

METHODS – APPROACHES – DEVELOPMENTS

Information of the German Federal Statistical Office

Number 1/2003

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Published by: Statistisches Bundesamt (Federal Statistical Office), Wiesbaden

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Release calendar
of the Press Office:
www.destatis.de/presse/deutsch/cal.htm

Periodicity: twice a year

Published in March 2003

© Statistisches Bundesamt, Wiesbaden 2002

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The Catchword

Introducing hedonic methods in price statistics

By incorporating so-called hedonic methods into the German price statistics, the Federal Statistical Office has added another technique for quality adjustment in that area. As a first step in applying hedonic methods, a sub-index for personal computers was implemented in June 2002 as part of the overall consumer price index.

The main pillar of hedonic price adjustment is the regression analysis which is used to determine the quantitative relation between the selling price and the quality features of goods. During the next steps of hedonic price measurement, different techniques can be used. In the following, the method applied by the Federal Statistical Office in relation to "personal computers" will be outlined.

Data basis

Two separate samples are used to calculate the above sub-index. The first sample contains the data for the regression analysis, while the actual index calculation is based on the second sample.

The first sample consists of data which the Federal Statistical Office purchases from the Gesellschaft für Konsumforschung (market research company - GfK) in Nuremberg. The GfK provides monthly information on prices, quality features and sales figures for computers which it has derived from the merchandise information systems (so-called scanner data) of sample companies. Though the GfK data reflect in a representative manner the market for personal computers, they can only be obtained with a time lag of about one month. For this reason, the data are only used for the regression equation calculation. The calculation of the actual index, i.e. the quality-adjusted month-on-month price change, is based on the second sample, which is derived from advertisements in computer journals and on the internet and can be determined without any delay on a monthly basis.

Index calculation

When calculating the index on the basis of the second sample, an intermediate result is first calculated for those computers whose quality has not changed compared to the previous month. For that subset of the second sample, the rate of price change can be *directly* computed.

In a second step, a link is created between computers which are no longer on sale in the present month and computer models which have been registered as new during this month. For those computers, a hedonic quality adjustment is made based on the following method: First the average *quality change* is calculated for the models within that subset. By inserting the quality values into the regression equation, the monetary value of the quality change can be computed. In this way it is determined how many monetary units consumers would be willing to pay on average for the observed quality gain. The calculated monetary value is then subtracted from the actual selling price to obtain a quality-adjusted selling price for the present month which can be compared to that of the previous month.

The calculation of the *total index* integrates both the direct rate of price change described above and the quality-adjusted month-on-month rate calculated on the basis of the hedonic method. The proportion of quality-adjusted models is weighted by a factor which represents the ratio of the frequency of sale of changed models to the frequency of sale of unchanged models.

Regressions analysis

The following quality features were taken as explanatory variables for the regression analysis in September 2002:

Variable	Symbol
Scorecard value	score
Indicator for hard disc storage capacity (dummy variable)	D_{hdd}
Indicator for the FSC brand (dummy variable)	D_{FSC}
Indicator for the Sony brand (dummy variable)	D_{Sony}

The scorecard value is a measure of processor performance specified out by a neutral body (cf. www.cpuscorecard.com). This determines performance when running a variety of software applications, attributing a score of 100 to the most powerful processor; all other processors are quantified in relation to this. The indicator for hard disc storage capacity distinguishes between hard discs with a memory up to and including 60 GB and those over 60 GB. Two further dummies were included to reflect particular brand names. The brand dummies express quality differences perceived by consumers but which cannot be measured by other variables, such as the manufacturer's reputation.

A log-log function was selected for calculating the regression equation:

$$\ln(P) = \beta_0 + \beta_1 \cdot \ln(\text{score}) + \beta_2 \cdot D_{\text{hdd}} + \beta_3 \cdot D_{\text{FSC}} + \beta_4 \cdot D_{\text{Sony}} + \varepsilon$$

P is the price and β_0 to β_4 symbolise the regression coefficients. In the months June to September regression analysis led each time to a coefficient of determination between 0.72 and 0.8. Accordingly, about 70 – 80% of the observed price difference between computers in the sample could be attributed to quality characteristics. The residual price difference was expressed by the random ε .

Prospects

Implementing the hedonic sub-index for computers has been the first step in introducing hedonic methods in price statistics. The next steps have been planned to include the following project phases: At the beginning of next year the intention is to combine conventional quality adjustment techniques with hedonic methods in the case of private cars. Introducing hedonic producer, import and export price indices for selected data-processing equipment is planned for the end of the first quarter of 2004. Finally, by the last quarter of 2004 hedonic methods are to be introduced for the categories "electrical home appliances" and "consumer electronics".

A report on the Federal Statistical Office's efforts to introduce hedonic methods in price statistics is included in the October 2002 issue of the Office's publication *Wirtschaft und Statistik* (Economy and Statistics). Apart from describing framework conditions, the article outlines in particular the methodology for the hedonic sub-index for personal computers implemented as part of the overall consumer price index.

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Methods of federal statistics – Further development

Longitudinal data from the microcensus

The microcensus has proved to be an indispensable informational basis as it has provided annually since 1957 cross-section data on the population, its educational and labour force participation and its social situation, also in the family and household context. Considering the continuously growing and changing demand for information and the existing lack of longitudinal data and flow analyses in the informational areas covered by the microcensus, official statistics has started a project *on "longitudinal analyses based on the microcensus"*. The goal of the project is to combine microcensus data stocks to form longitudinal data sets and to offer them to the scientific community as scientific use files.

Forming longitudinal microcensus data sets is influenced by two methodological aspects of the microcensus: first, the basic pattern of the microcensus as an area sample and, second, the rotation of the area units included.

These two particular features of the microcensus sample design permit to monitor the sample districts over a period of two, three or four years and to form longitudinal pictures for the households and persons living in the sample districts over the entire reference period. For households and persons moving away (they are not traced as part of the microcensus) and for households and persons that are moving in and are recruited for the survey to replace those that have moved away, only incomplete longitudinal data sets can be formed or none at all. That principle of a rotating area sample on the one hand involves methodological complications in the context of spatial mobility but, on the other hand it has advantages when compared with other longitudinal data sets, in particular with regard to the representation of changes in the population.

For the organisational preparation and conduct of the survey, a system of reference numbers is used in the microcensus. That system stores information on what sample district, dwelling and household a specific person belongs to. The microcensus law, which has been in force since 1996, includes provisions regarding the separation and deletion of such reference numbers. This permits to allocate reference numbers to the interviewed persons and households that remain the same across reference days and to use them to combine the cross-section data sets with identical units.

As, however, the microcensus has so far been oriented towards cross-section results, complete longitudinal consistency of reference numbers cannot be ensured without additional efforts. As regards an entirely automated combination process with maximum reliability – to be performed centrally at the Federal Statistical Office – several alternatives have been examined. The combination identifier that appears to be most suitable here is the one that is composed, first, of the reference numbers of the sample district and of the household and, second, of the year of birth and the sex of the relevant person. On that basis, three longitudinal data sets have so far been formed: two longitudinal data sets have been established by combining two reference years each (1996 and 1997 as well as 1999 and 2000), and one longitudinal data set has been formed by combining four reference years (1996 to 1999).

The microcensus also covers persons living in collective accommodations. Using the year of birth and the sex for combination, as is done for private households, causes considerable problems here. In old people's homes and students' hostels, for instance, it is quite probable that there are several persons with the same year of birth and the same sex, so that clear allocation is not possible. Because of the considerable inconsistencies involved in combining data in the area of collective accommodations, relevant analyses have been discontinued for the time being.

The studies have so far covered selectivities due to spatial mobility, unit and item non-response, response stabilities and consistencies. Also, validity studies were performed by drawing comparisons between the socio-economic panel and the longitudinal microcensus data set for reference years 1996 to 1999 with regard to selected characteristics.

The highly complex and comprehensive development work involved in the further preparation and provision of longitudinal data from the microcensus will require considerable efforts on the part of the statistical offices and the researchers participating in the project. Therefore, a request has been submitted to the Federal Ministry of Education and Research for a joint project to be performed in close cooperation between the statistical offices and the research community. Such a joint project with the scientific community has the advantage that the interests of future users of possible scientific use files from longitudinal microcensus data can be taken into account from the very beginning and, consequently, data may be provided that very well meet the requirements of the research community.

Under the project, possible biases due to spatial mobility should be identified and balanced by suitable weighting and expansion factors. The weighting and expansion factors thus developed will then be validated by examining some subject-related questions as examples. Also, quality studies will be performed regarding the underlying data material. The results obtained from such studies will be an important element of the data documentation and will ensure that future users will be able to make adequate use of the longitudinal microcensus data as part of secondary analysis.

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Recent trends in relation to the statistics on information and communication technologies

The demand for statistical data on new information and communication technologies (ICT) and what we call the information society is still considerable. The latest developments in the capital markets, in particular in the "new" economy, have not changed that situation, either.

At the European level, it is particularly the Statistical Office of the European Communities (Eurostat) which sets the requirements for closing data gaps in official statistics while, at the international level, the OECD plays a leading role in the compilation and publication of statistical data. This article is to outline briefly Eurostat's efforts and the work performed at the national level in the ICT statistical area.

Eurostat puts particular emphasis on compiling for the European Union up-to-date and comparable statistical data and indicators relating to the information society. The latter is essentially characterised by modern information and communication technologies, in particular technologies that are network-oriented like the internet. The following aspects play a particular role in this respect:

- production of the required technologies and their importance to the economy as a whole and its individual components
- distribution of such technologies in society, business and industry, and among political institutions
- application and use of the technologies
- effects of the technologies from a social, economic and ecological perspective

The above efforts have been based on the eEurope 2005 action plan which was adopted by the Seville European Council at its summit on 21 and 22 June 2002. The plan succeeds the eEurope 2002 action plan. "eEurope is part of the Lisbon strategy to make the European Union the most competitive and dynamic knowledge-based economy with improved employment and social cohesion by 2010."^{1) 2)}

1) eEurope 2005: An information society for all, Commission of the European Communities, May 2002, p.1.

2) While eEurope 2002 focused on increasing internet connectivity as a precondition for creating a knowledge-based economy, the focus of eEurope 2005 is on stimulating services, applications and content with the aim to create new markets and reduce costs and eventually increase productivity throughout the economy. The action plan therefore concentrates on creating the framework conditions required to achieve those goals.

To judge the output of the above measures, eEurope 2005 benchmarking indicators have been defined for the different actions. The concrete goals at the European level are basically specified in the eEurope 2005 action plan. The list of indicators is to include some so-called political indicators and several supplementary indicators. On the whole, indicators are required for the following areas:

- households' and individuals' access to the internet
- businesses' access to and utilisation of the internet
- e-health
- buying and selling via the internet
- e-business readiness
- internet security
- availability of broadband access to households and businesses

In this context, the required basic data are largely to be supplied by national statistics. To this end, the following two pilot studies based on different groups of respondents have been carried out throughout the European Union, in which the Federal Statistical Office has participated, too:

- Pilot ICT usage business survey: After in 2001, the Federal Statistical Office participated in the survey (though with a limited programme and based exclusively on surveys in the trade sector), that area was studied for statistical purposes more closely in 2002.
- Pilot ICT usage survey among households and individuals: The survey was carried out in the EU Member States for the first time in 2002.

First results of the two studies are expected to be published soon.

Eurostat plans to repeat the above studies in 2003. As far as Germany is concerned, the country will presumably participate again. At the same time, a detailed draft Council regulation was for the first time submitted in September 2002, with the aim to ensure an EU-wide and lasting implementation of the two pilot studies.

A co-ordinated reorganisation of supranational and international classifications, in particular of economic activity and product classifications, is of rather long-term importance. Such approach is however indispensable for a detailed and comparable presentation of the ICT area in official statistics. Related activities at the international and supranational level, in which the Federal Statistical Office is engaged as well, are to be completed by the year 2007.

Furthermore, the Federal Statistical Office has set up an ad hoc working group to deal with the topic "ICT in the information society", which held its first meeting in May 2002. Apart from settling methodological and technical programme development issues, one of the main tasks of the working group is to find out from a short-term perspective which of the statistical data can be published at a continuous basis today, even though they might not be available in the theoretically desirable detail. First publications are expected to be issued in the course of 2003.

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Recent trends in the area of statistical units

For about two years, statistical units have been an issue of in-depth discussion both at the national and at the European level. In official statistics, and in particular in business statistics, major importance is attributed to adequately applying units and delimiting them in a uniform manner. Units are information providers in the context of statistical surveys. At the same time, however, they are an object of statistical monitoring, so that survey characteristics such as turnover, number of employees, etc. are allocated to them. Also, they are part of a population or sub-population, which is described or characterised by means of statistical results. A major factor determining the adequate inclusion of a unit is what kind of information the statistics is expected to provide (problem of adequation). In this respect, the inclusion of statistical units has a direct impact not only on the statistical results themselves but also on the quality and information value of the results.

When it comes to international comparisons, the uniform delimitation of statistical units is even more important. That importance has been taken account of by the EU when adopting the Regulation on statistical units (EEC 696/93) where the potential units are defined for the area of business statistics. A total of eight different statistical units are defined there: enterprise, institutional unit, enterprise group, kind-of-activity unit, unit of homogeneous production, local unit, local kind-of-activity unit and local unit of homogeneous production.

Both in the German and in the European system of business statistics, the enterprise plays a central part. It is the unit to which the most important results on economic activities refer. Also, the definitions of other statistical units use the enterprise as a reference item, e.g. the kind-of-activity unit or the local unit.

At the national level, a working group of the statistical offices of the Federation and the Länder was set up in spring 2000, dealing with "statistical units / harmonisation and further development of business statistics". So far, the working group has focused on studying and defining an enterprise concept that is both feasible for national purposes and conforms with EU standards. The discussions have focused in particular on the question of whether, and how, the enterprise as used in the Regulation on statistical units can be delimited in an operational and clear manner and what information is required and available for the purpose.

The working group has developed a theoretical concept for a new definition of the enterprise in official statistics. In contrast to the existing definition of the enterprise as the "smallest legally independent unit ... with an accounting system", it is intended according to the concept that certain legally independent units should no longer be considered as independent enterprises. Such ancillary or factor units, whose activities are regarded as ancillary activities or the provision of production factors, work almost only for a main unit (or for other ancillary units providing similar services) and are interlinked with each other in financial terms (as subsidiaries or parent companies). According to the new enterprise definition, the ancillary or factor units should be combined with the main unit to form a single enterprise.

The concept is thus based on two criteria, that is ownership structures and organisational structures on the one hand and, on the other, the type or scope of services provided between affiliated units, on which the statistical offices of the Federation and the Länder do not have any information. The question of whether that enterprise concept will be used in statistical practice depends crucially on how the required information on the two criteria can be obtained in a clear, correct and complete manner, while keeping the efforts within reasonable limits, i.e. how statistical enterprises can reliably be identified. The working group assumes that, actually, reliable information may be obtained only from the enterprises or legal units themselves.

To identify statistical enterprises, two possible approaches have been defined (top-down and bottom-up). No experience is available for either of them. A survey based on Article 7, paragraph 2 of the Federal Statistics Law is to provide information on the feasibility, expected success and costs of the two approaches.

The top-down approach is based on contacting directly large enterprise groups. Discussions with competent staff of such groups should be held on the group's organisational structure and on the type of services rendered between the group's individual companies in order to delimit statistical enterprises. That approach is referred to as profiling.

The bottom-up approach aims at identifying legally independent ancillary and factor units, which are not considered as statistical enterprises. Consequently, the main goal of the bottom-up survey according to Article 7 of the Federal Statistics Law is to develop a method allowing to reliably identify ancillary and factor units by means of interviewing, without prior research having to be done. The method should first be able to identify any ancillary and factor units. Second, it should provide some prospect of success in so far as a major percentage of the units surveyed should really be units to be combined with other units to form a statistical enterprise. It is expected that the survey will be completed by the end of 2003.

The two approaches are prepared in sub-working groups involving six statistical offices of the Länder, which participate in the actual conduct of the survey. The two approaches together form a survey according to Article 7 of the Federal Statistics Law, covering 10,000 respondents. Most of them will be surveyed using the bottom-up approach, while probably about ten enterprise groups will be interviewed following the top-down method. After the survey has been finished, first information should be available on the effort required for each of the two approaches. Such information will presumably be interesting not only for the statistical offices of the Länder but also for the statistical offices of the EU member states.

At the European level, too, a task force on statistical units has been set up, which deals not only with the enterprise but also with the kind-of-activity unit. For a long time, the activities of that task force were characterised by the Eurostat proposal that the kind-of-activity unit should be used as the only statistical unit in EU business statistics (structural and short-term statistics). By definition, kind-of-activity units are parts of an enterprise in which the same activities according to the classification of economic activities are performed. Especially larger enterprises carrying out several different activities consist of different kind-of-activity units, whereas most of the smaller enterprises generally consist of just one kind-of-activity unit.

The German side was rather sceptical as to the feasibility of that plan. Changing over from the enterprise to the kind-of-activity unit would result in an expansion of the statistical programme for nearly all economic sectors. This is true in particular of sectors where generally enterprise data have so far been collected rather than data on kind-of-activity units, such as in the trade and services sectors. In the industry sector, where kind-of-activity units are used already now, it would be necessary to make much more use of estimations and possibly also of new surveys. Also, there are doubts as to the availability of data on kind-of-activity units. The central issue here is to what extent the enterprises have complete accounting systems on kind-of-activity units, from which complete data on cost structures and operating surpluses could be provided.

Another statistical unit is the enterprise group. It comprises enterprises that have legal-financial relations with each other. The enterprise group is an economic unit that has the power to take decisions concerning mainly the affiliated units forming the group itself. Identifying control and ownership relations within enterprise groups is important especially for the cooperation between the monopolies commission and the Federal Statistical Office according to Article 47 of the Law against Restraints of Competition.

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ISO Alpha-2 country codes in the Country Nomenclature for the External Trade Statistics

The ISO Alpha-2 country codes of the international standard ISO 3166-1 are used to present countries and areas in a coded form in the Country Nomenclature for the External Trade Statistics. The abbreviation ISO stands for the International Organisation for Standardisation which was founded in 1949 with the aim to facilitate by standardisation both the international trade in goods and services and co-operation in the areas of science and technology. ISO is an international non-governmental organisation with representatives of numerous national institutes for standardisation. The Federal Republic of Germany is represented by DIN, the German Institute for Standardization. ISO's work is based on the principle of decentralisation. Since 1974, the codes for country names and administrative subdivisions, and the codes for formerly used names of countries of ISO 3166 have been updated by the ISO 3166 Maintenance Agency (ISO 3166/MA) which, time and again, also issues related Newsletters.

ISO 3166-1 provides three different types of codes for countries and areas:

- a two-letter alphabetic code (ISO Alpha-2 country code),
- a three-letter alphabetic code (ISO Alpha-3 country code), and
- a three-digit numerical code¹⁾.

The standard can be used for any purpose which requires the presentation of current names of countries, dependent areas or other areas of particular geopolitical interest in a coded form. ISO Alpha-2 country codes are for instance used by the United Nations as an element in coding, among other things, ports and customs offices. Besides, they are also used as a coding element in ISO 4217 International Currency Codes. Not to forget it, the codes are part of the designation of internet domains, too.

ISO 3166-1 provides codes for all states and for the major areas of the world. The list of country names is based on the United Nations Standard Country or Area Codes for Statistical Use which have been compiled by the United Nations Statistics Division. The country and area names listed in ISO 3166-1 are not free from overlapping. Thus, for instance, Martinique which belongs to France has a code of its own. ISO-3166 does not have any influence on the structure of a country nomenclature. If users require codes for the presentation of country names which are not listed in ISO 3166-1, they may fall back on selected sequences of letters to either aggregate countries included in the ISO standard or to achieve greater detail.

The geonomenclature (Country Nomenclature for the External Trade Statistics) for 1999 which was made available by Commission Regulation (EC) No 2645/98 of 9 December 1998 on the nomenclature of countries and territories for the external trade statistics of the Community and statistics of trade between Member States²⁾ for the first time included Alpha-2 country codes according to ISO 3166-1³⁾. Ever since, the former numerical codes for countries and areas have been added in brackets for information. Since 1 January 2003, letter codes have exclusively been used in declarations for the purpose of external trade statistics. Publications usually indicate the names of states and areas. As regards tabular presentations, however, numerical codes will continue to be used for technical reasons.

On the whole, the changeover to letter codes has not caused any problems. Alpha-2 country codes were generally available for all units of the country nomenclature. Exceptions were Ceuta and Melilla (Spanish sovereign territories not listed in ISO 3166-1), and American Oceania, Australian Oceania, New Zealand Oceania and the Polar regions (a total of 14 smaller states and areas) for which

1) Not identical with the numerical codes so far used in the geonomenclature.

2) Official Journal of the European Communities No. L 335 of 10 December 1998, page 22.

3) The Country Nomenclature for the External Trade Statistics is annually adjusted to current requirements.

standardised ISO Alpha-2 country codes did not exist. In those cases, as well as for imports and exports without country breakdown and for stores and provisions, user-specific codes were constructed based on the ISO 3166-1 principles. On the proposal of the European Commission, the areas of Australian Oceania (XO), American Oceania (XA), New Zealand Oceania (XZ) and the Polar regions (XR) were in 2001 subdivided into the total of 14 separate territories which can each be identified by a code of the ISO 3166-1 list. Hence the extent to which user-specific codes formed in line with the principles of ISO 3166-1 had to be applied was reduced to some few cases (Ceuta (XC), Melilla (XL), stores and provisions (QQ, QR and QS) and countries and territories not specified (QU, QV and QW)).

The following codes of the ISO 3166-1 list are not required for countries and areas in the geonomenclature:

- GF (French Guiana), GP (Guadeloupe), MQ (Martinique) and RE (Réunion) which belong to France (FR),
- MC (Monaco) which is covered together with France,
- PR (Puerto Rico) which is covered together with the United States (US),
- EH (Western Sahara) which is covered together with Morocco (MA),
- SJ (Svalbard and Jan Mayen) which belong to Norway.

So the above codes they must not be used in the context of foreign trade statistics.

The detail of the Country Nomenclature for the External Trade Statistics corresponds to that of the ISO 3166-1 list. For this reasons, there sometimes is a misapprehension that ISO 3166-1 would completely replace the Country Nomenclature for the External Trade Statistics and errors would exist in marginal areas. This is however not the case. The detail of the Country Nomenclature for the External Trade Statistics continues to depend on the requirements of the foreign trade statistics. What has changed is not more than the system of coding.

The application of ISO Alpha-2 country codes in the geonomenclature at the same time produces questions relating to other letter codes. The first two letters of the ISO Alpha-3 country codes do not in each case correspond to those of the ISO Alpha-2 country codes. Examples are Armenia (ARM; AM), Denmark (DNK; DK) or Poland (POL; PL). The latter can therefore not be promptly derived from the former by just deleting the last letter. As regards Estonia (EST; EE), such approach would result in the code for Spain (ESP; ES). And there is the danger of confusing the ISO Alpha-3 country codes based on ISO 3166-1 with the ISO 4217 three-letter International Currency Codes which are used in addition to the former for customs purposes in the Single Administrative Document. This issues should be handled with great care⁴⁾. As mentioned before, the first two letters of the International Currency Codes include the ISO Alpha-2 country codes just as a coding element. The third letter indicates the currency, e.g. USD for US dollars.

Since car nationality plates play an important role in everyday life, it should be finally noted that they are not in line with ISO 3166-1. They include single-letter, two-letter and three-letter plates.

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4) Before introducing the ISO 4217 International Currency Codes to identify currencies in the Single Administrative Document, the three-digit country and area codes of foreign trade statistics were used for this purpose.

Publications

New volume of publication series Methodological Reports: The sampling method of the test surveys for a register-based census

Volume 2 of the publication series Methodological Reports, which are designed to present the mathematical methodology applied in official statistics, provides in-depth information about the sampling method used in the test surveys for a register-based census.

The test surveys' purpose is to examine whether a methodological shift can be made from a conventional population count to a census that is mainly based on the data available from the residents' registers of the communities and the employment registers of the Federal Institute for Employment as well as on a postal survey among the owners of buildings.

The volume describes the sample design, the expansion procedure and the method applied for estimating the random error of the different sample surveys, which are used, among others, to check the quality of the registers used and of the planned procedures through field interviews.

The volume is available in hardcopy and as an online publication on the Internet at http://www.destatis.de/allg/d/veroe/d_methoden.htm.

Events

11th Scientific Colloquium "Societal change – data, analyses, accounts"

In cooperation with the Committee on the Methodology of Statistical Surveys of the German Statistical Society, the Federal Statistical Office has organised a scientific colloquium every year since 1992 to offer a forum for the dialogue between official statisticians and the major users of statistics in science, business, politics, administration and associations.

While the 2001 colloquium on "Enterprises in statistics - concepts, structures, dynamism" focussed on purely economic-statistical questions, the 2002 colloquium on "Societal change - data, analyses, accounts" addressed issues at the intersection of social sciences, economics and statistics.

The colloquium was chaired by Prof. Dr. Joachim Frohn who also provided an introduction to the topic. This was followed by a contribution by Walter Wolf of the European Commission in Brussels, who described the European data requirements for measuring poverty and social exclusion. Dr. Manfred Ehling and Roland Günther of the Federal Statistical Office presented the European Statistics on Income and Living Conditions and commented on their implementation in German official statistics. The contribution by Dr. Heinz-Herbert Noll of the Center for Survey Research and Methodology (ZUMA) in Mannheim discussed the instruments and indicators for measuring societal change.

Long-term societal development trends as a specific form of societal change were analysed by Prof. Dr. Wolfgang Glatzer of the University of Frankfurt on the Main. Peter Semrau of the Federal Ministry of Health and Social Security presented the poverty and wealth reporting in Germany and underlined that these reports were one of the building blocks of a reporting system on social exclusion.

The first day of the colloquium ended with a ceremony celebrating the presentation of the Gerhard Fürst Award. The Federal Statistical Office grants this Award each year for outstanding work on issues of official statistics. In 2002, the Award was granted conjointly to Markus Gangl for his doctoral thesis on "Unemployment dynamics in the United States and West Germany: Economic restructuring,

institutions, and labour market processes over the 1980s and 1990s" (Mannheim University) and to Thomas Gschwend for his doctoral thesis on "Strategic voting in mixed electoral systems" (State University of New York at Stony Brook). In the category "diploma/master's dissertations", the Award was granted to Christian Pigorsch (Kiel University) for his diploma dissertation on "Zinsprognose anhand der Zinsstruktur – Ergebnisse für Deutschland". The Promotion Prize for junior academic staff was awarded to Gunnar Hein (Rostock University) for his diploma dissertation entitled "Zum systematischen Fehler amtlich berechneter Sterbewahrscheinlichkeiten für Mecklenburg-Vorpommern 1986 bis 1996".

On the colloquium's second day, Prof. Dr. Carsten Stahmer of the Federal Statistical Office outlined some first considerations on the setting-up of a socio-economic reporting system. Prof. Dr. Bernd Meyer of Osnabrück University examined how economic, ecological and social interdependencies determined on the basis of a future socio-economic reporting system might be presented in an "environmental-socio-economic system".

The contribution by Dr. Georg Ewerhart of the Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation) dealt with the estimation of the educational capital in Germany. Prof. Dr. Walter Krug of Trier University presented a co-paper on the educational capital versus human capital approach. Towards the end of the colloquium, Dr. Aloïs Van Bastelaer of Eurostat described the social accounting matrices and labour accounts used in the EU.

A volume containing all the contributions presented at the scientific colloquium will be published in 2003 as part of the Federal Statistical Office's publication series "Forum der Bundesstatistik".

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Calendar of events

Third user conference on "Research with the microcensus: Analyses of the social structure and labour market"

On 10 and 11 October 2003, the Federal Statistical Office will convene a third user conference in cooperation with the Center for Survey Research and Methodology (ZUMA). This conference on the subject "Research with the microcensus: Analyses of the social structure and labour market" will mainly be aimed at researchers who work with, or are interested in, the Scientific Use File of the microcensus. The conference objectives are, on the one hand, to discuss the more recent research results and, on the other, to promote the exchange of experience among the users and between users and the statistical offices as data producers.

Researchers are invited to submit, by 14 March 2003, contributions dealing with the contents or methodology of analyses of the social structure and labour market. All Scientific Use Files of the microcensus as of the 1989 survey date may be used as data basis. The intended key topics include the development and problems of the labour market in eastern and western Germany, the social and economic situation of families and households, European and international comparisons, the use of the supplementary and additional programmes of the microcensus, as well as methodological problems involved with secondary analyses of the microcensus.

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