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METHODS – APPROACHES – DEVELOPMENTS
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The catchword

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The catchword

Methodological changes in the Taxpayer Panel 2001-2012

1. Introduction

Panel data are data containing information on the same observation units for several points in time. They allow to examine phenomena over time and consequently are very popular among economic and social researchers. Since 2007, the Federal Statistical Office has provided panel data from income tax data for analysis purposes, that is, the Taxpayer Panel (TPP). In the TPP 2001-2012, some fundamental changes in methodology have been implemented.

2. Data basis

The 2001 to 2011 waves of the TPP were compiled on the basis of annual income tax statistics (administrative statistics). These cross-section data contain the information from the income tax declarations of roughly 27 million taxpayers assessed in Germany and were linked to form a panel, using tax numbers and indirect identifiers.

Since assessment year 2012, these administrative statistics have no longer been available. The federal statistics on wage and income tax, which in the past had been compiled every three years, have been produced annually since then. So, starting with wave 2012, the TPP has been based on the federal statistics. The federal statistics cover not only the taxpayers assessed but also roughly 12 million taxpayers not assessed. Due to delayed data supply, however, these cases will be included in the TPP only from assessment year 2013.

Also, since assessment year 2010, the tax identification number has been available as a variable for linkage, so that the system of linking the data sets has been modified, too. Since the 2012 wave, linkage has been performed only through unique identifiers (tax identification numbers and tax numbers). This allows to allocate data to a specific taxpayer even over more than two years for which no data are available.[1]

The panel 2001-2012 has a total of 40,724,427 data sets, for which data for at least two annual waves are available. For analyses, generally all variables of annual income tax statistics are available.[2] Due to the changeover to a new data basis (federal statistics instead of administrative statistics), however, some shifts in the content of the indicators occur. This regards especially the data on separately assessed women, so that the changes have to be taken into account particularly in sex-specific analyses.

3. Data access for scientific use

First experience acquired with TPP 2001-2004 analyses shows that calculations based on the total material are very time-consuming and require considerable memory capacity. Therefore, with a view to the extension of the user group and the gradual enlargement of the TPP by further waves, a graded concept of use has been developed in cooperation with the research data centres (RDCs) of the statistical offices of the Federation and the Länder. Four products are made available, which differ in terms of data scope, degree of data anonymisation, form of access, and analysis software to be used.

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[1] In the past, data were linked only for three past years because the fiscal authorities can reallocate old tax numbers after two years.

[2] Not affected are code numbers (e.g. tax numbers or contract numbers) and geographical allocations below administrative district level.

Product	Maximum number of variables	Anonymisation	Type of use	Analysis software
Structural data file	no limitation	full anonymisation	off-site	SAS, SPSS, Stata
0.5% sample	no limitation	in part generalisation of Land and official municipality code number, generalisation of date of birth and religious affiliation, deletion of top earners, anonymisation of results	safe centre at the research data centre (RDC) (Federation and Länder)	SAS, SPSS, Stata
5% sample	no limitation	in part generalisation of Land and official municipality code number, anonymisation of results	remote data execution at the RDC (Federation)	SAS, Stata
Total material (data available for at least two years)	25 per wave	no anonymisation of data, anonymisation of results	remote data execution at the specialist department (Federation)	SAS

The **structural data file** contains 703 fully anonymised data sets whose scope corresponds to the variables requested by the users. Full anonymisation is achieved here through random exchange of values. While the character of the variables is maintained, the data set in itself may be inconsistent. The structural data file is transmitted directly to the user and may be used only to check the syntaxes produced.

For use at a safe centre in the RDCs, a **0.5% sample** is provided. This is a de facto anonymised subsample of the stratified 5% sample (see below). The advantage of this material is that researchers can develop their studies directly with the original data.

More detailed analyses can be done with the weighted **5% sample,** which can be evaluated through remote data execution at the RDC of the Federal Statistical Office. The sample is stratified by Land, type of assessment and income and was drawn, for the TPP 2001-2012, for the first time from all taxpayers with data for at least five years (28,725,488 data sets). Previously, a balanced panel[1] was the basis for sampling, which means that studies on taking up or abandoning specific activities could not be performed by means of the samples.

The **total material** on the TPP comprises all taxpayers with data available for at least two years and is made available only for individual analyses on selected variables. Interested researchers may transmit SAS syntaxes to the relevant specialist department of the Federal Statistical Office, where the calculations will be done.

Before disclosure, the results of all analyses are checked by the RDC and the specialist department to ensure statistical confidentiality. Individual data such as minimum and maximum values are always deleted.

The TPP 2001-2012 opens up opportunities for new and more detailed analyses regarding manifold scientific issues. Access to the microdata can be requested through the web page of the RDCs of the statistical offices of the Federation and the Länder at http://www.forschungsdatenzentrum.de.

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[1] Only taxpayers for whom data were available in all waves

Methods of federal statistics - Further development

Survey of the finance of non-government schools and of schools for nurses, midwives etc. - grossing the results

Background of the survey, basis, mission, goal

In school year 2012/2013, 9% of the pupils at schools of general education and 13% of those at vocational schools attended schools operated by non-government providers. Such schools are operated by church, charitable or commercial institutions.

Currently, no data are regularly available on the finance of these schools, which are however required for national and international reporting on educational finance. Robust information on the finance of public and non-government schools for nurses, midwives etc. is not available either. This is why the Federal Statistical Office, in cooperation with the statistical offices of the Länder, conducted a survey of revenue and expenditure of non-government schools and schools for nurses, midwives etc. in financial year 2013, based on Section 7 of the Federal Statistics Act. The main goal of the survey was to provide a solid basis for regular reporting. In addition, general data were collected such as responsible institution, number of teachers and number of pupils.

The survey covered all non-government schools whose status was that of an alternative school. Such schools provide compulsory education and, if state-recognised, they are allowed to hold examinations and issue certificates. In addition to alternative schools, all non-government and public schools for nurses, midwives etc. were covered. Participation was voluntary.

During the survey period from January to June 2015, roughly 5,200 non-government schools and schools for nurses, midwives etc. were contacted in writing. There was an adjusted response of 1,050 reports, that is, a rate of 20% of the schools contacted, or 28% of the total number of pupils. In geographical terms, the response rate in the western non-city Länder (21% of non-government schools, 30% of pupils) was higher than in the eastern non-city Länder (18% of schools, 20% of pupils).

Grossing method

The general goal of grossing was, by using suitable estimators, to bring up the sample data such as revenue and expenditure to the population, taking account of the benchmarks in order to achieve consistency between various official publications and to obtain a lower variance in grossing.

The grossing of expenditure and revenue data was done separately for the three school types. The benchmarks used in addition to the number of schools were the teachers in full-time equivalents based on official school statistics. The data on revenue and expenditure were collected for reference year or financial year 2013. As, however, data on teachers and numbers of pupils were available by school year (2012/2013 and 2013/2014), several adjustments were made to prepare grossing. The data on teachers and pupils were converted to financial year 2013. The data on teachers that had been converted to reference year 2013 were converted to full-time equivalents.

To permit separate grossing by school type and Land and in accordance with the level of detail of the benchmarks, reports containing data on numbers of pupils in several school types were separated mathematically. To take account of the different cost intensity of the school types, the data within a report were additionally weighted by the median of the expenditure per pupil for each school type.

An unbiased estimate of the unknown total value of a specific variable Y (e.g. expenditure) is provided by a generalised regression estimator.

The linear estimator of a total value t is

$$\hat{t}_Y = \hat{t}_{Y,HT} + \sum_{j=1}^{J} \hat{B}_j \left(t_{x_j} - \hat{t}_{x_j,HT} \right), \text{ with } \hat{t}_{Y,HT} = \sum_{k=1}^{n} \frac{y_k}{\hat{\theta}_k} = \sum_{k=1}^{n} d_k y_k$$

being the expanded total value of variable Y ("Horvitz-Thompson estimator"), with

y_k value of the variable Y, in this case the expenditure or revenue of school k

n sample size

$\hat{\theta}_k$ probability of a school k to participate in the survey

and $t_{x_j,HT} = \sum_{k=1}^{n} \frac{x_k}{\hat{\theta}_k} = \sum_{k=1}^{n} d_k x_k$

as the expanded total value of benchmark x_j ("Horvitz-Thompson estimator"), for example teachers in full-time equivalents. Let there be

x_k value of the auxiliary variable (teachers in full-time equivalents) for school k

t_{x_j} total value of the jth auxiliary variable (benchmark, teachers in full-time equivalents in a Land). The vector of the estimated regression coefficients is

$$\hat{\mathbf{B}} = \left(\sum_{k=1}^{n} \frac{\mathbf{x}_k \mathbf{x}_k'}{\hat{\theta}_k} \right)^{-1} \sum_{k=1}^{n} \frac{\mathbf{x}_k y_k}{\hat{\theta}_k}.$$

The regression estimator is a linear estimator. It meets the benchmarks when grossing the sample data, i.e. $\hat{\mathbf{t}}_x = \mathbf{t}_x$.

Using the regression estimator applied, the variance of the estimator can be estimated from the sample. So, after every grossing procedure, the estimation variance can be quantified for every target group. The relative standard error (variation coefficient) was indicated as a measure here. The standard error was calculated by means of the statistics software R using the survey package of T. Lumley (2010).

Results of grossing

On the whole, grossing provided statistically robust results with relative standard errors of under 15% regarding staff expenditure and continuous material expenditure. However, a high relative standard error (over 15%) was observed for investment expenditure. One of the reasons is that investments were covered as payment flows for the time when they originated, which produced relatively high fluctuations. The grossing results are compatible with the rolled forward results of the predecessor survey regarding financial year 2009. There were discrepancies only for some school types, in particular special schools and Free Waldorf schools.

Expenditure of non-government schools of general education amounted to 6.0 billion euros, that of vocational schools to 1.4 billion euros, and that of schools for nurses, midwives etc. to 1.0 billion euros. The main expenditure item was staff expenditure, accounting for 77% in schools of general education and vocational schools and for 69% in schools for nurses, midwives etc.

Systematic differences were observed also in a geographical comparison. In 2013, average expenditure per pupil at non-government schools of general education was 8,600 euros in the western non-city Länder, whereas in the eastern non-city Länder and in the city states it was 6,400 euros and 7,700 euros, respectively (Germany as a whole: 8,200 euros). A similar distribution is obtained for vocational schools, that is 6,300 euros per pupil in western Germany and 4,700 euros in eastern Germany (Germany as a whole: 5,900 euros, city states: 4,500 euros).

Schools of general education covered just under three quarters of their financial needs through public subsidies. In vocational schools, the share was just under two thirds. As the survey represents several years, the differences between revenue and expenditure in the grossed data material were eliminated by scaling the revenue data. The reason is that every expenditure item must be covered by a revenue item over the medium term and that revenue can be transferred to subsequent years. This procedure was applied to all school types.

Further information on the survey and on the results is contained in the special report on the finance of schools, non-government schools and schools for nurses, midwives etc., 2013, which is available online at www.destatis.de.

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Implementation of the new UN crime classification in statistical data collection

Every act can be considered as compliant from one perspective and as non-compliant from another (when deviating from a reference standard). The standard of what act or omission is punishable by law in Germany is defined by the Criminal Code and a number of ancillary penal laws. When the Federal Criminal Police Office of Germany reports on cases registered by the police and German official statistics provide information on defendants convicted by the courts for a specific crime, that crime is always clearly defined. From an international perspective, the fact that national police and justice statistics are based on national criminal legislation creates comparability problems that become more pronounced the more national penal provisions differ from each other. The definition of criminal offences is therefore a particular challenge for the supranational collection of data by international organisations like the United Nations Office on Drugs and Crime (UNODC) or the Statistical Office of the European Union (Eurostat).

The paragraphs below describe the activities regarding the introduction and implementation of the first international statistical classification of crimes.

2013:

Data requirements of the European Union were submitted to the Member States at the annual sessions of the Eurostat Working Group on Crime and Criminal Justice Statistics. The Federal Statistical Office is represented there as the national coordination agency for Eurostat data collections. As recommended by Eurostat and UNODC in the EU action plans, the Working Group decided in 2013 to merge the previously separate data collections of the two organisations and to harmonise the statistical definitions for supranational surveys.

2014:

In 2014, Eurostat and UNODC for the first time conducted a joint survey of crime trends (EU/UNODC joint data collection). It was based on the existing CTS questionnaire of UNODC (United Nations Survey of Crime Trends and Operations of Criminal Justice Systems – UN-CTS), which was supplemented by Eurostat questions. The survey collects information on crime totals and on specific offences at various stages of criminal justice. The crime definitions used in the survey have been incorporated by Eurostat and UNODC as metadata in the data collection.

2015:

The highest statistical body for establishing the work priorities of international statistics is the Statistical Commission of the United Nations. At its 46th session in New York in March 2015, the Commission adopted the "International Classification of Crime for Statistical Purposes" (ICCS) and endorsed an implementation plan. As the new standard classification of crime for international data collection, the ICCS is based on behavioural descriptions of criminal acts and not on individual national legal provisions. The ICCS implementation plan confirmed UNODC as the global ICCS coordination agency and provided for the creation of a Technical Advisory Group (TAG-ICCS) to assist UNODC in implementing the ICCS.

2016:

In the light of the United Nations' new sustainable development goals (SDG 2030) of September 2015 and the introduction of ICCS in March 2015, UNODC invited the national statistical coordinators (CTS Focal Points) to a meeting in Vienna from 9 to 11 May 2016 to discuss possibilities of extending the CTS questionnaire. At the meeting, UNODC reported that the number of UN member countries participating in the survey had increased together with the number of active national Focal Points, which coordinate the data deliveries to UNODC by various national and subnational agents. Besides improvements in the participation rate, the meeting discussed expanding the scope of coverage and adapting the crime definitions. Extending the scope of coverage is related to the 2030 SDGs and in particular to Goal 16 (peaceful societies, justice and effective institutions). The CTS meeting distinguished three SDG areas: "violence" (including violence against women and children), "illicit trafficking and organised crime", as well as "access to justice, rule of law" and "corruption". Afterwards, the meeting worked out suggestions as to which of the variables contained in the CTS questionnaire would serve to cover the three SDG target areas and what questions would have to be added. The ensuing discussion highlighted the instrumental importance of victimisation surveys and the difficulties involved in conducting them. It also stressed the necessity of harmonising as far as possible the definitions and counting methods. With regard to improving the crime definitions used in the CTS survey, which is also important for collecting information on the SDGs, it is planned to adjust the CTS definitions gradually to the ICCS.

Following the CTS meeting, the UNODC expert group (TAG-ICCS) was convened for the first time in Vienna on 12 and 13 May 2016. By way of introduction, the hosts underlined the importance of ICCS as a statistical tool for the future definition of internationally comparable statistics on crime and criminal justice, as well as of UN-CTS as a statistical tool for the future collection of such statistics. To provide methodological support for the implementation process, UNODC planned to prepare a draft manual on ICCS implementation. As a regional partner, Eurostat reported on activities undertaken at the European level to support the implementation of the ICCS in the EU states, including the development of a technical booklet. At the meeting, and on request by UNODC, Cameroon, Finland, Germany and the USA presented their first experiences in mapping national criminal offences into the categories of the new ICCS and in aligning national statistical classifications with it. Germany has been involved in this first phase of ICCS implementation as part of the cooperation of the Federal Statistical Office (responsible for the national statistical classification regarding justice statistics) with the Federal Criminal Police Office (responsible for the national statistical classification regarding police crime statistics) and with Prof. Dr. Kerner, Professor of Criminology at Tübingen University. Exchange agreements are in place with Statistics Austria and Statistics Switzerland.

Upon invitation by the hosts, the Federal Statistical Office presented its experiences regarding the ICCS also at the 3rd International Conference on Governance, Crime and Justice Statistics, which was held in Merida, Yucatan, Mexico from 7 to 10 June 2016.

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Events

Conference on "Measuring Prices" in Eltville am Rhein on 16 and 17 June 2016

On 16 and 17 June the 20th conference on "Measuring Prices" took place in Eltville am Rhein. The event was hosted by the Statistical Office for Berlin-Brandenburg and the Deutsche Bundesbank. Every year, the conference provides a platform for researchers and official statisticians to exchange their ideas on issues of price statistics. The conference was attended by representatives of the statistical offices of the Länder, Eurostat, the European Central Bank, the Deutsche Bundesbank, Trier University and the Federal Statistical Office. The conference this year again covered a broad spectrum of topics, ranging from theoretical and practical index issues and especially the approach taken by the Deutsche Bundesbank to forecasting inflation for monetary policy purposes through to European developments and price comparisons at the regional level. Experts of Division D3 of the Federal Statistical Office gave four talks on the following topics:

- Karsten Sandhop: "Streuungsrechnungen beim Verbraucherpreisindex" (Dispersion calculations regarding the consumer price index)

- Günther Elbel: "Nutzerhandbuch für die deutsche Verbraucherpreisstatistik" (Manual of the German consumer price statistics)

- Florian Burg: "Dynamische Preissetzung als Herausforderung für die Verbraucherpreisstatistik" (Dynamic pricing - a challenge for consumer price statistics)

- Ute Egner: "Zentrale Preiserhebung im Bereich Bekleidung und Schuhe" (Centralised collection of clothing and footwear prices)

The talk given by Karsten Sandhop discussed how the sample of the consumer price index and the harmonised index of consumer prices could be further optimised by means of dispersion calculations at the level of individual prices. The main idea behind this was to consider dispersion more comprehensively and precisely in determining sample sizes. For this purpose test calculations were made for selected online sales items whose prices were collected in a centralised manner. The standard deviation of the change rates from the previous month and the preceding year was chosen as the measure of dispersion, while the absolute standard error was taken for error estimation purposes. The results showed that, basically, the two measures are suitable for measuring and assessing dispersion and errors. However, account must for instance be taken of the effects which product replacement and discontinuation have on the development of prices and the dispersion measured. There are plans to extend the relevant tests to include the shop-based retail trade and other product groups.

In his talk, Günther Elbel introduced the first version of a Manual of the German consumer price statistics. In accordance with the Methodological manual of harmonised indices of consumer prices currently being developed by the Statistical Office of the European Union (Eurostat), this user manual is intended to supplement the information supply in place (methodological papers in the "Wirtschaft und Statistik" journal, quality reports, other methodological descriptions on the homepage) and combine the individual components to form an integrated whole. The manual is not designed as a scientific textbook of consumer price statistics. Its purpose is rather to provide a detailed description of the current practices and outline the methods applied without justifying them. Its structure is largely in line with the structure of the Methodological manual of harmonised indices of consumer prices. The publication of the manual is scheduled for early 2018.

In his talk, Florian Burg discussed the phenomenon of dynamic pricing which has been observed in individual online shops for quite some time. Dynamic pricing stands for the adjustment of prices, using automatic algorithms, in line with the current market situation. Sometimes such adjustments are made at very short intervals. A first investigation in selected online shops has shown that the forms of dynamic price setting are manifold and lack transparency. A broader analysis using automated procedures (web scraping) is intended to provide further insights. The method used so far, that is, collecting prices manually on the internet at a certain time every month has its limits if prices are very volatile. In those cases, multiple data collection would be required and, due to limited staff resources, large-scale web scraping is the only way to enable this. A further-reaching approach would be to use the actual transaction data (scanner data) of the businesses. In the future, the above problem might also be caused by the use of electronic price tags in shop-based retail trade where price collectors of the statistical offices of the Länder collect the prices directly from the survey units. In this respect, too, using scanner data would be an efficient and cost-effective solution to ensure the compilation of reliable high-quality price indices in the future.

Ute Egner's paper provided information on extending the centralised collection of clothing and footwear prices from retail chains. Many years ago, the Federal Statistical Office and the statistical offices of the Länder started to centralise price collection from retail chains with a large market share, a wide store network and standardised pricing patterns across the country. As a result, the burden caused by decentralised price collection could be clearly reduced and the know-how required for collecting prices in the complex area of clothing and footwear be pooled in one place. A centralised collection of prices was successfully implemented at C&A, H&M, SinnLeffers and Peek & Cloppenburg. In 2015, the appropriateness of centralised price collection was tested for more retail chains. In addition to standardised pricing patterns in the country, a sufficiently wide range of product variants is of vital importance in order to reflect the large variety of products offered in the stores throughout the country. In technical terms, the centrally collected prices can then be incorporated in a way to reflect the locally available ranges of products. Furthermore online sales provide the opportunity to perform the centralised price collection via the internet or the relevant online shops rather than directly in the stores. Currently, preparations are made for implementing a centralised collection of prices for another three major players.

More information on the conference and the individual papers are available at:
https://www.statistik-berlin-brandenburg.de/home/messung-der-preise.asp

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User conference held on 30 June 2016 on "Real Property Prices - What is Provided by Official Statistics?"

On 30 June 2016, the user conference on "Real Property Prices - What is Provided by Official Statistics?" was held at the Federal Statistical Office in Wiesbaden. There were over 60 participants from the higher expert committees on land values, the statistical offices of the Länder, the scientific and research community, the Federal Ministry for the Environment and Building, software companies, Eurostat, Deutsche Bundesbank, and the European Central Bank. The user conference was organised and held by the "Prices" unit of the Federal Statistical Office.

A total of ten papers were presented and discussed. The Eurostat representative described what requirements are to be met by real property price statistics from a European point of view. At the European level, the house price index is an important indicator for monetary policy and for examining whether there is a macroeconomic imbalance. A representative of the higher expert committees on land use explained the functions and expert knowledge of the expert committees and their relevance for official statistics. The regional presence and expert knowledge of the expert committees are important factors for the correct coverage and assessment of the purchases. Deutsche Bundesbank presented an indicator system whose purpose is to rapidly provide a comprehensive overview of the situation in the residential property market.

The Federal Statistical Office described the conceptual and methodological bases of the price indices for residential property and recent progress. Other topics were the further development of the house price index, in particular with regard to regional results, and a feasibility study on calculating price indices for commercial real property. Another presentation focused on rents in the consumer price index and on the improvements achieved through the fundamental revision of the sample of rents.

The agenda and the presentations held are available for download from the Federal Statistical Office's website at
www.destatis.de/DE/UeberUns/Veranstaltungen/VeranstaltungenArchiv/NutzerkonferenzImmobilienpreise/NutzerkonferenzImmobilienpreise.html

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25th scientific colloquium on the "Productivity Paradox - Measurement, Analysis and Explanatory Approaches"

The productivity paradox refers to the hypothesis supported by statistical results that there is a longer-term slowdown in productivity growth although technological innovation continues, especially in the field of digitalisation. The relevant empirical evidence is provided i. a. by official statistics not only in Germany, but also in other countries worldwide. With these words in his welcome address, Dieter Sarreither, President of the Federal Statistical Office, pointed to the core of the productivity paradox, which was the topic of the 25th scientific colloquium in the Wiesbaden Museum on 24 and 25 November 2016.

More than 200 participants attended the event which was traditionally organised by the Federal Statistical Office and the German Statistical Society for the 25th time this year.

The colloquium was moderated by Dr. Norbert Räth who had executive positions in the national accounts unit of the Federal Statistical Office for many years. In his introduction, he focused on measuring productivity, the robustness of the results and the political relevance of the topic.

Stefan Hauf and Dr. Oda Schmalwasser of the Federal Statistical Office described productivity measurements in national accounting in a more detailed manner, taking account of capital productivity along with labour productivity that is used more frequently. Afterwards Helmut Mayer of the environmental-economic accounts unit of the Federal Statistical Office explained the factors affecting energy productivity. The energy productivity indicator is an environment-related indicator of the German sustainability strategy.

Professor Dr. Stefan Kooths of the Kiel Institute for the World Economy presented the results of his latest research on the measurability and analysis of productivity in Germany.

Isabelle Rémond-Tiedrez and Christine Gerstberger from Eurostat, the Statistical Office of the European Union in Luxembourg, shed light on the European perspective of productivity analyses.

Dr. Paul Schreyer, Deputy Chief Statistician at the OECD, used the annual OECD Compendium of Productivity Indicators to provide an overview of productivity development in the OECD area and discussed current topics of productivity measurement and analysis.

The last speaker of the first day was Prof. Dr. Christoph M. Schmidt, Chairman of the German Council of Economic Experts and President of RWI - Leibniz Institute for Economic Research in Essen. Based on the Annual Report 2016/17 of the Council of Economic Experts, Professor Schmidt explained the economic causes and policy implications of the weak productivity growth.

Like every year, the Gerhard Fürst Award - the research prize of the Federal Statistical Office - was given to outstanding scientific projects closely related to official statistics in the evening of the first day of the colloquium, following the lectures. During the awards ceremony, Prof. Dr. Walter Krämer (TU Dortmund University), Chairman of the Gerhard Fürst Award expert jury, gave the speeches in honour of the award winners. Short versions of the award-winning papers and more information on the Gerhard Fürst Award can be found on the Federal Statistical Office's website at www.destatis.de/gerhard_fuerst_preis.

The second day of the event started with a talk by Christoph-Martin Mai and Thomas Körner of the Federal Statistical Office who, using selected examples, discussed the question of whether and to what extent the productivity and quality of labour can be two sides of the same coin.

Dr. Thomas A. Knetsch of the Deutsche Bundesbank introduced the estimation of the production potential that is not covered by official statistics based on specific calculation methods and statistical procedures.

Dr. René Söllner of the Federal Statistical Office explained how the technical efficiency of enterprises can be determined using microdata of the cost structure survey of manufacturing in Germany.

The 25th scientific colloquium closed with a talk by Prof. Dr. Michael Grömling of the Cologne Institute for Economic Research on "Digitalisierung – eine Quelle unsichtbaren Wohlstands?" (Digitalisation - a source for invisible welfare?). He discussed whether and how adequately the economic statistics in place can reflect the digital revolution and the welfare effects associated with it.

Professor Grömling and other experts who attended the colloquium concluded that the national accounts data, which are frequently used and internationally comparable, will definitely retain their informational value. In the light of recent phenomena such as digitalisation, however, supplementary measurement approaches, e.g. in satellite systems, appear useful.

The conference documentation comprising both the accompanying presentations and abstracts of the contributions is available on the Federal Statistical Office's website at www.destatis.de › Methoden › Kolloquien.

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Federal Statistical Office grants the 2016 Gerhard Fürst Award

On 24 November 2016, the Federal Statistical Office presented awards to recognise four outstanding scientific projects. Three scientific contributions were given the Gerhard Fürst Award, while one project was granted the Peter von der Lippe Award.

In the "doctoral thesis" category, the 2016 Gerhard Fürst Award was given to Dr. Stefan Stuth for his thesis on "Closing in on Closure - Occupational Closure and Temporary Employment in Germany", which had been supervised by Prof. Jutta Allmendinger, Ph.D. of Humboldt-Universität zu Berlin. In the "Master's/Bachelor's thesis" category, the Master's thesis by Natalia Rojas-Perilla on "Poverty Estimation Methods: a Comparison under Box-Cox Type Transformations with Application to Mexican Data" was chosen for the 2016 Gerhard Fürst Award by the experts. The thesis had been written under the supervision of Prof. Dr. Timo Schmid of Freie Universität Berlin. The second prize in this category was given to Guido Schulz for his Master's thesis on "Aufwertung und Verdrängung in Berlin: Räumliche Analysen zur Messung von Gentrifizierung", which had been supervised by Prof. Axel Werwatz, Ph.D. of Technische Universität Berlin. The Gerhard Fürst Award money is 5,000 euros in the "doctoral thesis" category and 2,500 euros in the "Master's/Bachelor's thesis" category.

In addition to the Gerhard Fürst Award, in 2016 a commemorative award named in honour of Prof. Dr. Peter von der Lippe who died this year was presented by the Federal Statistical Office to honour this long-standing partner of official statistics. The Peter von der Lippe Award was given to Dr. Ivonne Lindlbauer for her doctoral thesis on "Efficiency and Risk Adjustment of German Hospital Care". The thesis had been written at the Hamburg Center for Health Economics headed by Prof. Dr. Jonas Schreyögg of Universität Hamburg.

This year's awards were presented at the 25th scientific colloquium on the "Productivity Paradox" held by the Federal Statistical Office together with the German Statistical Society in Wiesbaden on 24 and 25 November 2016. The Federal Statistical Office gives the awards on the basis of recommendations by an independent expert jury.

The laudatory speeches on the award-winning papers were delivered by the chairman of the expert jury, Prof. Dr. Walter Krämer (TU Dortmund University). They will be published in the 6/2016 issue of the "WISTA - Wirtschaft und Statistik" journal of the Federal Statistical Office. In 2017, the award winners will publish detailed articles on their papers in that journal.

Short versions of the award-winning papers and more detailed information on the presentation of the Gerhard Fürst Awards can be found on the Federal Statistical Office's website at www.destatis.de/gerhard_fuerst_preis.

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