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METHODS – APPROACHES – DEVELOPMENTS

Information of the German Federal Statistical Office

Edition 2/2016

The catchword

Methods of federal statistics – Further development

Events

Published by: German Federal Statistical Office, Wiesbaden

Subject-related information
on this publication:

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General information
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https://www.destatis.de/.../Contact

Release calendar
of the Press Office:
http://www.destatis.de/.../Preview

Periodicity: (generally) twice a year

Published in December 2016

The catchword

Covering labour force participation through different data collection methods

1. Background

For labour market reporting, different statistics are used to achieve maximum coverage of the many issues involved. The main data sources for labour market reporting at the statistical offices of the Federation and the Länder are the microcensus and the employment accounts. The employment accounts are based, among other things, on the microcensus and the statistics of employees subject to (full) social insurance contributions of the Federal Employment Agency. The data sources use different data collection methods and procedures to cover a wide range of purposes and issues. Consequently, in some cases, different sets of statistics show results on the same variables from different sources. Some differences in results are due to definitions that are not entirely identical. For example, data collected in surveys often differ from data obtained by evaluating official registers.

Data on labour force participation are also available from the 2011 Census. A major characteristic of the 2011 Census was that it combined various employment data sources. To cover employment in the 2011 Census, data from the household sample survey were combined with administrative data from the Federal Employment Agency and from public employers. The sample size of the household survey is roughly 9.6% of the population and, at the level of individuals, the data can exactly be matched with administrative data. The 2011 Census thus is a rare example where data on labour force participation can be compared between the different data sources even for small subgroups.

In a study, the different data sources used to cover the employment variables of the 2011 Census were compared with each other. For selected variables, differences in results were analysed. The data sources of the 2011 Census - household sample survey and administrative data - were taken as examples of the different data sources used for labour market reporting. The objective was to identify reasons for differences in results and, where appropriate, to develop possible improvements in the various data collection methods.

2. Study

The starting point of the study was the persons covered in the 2011 Census who, according to the administrative data, are in employment. This means that they belong to employees subject to (full) social insurance contributions, to only marginally employed persons, or to public officials, judges and soldiers. For these persons in employment, the relevant employment data obtained from the administrative data were compared with those obtained in the household survey of the 2011 Census.

2.1 Persons in employment according to administrative data and the household survey

First of all, those identified as persons in employment both in the administrative data and in the household survey were examined in terms of their status in employment. The status in employment as indicated in the household survey may differ from the relevant information in the administrative data even if the activity status is the same in the household survey and in the administrative data. For example, an employee subject to (full) social insurance contributions who is correctly classified as person in employment in the household sample survey may have indicated "public official" in the question for the status in employment.

In the household sample survey, most employees subject to (full) social insurance contributions, public officials, judges and soldiers indicated their status in employment as it is shown in the administrative data. For the employees subject to (full) social insurance contributions, the match is 99%. 3.8% of the public officials, judges and soldiers classified themselves as salaried

employees and wage earners. Among the only marginally employed persons, 7.3% classified themselves as self-employed or family workers in the household survey, contrary to the administrative data. It should be noted that not all these differences are necessarily due to incorrect information provided. For instance, a self-employed person may have a marginal secondary job and, consequently, be registered in the administrative data as subject to social insurance contributions.

2.2 Persons in employment according to administrative data, but persons not in employment according to household survey

The study examined a second group consisting of people who are registered as persons in employment in the administrative register but who classified themselves as unemployed or inactive in the household survey. The focus therefore was on those who, according to the household survey, are to be classified as inactive. A striking 21% difference is observed for those only marginally employed - according to the administrative data - who classify themselves as inactive in the household survey.

Those identified as inactives from the household survey data were split into several groups: people below the minimum age (i.e., younger than 15 years), recipients of pensions and/or property income, pupils and students who classified themselves as inactive, housewives and househusbands, and other persons not covered by one of these groups.

Among the persons only marginally employed, according to the administrative register, it became clear that 45% of those classified as inactive, that is nearly half of the group, were recipients of pensions and/or property income. The second largest share (22%) refers to pupils and students who classified themselves as inactive. Persons only marginally employed - especially pensioners, pupils and students - might not consider themselves as persons in employment as they work only on a small scale. This also applies to the group of housewives and househusbands if they work to a small extent.

A more detailed examination by age group and sex confirms these assumptions. Younger and older groups of persons and middle-aged women who are registered as only marginally employed persons in the registers classify themselves as inactive. Many of those who perceive themselves as people outside the regular working life (such as pensioners), and who consider their low earnings, are assumed to rule out that they might indicate paid work. Obviously, the questions on whether people do paid work are often associated with full-time or part-time employment during their regular working life.

3. Conclusion and outlook

The study took as a basis the information in the register-based statistics produced from the administrative data and examined to what extent it matched the data provided by the respondents themselves. A possible reason for differences is that respondents do not classify themselves as in employment when, for example, they are on parental leave or retired and that, consequently, they do not indicate their marginal employment in surveys. As part of such jobs are probably short-term, it may also happen that the entry in the administrative data was not up to date when the household survey was conducted, whereas the information provided in the survey was correct. Earlier studies also suggested that marginal jobs are often done discontinuously, which may produce discrepancies in coverage regarding surveys and registers.

Both experience acquired with employment variables in surveys and experience made with using administrative data were confirmed in the study. This includes especially the collection in household surveys of data from subgroups that are difficult to cover, such as only marginally employed persons as well as younger and older age groups. It is assumed that these results can be applied to other data sources of labour market reporting (for example, the microcensus).

The question arises here how the quality of household surveys and administrative data can be improved.

In household surveys, filtering and the wording of questions should be further developed with regard to the groups of persons that are difficult to cover, so that these people can recognise their own situation in the survey.

Where the survey is conducted by interviewers, their awareness has to be enhanced, too.

Complete electronic coverage, with the filtering arrangements stored and plausibility checks included, could further reduce the proportion of implausible data.

Reference

Anja Crößmann / Matthias Eisenmenger. *Die Erfassung der Erwerbsbeteiligung durch unterschiedliche Erhebungsmethoden*. In: WISTA Wirtschaft und Statistik. Edition 3/2016, page 72 ff.

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Methods of federal statistics – Further development

The European Master in Official Statistics - from a good idea to reality

As a result of marketing considerations, it has become nearly impossible to talk about statistical training and even less about training in official statistics. Modern statisticians are data scientists, big data analysts or at least iStatisticians. But irrespective of how we refer to the skill of generating decision-relevant knowledge from mass information, solid and effective training is indispensable. For applied statistics and, specifically, for official statistics, good cooperation with academic teaching is therefore an important strategic goal. The Federal Statistical Office (Destatis) has been involved in this area for many years. Destatis has offered lecture series as part of bachelor's and master's degree courses for many years.1

At the European level, such cooperation between university teaching and official statistics has now led to the European Master in Official Statistics (EMOS).2 Since winter semester 2016/2017, 22 European universities have offered a total of 23 master's degree courses which have been awarded with the EMOS label of the European Statistical System (ESS)3.4 In Germany, the label has been awarded to master programmes of Otto Friedrich University of Bamberg (Master of Science in Survey Statistics), Free University of Berlin (Master of Science in Statistics), Technical University of Dortmund (Master in Statistics), Ludwig Maximilian University of Munich (Master of Science in Statistics in Economic and Social Sciences) and Trier University (two master courses: Master of Science in Survey Statistics and Master of Science in Economics).

Master courses which have been awarded with an EMOS label have to meet a number of criteria. The most important criterion is that the programmes follow the EMOS curriculum. The core of the EMOS curriculum is the EMOS Learning Outcomes formulated by a team of university professors and experts from national statistical institutes (NSIs). To achieve the learning objectives, it is

[1] Hochgürtel T, Zwick M (2010) The lecture series "Economic statistics. Data production and data analysis in official statistics", http://iase-web.org/documents/papers/icots8/ICOTS8_10E2_HOCHGUERTEL.pdf.

[2] See also Zwick M (2015) Der European Master in Official Statistics (EMOS), Wirtschaft und Statistik 5, Statistisches Bundesamt https://www.destatis.de/DE/Publikationen/WirtschaftStatistik/2015/05/Wista_5_2015.pdf?__blob=publicationFile

[3] For the ESS see http://ec.europa.eu/eurostat/web/ess

[4] Two labels have been awarded with conditions, see master programmes with EMOS label https://ec.europa.eu/eurostat/cros/content/emos_en

necessary, among other things, to offer courses on various topics of official statistics and statistical methodology. 1 Also, students are required to do an internship with a data producer. In this context, the universities have to provide evidence of close cooperation with a statistical office or another recognised data producer. Universities seeking the EMOS label for one of their master programmes have to explain in an application, responding to an ESS call for applications, how the EMOS criteria are met. As an expert team, the EMOS Board evaluates the applications and proposes the successfully evaluated master programmes to the European Statistical System Committee (ESSC) for the award. The heads of NSIs regularly meet in the ESSC, which is the most important ESS body and has the final responsibility for granting the label and for the quality of the European Master in Official Statistics.

The ESS issued a call for applications in 2014 and in 2015. A total of 36 master programmes responded to the two calls for applications, 23 of them did so successfully. It is planned to issue further calls for application, but not before the existing EMOS network has been enhanced and the EMOS has been evaluated.

EMOS is however more than a purely academic teaching programme. EMOS is already a wide international network of universities, statistical offices, central banks and other data producers which cooperate on issues of public data production. There is an intensive exchange of views between the institutions involved and, especially, between the regions. EMOS is also a tool for sharing knowledge and experience with smaller European countries, new member states and candidate countries. In addition, more and more teaching materials are becoming available online and free of charge, which are accessible also to institutions outside the European Union. As the network will be enhanced and webinars will be offered, such knowledge sharing will continue to gain much importance.

The Federal Statistical Office is very close to the international EMOS project, although it will intensify especially its cooperation with the six German-language EMOS programmes, which include the Johannes Kepler University Linz (Master in Statistics) in Austria. Although EMOS has been conceived as an English-language programme, graduates of the German-language universities will probably account for the majority of future statisticians in the statistical offices of the Federation and the Länder.

The EMOS concept is dynamic, which is an important criterion at a time when the data landscape is changing rapidly. The EMOS Secretariat, which is run by Eurostat, regularly documents the state of affairs and progress made. Since 2013, all relevant developments have been published on the CROS portal (Collaboration in Research and Methodology for Official Statistics) at http://ec.europa.eu/eurostat/cros/content/emos_en. All teaching materials of the two EMOS summer schools conducted so far are also available there. In addition, current information is twittered at https://twitter.com/EstatEmos.

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[1] See https://ec.europa.eu/eurostat/cros/content/learning-outcomes_en

Statistical Library – the statistical offices' joint archive of online publications on the internet

The statistical offices of the Federation and the Länder have changed over from printed publications to online versions for most of their publications to accelerate the dissemination of results and reduce printing costs.

Having stored all electronic versions on the joint publications server of the Statistical Library (www.destatis.de/GPStatistik/), the statistical offices can focus on offering the latest editions on their websites.

Input forms and search functions specific to statistics are used for data entry, document storage and searches in the Statistical Library.

The IT solution is based on the freely available MyCoRe software with the help of which institutions can develop their own document servers. The decentralised entry of title data and the centralised storage of the online editions is implemented via the nationwide DOI network on an internal server. Every working day the title data and documents stored are mirrored to a freely accessible server on the internet.

As the statistical offices intend to provide a complete range of official statistical information on the internet, all publications have to be permanently available. External users will find the publication they are looking for after only a few search steps and may store that publication directly on their computer if it is available free of charge.

The statistical yearbooks and the monthly journals of the statistical offices will continue to be published in printed form, too. The new service guarantees long-term archiving of all electronic publications for the first time, regardless of work routines and changing responsibilities. The information provided on the internet is also drawn upon for submitting copies to the German National Library as required by law.

Metadaten einer Publikation

Statistischer Bericht / A / II / 1 << ^ >>

Haupttitel:	Statistischer Bericht / A / II / 1
Untertitel:	Eheschließungen, Geborene und Gestorbene in Berlin
ZDB-ID :	2530097-0
Statistisches Amt:	Amt für Statistik Berlin-Brandenburg Berlin / Statistisches Landesamt
Erscheinungsort:	Potsdam
Region:	Berlin
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Themenbereich:	AII Natürliche Bevölkerungsbewegung
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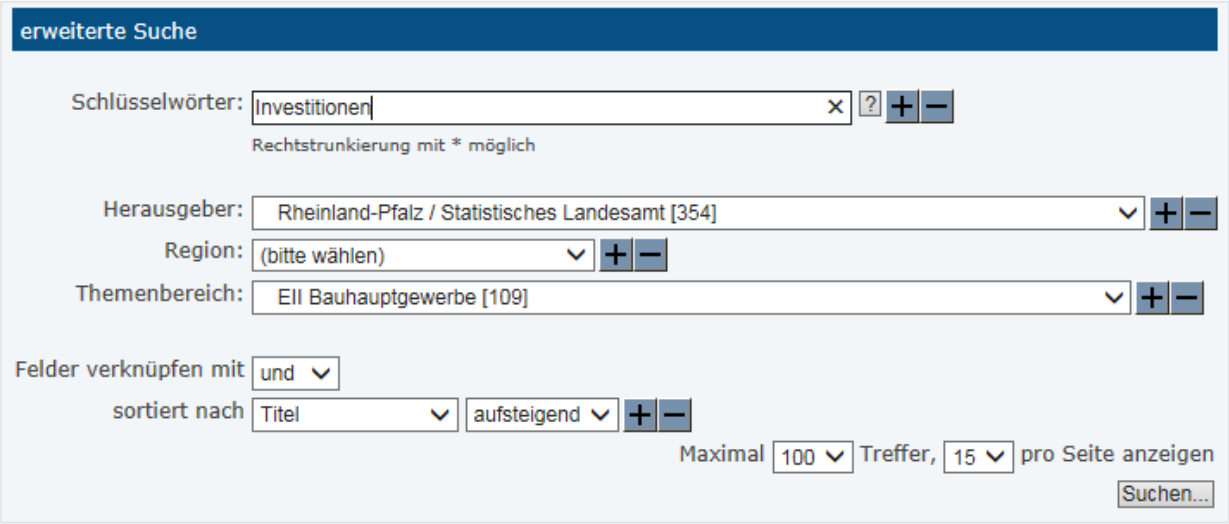
All output formats of a publication are stored centrally at the Statistical Library, usually an Excel version for further processing and a PDF/A version for printing and archiving. By means of a special archiving software, the PDF version is supplemented by the fonts used. As data capture is reduced to changes in the titles of newer editions, the handling becomes very efficient.

Searching the title data for editors, subject fields and title keywords will lead the user directly to the online version of the yearbook or statistical report he is looking for.

Suche nach Publikationen



Additionally, a full text search of the online editions is offered, which makes it possible to exploit the content of the offices' monthly statistical publications and to search for authors.

The statistical offices of the Federation and the Länder have agreed to use the Statistical Library also for subsequent digitisation. One by one, printed copies of historical value and older publications in high demand will be digitised, converted to PDF/A and thus made accessible to external users on the internet and available for download.

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Intrastat redesign

Since the completion of the Single European Market in 1993, foreign trade statistics have undergone profound changes. While previously all data could be obtained, in the form of secondary statistics, from the import and export declarations submitted to the customs authorities, businesses have been obliged to report their intra-EU trade operations directly to the Federal Statistical Office since the abolition of the customs barriers. For this purpose the so-called Intrastat system was established which has been discussed critically since its introduction. As data collection for intra-EU trade statistics is considered to impose a significant burden on the businesses responsible for providing information, simplifications have been introduced time and again to reduce that burden. In particular, this refers to a gradual reduction of the mandatory minimum coverage rate to 97% for intra-EU exports and 93% for intra-EU imports. In other words, the current exemption thresholds are 500,000 euros/year for exports and 800,000 euros/year for imports.

As a result, today nearly 90% of all businesses engaged in intra-EU trade are below the exemption thresholds in Germany. Due to the strong export orientation, however, roughly 70,000 businesses are still required to declare their trade in goods for purposes of intra-EU trade statistics. These businesses are the focus of further initiatives to reduce the administrative burden. Such initiatives have been incorporated in the Vision 2020 of the European Statistical System in the form of the ESS.VIP.SIMSTAT (Single Market Statistics) project launched in May 2012, which makes the exchange of business data on intra-EU exports compulsory among the participating partner Member States. Exchanging these microdata, the Member States will be able to do either fully or partly without collecting their own import data. The trial test that was carried out in 2015 and involved a total of 20 Member States was successful in so far as its results confirmed the project's technical feasibility. However, it was also stated that additional variables would have to be collected on the dispatch side. These include the VAT identification number of the trading partner, that is, the recipient business, and the country of origin of the goods. The VAT identification number of the trading partner will be required to make proper and comprehensive use of the information received in the process of data exchange as a basis for estimates replacing the values that are not/no longer compiled. The country of origin, which is currently collected from importers in Germany, is not included in the data on exports and would therefore not be available for the exempted imports of goods. This would for instance apply to the imports from trading partners like China and Hong Kong entering the Union's customs territory via Rotterdam. They would be shown in Germany as imports from the Netherlands (so-called "Rotterdam effect"), if made by businesses no longer required to provide import declarations.

ESS.VIP REDESIGN launched at the end of 2014 to complement SIMSTAT analysed - in the context of a SWOT analysis including a survey among reporting parties on the burden caused by Intrastat - alternative options to reduce the response burden on businesses through SIMSTAT. Based on the REDESIGN final report, the ESSC in May 2016 drew the following conclusions:

The general approach to modernising Intrastat aimed at reducing the response burden is supported. The goal of the future system will be to ensure an EU-wide reduction in the overall Intrastat response burden of at least 25%. In response to stakeholders' and users' changing

quality needs, the system will provide a sound level of quality. It will allow for flexibility in data sources and compilation methods selected by Member States and prepare them for the challenges brought by globalisation. The time schedule for the activities to be undertaken is based on the FRIBS schedule.

In more concrete terms, this means that the Member States will continue to compile monthly statistics on both intra-EU imports and exports in a breakdown by commodity code and trading partner. Although exchanging microdata on intra-EU exports will be mandatory, the Member States will be flexible in their decision on using the data exchanged. This will give the Member States the opportunity to implement innovative and flexible compilation and processing methods. Within an appropriate period after entry into force of the relevant legislation, the operation of the new system will be evaluated.

The availability of the relevant partner data could lead to a decline in coverage of intra-EU imports to 85% in Germany. The exemption threshold for imports would rise to over 5 million euros. This would reduce the burden on roughly 26,000 businesses, while approximately 15,000 would be completely exempted from the relevant reporting obligations. The associated loss of information could be compensated for by the microdata received from the partner countries. In the context of the REDESIGN project, this model named SIMSTAT-DE by Destatis achieved the highest consistency of results in our simulation calculations. However, the required collection of additional variables (VAT identification number of the recipient and country of origin) would cause an additional burden on the export side, which needs to be compensated for. This could be achieved by raising the exemption threshold for intra-EU exports.

The quality criteria are to be thoroughly analysed and assessed by the end of 2016 to allow the relevant Intrastat provisions to be incorporated in FRIBs in due time.

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Events

Conference volume on Human Resources - Quality Aspects of Education and Training in Empirical Research

In June 2015, the Federal Statistical Office, the Association of German Market and Social Research Institutes (ADM) and the Working Party of Social Science Institutes (ASI) held a joint scientific conference on "Human Resources - Quality Aspects of Education and Training in Empirical Research" in Wiesbaden. The conference volume containing the conference documents has been published by Springer VS Verlag.

Based on the methodological university training for Bachelor's and Master's degrees and the requirements to be met by higher education graduates, the conference volume presents a number of training courses. Renowned representatives of academic social research, commercial market research and the official statistics community describe, for example, the higher education course of study in market research, vocational training in the dual system, advanced training in official statistics, and the methodological training of postgraduate social scientists in Germany and at international level.

Further information on this publication and free downloads of the list of contents, the editors' preface and sample pages are available from Springer VS Verlag through the link below. Via this link the conference volume can also be ordered directly as an eBook or a softcover print version: http://www.springer.com/de/book/...

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Workshop on the further development of data editing

Statistical data editing is a central and highly complex process in statistics production. In the system of official statistics in Germany, data editing is carried out individually in the various specialised units. Studies on process management have shown that the way data editing is done differs greatly between the statistical areas and that the methods applied vary considerably. The Federal Statistical Office has set itself the goal to adjust cross-domain requirements regarding the methodology and the data editing approach to current international standards. Also, it should be examined whether, and to what extent, there is potential for standardising data editing procedures.

To determine the demand for support and further development and possibilities of optimisation and standardisation in the data editing process, a workshop was held on 25 and 26 April 2016, in which experts from various specialised units participated.

With a view to the envisaged setting up of a data editing competence centre, there was a lively exchange of ideas on current practices, experience made and any problems encountered in data editing. Major issues were the further development of IT tools, the support of those using the tools, and specific problems of data editing at the microdata and macrodata levels. Also, various ways of quality measurement and quality control were presented. The data editing and imputation business process model developed by a European expert group was briefly presented and tentatively "tested" by the participants using example statistics.

From the viewpoint of those who participated in the workshop, the functions of a future data editing competence centre should focus on methodological-technical advice. This obviously includes the provision of helpful documentation and the relevant standardisation and canonisation of methods. It would be particularly desirable to have an overview of established best practices in all phases of the data editing process.

Regular cross-domain exchange of experience is envisaged.

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Scientific conference on "Labour Market and Migration" held by the Specialist Committee on Employment/Labour market on 31 May and 1 June 2016

At the invitation of the Specialist Committee on Employment/Labour market, a large group of experts on labour market research, official statistics and labour market policy came together at a scientific conference on „Labour Market and Migration“ on 31 May and 1 June 2016. Before the conference, a public call for papers had been issued which met with considerable interest. Stimulated by sixteen papers of external and internal speakers, approximately 100 participants from the scientific and political communities, associations, the Federation, Länder and Eurostat examined the questions of how to assess the development of, and the relationship between, migration and the labour market, and what conclusions should be drawn from the evidence.

The diversity of the topic was made apparent by the broad spectrum of contributions which discussed a wide variety of issues. Some of them presented current findings on the labour market integration of immigrants in Germany and in other European countries. Others examined the perspectives of migrants, focusing on socio-demographic aspects and the migrants‘ skills. Another focal point of the conference was on analysing the effects of immigration on labour

supply and demand. The speakers presented different approaches to projecting the future labour market development in Germany.

In addition to empirical findings on the past and current labour market development, the conference explored new data sources for research and reporting on the labour market and migration. A lively discussion ensued concerning the future requirements for statistics. It became clear that improving and refining the statistical coverage of the various facets of the labour market and migration is an important task for the official statistics community. Overall, the contributions underlined that statistics have general significance for investigating and verifying developments and interconnections of various economic and social variables.

This was the third scientific conference on labour market issues convened by the Specialist Committee on Employment/Labour market. A survey among the participant members of the Specialist Committee showed that this form of professional exchange was rated very highly. Roughly 93% of the Specialist Committee members were in favour of organising the scientific conference in tandem with a Committee meeting in future too.

The conference programme and all the presentations given by the speakers are available for download from the website of the Federal Statistical Office at

https://www.destatis.de/DE/UeberUns/Veranstaltungen/VeranstaltungenArchiv/VeranstaltungenArchiv.html. If you would like any further information, please send an email to arbeitsmarkt@destatis.de.

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