and convincing. They should be continued systematically. The SOEP Innovation Sample, a promising complement to the SOEP survey, has been implemented successfully.

The SOEP's cooperation with other DIW departments that want to use the SOEP data is outstanding. The departments benefit from the methodological expertise present within the SOEP, both in microeconomic research and in the individual and household data provided. The data provided are also used by a large number of researchers outside DIW Berlin. This is evident in the impressive number of publications based on SOEP data. The SOEP provides the data in conjunction with outstanding advice and assistance in data use. The members of the SOEP team possess impressive methodological expertise.

Plans to link the SOEP data with data from other institutions such as the German Pension System are welcomed. The linkage, quality assurance, and documentation of large datasets, but also the cost-efficient col-

lection of these data, are raising many new questions. The SOEP should use its institutional networks in Germany and abroad to play an internationally leading role in resolving these questions. Research and Policy Advice: the members of the SOEP research staff are very active in research. The research approaches are state-of-the-art and of the highest quality, leading to innovative and valuable studies. They are published at an exceptionally high level, both qualitatively and quantitatively. The findings are also used for policy advice and are communicated to the wider public in specific and appropriate forms.

Berlin

August 13, 2012