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The catchword

Economic classifications

Classifications are an important instrument of population, economic and social statistics, serving to explain and present in tabular and/or graphical form quantified conditions or processes with a given classified order.

Economic statistics are a major part of official statistics. If the term economy stands for the entirety of institutions and measures designed to cover the human demand for goods and personal services, then all statistics referring to one of the economic topics for achieving this aim are economic statistics. These are, above all, the foundations, processes and results of commodity production, i.e. of goods and services, e.g. enterprises, local units, investments, consumption of materials and commodities, wages and salaries, production and turnover. So we are dealing with operating institutions and economic goods.

The concept of operating institutions has to be used here in a very broad sense. It has to cover all institutions involved in the circular flow of the economy, i.e. in addition to agricultural holdings and commercial local units and the liberal professions it has to include non-profit organizations, private households and local authorities. The Industrial Classification of Economic Activities serves as a basis for analysing the operating institutions. Only with the help of this classification can the operating institutions, and all the features, topics and processes to be covered, be classified as uniformly as possible according to specific characteristics. These characteristics include in particular the position in the economic process (producer or final user), the intent to realize a profit (enterprises as opposed to non-profit institutions and general government), the kind of production (goods or services), the position occupied in the production process (exploitation of natural resources, production of primary goods, producers' goods, investment goods, consumer goods or food), the type of raw material processed (rocks and minerals, metals, wood, plastics, rubber, natural fibres, etc.) and the type of demanders of services (general public, enterprises, individuals).

The Industrial Classification of Economic Activities provides the basis for the classification of statistics in production industries, agricultural statistics, environmental statistics, the census of handicrafts, the census of non-agricultural local units, statistics of commerce and the hotel and restaurant industry, tourism statistics, surveys of earnings in industry and commerce, statistics of agreed wages and salaries, tax statistics, the microcensus, balance sheet statistics, statistics of incorporated enterprises as well as the statistics of bankruptcies and composition proceedings. It is also the basis for the classification of national accounts, i.e. aggregate economic statistics which are not tailored to a specific subject field but present economic and social interrelations and provide an overall picture of the circular flow of goods, services and income.

No less important is the second type of economic classifications, the classifications of goods and commodities. They are used to present statistically the goods produced by the units operating in the economy and the commodities traded and transported, including their customs clearance. Consequently, a distinction has to be made between goods classifications for the field of production, and commodity classifications for trade, customs and transport. The former include the Commodity Classification for Production Statistics and the Classification of Buildings. The latter group comprises the Commodity Classification for Domestic Trade Statistics, the Commodity Classification for Foreign Trade Statistics, the Classification of Materials and Goods Received in Production Industries and the Classification of Goods for Transport Statistics. The Commodity Classification for Production Statistics and the Commodity Classification for Domestic Trade Statistics also serve as descriptive lists for the Industrial Classification of Economic Activities. This means that the individual positions of the Commodity Classification for Production Statistics are allocated by means of their code numbers to the economic branch in agriculture or production industries which mainly produces this type of commodity. Analogously, the positions of the Commodity Classification for Domestic Trade Statistics are linked with the corresponding branches of trade of the Industrial Classification of Economic Activities.

The endeavours to make the development of world economy more transparent by means of statistical data based on international economic classifications date back to the 1930s: In 1931, the League of Nations published a first international customs classification known as the "Geneva Nomenclature", which was followed in 1948 by the International Standard Industrial Classification of all Economic Activities (ISIC) issued by the United Nations. In 1970, the General Industrial Classification of Economic Activities within the European Communities (NACE) was published.

In the following years, the growing international economic interdependence made it desirable to harmonize these classifications at a worldwide, European and, where possible, also national level. This aim was first achieved in the field of commodity classifications for foreign trade and customs. In 1988, the Customs

Co-operation Council (CCC) issued the Harmonized Commodity Description and Coding System (HS), a six-digit commodity classification used all over the world. It was taken over by the European Communities, who added two further classification levels and thus created the eight-digit Combined Nomenclature (CN) of the European Communities. By including a ninth digit, the Federal Statistical Office prepared the Commodity Classification for Foreign Trade Statistics, a still more detailed classification for national purposes.

The harmonization of the industrial classifications of economic activities at a worldwide, European and national level will soon be completed. In cooperation with participants of the member states, the Statistical Offices of the UN and the EC prepared a revised four-digit version of the ISIC (ISIC Rev. 3) in 1990, which is the basis of a revised NACE (NACE Rev. 1). For this purpose, the first two classification levels of the ISIC were taken over unchanged into the revised NACE, while the third and fourth levels were further elaborated by breaking down the ISIC positions. NACE Rev. 1 will replace the current version of the NACE in 1993. The future national Industrial Classification of Economic Activities (WZ) of the Federal Statistical Office will be prepared by taking over the entire NACE Rev. 1 and adding a further level of classification; it will also be introduced in 1993.

Entirely new is the introduction of goods classifications for production harmonized at an international, European and national level which by means of linking their positions with the economic branches of the lowest classification levels of ISIC, NACE and WZ, respectively, will also serve to explain and delimit these classifications. The Central Goods Classification of the UN (CPC) has already been completed. At present, a more detailed goods classification of the EC is being prepared on this basis, from which a German goods classification is to be derived by means of a further breakdown. It is planned to complete both classifications until 1993.

Further development of the collection, processing and presentation of data

First all-German Census of Agriculture in 1991

Programme and organization

The Law on Agricultural Statistics of 15 March 1989 provided that a census of agriculture (LZ) be conducted to obtain up-to-date and reliable data on the structure of and important changes in agriculture and forestry. The census consists of a main survey and censuses of viticulture, horticulture and inland fisheries. The main survey was scheduled for spring 1991. As to the contents, it follows the censuses of agriculture carried out earlier in the Federal Republic of Germany, namely in 1979, 1971, 1960 and 1949. The national and international agencies responsible for agricultural policy, agricultural organizations, numerous scientific institutions, but also the farmers themselves shall and will use the results of the census as an aid in the decision-making process.

Through the accession of the former GDR to the Federal Republic of Germany, the Law on Agricultural Statistics became effective with some minor amendments (according to the Ordinance on the Adjustment of Statistics of 26 March 1991) also in the new federal Länder. Consequently, the 1991 LZ also had to be conducted there, linking up with the 1952 and 1949 Censuses of Agricultural Holdings in the former GDR.

In an international context, this first major census of agriculture in united Germany fulfills the requirements of both the basic survey of the 1991 Community Survey on the Structure of Agricultural Holdings and the 1990 World Census of Agriculture conducted on the basis of a recommendation by the FAO (Food and Agriculture Organization of the United Nations).

All holdings with market production and an agriculturally used area of 1 ha and over or – if they cultivated less than 1 ha – with minimum production units as of a certain size had to be covered by the 1991 LZ.

The survey programme of the 1991 LZ includes information referring to

- the standard programme of the reports on agriculture on livestock population, the utilization of areas by main types of land use and types of culture, labour and working hours,
- the follow-up programme of the reports on agriculture on bookkeeping, the socio-economic conditions of the holdings as well as the production and spreading of animal excrements, furthermore on the status of ownership/tenancy with regard to the agriculturally used area, sources of income and subsistence, and finally

- the LZ main survey on the datum quantities according to the Ordinance on Warranted Quantities of Milk, the letting of lodgings to holidaymakers and visitors of health resorts, on who is to take over the farmstead, the type and economic branch of an activity performed outside the holding, vocational training, membership in producers' associations and organizations, the equipment of the holding with agricultural machinery and the social security of the proprietor and the members of his family.

In the old federal Länder, the survey was partly representative and partly exhaustive, while the data were collected with certain modifications and restrictions in a complete survey throughout the new federal Länder.

The entire survey was carried out in all federal Länder in May 1991, except for the livestock census conducted in the old federal Länder in December 1990. After the statistical offices of the Länder had determined the holdings to be questioned, using the register of agricultural holdings, superscribed the survey documents and made them available to the communities, the latter had as survey offices to conduct the survey with the help of persons in charge of the data collection.

Before, the persons in charge of the data collection and the community employees entrusted with conducting the survey had been instructed in numerous training courses by the statistical offices of the Länder how to deal with the technical and organizational problems as well as with legal questions of data protection. Especially in the new federal Länder, where the administrative system is undergoing radical changes, the setting-up of the survey organization involved enormous efforts with regard to finance, personnel and time.

As part of public relations work, the technical press and other regional media, associations and technical departments as well as the communities, the latter using notices and information bulletins, informed the farmers on the necessity, the scope and the time of data collection. Furthermore, those obliged to provide information were advised, in keeping with the stipulations of the Federal Statistics Law, by means of special information leaflets of the purpose, the type and the scope of the census of agriculture, the obligation to provide information, data confidentiality, and the rights and obligations of those in charge of the survey.

Once the data collection at the agricultural holdings had been completed in time thanks to the considerable efforts on the part of the communities and the statistical offices, the data were subjected to an extensive and complicated procedure of checking and processing at the statistical offices of the Länder. After the returned documents had been manually checked for completeness, the data were entered and stored on magnetic storage media according to EDP requirements. The data covered in the various surveys were matched by means of a holding number. Then there were extensive EDP-based plausibility checks (about 600 error codes). The holdings will then be broken down by size classes, operation systems and other criteria relevant to the evaluation of the data. Further calculations will have to be made using the basic data before the results can be tabulated. A total of more than 100 data processing programmes are used in processing the data.

For determining the results, the statistical offices primarily use the tables prepared since the 1971 Census of Agriculture and the 1975 Report on Agriculture. New tables will have to be developed only for the groups of characteristics covered for the first time in 1991, such as the datum quantity for milk or the production and spreading of animal excrements. The specific structural situation of agriculture in the new federal Länder must also be considered when breaking down the results both in the tables taken over and in the new tables. The continuity of the results will in any case be ensured for purposes of comparison with structural results compiled earlier.

First results on the structural situation in the new federal Länder have been available in a publication since August 1991. Further results on the structural situation and the working conditions in agriculture in the Federal Republic of Germany were published in the first half of 1992. It is planned to present the other results of the 1991 LZ in Series 2 of Subject-Matter Series 3 of the Federal Statistical Office and the source publications of the statistical offices of the Länder from autumn 1992.

Cooperation with science and research

Research project "Methodological study on the polluter structure in the Federal Republic of Germany"

As part of the 1989 Environment Research Plan, the Federal Environmental Agency commissioned the Fraunhofer-Institut für Systemtechnik und Innovationsforschung (ISI) in Karlsruhe to prepare a methodological study on the polluter structure in the Federal Republic of Germany, which was to include the development and testing of a concept for linking data on the economic structure and on environmental pollution. This research project (ISI: Dr. Olav Hohmeyer) was carried out in cooperation with the Federal Statistical Office and the Federal Environmental Agency. The project was terminated in spring 1992.

The study was carried out at the suggestion of the Council of Environmental Advisors, who in their 1987 Environmental Report brought up for discussion concepts for determining the "polluter structure" in the Federal Republic of Germany. In this report it was considered necessary "... to find out which polluters contribute to the respective emissions ...". Such a concept goes beyond a merely plant-related coverage of emissions. Linking emission data for individual groups of polluters with data on the economic structure yields additional possibilities of analysis. Investigations may thus include, e.g. in connection with input-output models, apart from direct emissions of enterprises and private households, also indirect emissions caused by the purchase of primary products. It is expected that the establishment of a data basis at the level of the emissions of individual pollutants and groups of polluters will be a help in decision-making with regard to the further development of environmental policy.

The research project had three main tasks:

1. Development of an empirical survey concept:
 - Presentation of the relations between economic activity and emissions of pollutants into the environment (air, water, waste, soil) and possible measures to reduce the burden on the environment.
 - Checking the usability of data from environmental and economic statistics as well as the possibilities of obtaining data that are still lacking; preparation of proposals for a uniform and generally applicable data structure.
2. Testing the empirical survey concept by means of data available from the field of statistics, important individual investigations and technical specifications of individual processes relevant to the environment.
3. Summary evaluation of the data basis and checking in how far the approach can be used as an instrument of analysis and forecasting in the field of environmental policy.

The Federal Statistical Office supported the research project by providing data from environmental and economic statistics. Also when the System of Environmental-Economic Comprehensive Accounting and in particular its Element 2 "Emission model" were set up, an approach for obtaining emission data on the major air pollutants - sulphur dioxide, nitrogen oxides and carbon dioxide - was developed in an analysis by emitting fields of production and private households. First results were published in "Ausgewählte Ergebnisse zur Umweltökonomischen Gesamtrechnung 1975 bis 1990" (Selected results for Environmental-Economic Comprehensive Accounting, 1975 to 1990, No. 18 of the publication series "Ausgewählte Arbeitsunterlagen zur Bundesstatistik").

With this approach, special attention was paid to the emissions of certain pollutants as determined by the Federal Environmental Agency which are due to the use of specific sources of energy in consumption and combustion processes. With the help of the emission factors for individual sources of energy quantified by the Federal Environmental Agency, and the data on the energy consumption of the production sectors and private households from input-output calculations of the Federal Statistical Office, the emissions could be determined in a breakdown by polluters and sources of energy. (Input-output tables were last published in Subject-Matter Series 18 "National Accounts", Series 2 "Input-Output Tables", for the reference years 1985 to 1988.) The linking of these emission data with data on the economic structure and first possibilities of analysis were illustrated by means of an investigation of the development of sulphur dioxide emissions between 1980 and 1988 (see Mayer, H.: "Aufkommen und Verwendung von Energie 1978 bis 1988" in the monthly review *Wirtschaft und Statistik* 9/1990, p. 620 ff). In this investigation, the following determinants of the emission development could be ascertained quantitatively:

- the level of demand and production of the national economy,
- the energy input coefficients (energy saving effects),
- and the emission factors (effects of differing environmental techniques).

Such an ex-post analysis makes it possible to assess the effects of environmental policy measures, e.g. of administrative rules with regard to air quality control, on emission development as a whole. Such a statistical system can also serve the purpose of "analysing objectives and strategies of environmental policy with a view to their effects on the economy" (Environmental Report, 1987, of the Council of Environmental Advisors, code number 258). The testing of such possible uses by the Fraunhofer-Institut thus promises to provide interesting insights into possible applications of the emission element of the Environmental-Economic Comprehensive Accounting as prepared by the Federal Statistical Office.

Developments abroad

EUROFARM – A new concept of the EC surveys on the structure of agriculture

Since 1975, surveys have been conducted every two years on the structure of agricultural holdings in the EC member states as stipulated by regulations of the Council of the EC. The results of this survey were transmitted to the Statistical Office of the European Communities (Eurostat) in the form of magnetic tapes with table totals according to a tabulation programme agreed upon by the member states. From the point of view of the Commission, this procedure proved too complicated, time-consuming and costly for current work and in particular for rapid analyses of ad hoc issues of structural policy. Therefore, a new system for evaluating and disseminating survey results, referred to as "EUROFARM Project", was prepared in consultation with the member states and the Eurostat Commission. It is to be more flexible and faster, provides for a better harmonization of the demand for and the supply of data of agricultural statistics, and also reduces the workload of the member states.

Regulation (EEC) No. 571/88 of the Council of 29 February 1988 provides for Community surveys on the structure of agricultural holdings to be compiled for the period 1988 to 1997. In Annex II of this regulation, the following provisions have been made with regard to the EUROFARM Project:

1. Within a fixed period of time, the member states shall transmit to Eurostat the checked and anonymized individual data (microdata of the holdings) of the EC surveys on the structure of agriculture, using a specific uniform tape record structure.
2. The individual data shall be stored in the data bank BDI (Banque de Données Individuelles) as part of a data processing centre of the Commission, the access to which is limited to Eurostat staff entrusted with implementing the above regulation.
3. The tables provided for in the Community programme and ad hoc tables shall be prepared using the individual data.
4. Eurostat pledges to use the individual data for statistical purposes only, warrants confidentiality and reliability of the results prepared, and informs the member states on their use.
5. Together with the individual data, the member states shall transmit to Eurostat control tables agreed upon for checking purposes.
6. Contrary to the above provisions, the Federal Republic of Germany is excepted from the transmission of individual data. The Federal Republic of Germany is under obligation to store the individual data of the surveys in a single data processing centre within a period of twelve months after termination of the data collection work and to transmit the required tables to Eurostat.

The tables prepared on the basis of the individual data are first stored by Eurostat in a so-called "private area", access to which is granted to departments of the EC-Commission and member state agencies supplying the data (privileged users). After the results have been checked and approved for release by the member states, they are to be available also to the other users.

So the EUROFARM Project is a combination of data banks and data processing systems which enables the Commission – on the basis of the individual data collected in the EC surveys on the structure of agriculture in the member states – to provide not only the standard table figures but also short-term results for unforeseeable topical purposes of agricultural policy, with other aggregation levels and combinations of characteristics than those determined by the tabulation programme.

Events

5th Wiesbaden Talks: Population Census 2000 – or what else?

With the 5th Wiesbaden Talks, the Federal Statistical Office opened the public discussion on future population censuses. Proceeding from the information requirements of modern societies, results of the research on alternative methods of counting the population were presented, and possibilities of implementing these approaches were discussed by statisticians and politicians in Wiesbaden on 14 and 15 November 1991. The discussion was based on the experience derived from the 1987 Population Census and population censuses in

the former GDR. Both the great number of participants — some 200 experts from the spheres of politics, statistics, social and economic research, market and opinion research as well as data protection took part — and the intensity of the discussion showed that the population census arouses public interest and like no other survey stirs up opposition, both with regard to methodology and contents.

The first range of topics dealt with the basic features of the information requirements regarding the population from the points of view of local government policy and of empirical social research. Dr. Hans-Jürgen Moog, Mayor of the city of Frankfurt/Main, illustrated the significance of topical and reliable data in a detailed regional breakdown for local government policy, using as an example social, traffic, housing and redevelopment planning. The data required by the communities could be obtained with sufficient quality neither by sample surveys alone nor with the help of voluntary enquiries. Professor Dr. Walter Müller, Mannheim, social scientist and empirical social researcher, predicted for our society a strong demand for detailed regional information due to increasingly disparate life situations. He proved empirically that because of the middle-class bias and further falling ratios of participation, voluntary surveys present the social situation of the population more positively than it really is. According to Professor Müller it is, from the point of view of social science, the most effective alternative to a conventional population census over the long term to combine the evaluation of population registers with an enquiry based on a large sample survey, a method that is already being used in some other countries.

Another major point of the conference programme under the heading "Stocktaking, problems, requests" was the experience gained with population censuses in the old and the new federal Länder. Criticism concentrated on a number of legal provisions which considerably hampered both the collection procedure on the spot and the use of the high-quality data. Furthermore, they substantially increased the costs of the census. With the demand that part of the population census be replaced by the evaluation of population registers, the presentation of the population census practice in the former GDR and references to topical problems of population statistics in the new federal Länder, the discussion was led over to the field of topics relating to "Alternative Ways of Counting the Population".

The discussion on alternative methods to the present population census first led to statements of the negative kind: with a mere sample survey and only one sample survey no solution could be found, not even in the year 2000. Voluntary surveys were just as inappropriate a substitute for population censuses. The obvious alternative, i.e. gaining important basic demographic data by the statistical evaluation of population registers, is, as was shown, in fact practiced by the communities but general evaluation is still hampered by qualitative, organizational, methodological and legal obstacles. The Federal Statistical Office demanded that the shortcomings of the system of continuous population registration as shown by extensive research projects be eliminated, and that the concrete planning work be started for the further development of the system of continuous registration. The discussion was to deal also with the good results achieved in Rhineland-Palatinate with a central population register for the entire Land, in the new federal Länder with the Central Population Register (ZER), and in many cities with population registers coordinated between communities. As is generally known, the ZER will be used as the registration system in the new federal Länder as long as the local registration offices are not in a position to fulfill their tasks without the central register. According to the provisions of the Unification Treaty, the ZER will be dissolved as soon as possible, but at the latest on 31 December 1992. As Professor Dr. Grohmann, the moderator of the 5th Wiesbaden Talks, stated in view of the reports on the progress made in establishing communal registration offices, "it would be considered as disadvantageous if this central register, which would be useful for purely administrative and statistical purposes, were first to be dissolved completely and then had to be gradually built up again to medium-size centres. It should be ensured that the transition takes a reasonable course."

As can be seen from the relevant experience reported from abroad, the problems related to population censuses are not confined to Germany. In Denmark, the evaluation of administrative registers replaced population censuses in 1981. Despite all harmonization endeavours, the Statistical Office of the European Communities will continue to let the individual countries decide to some extent on the methods they use. However, Mr. Yves Franchet, the Director-General of the Office, made it quite clear that the Community will need population censuses also in future for acting according to welfare-state principles. In order to facilitate the political implementation of the project, Mr. Franchet suggested that the catalogue of variables covered be rather limited, and that emphasis be placed upon purely demographic characteristics as well as values for updating.

The discussion of the individual papers and in particular the final panel discussion on "Consequences for a Future German Population Census" with the members of the German Bundestag Hans Gottfried Bernrath (SPD), Dr. Margret Ellen Funke-Schmitt-Rink (F.D.P.) and Dr. Dorothee Wilms (CDU) showed that it will be

necessary to struggle for solutions. The politicians welcomed the fact that the Federal Statistical Office had initiated the discussion of methods and was interested in starting the dialogue with politics at an early time. Besides the experience of politicians, consumers and statisticians with the 1987 Population Census and statistics in general, the discussion dealt with the prerequisites for a possible evaluation of population registers. President Hölder advocated a harmonization of the registration law for the entire Federal Republic and suggested that by organizational-legal changes (e.g. setting up of Land registration offices) a basis be provided for using alternative methods for the population census.

The contributions and the panel discussion of the 5th Wiesbaden Talks have been published in the publication series "Forum der Bundesstatistik".

Introduction of monthly statistics and indices of production and orders received in mining and manufacturing in the new federal Länder

Introductory note

The following article provides an overview of the introduction of monthly reports in mining and manufacturing for local units and multi-unit enterprises as well as of the methodological foundations of the new index of net production and the indices of orders received and turnover in the new federal Länder and former Berlin (East).

1 Statistics in the former GDR

One of the major tasks of the statistical system in the former GDR was to provide detailed figures on the economic development for use by state institutions. These were first of all the Council of Ministers, the County and District Councils as well as their organs of planning.

According to the legal regulations in force at that time, statistics in the former GDR primarily served the purpose of setting up national economic plans and of checking in how far these plans had been fulfilled. The provision of individual data for planning and control was therefore of greater importance than the publication of results for general purposes. It was not until 8 March 1990 that this objective was modified by a decision of the GDR Council of Ministers. This decision stipulated, among others, that the Statistical Office had to promote the transition from the command economy with central planning on the basis of directives to a social, ecologically-oriented market economy with statistical information. Therefore it was not surprising that the statistical systems of the former GDR and of the Federal Republic of Germany had little in common with regard to the statistics of production industries when first contacts in this statistical field were made in the spring of 1990. In the months to follow, efforts to achieve uniform statistics were still limited as even the Law on Official Statistics of the GDR of 20 July 1990 (published on 17 August 1990) only stipulated that the statistics of the GDR should "match" those of federal statistics (Art. 4 Para. 3). This aim was abandoned only when unification was to take place earlier than expected.

It was only since September 1990 that the programmes for setting up and maintaining the file and for conducting the monthly surveys, i.e. monthly reports and production statistics, were passed on from the Federal Statistical Office, the Land Office for Data Processing and Statistics North Rhine-Westphalia and the Bavarian Land Office for Statistics and Data Processing to the Joint Statistical Office of the Länder, the successor of the Statistical Office of the GDR. In the latter part of 1990, the Land Office for Data Processing and Statistics North Rhine-Westphalia organized several training courses to acquaint staff members of the new statistical offices of the new federal Länder and the Joint Statistical Office of the Länder with the methodological foundations and the conducting of the surveys.

Most of the surveys of manufacturing provided for in the Law on Statistics of the GDR were until the end of 1990 conducted parallel to the preparatory work for the new statistics, this being the only way to provide major economic data for the new federal Länder. Among the statistics retained for some time – though in modified form – was the monthly report for enterprises of the industry sector and for plant and equipment constructing enterprises. From mid-1990, this monthly report covered, among others, the industrial production of goods, turnover, orders received and unfilled orders. While the definition of industrial goods production was still quite similar to the one formerly used in the GDR, turnover, orders received and unfilled orders were based on the concepts and breakdowns of federal statistics. Enterprises in industry (excl. handicrafts) with 10 persons engaged and over were obliged to provide information. The results were processed

according to the "Classification of National Economic Activities". As of July 1990, a monthly production statistics using the nomenclature of the quick report, and a quarterly survey of production were introduced. These two surveys also covered enterprises. Until the end of 1990, the monthly labour force report provided information on persons engaged and their remuneration. The reporting units of this survey were once again the enterprises with 10 persons engaged and over. Cost structure statistics were included in the survey programme of the new federal Länder for the third quarter and the second half of 1990. The Joint Statistical Office of the Länder conducted the surveys using the statistical register of local units, which also provided the basic data for setting up the file of production industries.

2 Introduction of monthly reports for local units and multi-unit enterprises

Since the beginning of 1991, monthly statistics in the new federal Länder have been carried out with the same methodological foundations as on the former territory of the Federal Republic. This is by no means limited to the replacing of survey documents. The introduction of the new concepts rather involves many methodological and technical difficulties. The following examples illustrate only some of the arising problems. The regionalization of the data, for instance, is very difficult. In the past, the enterprises had been obliged to provide information. In the transition phase, the allocation of turnover and orders received to the individual local units entails the problem of over and under-enumeration, especially if the staff members formerly working in the accounts department are no longer available due to dismissals, reorganization or short-time work. And the segregation of male and female wage earners from total employed is by no means a matter of course since there did not exist a breakdown of employees by categories such as wage earners, salaried employees or officials. Uncertainties have therefore to be expected with regard to the breakdown of pay into wages and salaries. There are uncertainties also concerning the allocation of enterprises, local units and kind-of-activity units to economic sectors. Due to the short preparation time, it was not always possible to use production statistics for determining the SYPRO¹⁾ branches. Furthermore, there are changes in the main economic activity because fields of production are being segregated, become independent or cease to exist at short notice.

More such examples could be listed, but these may suffice to show what difficulties official statistics had to face in the first few months of 1991 and partly still has to overcome today.

Meanwhile, results are available from the monthly report for local units and multi-unit enterprises in mining and manufacturing. Some benchmark figures comparing the old and the new federal Länder are presented in Table 1. These few figures are sufficient to show that there are marked structural differences between the two regions in the fields of mining and manufacturing.

1) SYPRO = Industrial Classification of Economic Activities, Version for Statistics of Production Industries.

Table 1: Overview of the characteristics for the territory of the Federal Republic of Germany prior to 3 October 1990 and for the territory of the former GDR
Averages of the months January, February and March 1991

Branch of economic activity	Former territory of the Federal Republic	New federal Länder ^{1) 2)}	Total ³⁾	Share of column 1 in total	Share of column 2 in total
				%	
Number of enterprises					
Mining and manufacturing	39 128	4 828	43 956	89.0	11.0
Mining	81	22	103	78.6	21.4
Manufacturing, total	39 047	4 807	43 854	89.0	11.0
Number of persons engaged					
Mining and manufacturing	7 517 398	1 900 042	9 417 440	79.8	20.2
Mining	164 635	152 394	317 029	51.9	48.1
Manufacturing, total	7 352 764	1 747 648	9 100 412	80.8	19.2
Total wages and salaries (1 000 DM)					
Mining and manufacturing	30 550 823	2 171 237	32 722 060	93.4	6.6
Mining	724 415	256 152	980 567	73.9	26.1
Manufacturing, total	29 826 408	1 915 084	31 741 492	94.0	6.0
Total turnover (1 000 DM)					
Mining and manufacturing	158 496 729	7 606 753	166 103 482	95.4	4.6
Mining	2 578 656	1 253 225	3 831 881	67.3	32.7
Manufacturing, total	155 918 074	6 353 529	162 271 603	96.1	3.9

1) Excl. former Berlin (East). - 2) Preliminary results. - 3) Data for the territory of the Federal Republic of Germany as of 3 October 1990.

The results are published regularly in Subject-Matter Series 4 of the Federal Statistical Office, Series 4.1.1 "Beschäftigung, Umsatz und Energieversorgung der Unternehmen und Betriebe im Bergbau und im Verarbeitenden Gewerbe" (Employment, turnover and power supply of enterprises and local units in mining and manufacturing). Due to the problems of data collection mentioned and the secrecy regulations to be observed, results for both the new federal Länder and the territory of the Federal Republic as of 3 October 1990 could in the beginning be published only for selected branches of economic activity.

3 Introduction of the production index

The production indices calculated regularly for the territory of the Federal Republic of Germany prior to 3 October 1990 are based on results for 1985. Due to the completely different economic system in the former GDR it was not possible to choose 1985 as the base year for a methodologically uniform production index. For the provisional production index calculated for the new federal Länder including former Berlin (East) as of reporting month January 1991, data had therefore to be drawn upon from the time after the entering into force of the monetary, economic and social union on 1 July 1990. In order to have a standard for comparison, a production index is calculated for the territory of the Federal Republic of Germany as of 3 October 1990 according to the same concept as used for the acceding territory.

In the following, the concept will be described on which these indices are based. In addition to these new indices, monthly and quarterly production indices on base 1985 will continue to be computed and published for the territory of the Federal Republic of Germany prior to 3 October 1990.

3.1 Current adjustment

The concept of calculating the production index for the acceding part of Germany corresponds, as far as current adjustment is concerned, to that of the net production index for kind-of-activity units on base 1985 = 100, which has been described in greater detail in the monthly review "Wirtschaft und Statistik" ²⁾.

The base period for the index of the acceding territory is the third quarter of 1990. Data material for the current adjustment is provided by the monthly quick report on production and the monthly report for local units in mining and manufacturing, which have been conducted in the new federal Länder since July 1990 and January 1991, respectively.

As part of the calculations, index numbers are determined at the first stage on the basis of the individual updating series and allocated to the corresponding four-digit economic branches of SYPRO. If several series belong to the same branch of economic activity, they are cross-weighted by their gross production values of the base quarter.

For price adjustment in connection with the updating by means of production values, mainly price indices at the level of the six-digit commodity types of the GP (Commodity Classification for Production Statistics, 1989 Edition) are required. As producers' prices are not available for the acceding part of Germany with the required breakdown as of July 1990, the index of producers' prices of the former territory of the Federal Republic is used for deflation as a makeshift solution.

Due to the horizontal aggregation of the data of monthly and quick reports for the old and the new federal Länder, material is also available for updating a net production index for the entire territory of the Federal Republic of Germany.

3.2 Weighting

The condensation of the indices for kind-of-activity units (SYPRO four-digit codes) to aggregates at a higher level (two-digit codes, main groups, manufacturing) is made in the same way as for the indices of kind-of-activity units on base 1985, except for the fact that a different value-added magnitude is used. The value-added magnitude required for the territory of the former GDR is supplied by the cost structure survey conducted independently in the new federal Länder and former Berlin (East) for the third quarter of 1990. According to the requirements of national accounting, the weighting of the economic branches to two-digit codes, main groups, etc. is based on the shares of value added at market prices (excl. value added tax) for the third quarter of 1990. It was, however, not possible to include the value added of enterprises with under 20 persons engaged.

2) See Herbel, N.: "Zur Neuberechnung der Produktions- und Produktivitätsindizes im Produzierenden Gewerbe auf Basis 1985" in *Wirtschaft und Statistik* 3/1988, p. 182 ff.; Bald, CH./Herbel, N.: "Zur Neuberechnung der Produktions- und Produktivitätsindizes im Produzierenden Gewerbe auf Basis 1980" in *Wirtschaft und Statistik* 12/1983, p. 931 ff.

The corresponding value added for the old federal Länder used for computing the index for the entire federal territory is determined by updating the gross value added at market prices from the cost structure survey of the reference year 1988 to the third quarter of 1990. The raising factor is the rate of change of the production index, the development of the producers' prices being used for reflating. The horizontal aggregation of the value added magnitudes of the old and the new federal Länder – analogously to current adjustment – provides the weighting structure for aggregating the branches of economic activity.

3.3 Workday adjustment

The rebasing of the production indices to base 1985 was accompanied by the introduction of a new method of workday adjustment. The workday factors determined by this procedure are transferred also to the newly calculated indices on base third quarter of 1990. The index for the acceding territory is however modified for the months of October and November, as 31 October and not 1 November is an official holiday in the new federal Länder.

3.4 Level of presentation

Because of the data situation in the new federal Länder described at the beginning of this article, a publication of the new production indices is meaningful only for manufacturing, the main groups and some selected branches of economic activity. The period of calculation begins with the reference month July 1990 so that the results presented can be compared only with the corresponding earlier periods. For methodological reasons it is not advisable to link these figures with earlier results of the index of industrial goods production. Tables 2 and 3 provide an overview of the second half of 1990 and the first months of 1991; they also illustrate the fundamental structural change in the acceding territory.

As soon as the cost structure results for the former GDR are available for the second half of 1990, the weighting schemes now based on the third quarter of 1990 will be rebased to this base period. It will then be possible to include into the calculation for the former territory of the Federal Republic also the 1989 cost structure data, raised to the second half of 1990. As soon as sufficiently detailed producers' price indices are available for the new federal Länder, these will be used for deflating the updated series.

The Federal Statistical Office intends to increase the number of production indices offered as the economy is strengthened and the statistical data in the new federal Länder improve. The plans include the calculation of an index for production industries as a whole, of gross production indices for investment and consumer goods as well as the presentation of international classifications. It will not be possible, however, to compute enterprise indices. This would presuppose a joint cost structure survey for the territory of the Federal Republic of Germany as of 3 October 1990.

**Table 2: Index of net production for manufacturing
Data for the territory of the former GDR
Kind-of-activity units
3rd quarter of 1990 = 100**

Branch of economic activity	Weighting shares	3rd qtr 1990	4th qtr 1990	2nd half 1990	1st qtr 1991	January 1991	February 1991	March 1991	April 1991	May 1991
by calendar months										
Manufacturing	100	100	89.8	94.9	63.4	66.6	60.6	63.1	59.4	60.4
Primary and producers' goods industries	19.43	100	88.7	94.4	71.3	71.8	64.4	77.6	69.8	67.6
Investment-goods producing industries	56.60	100	85.8	92.9	51.4	54.7	49.7	49.7	46.7	48.1
Consumer-goods producing industries	10.41	100	93.3	96.6	71.6	75.5	69.0	70.4	68.5	67.3
Food, beverages and tobacco	13.56	100	104.9	102.4	96.0	101.8	93.6	92.5	90.2	95.9
workday adjusted										
Manufacturing	100	100	91.7	96.1	64.0	65.6	61.1	65.3	57.9	61.0
Primary and producers' goods industries	19.43	100	89.9	95.2	71.8	71.1	64.9	79.4	68.6	68.1
Investment-goods producing industries	56.60	100	87.8	94.2	51.9	53.9	50.2	51.6	45.5	48.6
Consumer-goods producing industries	10.41	100	95.3	98.0	72.3	74.2	69.6	73.2	66.6	68.0
Food, beverages and tobacco	13.56	100	107.5	104.0	97.0	99.9	94.5	96.6	87.5	97.0

Table 3: Index of net production for manufacturing
Data for the territory of the Federal Republic of Germany as of 3 October 1990
Kind-of-activity units
3rd quarter of 1990 = 100

Branch of economic activity	Weighting shares	3rd qtr 1990	4th qtr 1990	2nd half 1990	1st qtr 1991	January 1991	February 1991	March 1991	April 1991	May 1991
by calendar months										
Manufacturing	100	100	106.3	103.2	100.7	100.2	98.2	103.8	106.2	98.4
Primary and producers' goods industries	24.52	100	98.9	99.5	97.7	99.7	93.0	100.3	102.2	97.7
Investment-goods producing industries	52.68	100	110.1	105.0	101.3	98.9	99.7	105.4	108.1	98.6
Consumer-goods producing industries	13.45	100	108.6	104.3	105.2	105.3	103.0	107.4	108.9	97.7
Food, beverages and tobacco	9.35	100	101.2	100.6	98.7	101.7	95.9	98.4	102.3	100.6
workday adjusted										
Manufacturing	100	100	107.7	104.2	101.7	98.7	99.0	107.5	103.5	99.4
Primary and producers' goods industries	24.52	100	99.7	100.1	98.4	98.7	93.7	102.7	100.5	98.3
Investment-goods producing industries	52.68	100	111.8	106.3	102.5	97.3	100.6	109.6	105.0	99.6
Consumer-goods producing industries	13.45	100	110.0	105.4	106.4	103.6	103.8	111.7	105.8	98.7
Food, beverages and tobacco	9.35	100	102.6	101.6	99.8	99.9	96.8	102.6	99.2	101.7

4 Introduction of indices of orders received and turnover for manufacturing

For the reasons mentioned above in connection with production indices, the Federal Statistical Office has also calculated provisional indices of orders received and turnover for manufacturing in the new federal Länder including former Berlin (East), beginning with reference month January 1991. Therefore, data of the period after the achievement of the monetary, economic and social union had to be drawn upon for the indices to be calculated as from reference month January. In order to enable comparisons, results determined according to the same concept are published for the territory of the Federal Republic of Germany as from 3 October 1990.

In addition to these new indices, monthly indices of orders received and turnover on base 1985 are still being calculated and published for the territory of the Federal Republic of Germany prior to 3 October 1990.

4.1 Current adjustment

From a methodological point of view, the indices of orders received and turnover for manufacturing in the new federal Länder are value indices calculated as index numbers according to the same concept as the corresponding indices for the territory of the Federal Republic of Germany prior to 3 October 1990³⁾. For calculating volume indices, the indices of producers' prices for industrial products are also required. Since January 1991, the updating series used for current index calculations have been included in the monthly report for local units in mining and manufacturing conducted in the new federal Länder and former Berlin (East).

The problems of the monthly report referred to above, which are due to the introduction of this type of reporting system and to structural changes in the economy of the acceding territory, also affect the basic data of the indices of orders received and turnover.

4.2 Weighting

Base period of the indices for the territory of the former GDR is the second half of 1990. Data for this period, beginning with the monetary, economic and social union are available from the former monthly report of the GDR on orders received and turnover of enterprises. The weights of the indices for the old federal Länder, on the other hand, are derived from the monthly report on local units.

For setting up the weighting schemes, it was necessary to process the data broken down pursuant to the Classification of Branches of the Economy also according to SYPRO. For this purpose, the main economic activity of the enterprises was determined according to SYPRO, and the data obtained from the enterprises were evaluated according to this classification.

3) See Schaff-Bohinger, A.: "Indexneuberechnung auf Basis 1985 - Auftragseingang und Umsatz im Verarbeitenden Gewerbe, Auftragseingang und -bestand im Bauhauptgewerbe" in *Wirtschaft und Statistik* No. 8/1989, p. 475 ff.

As the basic values for the new federal Länder in the second half-year relate to enterprises and not to local units, the level of the indices may in individual series be too high or too low. However, the development of the series as of January 1991 is not affected since the development is exclusively influenced by the monthly data used for current calculations. As has been mentioned before, these are results for local units.

5 Indices of orders received and unfilled orders in building industry proper

The comments made with regard to the indices of orders received in manufacturing also apply to the indices of orders received and unfilled orders in building industry proper. In this economic sector the former surveys carried out under GDR law were also replaced as of January 1991 by the monthly report and the statistics of unfilled orders in building industry proper.

6 Outlook

Time series analysis and thus the breakdown of the new indices into their components, using the Berlin Procedure (BV 4), presuppose series covering at least five years. Until the new index series for the territory of the former GDR incl. former Berlin (East), on the one hand, and the territory of the Federal Republic of Germany as from 3 October 1990, on the other, have the required length, a more simple approach based on moving averages and the least-squares method must be used. The former indices calculated for the territory of the Federal Republic of Germany prior to 3 October 1990 incl. Berlin (West) will nevertheless for some time continue to be provided in the usual form for purposes of analysis.

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40	Kind-of-Activity Units in Mining and Manufacturing
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42	Indices of Orders Received and Unfilled Orders
43	Calendar Adjustment of Time Series
44	Information Campaign for the Population Census 1987

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Trilingual List of Statistical Terms (German – English – French)

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