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**Research Report**

## SOEP-IS 2013 - Application for inclusion of survey questions

SOEP Survey Papers, No. 1086

**Provided in Cooperation with:**

German Institute for Economic Research (DIW Berlin)

*Suggested Citation:* Görllich, Dennis (2022) : SOEP-IS 2013 - Application for inclusion of survey questions, SOEP Survey Papers, No. 1086, Deutsches Institut für Wirtschaftsforschung (DIW), Berlin

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# 1086<sup>2022</sup>

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Dennis Görlich

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Dennis Görlich. 2022. SOEP-IS 2013 – Application for inclusion of survey questions. SOEP Survey Papers 1086: Series H. Berlin: DIW/SOEP



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ISSN: 2193-5580 (online)

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# **SOEP-IS 2013 – Application for inclusion of survey questions**

**Module Title in SOEP Documentation: Job Task  
Survey**

**Dennis Görlich**

# Application for inclusion of survey questions into the SOEP-IS

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January 2013

## Scientific description

In this proposal, I suggest to collect data on individual job tasks, which people carry out at their work. Underlying this proposal is the idea that jobs consist of various tasks (or: activities), which together characterize a job. Workers use their skills to carry out certain job tasks. Technological change, globalization, and demographic change lead to changes in the activities people do at work. For example, the rapid spread of computers has led to a substitution of capital for labour in routine activities (Autor, Levy & Murnane, 2003). Digital technologies, such as the internet, make certain activities tradable and, hence, change the task portfolio of jobs as world markets continue to integrate (e.g. Blinder, 2006). Moreover, technologies may lead to complementarities between activities that were formerly separated across different jobs and, hence, also change the task portfolio of jobs (e.g. Lindbeck & Snower, 2000; Görlich & Snower, 2010). Understanding these changes and their consequences, and projecting possible future developments requires looking *into* occupations and jobs. Collecting detailed information on work activities carried out by individual workers, i.e. their job tasks, will help to tackle such research questions.

A task-based framework has proven very suitable to analyze changes in labour markets and work organization. For example, Acemoglu and Autor (2011) show how a task-based framework can help to explain a number of stylized labour market facts, such as the decline in real earnings of low-skilled workers, the polarization of wages and employment, and the effects of outsourcing on occupations and tasks (see also Goos, Manning & Salomons, 2012). Spitz-Oener (2006) shows how the task portfolio within occupations has changed over time, with routine tasks becoming less important and non-routine cognitive and manual tasks becoming more important. Görlich and Snower (2010) show that workers carry out an increasing number of tasks at their work, presumably driven by technologies that increased complementarities between formerly separated tasks. Autor and Handel (forthcoming) show that job tasks can predict wage differences among workers within the same occupation.

Even though data on job tasks is, in principle, already available, there is currently no consistent longitudinal data on individual job tasks. The *Bundesinstitut für Berufsbildung* (BIBB) provides series of employee surveys, which contains information about job tasks at the individual level (Qualification and Career Survey 1979, 1986, 1992, 1999, 2006). However, due to the cross sectional nature of the data, individuals cannot be tracked over time. Moreover, the wording and level of aggregation of the questions about job

tasks have changed significantly over time. Tasks are sometimes also included in the German Mikrozensus. However, people are only asked about their primary activity so that the data cannot account for a spectrum of tasks. The Dictionary of Occupational Titles (more recently: O\*NET) by the US Department of Labor allows to identify typical task portfolios of occupations and has been widely used for empirical analyses. However, these data are not available at the individual level and, hence, cannot account for heterogeneity within occupations. This limits its use for further analyses.

In the following, I present a number of research questions, which could be addressed with the proposed additions to the SOEP-IS data set:

1. How do jobs change over time? Which tasks become more, which ones become less important (e.g. routine tasks, personal relationship tasks, manual tasks)? Does the span of tasks change? How is this related to productivity and wages, employment, and education? How are the changes related to health (e.g. stress) and well-being outcomes? The longitudinal character of the SOEP-IS and a consistent set of task questions would allow controlling for individual characteristics, such as education and work experience. In addition, the panel would allow using individual fixed effects and, thereby, controlling for unobserved worker characteristics.
2. What drives the rising within-occupation wage inequality? The data would make different work activities of people within the same occupation visible, and hence contribute a previously unobserved source of variation. This can be exploited for investigating this research question.
3. How have occupations changed since 1986 (the year in which is the first related survey by the BIBB has been conducted) and how are these changes related to educational structure? These questions can be tackled with the initial wave coming out of the SOEP-IS as it does not require longitudinal information. The task questions that we propose for inclusion into the SOEP-IS are comparable to those in BIBB survey of 1986.
4. How are individual task portfolios related to occupational and income mobility? Can the task portfolio of workers help to explain mobility across the wage structure, or movements into unemployment? This, again, requires longitudinal data, which the SOEP-IS could provide.
5. Which jobs could be outsourced/offshored and which tasks are likely to remain at home? Tasks, which require face-to-face contact to customers, clients, or colleagues are unlikely to be sent abroad. Similarly, tasks that are not codifiable are unlikely to be sent abroad.

## **Description of proposed survey questions**

The proposed survey questions draw to a large extent on the 1986 wave of the Qualification and Career Survey by the BIBB. All the job tasks, which are included below, are also part of the BIBB questionnaire in 1986. Most of the tasks also appear in selected waves of the German Mikrozensus.

The descriptions of job tasks are supplemented by a few questions relating to some important characteristics of the tasks, i.e. whether the tasks require physical presence of the person, whether personal relationships have to be built, and whether the tasks are codifiable in the sense that they follow strict rules and are repetitive. These characteristics are related to the potential for outsourcing of jobs and, hence, tell us something about the substitutability of persons in their jobs. This could be put in relation to job security and wages.

In addition, I would suggest to add a simple question about how the scope of work activities has changed, i.e. whether people think that they have become more specialized or more diverse. This question would help to obtain a better understanding of how people perceive changes in their task portfolio.

The sample should include people in employment and be representative for the working population. The proposed questions should be included annually or bi-annually. Utilizing the longitudinal character of the SOEP is a major requirement. The research questions we proposed above would make use of a large number of other SOEP core variables, such as earnings, biographies, or well-being indicators. Furthermore, the survey questions we propose have been used and, hence, tested in previous surveys, e.g. the above mentioned surveys by the BIBB, or in the Princeton Data Improvement Initiative (Autor & Handel, forthcoming).

Importantly, the setup of the questionnaire I propose is flexible. In particular, some items may be dropped if necessary. Moreover, I would appreciate discussions with the SOEP team concerning the formulation and practicality of the questions and scales.

## **Outlook**

Research employing task-based approach is currently expanding rapidly. Therefore, it is to be expected that the data, which we propose to collect, will be used by a large number of researchers in the future. The SOEP-IS would be the first consistent, longitudinal data set on individual job tasks. Together with the SOEP core variables, these data can provide the grounds for a large number of innovative and important research projects. In our opinion, the data should also be valuable for researchers from other disciplines, such as sociology or psychology.

## Survey Questions

Job tasks / work activities (analogous to BIBB 1986 with small changes)

Q1) How much of your workday involves...

*Scale:* almost all the time / more than half the time / less than half the time / almost none of the time / none of the time

- Making, processing or assembling things; preparing food
- Building; installing, or fitting things/objects
- Operating, controlling, setting up or maintaining machines, equipment or technical processes
- Repairing or maintaining things/objects; renovating or modernizing buildings
- Selling, purchasing or promoting goods or services; advising customers
- Organizing, coordinating, or planning work processes, activities, or working groups/teams
- Analyzing data, testing or measuring
- Constructing, designing, or planning products/things/objects
- Teaching, training, or educating people
- Serving, or accommodating people
- Nursing, taking care of, or treating people/animals
- Securing or guarding buildings/traffic/work safety
- Cleaning, removing garbage, or other housekeeping chores
- Programming or developing software
- Packing, stowing, transporting, delivering goods/things
- Driving, or steering vehicles
- Writing or reading texts/documents/e-mails, working with forms
- Calculating; billing or posting items
- Speaking publicly, publishing, entertaining, or presenting
- Sorting, archiving, or marking things

Q2) Are you carrying out job tasks, which we have not mentioned here, but which are an important part of your job? Which one(s)?

*Scale:* open answer

### Characteristics of the tasks

Q3) Does your work require you to be physically present at your primary work location (e.g. office or store), at customer's premises, or job sites? [physical delivery tasks]

*Scale:* only primary work location / multiple work locations / not required

Q4) Does your work involve building personal relationships with customers/clients? [personal relationship tasks]

*Scale:* yes, and requires my physical presence / yes, but does not necessarily require my physical presence / no



Q5) How much time do you spend on tasks, which are strictly defined in all their particulars? [codifiable tasks]  
*Scale:* almost all the time / more than half the time / less than half the time / almost none of the time

Q6) How much time do you spend on tasks, which repeat itself in all their particulars? [routine tasks]  
*Scale:* almost all the time / more than half the time / less than half the time / almost none of the time

### Multitasking

Q7) Please think about the various work activities we asked you about before. It may be that the number of different activities you do at your job has changed over time. Would you say that, within the past 5 years, the scope of your work activities has...  
*Scale:* 1: become more specialized (I carry out fewer tasks, but I do them more intensively) / 2: did not change / 3: become broader (I carry out more different tasks)

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