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### SERVICE STATISTICS

Plans for the further development of service statistics,  
including international trade in services

Report of the Secretary-General

#### SUMMARY

Statistics on services have received increasing attention at both the national and international level in recent years. At the international level, work in various aspects of service statistics is already under way in the classification of services, in statistics on trade in services and in the field of quantity and price indices of services, and a technical report on the collection, availability and use of service statistics is being prepared (paras. 1-13). A number of important methodological issues in the field of service statistics relating to the concept of services, the availability of basic data and price and quantity indices are reviewed (paras. 14-31). A programme for developing service statistics in the next few years is presented, along with an indication of resource availability (paras. 32-46). Points for discussion are suggested in para. 47.

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## INTRODUCTION

1. The importance of the service sector in the world economy has increased substantially over the past several decades. In many countries the share of services in the gross domestic product has already surpassed the 50 per cent mark. In fact, this share averages or exceeds 60 per cent for the developed countries with market economy whatever definition for services is used. <sup>1/</sup> The increased role of services in production and trade have, in part, been prompted by advances in technology and changes in patterns of corporate organizations. These developments have put pressure on officials in many national statistical and planning offices and international organizations to provide Governments and various private organizations with more and better statistics on services. It has been recognized, however, that statistics on services, both in developed and developing countries, are relatively underdeveloped and need considerable improvement.

2. The Statistical Commission at its twenty-fourth session, recognizing the need to develop service statistics, requested the Statistical Office of the United Nations Secretariat to prepare a technical report on the collection, availability and use of service statistics. In addition, the Commission decided that service statistics should be included in the agenda of its twenty-fifth session and requested the Statistical Office to prepare a report on plans for further development of service statistics, outlining areas that needed further work. <sup>2/</sup> More recently, the need for better statistics in the field of international trade in services has become apparent during the negotiations on trade in services conducted within the framework of the Uruguay Round of multilateral trade negotiations. For all these reasons, the Statistical Office allocated special priority to the development of statistics in services both in collecting information on national practices and in elaborating classifications, the conceptual background and various organizational problems in this area of statistics. In spite of these efforts and the first results obtained, the development of statistics of services is still in its initial stage and a substantial amount of further work is required.

3. The present report starts with a review of the recent work done (sect. I). Then some methodological and technical issues are discussed (sect. II). The next part contains proposals for further work and indicates the conditions needed to attain these objectives (sect. III). Finally, some points for discussion are presented (sect. IV).

#### I. REVIEW OF THE CURRENT TRENDS AND RECENT WORK IN DEVELOPING SERVICE STATISTICS

##### Main areas of current work

4. There are three main areas in service statistics on which current work is concentrated. The first is the classification of services. In earlier versions of both the International Standard Industrial Classification (ISIC) and the Central Product Classification (CPC) the sections on services were much less developed than

the sections on goods. However, in the past two years, special efforts were made, partly within the framework of the ISIC and CPC revision, and partly by the Voorburg group of experts (see paras. 45-46 below) to remedy this situation. The results of these efforts are summarized in document E/CN.3/1989/8.

5. The second main area on which efforts are being concentrated is international trade in services. Services exported and imported do not pass customs and are much more difficult to observe than goods. By all signs, even in countries with developed statistics, a substantial part of the exported/imported services escapes identification both in exports and in imports. Even conceptual problems are not sufficiently well resolved: the coverage of trade in services as interpreted by different countries and experts often varies substantially. More developed statistics on international trade in services are urgently needed, especially in the context of the work of the Group of Negotiations on Services (GNS) within the framework of the Uruguay Round of multilateral trade negotiations, as well as in relation to other trade negotiations.

6. Several international organizations are working on developing statistics on trade in services. Export and import of services constitute an important component of the balance of payments; this is why the International Monetary Fund (IMF) has attached and continues to attach high priority to this area of service statistics. The United Nations Conference on Trade and Development (UNCTAD) and the General Agreement on Tariffs and Trade (GATT), the two trade-oriented international organizations, are specially interested in the full coverage and appropriate breakdown of export and import statistics. The United Nations Centre on Transnational Corporations, interested primarily in foreign direct investment in service industries, also participates in the improvement of service statistics. The Organisation for Economic Co-operation and Development (OECD) has been engaged in the development of trade in services statistics since the middle of this decade; similar efforts have been made by the European Community. Work on trade in services has also started in a number of regional commissions, for example, a comprehensive study was prepared by the secretariat of the Economic and Social Commission for Western Asia (ESCWA), 3/ and a seminar on statistical issues is planned in the region of the Economic Commission for Latin America and the Caribbean (ECLAC) at the end of 1988. International organizations working in the field of trade in services statistics have become increasingly aware of the need for collaboration and have made various efforts to harmonize the work in this area.

7. As for the Statistical Office of the United Nations Secretariat, its work on trade in services started with the collection of information on national practices and on views concerning a number of methodological and organizational problems. Since, in most countries, trade in services statistics overlap with balance-of-payments compilations, the questionnaire was prepared jointly with IMF and circulated both to national statistical offices and to balance-of-payments compilers. A supporting document reflecting the current knowledge of the two organizations on trade in services statistics was attached for easier interpretation of the questions. The circulation of this questionnaire was made easier by the fact that OECD had carried out a similar inquiry for its member States on the same subject and the preliminary results of that survey were already available at the time of the circulation of the joint United Nations/IMF questionnaire.

8. It is expected that a conference room paper summarizing the results of the trade in services inquiry will be available at the time of the twenty-fifth session of the Statistical Commission.

9. The third area of the current trends in the development of service statistics is that relating to the quantity and price indices of services. For most services it is difficult to distinguish the quantity from the price component of value. Therefore, quantity and price indices and, consequently, constant price values for services, are generally poor in quality. Although this weakness has been recognized for a long time, no substantial progress has been achieved. However, because the share of services in national economies has increased considerably, more and more countries have expressed dissatisfaction with the existing indices. The weakness of these service indices may jeopardize not only the information on the development in the service industries, but also the quality of the aggregate growth rates of the national economy (e.g., the quantity index of the gross domestic product).

10. At the beginning of 1988 the Statistical Office began collecting information on national practices and views on the quantity and price indices of services. A similar inquiry had been carried out by OECD for its member countries in 1985. To minimize the additional burden, the content of the United Nations questionnaire was as close as possible to the OECD questionnaire. From OECD countries only some additional information was requested; for non-OECD countries a copy of the OECD publication summarizing the findings of this inquiry was attached to the questionnaire in order to acquaint countries with the results already obtained. A background document reflecting the current knowledge of the Statistical Office on this subject was also annexed to the questionnaire.

11. As far as can be judged from the information so far available, one cannot expect any sudden improvement in the quality of the service indices. There are a number of problems inherent to service industries which do not permit the quality of the service indices to be improved to the same level as the indices of goods-producing activities. However, there are substantial improvements feasible by the application of more refined units of measurement, by taking advantage of more detailed breakdowns (for example, stratification by employment categories) and, in general, by selecting the most appropriate method for each service activity, taking into account the characteristics and circumstances of the given activity.

12. It is hoped that a provisional summary of the results of the inquiry on the quantity and price indices of services will either be available at the time of the twenty-fifth session of the Statistical Commission or will be circulated to national statistical offices shortly thereafter.

13. As initiated by the Statistical Commission at its twenty-fourth session, the Statistical Office of the United Nations Secretariat at the end of 1987 circulated a questionnaire to national statistical offices on the collection, availability and use of service statistics. Extensive details were received on numerous characteristics, mostly classified by kind of services. The technical report, summarizing the findings of this inquiry, will be circulated in 1989.

## II. MAIN METHODOLOGICAL ISSUES IN SERVICE STATISTICS

14. Among the many methodological issues that have been discussed recently, three deserve special consideration at this time: the concept of services, the basic data problems in international trade in services and some general issues of the quantity and price indices of service industries. Only the basic issues are reviewed in this document.

### A. The concept of services

15. In spite of the growing interest in services and the increased availability of service statistics, there is no internationally agreed definition of what constitutes services. In fact, the content of the services varies from country to country and even from publication to publication within the same country. This reduces comparability and causes misunderstandings in a number of cases.

16. Most statistics, when referring to the share of services in total gross domestic product (value added) define services in terms of the ISIC. Some do not go beyond the one-digit categories of the ISIC, which is a relatively rough distinction between goods and services. For instance, using the draft ISIC, Rev.3, at the one-digit level, agricultural services remains in production of goods, since it belongs to the major division 0 (Agriculture etc.), which is overwhelmingly a goods-producing activity. In other cases, the distinction between goods and services is made in terms of two, three or four-digit categories of the ISIC. Statistics with an even finer boundary separate goods from services in terms of the CPC, which is more detailed than the four-digit categories of the ISIC. However, even CPC categories are in some cases heterogeneous from the point of view of the goods-services distinction. For instance, the most detailed CPC category may not distinguish between customized and non-customized software, in spite of the fact that the former has more service characteristics while the latter has more goods characteristics.

17. Whatever the practical distinction, there is an advantage in having a background theory of how services should be demarcated from goods. Various dividing lines between goods and services have been proposed and it appears there is no single criterion (e.g., tangibility, transportability, storability) which by itself provides a satisfactory guideline to distinguish between goods and services in all circumstances. Possibly, several criteria may have to be applied simultaneously to arrive at an appropriate definition of the boundary. Moreover, even then, there will be borderline cases in respect of which some conventions have to be applied.

18. Services are distinguished from goods not only on the production (income generation) side but also on the expenditure side, for example, the share of services in private consumption is measured. Even if the expenditure distinction is made entirely compatible with the production side distinction, the goods/services shares will be different in the two statistics, since, on the expenditure side, it is the final form of the product that determines whether it is allocated to goods or to services, irrespective of how great the good or service

part in its total value. For instance, restaurant meals are allocated to services in spite of their high goods content; the amount spent on the purchase of a television set is, on the other hand, treated entirely as a consumption of goods in spite of the fact that part of the value was created by service activities (trade, transport, advertising etc.).

19. Special problems are encountered with the goods-services distinction in international trade. In principle, it should be possible to build this distinction on some theoretical grounds and to define services, for example, in terms of CPC categories, even if it entailed splitting some CPC categories. This, however, would be cumbersome, since this distinction does not fit into the data base on which external trade statistics are organized. The other, more pragmatic, approach would be to equate goods trade with merchandise trade (i.e., with trade that passes customs identification) and service trade with other export and import (i.e., that does not pass customs identification). Practically, this would be easy; however, in this case one has to accept that services as defined in the domestic economy and services as defined in international trade will differ.

20. The source of some definitions of services in international trade go beyond the goods and services boundaries as accepted by national accounting. These definitions include under the heading of services, in addition to non-factor services, incomes from property (e.g., interest payments, license fees, copyrights), transfers and/or transactions connected with foreign direct investments (e.g., sales by foreign affiliates). These wider concepts have advantages for particular analytical or policy purposes (e.g., when the influence of the rest of the world on the domestic service economy is investigated); however, it would be regrettable to refer to these concepts as services, since this would be in conflict with the generally accepted national accounts concepts.

21. On the other hand, some statistical offices consider that it may not be necessary to arrive at an internationally agreed definition of services. Advocates of this view assert that services constitute a very heterogeneous aggregate (covering, e.g., both modern telecommunication services and, at the time, traditional domestic services). Therefore, a services concept referring to a single separate aggregate is only of limited interest. Accordingly, instead of establishing a rigid definition of services to be applied throughout the entire statistical system, these statistical offices suggest that more efforts should be given to working out the CPC in as much detail as possible, enabling the compilation of a wide range of useful sub-aggregates.

#### B. Basic data problems in international trade in services

22. Exported and imported services do not, in general, pass customs identification and, therefore, cannot be measured in the same way as goods in international trade. Even many countries with developed statistics do not consider the coverage of their trade in services data satisfactory; the situation is worse in developing countries. Since the insufficient coverage of exports and imports of services may considerably distort the balance of the total exports and imports (net export of goods and services) and balance-of-payments statistics in general, most countries view this matter with concern.

23. Exports and imports of services can be provided in a number of forms. The consumer may move to the country of the producer (e.g., tourism); the producer may move to the country of the consumer (e.g., consulting services); the producer and consumer may meet outside their respective countries (e.g., some transportation services); and both the producer and consumer may remain in their respective countries, with the service taking place via transborder telecommunications (e.g., computer services) or by correspondence (e.g., insurance services).

24. Whatever the means of provision, the main methods for obtaining the data needed are (a) inquiries from producers and users of services on how much they sold to and purchased from non-residents and (b) records of monetary authorities (e.g., central banks) on payments made and received from abroad in connection with services rendered.

25. Both these observation methods are beset with difficulties. As to the first source, the details and frequency of the information that can be collected from producers and users of services is generally limited. Producers may not even know whether clients were residents or non-residents. Non-response and omissions also may constitute limitations. As to the second source, in addition to coverage problems (some payments may escape control) it is most difficult to separate payments for services from payments for non-services in traditional financial and banking statistics.

26. Special difficulties may be encountered with respect of service flows between parent companies and affiliates abroad. These flows are intra-enterprise flows and, therefore, either explicit payments are not made - service and non-service receipts and payments are netted against each other - or some payments may reflect considerations other than the value of the services provided.

27. So far, relatively little is known about the details of the problems involved. It is hoped that the above-mentioned United Nations/IMF inquiry on national practices in trade in services statistics will provide useful information on these problems.

#### C. Quantity and price indices of services

28. While there seems to be a consensus that the present state of quantity and price indices of services is unsatisfactory and that efforts are needed to improve them, views differ on how far one can go in this respect and the ways in which this improvement can be achieved.

29. For some experts, the main reason for the troubles with the quantity and price indices of services is that insufficient attention was devoted to their development, but with sufficient additional work it would be possible to secure adequate quantity and price measurement for each service activity. Other experts are more cautious: while recognizing that there is ample room for improvement, they consider that many difficulties are inherent to the quantity and price indices of services. They consider that these difficulties stem from the limitations in comparability and that for some service activities one can hardly expect indices



from which firm economic conclusions can be drawn. For some, for example, from the public administration services quantity indices (constant price values), the most one could expect is that their inaccuracies should not considerably distort the gross domestic product quantity indices; one cannot expect to use these indices to draw firm conclusions about changes in productivity in the specific field.

30. Views also differ on what steps are to be taken to improve these indices. According to some, the main thrust should be to apply methods based on output type units (such as number of surgical procedures) much more extensively rather than to use methods based on input type units (such as number of surgeons). Others put more emphasis on the refinement of the units and do not reject methods based on input type units as being a priori inferior.

31. Some experts recommend striving for some kind of uniformity in the methods of computing service indices and would like to apply the same method for each service activity as far as possible. Others suggest that for each service activity the computational method to be applied should be selected by taking into account the particular conditions and circumstances of the given field; what is important is always to use the method that seems to have the relatively smallest error, and this may be in conflict with the requirement of uniformity.

### III. PROPOSED FUTURE PROGRAMME OF WORK

32. In spite of the results achieved, there is a large amount of work still to be done in all areas of service statistics. A proposed programme of work at the international level covering the next several years is outlined below, together with a preliminary indication of the organizations that might be expected to participate in various aspects of the programme, assuming that adequate resources will be made available. The issue of resources will be considered in a separate subsection.

33. In view of the current situation and initiatives with respect to the statistics of services, intensive collaboration with a number of international organizations is needed. To secure appropriate co-ordination of the work to be carried out by the various organizations, it would be necessary to create an intersecretariat working group on service statistics within the framework of the Administrative Committee on Co-ordination Sub-Committee on Statistical Activities. Similar working groups function in other fields of statistics, as in the revision of the System of National Accounts and co-ordination of the work on international statistical data bases.

#### A. Technical report on the collection, availability and use of service statistics

34. The Statistical Commission, at its twenty-fourth session, requested the preparation of a technical report on the collection, availability and use of service statistics. The collection of information on national practices took place in 1988, and it is planned to publish the report in 1989.

Participant: Statistical Office of the United Nations Secretariat.

B. Classification of services

35. During the past two years, substantial progress was achieved in the classification of services, owing to the results of the Expert Group on Harmonization of Economic Classifications and to the work carried out within the framework of the Voorburg group discussions. Nevertheless, further refinement of service classifications is needed, at least in some groups of service activities.

Participants in the work on this subject: Statistical Office of the United Nations Secretariat, European Economic Community (EEC), OECD, IMF.

C. Statistics on trade in services

36. This is an area in which most of the work lies ahead. A summary of the findings by the joint United Nations/IMF inquiry will be prepared in 1989. However, the report can only give an evaluation of the current state of affairs in trade in services statistics and make tentative suggestions. Before giving guidelines on the development of trade in services statistics, a discussion of the issues at regional and interregional meetings would be needed.

37. An overall programme for trade in services statistics, ending with international guidelines and/or handbooks of the type proposed by the Group of Negotiations on Services, will require at least four years of work. Intermediate results (discussion papers, provisional guidelines) can be expected as soon as 1990-1992, but the final documents on the subject should not be envisaged before 1993.

Participants in the work on this subject: Statistical Office of the United Nations, United Nations Centre on Transnational Corporations, UNCTAD, regional commissions, IMF, GATT, OECD, EEC.

D. Quantity and price indices of services

38. The results of the inquiry on national practices, carried out in 1988, will be summarized in 1989. Tentative proposals on how to improve these index numbers can be worked out in the same year. Final guidelines, however, require substantial additional work (discussions at meetings etc.) and cannot be expected before 1991.

Participants in the work on this subject: Statistical Office of the United Nations Secretariat, regional commissions, OECD, EEC, IMF.

E. Elaboration of statistics of particular service activities

39. Services constitute a heterogeneous ensemble, with most service activities having many characteristic features. Nevertheless, in many countries, services are treated in a uniform way in statistics. The same questions are asked on each service activity, for example, the same inquiry is sent to insurance companies,

repair shops and beauty salons. Judging from the diversity of the information required from the various service activities, the content of the inquiries in each field should be better adapted to those requirements. The elaboration of the CPC is a first step in this direction; however, the appropriate diversification of the statistics would require further elaboration (specific concepts, indicators in respect of outputs, technologies, inputs etc.). All this may end up in separate outputs for statistics of various service activities, such as guidelines on statistics of financial services, business services and so on.

40. Views may differ on the relative importance to be attached to work in specific aspects of service statistics. In starting this part of the programme, it should also be decided which service activities should get first preference. Ideally, useful outputs covering two or three specific aspects of service statistics could be prepared by the end of 1992.

Participants in the work on this subject: Statistical Office of the United Nations Secretariat, regional commissions, OECD, EEC.

#### F. Technical co-operation

41. To strengthen the capacity of developing countries to utilize the concepts, definitions and measurement standards established and, in particular, for upgrading their data-collection and analytical capacities (for work in service statistics), various forms of technical co-operation (regional and/or interregional advisers, special technical and training materials, training seminars etc.) are needed.

Participants in this work: Statistical Office of the United Nations Secretariat, regional commissions, UNCTAD, United Nations Centre on Transnational Corporations, IMF, EEC.

#### G. Conditions of accomplishing the programme

42. All statistical programmes have their resource requirement side; however, this problem deserves special attention in the case of service statistics, since (a) so much of the work involved must be innovative in nature, with no continuing activities and organizational setup behind them and (b) the entire programme was conceived in the midst of a financial crisis affecting a number of international organizations, especially the United Nations. In the United Nations, the crisis has led to a recruitment freeze, a reduction in authorized posts and reductions in funds available for travel, consultancies and expert group meetings.

43. Although the various aspects of the programme outlined in subsections A to F above could be carried out with varying intensity, even the less ambitious variants would require substantial funding, which at present is not available. In particular, funds are needed for the following activities:

(a) To convene expert group meetings (at least to provide travel assistance to experts from developing countries);

- (b) To convene regional meetings on service statistics;
- (c) To engage consultants on particular subjects of service statistics;
- (d) To provide advisory services to developing countries, partly by technical co-operation missions, partly by training seminars.

44. In order to be able to meet the requirements of the development of service statistics, the United Nations, in collaboration with other interested international organizations, presented a project proposal to obtain the necessary funds. No contribution has been offered in respect of this project proposal.

45. By the time the requested funds become available, the activities of the United Nations in the development of the statistics of services may be limited owing to current shortages in both staff and finances. It is expected, however, that the so-called Voorburg Group on Service Statistics will continue its contribution to the development in this area. At the initiative of Statistics Canada, experts from a number of countries were convened at Voorburg, (Netherlands), in January 1987. They took on the commitment to produce and discuss various methodological papers connected with service statistics. After the first meeting, two more meetings were planned; one was held in Stockholm in November 1987 and the following meeting will be held in Wiesbaden in October 1988. While the Voorburg meeting concentrated mainly on service classification problems, the topics discussed became progressively broader. Trade in services and questions of quantity and price indices were also discussed.

46. The Voorburg group meetings are open to participation from any country, but no resources are available to finance the travel of experts, which in practice excludes the participation of experts from developing countries. As a consequence of this, the experiences and special needs of developing countries have not sufficiently been taken into account. The Statistical Office of the United Nations Secretariat and other international organizations have tried to find ways to broaden the scope of the Voorburg group.

#### IV. POINTS FOR DISCUSSION

47. The Commission may wish to provide guidance and make recommendations on the overall programme of service statistics. In this connection, it may wish to consider the following:

- (a) Priorities among the various components of the programme;
- (b) Form of further work on service statistics, in particular volunteer contributions such as that of the Voorburg group;
- (c) Service concept to be used (should it be the same in all fields of statistics, or should one accept, for example, services in international trade statistics and services in domestic statistics are not entirely the same?);
- (d) Ways to improve the data base for trade in services statistics;

- (e) Main action to be taken to improve quantity and price indices in services;
- (f) Priorities to be attached to programmes/guidelines of statistics for particular service activities;
- (g) Arrangements to be made if no contributions are received for the service project.

Notes

1/ Most of the current statistics define "services" as all economic activities other than agriculture, mining, manufacturing, utilities, construction. However, as will be described in paras. 15-20, a number of other definitions of "services" have also been used or proposed.

2/ Official Records of the Economic and Social Council, 1987, Supplement No. 6 (E/1987/19), para. 75 (d) and (e).

3/ Trade in Services. Growth and Balance of Payments Implications for Countries of Western Asia (United Nations publication, Sales No. E.87.II.L.16).

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