

## European Data Watch

This section will offer descriptions as well as discussions of data sources that may be of interest to social scientists engaged in empirical research or teaching courses that include empirical investigations performed by students. The purpose is to describe the information in the data source, to give examples of questions tackled with the data and to tell how to access the data for research and teaching. We will start with data from German speaking countries that allow international comparative research. While most of the data will be at the micro level (individuals, households, or firms), more aggregate data and meta data (for regions, industries, or nations) will be included, too. Suggestions for data sources to be described in future columns (or comments on past columns) should be send to: Joachim Wagner, University of Lueneburg, Institute of Economics, Campus 4.210, 21332 Lueneburg, Germany, or e-mailed to <wagner@uni-lueneburg.de>.

## The 1991/92 German Time Use Microdata

By Erlend Holz

### **The 1991/92 Time Use Survey – Not only an important data base for comparison with the results of the present 2001/02 survey**

The advantage and specific attraction of microdata consist in the diversity of the ways in which they can be used, including an almost inexhaustible variety of analyses and sources of information. While traditional tables and publications do not provide more than a selection of results, microdata can be time and again remixed and analysed by any user in any way to meet his individual demand for information about time use in Germany. The 1991/92 Time Use Survey has not lost its attractiveness. It has remained the most recent study of that size (coverage: about 32,000 diaries) on time use in Germany. The Federal Statistical Office is currently conducting the 2001/02 time use survey. Against this background, the 1991/92 data will even gain in importance as a basis for comparison in the future. New microdata files are considered. Both surveys were and have been conducted with the financial assistance of the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth.

### **The 1991/92 German Time Use Survey – Scientific and Public Use Files for different needs of use**

The Federal Statistical Office of Germany provides two different sets of 1991/92 German time use microdata. These sets meet different needs of different user groups. On the one hand a “Scientific Use File” (ScF) is made available to scientific institutions in Germany. Like the Microcensus, the Sample Survey of Household Income and Expenditure and the European Coordinated Household Panel, the Time Use Survey has been part of the projects promoted by the Federal Ministry of Education and Research with the aim to provide scientists with access to official microdata for their own analyses.<sup>1</sup> On the other hand a “Public Use File” (PcF) of the Time Use Survey is offered to everyone in Germany and abroad. Constructing Public Use Files from the time use data is a new component of the work of the Federal Statistical Office of Germany. For the first time, all those who are interested in receiving anonymised individual data or microdata in Germany or abroad are given access to those data on CD-ROM. The Public Use File is a fine solution how foreign researchers can be given access to the data. What is even more, the Public Use File would be appropriate too if the data was used for teaching objectives.<sup>2</sup>

There is a bulk of research topics. In short: anything that is related directly or indirectly to time use. Some examples of topics of the Federal Statistical Office have been:

- introducing a satellite system on household production,
- exchange between paid and unpaid work, between household production and market,
- voluntary and community work,
- nursing of people in need of care,
- inequality between men and women in daily life,
- working time patterns and arrangements to reconcile family and job,
- time use and commitments of families: single-mothers and fathers, and couples,

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<sup>1</sup> The Microcensus is an annual sample covering 1 per cent of the population and it presents major trends of the population and employment. The Income and Expenditure Survey provides information about the disposable income, financial resources and consumption expenditures of households. The European Household Panel presents data of people who were asked three times since 1994. Topics are their job-biographies, and changes in working and living conditions (for instance dwelling and health) in the course of time.

<sup>2</sup> For further information on how to use official German microdata for teaching please contact Statistisches Bundesamt Gruppe I B – Forschungsdatenzentrum, e-mail: [forschungsdatenzentrum@destatis.de](mailto:forschungsdatenzentrum@destatis.de)

- education/learning in life/lifelong learning (“Weiterbildung”/“Lebenslanges Lernen”),
- time stress and time crunch,
- evaluation procedures and their usefulness for time use data.<sup>3</sup>

“Mobility”, “leisure” or “time patterns of eating” are only a few catchwords for research areas which external scientists, using the 1991/92 time use data, have been working on.<sup>4</sup>

### **Methodological background, variables and activities of the 1991/92 Time Use Survey**

The 1991/92 Time Use Survey, which covered about 7,200 households in the former territory of the Federal Republic and in the new Länder, was carried out by the Federal Statistical Office together with the statistical offices of the Länder. It was based on quota sampling and covered four survey periods between autumn 1991 and summer 1992. The time use of all household members aged 12 and over was inquired. For this purpose, the household members were asked to record in their own words their activities based on five-minute intervals in a diary on two successive days. Although the focus was on primary activities, data were also collected on secondary activities, persons involved or present, the location of the primary activity, and also for whom the activity was performed.<sup>5</sup>

The primary and secondary activities specified in the diaries were coded on the basis of an activity list which encompassed more than 200 individual activities classified under the following activity fields: household work and do-it-yourself, paid job/job seeking, voluntary and community work, qualification/education, physiological regeneration, social life/contacts, use of media/leisure-time activities, childcare, and taking care and attending people. Times of getting ready and travel times (driving services) including the means of transport used were recorded as well.

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<sup>3</sup> Publications are selected at “References” of this contribution, for cross-section research topics see Blanke, Karen/Ehling, Manfred/Schwarz, Norbert (1996) and Holz (2000).

<sup>4</sup> See Ehling, Manfred/Merz, Joachim (2001).

<sup>5</sup> For further information on methodological issues see Bihler, Wolf/Ehling, Manfred (1995), Blanke, Karen/Ehling, Manfred (1994), Federal Statistical Office (Eds., 1995).

*Chart 1***Survey variables of the initial interview**

Basic socio-demographic data for all household members

- number of household members
- number of children no longer living in the household
- status in the household
- year and month of birth (modified because of anonymisation: age or age groups are provided)

- sex
- marital status
- year of marriage
- consensual union

Attending a kindergarten, other child care facility, school or institution of higher education

Educational attainment

- level of general education attained
- level of vocational training attained

Labour force participation

- main paid job
- status in employment
- branch of economic activity of the enterprise
- form of work
- full-time or part-time work
- normal working hours (per day and week)
- commuting times
- second paid job
- status in employment
- normal working hours (per day and week)

Subsistence and income of household members

- predominant type of subsistence
- net income

Availability of selected consumer durables

Housing situation and residential surroundings

- tenant, owner
- size (square metres)
- equipment of the home
- number of living-rooms and bedrooms
- garden

(Taken from Federal Statistical Office, eds., 1995, p. 9)

*Chart 2***Survey variables of the final interview****People in need of care**

- number of people in need of care and type of care required
- sickness of household members during the period of recording
- assistance in difficult situations

**Exchange of help between households**

- help with household work
- taking care of and attending adults and children
- help with do-it-yourself activities

**Voluntary and community work**

- time required

**Services and facilities offered (shopping facilities, family doctor, health and advice centre, day care centres for senior citizens, schools)**

- use or, if applicable, reasons for non-use

**Child care (kindergarten, crèche, day care centre for school children, child-minder, foster mother, play-group for crawling-age children, play-group)**

- use or, if applicable, reasons for non-use
- degree of satisfaction with child care facilities

**Community / town (dropped due to anonymisation)****Type of building in which the household is situated**

(Taken from Federal Statistical Office, eds., 1995, pp. 9)

Socio-demographic and -economic variables were collected for all household members in the initial and final interviews (see charts 1 and 2). The same applied to variables regarding nursing and care. Consequently, the detailed structure of the households was reflected, even including information about children below 12 years of age who were too young to keep diaries of their own. Variables concerning the infrastructure (using and reasons for not using e.g. shopping facilities and childcare institutions) and networks (support received or rendered by a household in various areas) are available, too. For descriptions of variables see the special page at the website of the Federal Statistical Office ([http://www.destatis.de/micro/d/micro\\_c4.htm](http://www.destatis.de/micro/d/micro_c4.htm) or see “Wissenschaftsforum”/“Scientific Forum”).

### **Adequate protection of data secrecy**

Despite the high informative value of the provided microdata, data secrecy and the anonymity of the respondents have been well protected by anonymising the data. To fulfil both a wide range of research interests and the requirements of data protection, the Federal Statistical Office was assisted in its work on data anonymisation by a Scientific Advisory Council whose members (see appendix) worked on empirical topics in most different areas (for instance sociology, economics, household and regional sciences). The Scientific Use File is a de facto anonymised 95% sub-sample of the original survey. “De facto anonymity” takes into account that complete data protection cannot be guaranteed if you open access to the data: But illegal attempts to identify people will cause immense costs. Bigger than the gains could ever be. Not only money has to be invested but also a lot of time and efforts to decode private information. It would be less difficult and cheaper to get this information by finding other means, even by hiring Mr. Holmes and Dr. Watson, Dick Tracy or another private detective (Moreover the offender is threatened with a loss of scientific reputation and punishment by law).<sup>6</sup> The Scientific Use File may only be distributed to institutions of higher education or other facilities engaged in independent scientific research in Germany. Unlike the Scientific Use File the Public Use File of the Time Use Survey is available to the domestic and foreign public. This file – an 80% sub-sample of the original survey – was absolutely anonymized, i.e. at the highest level of security.

### **Structure of the microdata files on CD-ROM – High comfort of use**

Both Scientific and Public Use Files contain microdata of persons, households and time use. Additional SPSS programs to combine and analyse the data, and data files to provide information about the survey and to facilitate data organisation are also supplied on CD-ROM.

The CD-ROM encompasses five subdirectories:

- “Organ” (Organ) includes lists of variables, and inventories of variables and values (data record descriptions), a list of activities and an inventory of activities, and also an allocation of the times of the day to time units.
- “Daten” (Data) consists of
  - a personal microdata file including personal variables which provide individual information on household members. All household members are considered, even if they did not keep a diary like, for instance, children younger than 12.

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<sup>6</sup> For further information about the discussion and processing of anonymising the 1991/92 Time Use Survey see Holz, Erlend (1999).

- a household microdata file including household data that are identical for all household members.
- a first time use microdata file including summed-up periods (in minutes) spent over the day on the individual primary activities.
- a second time use microdata file including variables for the time units which reflect the course of the day in five-minute sequences of the diaries. The information recorded refers to primary and secondary activities (three-digit activity code), the persons engaged or present, the place of the primary activity and also information on whom the primary activity is carried out for.

All microdata files are offered in the SPSS-Portable format (version 9.0.1). Additionally the Public Use File offers the data in ASCII format. As far as language is concerned, both German and English versions of the Public Use File may be supplied, which encompass the designations of variables and categories. For German descriptions of variables and activities see the special page at the website of the Federal Statistical Office ([http://www.destatis.de/micro/d/micro\\_c4.htm](http://www.destatis.de/micro/d/micro_c4.htm)) or see “Wissenschaftsforum“ / “Scientific Forum”).

- The directory “Labels” (Labels) includes variable and value labels. Additional variable and value labels in English are provided for the Public Use File.
- “Programm” (Program) comprises programs (SPSS syntaxes) for matching and evaluating the data.
- “Grund” (Basis) consists of unweighted, unexpanded basic and frequency counts for personal and household variables.

For the Scientific Use File only, additional area-related variables are provided.<sup>7</sup> Different types of areas are delimited on the basis of settlement structures by the Bundesamt für Bauwesen und Raumordnung. They consider the central character, density of population and location of communities, thus making visible differences between, for instance, conurbations, urbanised regions and sparsely populated areas. Classified number of inhabitants of communities and area-related indicator each for the economic situation, the economic structure and the labour market during the 1991/1992 survey period are also distributed (for further information see [http://www.destatis.de/micro/d/micro\\_c4.htm](http://www.destatis.de/micro/d/micro_c4.htm) or see “Wissenschaftsforum„ / „Scientific Forum”).

The data sets of the Scientific Use File and Public Use File encompass printed manuals in the German and additionally – for the latter – in the English language. There are for instance the questionnaires and related variables,

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<sup>7</sup> For reasons of anonymisation these variables may not be supplied with the Public Use File.

instructions for the interviewers, guidelines of anonymisation, or detailed information on how to handle and evaluate the data with the help of SPSS (see chart 3).

Chart 3

**Overview of evaluation objectives, related paragraphs of the German Manual and SPSS syntax programs on the CD-ROM**

Evaluation objective:	Paragraph in the German Manual, Chapter VI:	SPSS syntax program, CD-ROM directory "Programm":
<i>Combination of variables of different files:</i>	3	match.sps, match_ig.sps, match_fm.sps, pointer.sps
personal with household variables	3.3.1	match.sps, match_ig.sps
time use variables with personal or household variables	3.3.2	match.sps
time use variables of the 1 <sup>st</sup> and the 2 <sup>nd</sup> day of keeping the diary, and personal with time use variables	3.3.3 a) adding the variables of the 2 <sup>nd</sup> day of keeping the diary to the 1 <sup>st</sup> day b) adding the time use variables of both days of keeping the diary to the personal file	match.sps
time use files as such	3.3.4	match.sps
variables of married couples or cohabiting couples ("pointer")	3.3.5	pointer.sps
personal and time use variables of household members	3.3.6	match_fm.sps
<i>Working with time unit variables:</i>	4	zeittakt.sps
determining activity periods based on the time unit variables	4.1	zeittakt.sps
combining different activities of the time unit variables	4.2	zeittakt.sps
calculating the beginning and end, and the sequence durations based on the time unit variables	4.3	zeittakt.sps



### Data ordering, charges, contact and new information

The Scientific Use File contains all four microdata files (data of households, persons and both time use files) and the additional area-related variables. Due to the above-mentioned support by the Federal Ministry of Education and Research the data set can be offered at a price of EUR 65.-. The Public Use File is delivered in two different data packages. Package I contains the microdata of persons, households and the first time use file (daily amount of time spent for each activity). It costs EUR 214.74. Package II consists of package I and additionally comprises the second time use file which includes the continuous time unit variables reflecting the course of the day. This data set is provided at a price of EUR 286.32.

All data sets may only be obtained from the Federal Statistical Office. Unlike the Public Use File, which is generally accessible, the Scientific Use File may only be distributed to institutions of higher education or other facilities engaged in independent scientific research in Germany. Since an agreement is concluded between the user of the data and the Federal Statistical Office, which specifies the legal provisions for data access, the Federal Statistical Office requires information about the purposes of data use or the research project and also the scheduled duration of data exploitation in addition to a written order. And what is even more, the technical and organisational prerequisites must be ensured for using the data in accordance with the agreement concluded. As for the Scientific Use File, data access is only allowed to persons made known to the Federal Statistical Office and who are named in the related contract. The order must include this additional information.

Persons who are interested in being supplied with any of the above data sets are requested to contact for further information or to send their order to (*orders by e-mail are not possible*):

Statistisches Bundesamt, Zweigstelle  
Bonn Gruppe IX C – Wirtschaftsrechnungen und Zeitbudgets

Graurheindorfer Str. 198, 53117 Bonn  
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*Attention:*

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Institut für Forschung und Entwicklung  
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In addition, the Federal Statistical Office provides information related to the time use surveys (e.g. meetings, workshops or other topics) on the internet (<http://www.destatis.de>, see “Veranstaltung”, “Events”).

## **The new 2001/02 German Time Use Survey**

The new Time Use Survey realises important goals. Both certain research topics can only be answered by regularly repeated time use studies and political decisions must be based on current data.<sup>8</sup> New data are necessary for updating topics (like the continuation of the satellite system on household production, development of inequality between men and women, living conditions of families) and for dealing with new topics like the consequences of new information technologies at work and at home or of new arrangements of working time (telework, working at home).

One decade after the conduct of the first survey, the Federal Statistical Office has been conducting its new Time Use Survey since April 2001. Again the survey is carried out together with the statistical offices of the Länder and based on the financial support by the Federal Family Ministry. The survey period will last until April 2002. The size of the representative quota sample will cover about 5,000 households in Germany. Again Scientific and Public Use Files are considered. What about differences between the 1991/92 survey and the present one? On the one hand the design of the questionnaires follows EUROSTAT's European Guidelines on Harmonised European Time Use Surveys. New data comparable with those of the present European time use surveys will be available. On the other hand the experience based on the 1991/92 survey, new research topics and the wish to compare the new survey with its predecessor have been taken into consideration. In order to collect the experience external researchers and data users gained with the 1991/92 time use data and to discuss consequences and new ideas related to the new survey, a workshop ("Zeitbudgeterhebung 2001/02 – Folgerungen aus der bisherigen Nutzung von Zeitverwendungsdaten") took place in autumn 2000.<sup>9</sup>

### **The 1991/92 and the 2001/02 Time Use Surveys – A short comparison**

Unlike the 1991/92 Time Use Survey the 2001/02 survey asks all household members aged 10 years and older to fill out diaries on three days – two days during the week from Monday to Friday, one day on the weekend. The activities are recorded from 4 a.m. of the present day until 4.00 a.m. of the following day (in 1991/92 from midnight to midnight). The intervals of keep-

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<sup>8</sup> A new survey has been widely supported, see "Empfehlungen des Wissenschaftlichen Beirats zur Anonymisierung der Zeitbudgetdaten des Statistischen Bundesamtes" and "Memorandum: A New German Time Use Survey 2000/2001 for Research and Targeted Economic and Social Policy", taken from: Merz, Joachim (2001), pp. 15 (annex).

<sup>9</sup> For the contributions see Ehling, Manfred/Merz, Joachim (2001).

ing the diaries have been extended from five to ten minutes. To meet the changing living conditions the activity codes have been modified, new codes dealing with leisure activities, the use of computers/internet, or education/life-long learning (catchword: “Lebenslanges Lernen”) have been introduced. The diaries have been also modified. Besides columns for entering primary and secondary activities or the persons with whom time is spent, a separate column dealing with the means of transportation/location has been inserted. The new survey is exclusively a postal one. Initial and final interviews are replaced by household (for general household data) and personal questionnaires (for individual socio-demographic/economic data). Now the interrelations of all household members are inquired by means of a special household matrix.<sup>10</sup>

### **The scientific community: Research Network on Time Use (RNTU)**

The Research Network on Time Use (RNTU), which has been continuously expanded by Prof. Dr. Joachim Merz, Forschungsinstitut Freie Berufe (FFB), Lüneburg University (contact: tel: (+49–4131)78 20 51; e-mail: timeuse@uni-lueneburg.de; internet: <http://www.uni-lueneburg.de/timeuse>) is a pool for contacting people who are engaged in related research work. The Federal Statistical Office and the Federal Ministry of Education and Research cooperate in this network. To obtain a network that is as large and tight-meshed as possible, the Federal Statistical Office asks all users to contact Prof. Merz, whether research on time use is underway, was completed or is a future project.

## **Appendix**

### **Members of the Scientific Advisory Council for the Anonymisation of the Time Use Data of the Federal Statistical Office**

Stefan Bender, Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit (IAB), Nürnberg

Dr. Ferdinand Böltken, Bundesamt für Bauwesen und Raumordnung (BBR), Bonn

Prof. Dr. Michael Jäckel, Fachbereich IV – Soziologie – Lehrstuhl für Konsum- und Kommunikationsforschung, Universität Trier

Prof. Dr. Irmhild Ketschau, Institut für Ernährung und Hauswirtschaft, Fachbereich Ökotröphologie, Fachhochschule Münster

Dr. Christine Küster, Institut für Wirtschaftslehre des privaten Haushalts und Verbrauchsforschung, Justus-Liebig-Universität Gießen

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<sup>10</sup> For further information see Ehling, Manfred/Holz, Erlend/Kahle, Irene (2001).

Prof. Dr. Joachim Merz, Forschungsinstitut Freie Berufe (FFB), Fachbereich Wirtschafts- und Sozialwissenschaften, Universität Lüneburg

Dr. Eckhard Priller, Wissenschaftszentrum Berlin für Sozialforschung (WZB)

Bernhard Schimpl-Neimanns, Zentrum für Umfragen, Methoden und Analysen (ZUMA), Abteilung Mikrodaten, Mannheim

Dr. Jürgen Schupp, DIW Berlin, Projektgruppe "Das Sozio-ökonomische Panel" (SOEP), Berlin

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