



Number 1/2000

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Published by: Federal Statistical Office, Wiesbaden



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Periodicity: semi-annual

Published in March 2000

100 % recycled paper.



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The catchword

The European System of National and Regional Accounts (ESA) 1995

In April 1999, the revised European System of National and Regional Accounts – ESA 95 – was introduced in all European Union member states. According to a Council regulation, all member states are obliged to apply the concepts, definitions, and classifications of the ESA 95 in calculating national accounts. Also, the results have to be supplied to the Statistical Office of the European Communities (Eurostat), following a precisely defined time schedule and programme of contents. This means that another major step has been made towards harmonisation and comparability of the gross domestic product (GDP) and its components within the European Union (EU). This is highly important because national accounting results are used to determine EU own resources and to measure the convergence criteria, and also because there is a growing demand for statistical information for EU policies in general.

In many respects, the ESA 95 differs considerably from the former ESA, 2nd edition. Users of national accounting data will find not only modified classifications and additional items but also a number of conceptual and terminological changes.

The processes of the national economy are presented using revised classifications based on, also revised, European classifications of economic activities (NACE Rev. 1), product groups (CPA), purposes of individual consumption (COICOP), and functions of government (COFOG). What is used in Germany is the national classification of economic activities (WZ 93), which is based on NACE Rev. 1 and has replaced the former WZ 79; since 1995, it has been compulsory for all statistics collected. The main forms of presenting national accounting results according to the ESA 95 are, as before, tables for industries and sectors, sector accounts, and input-output tables. What is new is cross tabulations such as supply and use tables, as well as investor tables by industries and product groups, and cross tabulations for the representation of production processes and fixed assets by industries and sectors. Also, quarterly accounts and regional tables have become an integral part of the ESA 95. Another factor contributing to the new shape of national accounts is different delimitations of sectors. A major change refers to the households sector which now covers all sole proprietorships and some specific partnerships, while corporations are shown in a separate sector. This means that presenting an enterprise sector covering all forms of enterprise, as was common before in German national accounts, has been abandoned. Also, the new ESA includes a number of additional items such as disposable income and consumption according to the concept of actual final consumption, price-adjusted income, and purchasing power parities. The two latter items have not been included in publications of the Federal Statistical Office for the time being.

The revised national accounts are largely characterised by modified concepts, definitions, and technical terms. The change which has the strongest impact on the levels of GDP and gross national income (new term for gross national product) is the extended meaning of the term "capital formation". It now includes the acquisition and own production of intangible assets such as in particular software purchased or produced on own account and produced entertainment, literary or artistic originals (originals of manuscripts, sound recordings, films, models, etc.). What is also included now under capital formation is military machinery and equipment as well as military buildings and structures which may be used for civilian purposes (e.g. military vehicles, barracks, airports, and roads). In the past, those expenditures were included under intermediate consumption of general government and, consequently, belonged to the final consumption of general government. A considerable rise in the levels of GDP and gross national income (GNI) is due also to the enlarged assessment basis for the consumption of fixed capital, now covering the total of fixed assets (excluding animals). As a result, public capital formation in roads, bridges, sewage systems, etc. is included as a basis for consumption of fixed capital, leading to an increase of government final consumption expenditure (new term for final consumption of general government) and also of GDP and GNI. A number of other conceptual changes which have a considerable impact on GDP and GNI are described in detail in the papers mentioned below.

The ESA 95 also contains conceptual changes which have no influence on GDP and GNI levels but which do influence the presentation of results. A major change regards the assessment of output and gross value added at basic prices. This means that not only value added tax and taxes and duties on imports are deducted but also the other taxes on products (e.g. taxes on mineral oil, spirits, tobacco), while government and EU subsidies on products are included in the assessment. Consequently, the presentation of value added by industries differs considerably from what was presented before.

Detailed presentations and explanations regarding the introduction of the ESA 95 in German national accounting are given in two papers published in *Wirtschaft und Statistik*, numbers 4 and 6/1999. Revised results for the years 1991 to 1998 are contained in *Fachserie 18, "Volkswirtschaftliche Gesamtrechnungen", Reihe S. 20*.

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Methods of federal statistics – Further development

Drawing up the comprehensive statistical business register by processing administrative data

Statistical business registers are not only basic instruments for supporting statistical surveys efficiently but also evaluation instruments per se. By means of Council Regulation (EEC) No. 2186/93 of 22 July 1993 on Community Coordination in drawing up business registers for statistical purposes, the Council of the European Communities obliged the Member States to set up a comprehensive statistical business register. On account of its specific situation, Germany was granted a transitional period in which to establish the business register. Until the year 2000, a business register has to be set up containing all economically active units complete with the obligatory data and characteristics of the Regulation.

The Regulation prescribes annual updating of the business register and for that purpose recommends using administrative files in addition to current data from statistical surveys. Access to the files has to be gained in keeping with the provisions of national legislation. That purpose is achieved by the Law on the implementation of the above Regulation (Law on Statistical Registers), which regulates the access to basically four administrative files.

- *Files of the fiscal administration* are required to obtain the obligatory 'turnover' variable.
- *The local unit file of the Federal Institute for Employment*, supplemented by data on persons employed, provides the opportunity to store data on employees subject to social insurance contributions.
- *The files of the chambers of commerce and industry* will help to reflect links between local units and enterprises.
- The EC Regulation does not prescribe the use of the *chambers of crafts' files*; however, these files contain the 'crafts' characteristic and thus provide the chance to substitute statistical surveys by register evaluations of that characteristic in the future.

The present business register system 95 (URS 95) emerged from the former file of enterprises and local units in production industries and the individual register for the sector of "distributive trade and the hotel and restaurant industry", supplemented by the units from the 1995 census of crafts and the 1996 census of the crafts-related industry. It comprises some 2.4 million units. As these files in cases contained the same units, the register had to be adjusted for duplicates at the statistical offices of the Länder.

The turnover tax files of the fiscal administration comprising 2.8 million enterprises were integrated into the URS 95 in 1999. In December 1999, the staff started to store the file of the Federal Institute for Employment consisting of 2.1 million enterprises in the URS 95. The Federal Statistical Office is responsible for the conceptual and methodological work on the specific storage concepts. The statistical offices of the Länder have to carry out the time-consuming task of matching the units contained in the files on the basis of names and addresses. This work is necessary as there is no uniform enterprise number for all of Germany. Although software is used to match the data, large part of the work has to be performed manually. By the middle of the year 2000, the business register has been filled with all units from nearly all sectors of economic activity.

Temporarily, the quality of the business register will not be entirely satisfactory as it will not be possible to identify all units unambiguously from the outset. In order to improve the quality of the register, a survey of units not clearly identified has been envisaged for mid-2000. They will be asked to give their identification numbers in the administrative files, and – in a second step, if necessary – indicate the economic branch in which they operate.

The URS 95 is based on an EDP system prepared in the Seventies for the file of enterprise and local units in production industries. Although a dialogue version has meanwhile been introduced, it is obvious that in the long run this system will not be able to meet the requirements, especially as a business register for the efficient support of statistical surveys and as an evaluation instrument. For that reason, a project group consisting of representatives of the statistical offices of the Federation and the Länder was set up to develop a concept for an integrated business register system 99 (URS 99). Work on this new concept is rather difficult and time-consuming. It is intended to start using the new system gradually for surveys presumably from the year 2003.

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Methodological background and impact of a possible VAT system modification on foreign trade statistics

Data collection for foreign trade statistics has always been geared towards the methods used at other public authorities, in particular the customs administration, but since the completion of the Single Market in 1993 also the tax authorities. A major advantage of this link is the chance to use existing mechanisms for the production of foreign trade statistics and thus make data collection particularly efficient. The major shortcoming is that changes in administrative procedures on which foreign trade statistics are based always affect the statistics, too.

The consequences will be described in the following, relating to the Commission's proposals for a final design of the VAT system for goods taxation in the Single Market. As a matter of fact, the Commission's proposals are not pursued with vigour in Brussels according to the information available, so they will presumably not be implemented in the present form. It remains to be seen which course the discussions will take. Nevertheless, statisticians have to

check at an early stage whether data collection could be organised without the above link between tax and statistics at all and how this could be done if the changes should be implemented after all.

The modifications would affect the collection of data on the trade in goods between member states (generally known as the Intrastat data collection system), which accounts for more than half of Germany's foreign trade in value terms. As you may remember, it became possible to link the data collection system with the tax system for the following reason: when the VAT transitional regulation came into force on 1 January 1993, taxpayers had to start keeping separate records of their intra-Community deliveries and acquisitions and indicate them separately in their periodic VAT returns. As the deliveries and acquisitions only relate to trade in commodities also covered by intra-Community trade statistics, the VAT returns have been ideal for comparing values indicated in the VAT return and in the declaration for statistical purposes and thus check whether an enterprise obliged to provide information

- a) has met its obligation (⇒ completeness of the survey as regards respondents),
- b) supplies all data required (⇒ completeness of the survey as regards the data provided).

Central interfaces between the two systems in the member states are the registers of intra-Community market participants, which have other important functions in the data collection system apart from those mentioned above. These are, for instance:

- identification of respondents (updating of the register),
- basis for reminders,
- determining supplementary estimations of trade below the exclusion threshold and of non-response,
- determining structural data for intra-Community trade statistics.

Thus the registers updated with the help of VAT returns are essential for the quality and currentness of statistics on the trade between member states.

The proposals advanced by the Commission in respect of a final taxing system for the Single Market contain several changes which are significant for foreign trade statistics. Major modifications are:

- changeover to the "country of origin principle" (taxation at enterprise headquarters);
- no differentiation between national and intra-Community turnover;
- cross-frontier input tax deduction and clearing of the resulting tax revenue shift between member states on the basis of statistical data (macroeconomic clearing).

Especially the first two proposals would have far-reaching consequences for the collection of statistics. Taxation at the headquarters, i.e., taxing an enterprise's entire turnover within the EC for instance in Milan, would affect a number of substantive legal provisions relating to the obligation to provide information, exemption and representation now geared towards tax regulations. In this context, the definition of the obligation to provide information for intra-Community trade statistics is particularly important, which could then not be linked and related to tax liability anymore. Taxation at the headquarters of the supplying enterprise may create an obligation to provide information on intra-Community deliveries or purchases within the national statistical territory for enterprises with headquarters in other member states, and the member states in question may then not be able to enforce this obligation.

Far more important is the fact that a differentiation between turnover within the member state and intra-Community turnover would no longer be required. Consequently, VAT returns could not be used to check statistics anymore. The register as an interface between systems and an important data collection tool would become unusable for a longer period of time. Therefore, all member states agree in that disconnecting tax and statistics would have far-reaching effects on the quality and completeness of statistics. Mention should be made of the following tasks which could no longer be fulfilled:

- It would not be possible anymore to update the register.
- The statistical offices would not know the group of respondents anymore.
- There would be no more completeness checks (regarding both data and respondents).
- There would be no basis for reminders.
- The extent of non-response and trade below the threshold could not be determined in the same way as before.
- Over the medium-term, the response ratio would fall due to the missing system of checks, without there being a chance to measure or estimate the decline.

As regards the availability of data, all member states hold the view that such changes may cause delays of several months in the medium and long term.

A frequently discussed idea is basing intra-Community trade statistics on a sample survey. However, recent studies of a sampling method again produced negative results in so far as the present quality and informative value cannot be maintained with a sampling procedure. If the present method of producing intra-Community trade statistics is changed it has to be considered in how far the production of uniform national foreign trade statistics would have to

be given up. That would be an undesired consequence in the view of many member states and users and not be in accordance with international concepts and definitions.

An alternative to the present link of foreign trade statistics with other administrative procedures would be an improved integration of statistics into the IT networks of economic agents as part of the increasing global information interchange. It is certain that all basic information required for producing foreign trade statistics is available in these very IT networks. It would have to be decided, however, at which points the data would be matched. In this context, forwarding agencies and transport contractors should be mentioned. For the experts producing foreign trade statistics, this group of respondents to be determined by law would in fact be desirable for various reasons. On the one hand, flows of commodities could better and more rapidly be verified for instance by means of forwarding orders or logistics. The classical methodological approach could thus be maintained, this being advantageous with a view to the still customs-based data collection systems of statistics. Furthermore, this group of respondents is familiar with the requirements of this type of statistics in all member states as they already represent the respondents in many instances. This holds true especially for the nomenclature.

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Concepts for covering trips in public passenger transport by rail and road

The demand for services of public passenger transport is usually recorded in terms of *passengers carried*. However, not the number of people as such is covered, but of the trips they undertake. Two completely different collection methods are conceivable for recording those trips: either by interviewing the passengers themselves or by gathering data from transport enterprises. In official statistics, passenger trips are exclusively recorded through business surveys on the basis of different trip concepts.

The *statistics of public road passenger transport by bus/motor-coach and tram/subway* present data on passengers carried as reported by the transport enterprises which are liable to provide statistical information. As far as *regular transport services* are concerned, a passenger carried is defined as the uninterrupted trip of a passenger on a transport enterprise's network, using only one ticket and irrespective of whether one or more of the enterprise's means of transport are used. Thus, the information provided actually refers to one enterprise trip. Consequently, a passenger using several means of transport of one and the same enterprise in order to reach a specific destination is recorded statistically as just one passenger carried. If, however, this passenger changes during his trip to any – possibly even the same – means of transport operated by a different transport enterprise, he is counted again and reported as a passenger carried by the new transport enterprise, too. The passengers carried per enterprise are added up to the total of passengers carried by all transport enterprises taken together. This total represents the passengers carried according to the *enterprise concept*.

Since the concept of enterprise trips does not distinguish between the individual means of transport, no information is available on how many trips were made on the various means of transport. If the number of passengers carried by a specific means of transport is required, a passenger changing to another means of transport of the same enterprise has to be counted again. The sum total of passenger trips of all transport enterprises then represents the number of passengers carried according to the *means-of-transport concept*. Since, on principle, the transport enterprises are the statistical units liable to provide information, the total of passengers carried according to the latter concept must inevitably exceed the total of passengers carried according to the enterprise concept because of the greater differentiation. The difference indicates the number of passengers changing from one means of transport to another.

Railway statistics only record the passengers carried by rail so that these data, in fact, are based on the means-of-transport concept. A passenger using an enterprise's railways and trams, or railways and buses, will be reported for both the railway statistics and the road passenger transport statistics and thus is counted twice for using two different means of transport. Railway transport statistics furthermore draw a distinction between *short and long-distance transport* so that passengers changing from short-distance railway transport to long-distance railway transport or vice versa are counted at least twice and are recorded for both types of transport.

For *long-distance passenger travel by road* (non-regular transport services), the enterprise concept and the means-of-transport concept yield identical results because these transport services are exclusively provided by buses and motor-coaches. Nevertheless, methodological differences exist in this context, too. As regards holiday travel, the trip to the destination and the return trip are each counted as a trip. For excursions and journeys by hired motor-coaches, the whole tour is considered as just one trip, regardless of the question whether these excursions or several-days journeys had a specific destination where further trips were made. As this means that excursions and journeys by hired motor-coaches are substantially under-represented, it is difficult to record the total number of passenger trips in the field of non-regular transport services or to add up the trips of regular and non-regular services. As in short and long-distance railway transport, passengers changing from one type of transport to the other are, on principle, counted twice.

In the case of *short-distance regular services*, transport associations (*Verkehrsverbände*) report passenger trips in terms of transport association trips. The latter's total number is usually far lower than the number of enterprise trips reported by a transport association. This is due to the fact that a passenger changing between the related transport enterprises is recorded only once as a transport association trip. According to the enterprise concept, however, he has to be reported by each of the related transport enterprises and thus is covered several times. Some transport associations publish figures on passengers carried according to all three concepts, i.e. transport association trips,

enterprise trips and means-of-transport trips. All of these aggregates may be used to illustrate the demand for a transport association's services and have an independent informative value. As official statistics are based only on information collected from enterprises, but not from transport associations, they cannot provide information on transport association trips. Surveys of transport associations, moreover, cannot replace business surveys because transport associations provide only regular short-distance services and operate only in specific areas.

A better harmonisation of the surveys of public passenger transport by road and rail can only be achieved by *standardising* the *methods* of collecting data on passengers carried. Covering the numbers of passengers in a breakdown by means of transport will increase the transparency of that demand for transport services which is based on passengers using transport chains to reach their destinations as easily and quickly as possible. Furthermore, the means-of-transport concept is the only one to provide pertinent data for estimating the risk of accident involved with individual means of transport.

The improved transparency, however, will also increase the burden imposed on the enterprises liable to provide statistical information. If a classification by means of transport is applied, the transport enterprises must estimate – and estimates are inevitable when large-area transport counts are lacking – not only the number of passenger trips for the whole enterprise, but also the numbers of passengers using the individual means of transport. On the other hand, only few enterprises are operating different means of transport, except for the larger ones which usually compile internal records on passengers by means of transport. Therefore, it can be justified to cover the passengers carried according to both trip concepts. Once the landscape of transport associations has been consolidated, it will be possible to take surveys of the transport associations in order to collect data on passenger trips made in short-distance regular services.

The concepts relating to enterprise and means-of-transport trips are both affected by mergers and demergers of enterprises to the extent that these lead to increases or reductions in the number of passenger trips recorded, although the actual number of persons using public means of transport has not risen or dropped. Measuring transport performance in terms of passenger-kilometres as another aggregate of transport demand, however, is not affected by changes in the enterprise structures because it is based on the distances run. Since the various trip concepts always supply identical results on transport performance, this aggregate is not subject to the methodological problems involved with recording passenger trips. Transport performance, though, is a statistical aggregate that is favoured by experts but not particularly appreciated by the general public. This is the reason why in future, too, the demand for transport services should be presented according to both aggregates.

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Events

Scientific colloquium "Economic research today – Theory, measurement, empirical knowledge"

The colloquium held in Wiesbaden on 18 and 19 November 1999 was organised by the Federal Statistical Office in cooperation with the German Statistical Society – more precisely the Committee on Methods of Statistical Surveys. It was the eighth colloquium of a joint series started in 1992 to provide an annual forum for an academic interchange between the bodies of official statistics and major groups of users, in particular from the fields of science, business, politics, administration and from associations.

The 1999 colloquium entitled "Economic research today – Theory, measurement, empirical knowledge" was moderated by Prof. Dr. Dres. h.c. Norbert Klöten. The first paper treating the "Analysis of economic trends and economic policy – Links in the annual reports of the Council of Economic Experts" was held by Dr. Michael Hüther of the credit institution *Deutsche Girozentrale-DekaBank*, Frankfurt/Main. Prof. Dr. Adolf Wagner of Leipzig University spoke about the change of concepts and models in business cycle theory, and Prof. Dr. Bernd Schips from the Institute for Economic Research of the *Eidgenössische Technische Hochschule Zürich* shed some light on problems of empirical economic research. Dr. Norbert Herbel of the Federal Statistical Office provided information on business indicators of official statistics, and Dr. Robert Fecht of the *Deutsche Bundesbank* dealt with the subject of *Deutsche Bundesbank* business monitoring.

The first day of the colloquium ended with the presentation of the Gerhard Fürst Award. For the first time the Federal Statistical Office thus awarded prizes for outstanding dissertations, *Diplom* and *Magister* theses on subjects closely related to statistics.

The second day started with a paper presented by Dr. Gernot Nerb of the Munich-based *ifo* Institute on business diagnosis and economic forecasts using the *ifo* business cycle test. Prof. Dr. Ullrich Heilemann from the Rhine-Westphalia Institute for Economic Research in Essen then outlined the change in the business cycle phenomenon from 1955 to 1998 drawing upon first results of a discriminant analysis. All contributions of the colloquium – supplemented by a paper on "Diverging business cycles in unified Germany" by Dr. Gustav-Adolf Horn of the German Institute for Economic Research (*DIW*) in Berlin – will be published in summer 2000 in a volume of the publication series "Forum of Federal Statistics" edited by the Federal Statistical Office. At the end of the colloquium, Prof. Dr. Thomas Straubhaar of the Hamburg Institute of International Economics (*HWI*) shed some light on business cycles in a globalised world.