Federal Republic of Germany

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The catchword

Sample design

The term sample design is used in the field of sample statistics. It stands for a number of rules according to which a sample is to be drawn from the respective population. The construction of a sample design depends on many influencing factors, such as the tabulation programme, the accuracy requirements, the survey technique and not least of all the costs and the time available.

Various sampling techniques may be used for drawing the sample. A distinction has to be made between random sampling techniques and those not based on the principle of random selection. Random samples offer the essential advantage that no subjective decisions have to be made in the selection and that the quality of the results can be determined according to the laws of probability calculus. This is the reason why most of the representative surveys of official statistics are based on random samples.

Carrying out a random selection requires a sampling frame, i.e. a list of all the units in the population. Those units of the frame from which the sample is selected are called sampling units. The most widely known random technique is the simple random selection. A lottery draw may serve as a model: A box contains tickets for all the sampling units. After mixing them, a blind choice is made of one ticket at a time. In practice, the sampling is nearly always made without replacement. For a simple random selection, only the sample size or, equivalently, the sampling fraction, viz. the proportion of the sample size in the size of the population, have to be fixed. Systematic sampling is a simplified selection technique: For a target sampling fraction of, for instance, 5 %, every 20th sampling unit is selected systematically. The reciprocal value of the sampling fraction ("measure of space") – in this case it is 20 – is referred to as the sampling interval. The starting point of a systematic sampling has to be determined by a random figure – in this case a random figure between 1 and 20. Instead of the simple random selection, official statistics often use a technique that is a compromise between simple random selection and systematic sampling: With this technique, the sampling units are grouped in zones of equal size and then one sampling unit is selected at random out of each zone.

The sampling method most frequently used in official statistics is stratified random sampling. The population is subdivided into several mutually exclusive groups which altogether cover the entire population. These groups are called strata. Independently of the other strata, a simple random sample is then drawn from each of these strata. By this method, it is possible to avoid drawing very unfavourable samples, without abandoning the principle of random selection. By way of example, a stratification according to a quantitative variable can prevent that a sample contains only units with large values; a stratification according to a material subdivision permits to avoid that all the sample units happen to be concentrated on one item of the subdivision. As a rule, the stratification enables a considerable increase in accuracy as compared with the simple random selection. The more homogeneous the sampling units within a stratum with regard to the variable of interest, the greater the gain in accuracy. By the way, it is not necessary to cover every stratum with the same sampling fraction. The probability for the sampling units to be included in the sample must be known for all of them, but it need not necessarily be the same.

The sampling fractions may therefore be varied in view of the pre-set objective, for example, in order to obtain the most precise overall result possible, or to achieve results of comparable accuracy for a subdivision of the population. However, the variation of the sampling fractions must of course be taken into account when the sample is blown up. One of the most important tasks in preparing the sample design therefore is to allocate the overall sample size optimally to the individual strata, paying due regard to the objective pursued.

Another sampling method that should be mentioned is the two-stage random sampling. At the first stage, the population consists of sampling units each of which being composed of a certain quantity of statistical units. After a first simple random sample has been taken, another simple random sample is drawn in a second step from each of the selected units, by means of which secondary stage sampling units are drawn. An example would be a sample of persons for which, at the first stage, communities are selected, while at the second stage a sample of persons is drawn from these selected communities. Two-stage methods offer the advantage that a frame is not required for all the second-stage sampling units, but only for those which are part of the units selected at the first stage. Moreover, in an inquiry taken by interviewers the travel expenses are lower as compared with a simple random selection if the primary stage sampling units were composed according to spatial aspects. A cluster sample is a special case of two-stage sampling because at the second stage no selection is made, but all the units are covered. It is of course also possible to connect more than two sampling stages in a series, thus building up a multi-stage random sample. Moreover, the principle of stratification can be combined with multi-stage sampling in any desired way.

Non-random sampling methods always require subjective decisions to be taken at some point of the sampling procedure. With these methods, the quality of the results cannot really be assessed. Nevertheless, they, too, are occasionally applied, for instance, when there is no suitable sampling frame.

In the case of a typical sample, the sample is constructed of units that are considered as "typical" from a subjective point of view, i.e. units that seem to approximately agree with the average. For a quota sample, the population is first classified into groups according to specific variables that are known from other surveys. Prior to the sampling, coverage quotas are then set for these groups which usually tally with the groups' proportion in the population as determined by another survey. The sampling as such is not made according to the principle of random selection.

Further development of the collection, processing and presentation of data

Overall concept for calculating employment

All available sources are drawn upon for calculating the numbers of economically active persons recorded in national accounts and for labour market monitoring. The basic values are ascertained by means of the censuses of population and non-agricultural local units which are taken at larger intervals. The latest census of this kind was conducted in 1987 and gave rise to the revision of the figures recorded as of 1970. Since there is no uniform and comprehensive source available, a variety of basic data acquired through differing reporting channels was taken into account for the updating and backward calculation of the basic values derived from the census of population and non-agricultural local units.

The sources drawn upon comprise the microcensus, the monthly reports in production industries as well as in the field of commerce and the hotel and restaurant industry, the quarterly handicraft reports, and the annual statistics of public service personnel. Another important basis for the calculations are data obtained from administrative records serving as secondary statistical sources. In this respect, mention should be made in particular of the information gathered through the integrated reporting procedure of the social insurance institutions. The reporting procedure comprises, for instance, the quarterly statistics of the Federal Institute for Employment on employees subject to social insurance contributions, the monthly statistics of the Federal Ministry of Labour on persons/companies liable to pay contributions pursuant to the Employment Promotion Act, the annual statistics of the Association of German Old-Age Insurance Institutions on persons liable to pay old-age insurance contributions, and a processing of the so-called historic file which also contains data on employees subject to social insurance contributions. This processing was carried out by the Institute for Labour Market and Occupational Research and had so far been available only for internal purposes.

The presented revision as of 1970 was based on the results of the 1987 Census of Population and Non-Agricultural Local Units. The benchmark figure for the total number of economically active persons in May 1987 and the detailed analysis by their status in occupation were provided by the population census which had been taken in the form of a household inquiry. Only slight deviations were made from the collected figures because of supplementary data from other sources. The basis for allocating these figures to economic sectors was provided by the census of non-agricultural local units which covered data supplied by enterprises and local units. For this purpose, the census results had to be complemented, on the one hand, by information on sections which had not been covered (e.g. employees in agricultural and forestry holdings that are not liable to pay commercial tax, soldiers and private domestic staff). On the other hand, the results had to be adjusted for so-called cases of multiple employment since, according to the definitions of national accounts and the labour market monitoring, every person pursuing several activities simultaneously was to be included just once with her/his main activity.

In accordance with the survey concept of the population census, the overall number of wage earners and salaried employees calculated in this way for 1987 comprises also employees with minor employment. Official statistics so far have not offered any comprehensive information on this group of persons. However, following the introduction of social insurance cards, wage earners and salaried employees not subject to social insurance contributions have had since the beginning of last year to be reported to the health insurance funds — just as those engaged subject to contributions. Therefore, the Federal Institute for Employment will presumably be able to provide first results on the number of such employees in the course of this year. Moreover, the microcensuses taken in 1989 and 1990 for the first time included an additional question intended to cover this group of employees separately. As soon as regular and reliable results on the number of wage earners and salaried employees not subject to social insurance contributions have become available from these sources, the basic values determined for 1987 will have to be revised again.

Total incomes of agricultural households

The income situation of agriculture in the individual countries is extremely important for shaping the EC's common agricultural policy. Therefore, the Statistical Office of the EC (SOEC) in Luxembourg regularly compares indicators of the income development in agriculture for the EC countries. These indicators are relatives based on the nominal value added in agriculture and the (real) value added adjusted for price increases.

Thorough discussions in the Agricultural Statistics Committee which comprises representatives of the SOEC as well as of the EC member countries, led to the conclusion that the existing income indicators, which relate exclusively to agricultural production, are not sufficient for characterizing the income situation of farmers and their households. The members of agricultural households often receive earnings also from non-agricultural employment, from property and transfers such as children's allowances or pensions. Therefore, in 1985, the project "Total incomes of agricultural households" was started whose objective was to ascertain the income position of these households, taking into account all non-agricultural incomes, in a conceptually comparable way for all the individual EC countries. For this purpose, the Working Party on Agricultural Accounts, which consists of representatives of all EC countries and the SOEC, prepared together with external experts a handbook on the total incomes of agricultural households which from a conceptual point of view closely follows the European System of Integrated Economic Accounts (ESA). The handbook provides a common reference frame for carrying out the calculations in the individual countries.

The information on the total incomes of agricultural households is intended above all to enable the following comparisons for the EC Member States:
- Development of the aggregate total income of agricultural households over time
- Changes in the composition of the total income
- Development of the total income per household, household member, consumer unit, and comparison with the development of other socio-economic groups
- Income level per household, per household member and per consumer unit.

The data situation in the EC countries differs substantially. Some few countries, and among them the Federal Republic of Germany, have calculated household incomes by socio-economic household groups for several years already. Using this basis, the Federal Statistical Office also carried out its new calculations, which were conceptually adjusted to the standards set by the handbook, drew upon new original statistics and were substantially improved in point of methodology. Some other countries had only few basic data available for calculating the household income. These gaps are to be filled within the scope of the project on the total incomes of agricultural households. A first comparative publication of the project results is to be published by the SOEC in early 1991.

Special surveys

Survey on ethnic German and East German immigrants in accommodation facilities

On the basis of Art. 7, para. 1 of the Federal Statistics Law, the Federal Statistical Office and the statistical offices of the Laender North-Rhine Westphalia, Hesse, Bavaria, Berlin and Saarland together conducted, with 31 October 1989 as the key date, a survey on ethnic German and East German immigrants in accommodation facilities. Its objectives were, on the one hand, to gather information on the immigrants' duration of stay in these accommodation facilities and, on the other, to examine the relationship between family-related characteristics and the duration of stay, as well as to ascertain the structure of housing needs. It was not possible to carry out a survey on ethnic and East German immigrants already living in own dwellings or leasehold flats they had obtained on the private housing market. This was due to the fact that there was no appropriate sampling frame available for such a survey and that an area sample comprising the permissible maximum number of 10 000 survey units (pursuant to Art. 7, para. 4 of the Federal Statistics Law) would have covered only a very small fraction of the survey population. Therefore, the target population chosen were ethnic and East German immigrants still living in accommodation facilities at the key date.

In order to make a differentiated evaluation possible, it was necessary to record the duration of stay of the greatest possible number of ethnic and East German immigrants. For this reason, information on the duration of stay was gathered in a sample survey from the managements of the accommodation facilities. However, they were able to provide only very rough information indicating the quarter of arrival of the persons living in the respective accommodation facility at the key date. For analyzing the relationship between family-related characteristics and the duration of stay, the immigrants' families themselves had to be interviewed as well. In

a second phase of the sample survey, the facilities' inhabitants were thus requested to provide information on their families. On the basis of the survey on the duration of stay, the results of this family inquiry and the detailed information gathered thereby were raised and adjusted to the ascertained distribution of intervals of arrival. In a third survey phase, a stocktaking was finally made to determine the total number of transitional accommodation facilities and their occupancy at the key date for all federal Laender. By means of these data, the grossed-up family sample was adjusted to the actual conditions on 31 October 1989 as the sampling frame on which the two-stage sample had been based was out of date at the end of October because of the permanent influx of ethnic and East German immigrants.

The data material of this three-stage survey did not provide any information on terminated stays of ethnic and East German immigrants in accommodation facilities, but only on the duration of stay up to the key date. Using this information, the average duration of terminated stays was roughly estimated, the estimation being based on the following model assumptions: For all the ethnic and East German immigrants, an identical type of distribution was assumed for the random variable "duration of terminated stay", which differed only with regard to the functional parameters. These parameters were influenced only by the date of arrival, the country of origin and the receiving federal Land. Proceeding from these assumptions, estimates on the duration of terminated stay were made, using alternatively an exponential distribution and a linear approach. The informational value of these estimates, however, is restricted to comparing the different populations and indicating the trend. Due to the extremely simplifying model assumptions, it was not possible to make any secure statements on the absolute duration of terminated stay. The estimates led to the result that the average duration of stay continually decreased by about four months from the beginning of 1988 to the middle of 1989. Since the number of ethnic and East German immigrants grew threefold over this period, certain housing reserves must have been available. On the whole, the East German immigrants from the former GDR seem to have benefitted from a more favourable situation than ethnic German immigrants. Substantial differences in the average duration of stay between the individual federal Laender were not recorded.

At the key date, the majority of persons living in the accommodation facilities were ethnic German immigrants from Poland (53 %); a quarter of the immigrants came from the Soviet Union (25 %), 14 % were East German immigrants from the former GDR and 7 % were ethnic German immigrants from other Eastern European states. There was a remarkably large share of young people. Children and juveniles under 18 years of age accounted for one third (35 %), and almost half of the immigrants (45 %) were under 25 years old. 81 % of the ethnic German immigrants and 88 % of the East German immigrants were under 45 years of age.

The problems involved in finding a dwelling were neither influenced by the persons' age nor by the question whether they had any personal relations to other people who were already living in private dwellings in the territory of the Federal Republic prior to the reunification. Among all the immigrants, Germans from Russia faced the greatest difficulties in finding own flats. The same is true of families with five members and more. Since the immigrants' families partly included grandparents and adult children, about 110 dwellings were needed per 100 families. In Bavaria and Baden-Württemberg, the average was even 121 and 115 dwellings, respectively, per 100 families.

More than 80 % of the ethnic German immigrants from Romania moved to Baden-Württemberg and Bavaria, where the Swabians of the Banat had originally come from. A similar observation was made for ethnic German immigrants from Poland, the majority of whom settled down in North-Rhine Westphalia and who accounted for more than 90 % of the ethnic and East German immigrants in the accommodation facilities of the Saarland. The reason for this regional concentration presumably is that the mining industry in these federal Laender has traditionally employed a lot of Polish workers.

More comprehensive information on the above survey is provided by the article "Aus- und Übersiedler in Unterkunftseinrichtungen" (Ethnic German and East German immigrants in accommodation facilities) in the monthly review "Wirtschaft und Statistik" No. 11/1990, p. 757 ff.

Events

Scientific symposium "New ways of space-related statistics"

On 25 and 26 September 1990, the Federal Statistical Office convened a scientific symposium whose objective was to consider the spatial information contained in statistical data in the light of more recent issues and the latest data techniques. The symposium was attended by numerous experts from science, administration, international organizations, associations and enterprises.

The growing significance of environmental protection and nature conservation has brought about new and increasing requirements for space-related statistics. Various spatial data have to be brought together, for instance, in order to numerically cover and describe industrial sites and their emissions, housing data and the area occupied or agricultural production and its impact on the soil. Official statistics have to be processed anew and to be combined also with external information. Data acquisition must make use of new sources, such as remote sensing by aircraft and satellites or topographical maps. Modern techniques such as geo-information systems have to be used for processing and evaluating the data.

The symposium was chaired by Prof. Dr. Schmidt-Falkenberg (Institute for Applied Geodesy). During the first part of the event, the framework conditions outside statistics were presented and discussed. Contributions were made on the present and future possibilities of processing space-related data, on the development activities of the automobile industry in the field of motor vehicle navigation, which are aimed at the automation of road maps, and on the activities of the Land surveyors' offices concerning the establishment of an Official Topographical/Cartographical Information System. These contributions provided a detailed overview of the trends and developments in this part of the information market. Technical requirements were put forward from the viewpoint of the Information System on Land Use of the Conference of the Ministers of the Environment and in the light of the research project on Remote Sensing and Ecology carried out by the Federal Ministry for Research and Technology. The European Communities presented the environmental information system CORINE.

During the second part of the event, the present state of methodological development in statistics was discussed on the basis of various national and international examples. It was made clear that a wide range of subject-matter statistics compiled by statistical agencies from the municipal all the way to the supranational level are concerned with these issues. The usability of remote sensing for agricultural statistics was illustrated by means of the EC project on area estimates for field crops. As examples for geo-information systems in statistics were presented the Regional Reference System of the Land Statistical Office Berlin, GEOSTAT of the Federal Office for Statistics of Switzerland, and STABIS of the Federal Statistical Office. Subjects also discussed in greater detail were the impact of the German reunification on regional statistics in the 1990s and the position of the use of space-related information in the former GDR. The Federal Statistical Office described the possibilities offered by space-related data inventories and remote sensing for improving and rationalizing future environmental reporting for statistics.

On the whole, the symposium illustrated the challenges statistics will have to meet in the field of space-related and environmental information. Here, too, basic statistical data are indispensable for dealing with current and future issues. However, the statistical methods will have to be complemented by new approaches, not least in order to make better use of the statistics already available. Statistics will benefit in this respect from the cooperation with other fields of science and research.

Developing a classification of services

Introductory note

In the last few years, there has been a strongly increasing interest in statistical information on services. This is shown, for instance, by resolutions adopted by political bodies such as the Conference of Ministers for Economic Affairs of the federal Laender, which in 1986 requested the Federal Minister for Economic Affairs to suggest possible solutions for an improved presentation of services in official statistics. Also the German Statistical Society held its 1986 annual general meeting under the topic "Covering and analyzing services – a challenge to statistics"[1].

The growing interest in statistical data on services is due, on the one hand, to the increasing quantitative importance of services to production and employment in the national economy. By now, more than half of the economically active persons are working in economic sectors other than production industries, agriculture, forestry and fisheries. In addition, more than 50 percent of gross value added is already produced outside these economic sectors[2]. On the other hand, the growing interest in statistical data on services is also due to the increasing qualitative importance that particularly modern services have for the maintenance of international competitiveness and for the development of new products and methods. Examples of such services are software development, data processing, engineering, leasing or research and development.

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1) The contributions to this meeting have been published in: Allgemeines Statistisches Archiv, Vol. 71, 1/1987.
2) Cf. "Statistisches Jahrbuch 1989 für die Bundesrepublik Deutschland", p. 92 f. and p. 545 f.

Moreover, an increasing division of labour between enterprises can be observed. Services that used to be rendered within an enterprise for its own purposes are now more and more bought from other enterprises that have specialized in rendering certain services or which, in addition to commodities, increasingly offer services (either combined packages of commodities and services or independent services) as part of their product range.

At present, official statistics are not in a position to sufficiently meet the demand for information on services [3]). New concepts have thus to be worked out to improve the data supply [4]). This includes developing the classification of services. The Industrial Classification of Economic Activities used by official statistics in the Federal Republic of Germany includes a detailed classification of institutions rendering services [5]). A comparable nomenclature of service goods has however not been available so far.

Early in 1989, the United Nations Statistical Commission adopted the preliminary version of the Central Product Classification (CPC), part of which is dedicated to services. In the 1990s, the CPC will become highly relevant also to the Federal Republic of Germany through binding provisions adopted by the European Communities (EC). Therefore, particularly the CPC part covering services shall be presented in the following. First, however, a brief outline will be given of the conceptual definition of services and of the coverage of services by existing commodity classifications of official statistics.

Definition of services

When examining the term "services", it has to be exactly specified in each case whether one is dealing with

— service activities,
— service institutions or
— service goods.

Strictly speaking, the term "service activity" aims at the occupations of economically active persons. These occupations are determined by characteristic knowledge, skills and experience required for specific operations. This aspect of the term "services" shall not be examined in the following [6]).

The terms "service institution" and "service goods" are closely connected; a service institution is characterized by the fact that its main economic activity is rendering services. The definition of the "service good" thus also serves for delimitating the "service institution".

In literature, quite a number of definitions have meanwhile been developed which always follow one of the three approaches below [7]):
— Listing of the goods which the respective author regards as services [8]):

However, this method generally does not specify the criteria by which the goods are listed, which means that often a certain degree of arbitrariness is involved. Nor does it solve the problem of what to do with services that the respective author did not or could not include.

— Definition by negative delimitation against material goods [9]):

This also includes delimitations characterizing services as immaterial and/or not lasting products. Services are thus becoming a residual category of the goods range. By this approach, the problem of definition is shifted to the delimitation of material goods, but not really solved.

— Definition by pre-set criteria [10]):

The delimitations vary between the individual authors, depending on the criteria employed. So far, there is no generally accepted definition. It may even be doubted that it will be possible to find a definition that can be used for every possible application.

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3) A detailed description of the data supply on services and its insufficiencies is contained in Hermann, Ch.: "Das Datenangebot über Dienstleistungen in der Bundesstatistik", No. 3 of the series "Ausgewählte Arbeitsgrundlagen zur Bundesstatistik".

4) For details on the work to be performed see Reim, U.: "Zum Ausbau statistischer Informationen über Dienstleistungen" in Wirtschaft und Statistik, No. 12/1988, p. 842 ff. Recently, two pilot surveys have been conducted on the possibility of covering services in production industries and in selected branches of the service industry. For detailed results see Mai, H.: "Dienstleistungen im Produzierenden Gewerbe — Testerhebung" in Wirtschaft und Statistik, No. 2/1989, p. 57 ff., and Gnoss, R.: "Dienstleistungsteststichprobe" in Wirtschaft und Statistik, No. 11/1989, p. 691 ff.

5) Statistisches Bundesamt, Systematik der Wirtschaftszweige mit Erläuterungen, Edition 1979.

6) These criteria determine the classification of occupations.

7) This differentiation is used e.g. by Corsten, H.: "Zum Problem der Mehrstufigkeit in der Dienstleistungsproduktion" in Jahrbuch der Absatz- und Verbrauchsforschung, No. 3/1984, p. 253.

8) An example of such an approach is contained in Stanback, T.M., jr.: "Understanding the Service Economy. Employment, Productivity, Location", Baltimore, London 1979, p. 6.

9) See e.g. Gershuny, J.I./Miles, I.D.: "The New Service Economy. The Transformation of Employment in Industrial Societies", London 1983, p. 23.

10) Including e.g. the well-known definition by Hill: "A service may be defined as a change in the condition of a person, or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit, with the prior agreement of the former person or economic unit." Hill, T.P., "On Goods and Services", in: Review of Income and Wealth, 4/1977, p. 318.

In view of this situation, the question arises whether a statistical classification should and could be based on an explicit definition of services. Considering the discussion on the term "services", it seems hardly possible at present to develop a generally accepted delimitation and take it as a basis for a classification of services. If, on the other hand, a nomenclature includes not only services but covers the whole range of goods, it is not necessary to develop an explicit definition — because, if some good is not included in one group of classification items, it will be covered by the other group. The delimitation between material goods and service goods is thus left to the users of the classification who can shape it according to their respective analytical purposes. This principle is also followed by the CPC[11].

Services in existing commodity classifications of German official statistics

The existing commodity classifications of official statistics in the Federal Republic of Germany do not cover all services, but only parts of them, depending on the respective purpose of the classification. The Classification of Receipts and Expenditure of Private Households (SEA)[12] used, among others, for the sample surveys on income and expenditure, contains only those services that are demanded by households. Services which are provided mainly for enterprises are not included, because they are not needed for the field of application of the SEA.

The Classification of Goods for Transport Statistics (GV)[13] and the Commodity Classification for Domestic Trade Statistics (WB)[14] cover only the services which are provided within the respective service sectors (transport and trade). Since, however, these services refer to commodities, they are covered by these classifications under the aspect of the specific demand for information on the economic sectors mentioned. Therefore, these classifications are not service classifications in the narrower sense, but commodity classifications.

The Commodity Classification for Production Statistics (GP)[15] comprises selected services whose collection for the quarterly production statistics is provided for in the Law on the Statistics in Production Industries (Gesetz über die Statistik im Produzierenden Gewerbe). This refers to repair, installation and job processing activities (Art. 2). A sufficient statistical presentation of the services provided by production industries is not possible in this way, as was shown by the pilot survey on the services rendered by production industries[16].

Since the informational demand refers, above all, to the provision of services, it should be the main objective to supplement this classification — or its successor after a European harmonization of classifications — by a service part covering both services provided in production industries and in the service sector. Thus the methodological requirements in terms of statistical nomenclatures would be met for a statistical coverage of services[17].

Development of the Central Product Classification of the United Nations

In the mid-1970s, a process of harmonization of classifications started on the international level, which has been terminated for the time being by the adoption of the Harmonized Commodity Description and Coding System (HS)[18], the Central Product Classification (CPC) and the International Standard Industrial Classification of all Economic Activities (ISIC)[19]. While the HS serves above all purposes of customs legislation, the CPC is to form the basis of statistics that need a product classification, such as production statistics, price statistics, etc. Moreover, it generally permits the economic activities of the ISIC to be described by products. The commodity part of the CPC is based on the HS and applies the breakdowns and product descriptions of the HS for defining the contents of its positions. The HS thus provides the components that form the commodity part of the CPC[20]. The advantage is that no time-consuming elaboration of new product descriptions is necessary and that existing definitions can be drawn upon which have already been used in practice. Since no comparable preparations exist for services, the complete service part of the CPC had to be newly developed.

11) Cf. United Nations, Final draft of the Central Product Classification (CPC), ST/ESA/STAT/SER.M/77, 29 September 1988, p. 9.

12) Statistisches Bundesamt, Systematik der Einnahmen und Ausgaben der privaten Haushalte, Edition 1983.

13) Statistisches Bundesamt, Güterverzeichnis für die Verkehrsstatistik, Edition 1969.

14) Statistisches Bundesamt, Warenverzeichnis für die Binnenhandelsstatistik, Edition 1978.

15) Statistisches Bundesamt, Systematisches Güterverzeichnis für Produktionsstatistiken, Edition 1989. In addition to selected services of production industries, this classification contains also services provided at the production stage of agriculture and forestry as well as services for fisheries.

16) Cf. Mai, H.: "Dienstleistungen im Produzierenden Gewerbe", op.cit.

17) The existence of a classification is, however, just one requirement for conducting surveys on services. Further methodological problems will have to be solved, such as the valuation of services, their periodization, the use of units of quantity and the like. It is also necessary to create or adjust legal foundations.

18) The HS became effective on 1 January 1988 and — through the Combined Nomenclature of the European Communities — determines the basic structure of the Commodity Classification for Foreign Trade Statistics.

19) For a detailed description of the harmonization process of the international classifications, see Ebensberger, H.: "Internationale Wirtschaftszweig- und Gütersystematiken und ihre Harmonisierung" in Wirtschaft und Statistik, No. 2/1986, p. 79 ff.

20) A consequence is, however, that the industrial origin could be included in the CPC only in so far as it has been covered by the HS. Since there are only few headings in the HS explicitly showing e.g. products that are manufactured by certain processing methods (such as casting, forging), these products are not included in the CPC either. As a consequence, no products can be allocated to the respective economic activity.

Table 1: Breakdown of the services in the Central Product Classification (CPC) at the two-digit level

6	Trade services; hotel and restaurant services
61	Sale, maintenance and repair services of motor vehicles and motorcycles
62	Commission agents' and wholesale trade services, except of motor vehicles and motorcycles
63	Retail trade services; repair services of personal and household goods
64	Hotel and restaurant services
7	Transport, storage and communication services
71	Land transport services
72	Water transport services
73	Air transport services
74	Supporting and auxiliary transport services
75	Post and telecommunication services
8	Business services; agricultural, mining and manufacturing services
81	Financial intermediation services and auxiliary services therefor *)
82	Real estate services
83	Leasing or rental services without operators*)
84	Computer and related services
85	Research and development services
86	Legal, accounting, auditing and book-keeping services; taxation services; market research and public opinion polling services; management and consulting services; architectural, engineering and other technical services *)
87	Business services n.e.c.
88	Agricultural, mining and manufacturing services
89	Intangible assets
9	Community, social and personal services *)
91	Public administration and other services to the community as a whole; compulsory social security services *)
92	Education services
93	Health and social services *)
94	Sewage and refuse disposal, sanitation and similar services*)
95	Services of membership organizations
96	Recreational, cultural and sporting services
97	Other services
98	Domestic services
99	Services provided by extraterritorial organizations and bodies

*) Due to a new draft of the CPC, there are text differences over against the German version.

The CPC has a five-digit hierarchical coding system. It comprises a total of ten one-digit items (including four for services), 69 two-digit items (including 27 for services), 291 three-digit items (including 93 for services), 1 036 four-digit items (including 240 for services) and 1 787 five-digit items (including 566 for services) [21]). Table 1 shows the analysis of services at the two-digit level. The number of positions down to the five-digit level that are included in one-digit items is presented in Table 2.

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21) Including positions for intangible assets, such as financial assets, patents, copyrights.

Table 2: Degree of detail of the one-digit items of the Central Product Classification (CPC) in the service sector

Services	Number of			
	2-digit	3-digit	4-digit	5-digit
	items			
6 Trade services; hotel and restaurant services	4	11	32	132
7 Transport, storage and communication services	5	20	54	86
8 Business services; agricultural, mining and manufacturing services ...	9	40	93	231
9 Community, social and personal services*)	9	22	61	117
6-9, total	27	93	240	566

*) Due to a new draft of the CPC, there are text differences over against the German version.

The main criteria for classifying the goods in the CPC are the physical characteristics and the essential nature of the products. Essential characteristics are those that are inherent in the goods, such as the raw materials used, the stage of manufacture, the kind of their production, their intended use, the type of user, their selling prices or their storing properties. Through the ISIC, also the industrial origin has been accounted for [22]).

The Commodity Classification for Production Statistics (GP), however, uses an opposite hierarchy of criteria. The primary criterion of classification in this nomenclature is the production-related context (corresponding to the industrial origin). Other criteria are of secondary importance. One major reason for this different structure is certainly the use of HS components for the commodity part of the CPC. But it is also due to the fact that the CPC is to be suitable for any statistics which require a product classification, while the GP has been designed first of all for production statistics.

The services contained in the GP have been allocated to the respective goods or groups of goods according to the criterion of industrial origin, whereas the CPC combines in the service part positions for contract work/job processing, repair and maintenance activities. In this case, the different weights of the criteria used result in differing breakdowns.

Presenting a service classification within the framework of the CPC meant to break new ground. This is why there have so far been prepared only preliminary drafts of the explanatory notes on the contents of the individual positions of the classification [23]). Such explanatory notes are needed in order to be able to delimit the different services against each other with maximum accuracy and to allocate them to the respective positions.

Relevance of the service part of the CPC to the Federal Republic of Germany

So far, official statistics of the Federal Republic of Germany have had to regard international classifications just as more or less nonobligatory framework conditions. In future, however, the importance of these nomenclatures will change very much, because in the 1990s the national classifications will be replaced by uniform and binding provisions of the European Communities. The EC base these provisions on the UN classifications to which they made a major contribution.

In the course of this harmonization process, the Statistical Office of the European Communities will first convert the CPC to the CPC.COM which is then to form the basis for the other commodity classifications of the Community and the member states. The Federal Republic of Germany, too, will have to observe this provision if a statistical survey of services should become reality, as is demanded by many users of statistical data. By setting up a service classification within the framework of the CPC, essential prerequisites in terms of nomenclatures have been created for such a survey. It should, however, be kept in mind that the existence of classifications is not the only requirement to be met. It is just as important to solve the other methodological problems and to create a legal foundation for surveys.

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22) As has already been mentioned, this could be done – particularly for the commodity part – only in so far as the criterion "industrial origin" is included in the HS.
23) As has been mentioned earlier, the explanatory notes of the Customs Tariff could be used for the commodity part.

Foreign-Language Publications

English

Survey of German Federal Statistics

The "Survey of German Federal Statistics" is the most important compendium of information on federal statistics. The present edition primarily comprises updated summary contributions on the organization of federal statistics, their legal foundations, tasks and objectives as well as their implementation, on public relations work and the cooperation with international organizations.

Published at irregular intervals.

Present and Future Tasks of Official Statistics

Non-recurrent publication.

Statistical Compass

This brochure presents a selection of major benchmark figures from all subject fields along with comparative figures for back years.

Annual publication.

Foreign Trade according to the Standard International Trade Classification (SITC-Rev. 3) – Special Trade – until 1987 SITC-Rev. 2

This publication comprises the foreign trade figures according to the SITC-Rev. 3 with data by countries of origin/destination.

Annual publication.

Studies on Statistics

Published at irregular intervals. Issues which are still available:

No.	Title
36	Statistical Information System of the Federation
37	Surveys and Registers
38	Indices of Production and Productivity
39	Concentration Statistics
40	Kind-of-Activity Units in Mining and Manufacturing
41	Dissemination of Statistical Information
42	Indices of Orders Received and Unfilled Orders
43	Calendar Adjustment of Time Series
44	Information Campaign for the Population Census 1987

French

Aperçu de la statistique fédérale allemande

Cette édition abrégée de 1976 a été préparée surtout à l'intention des utilisateurs désireux de se renseigner sur les grandes lignes des activités statistiques plutôt que sur tous les détails. Elle contient donc de la version intégrale l'ensemble des textes décrivant les buts, les bases, les méthodes et les résultats de la statistique fédérale.

Publié à intervalles irréguliers.

Boussole des chiffres

Cette brochure comprend une sélection des principaux chiffres de référence de tous les domaines ainsi que des chiffres comparatifs pour des années antérieures.

Publication annuelle.

Spanish

Guía Estadística

Este folleto contiene una selección de datos importantes en todos los campos así como los datos comparativos de los años anteriores.

Publicación anual.

Trilingual

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

Non-recurrent publication.

List of Major International Abbreviations (German – English – French)

Published at irregular intervals.