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INTERNATIONAL ECONOMIC CLASSIFICATIONS

Revision and harmonization of international economic classifications

Report of the Secretary-General

SUMMARY

At its twenty-fourth session, the Statistical Commission requested the Secretary-General to submit to the Commission a progress report on the revision and harmonization of international economic classifications. In addition, the Commission requested a final draft of the complete revised International Standard Industrial Classification of All Economic Activities and a final draft of the complete Central Product Classification.

The present report includes information on the history of the programme on harmonization of international economic classifications (paras. 2-6), the outcome of the recent international meetings (paras. 7-10) and the implementation of the Harmonized Commodity Description and Coding System of the Customs Co-operation Council (para. 11). It also includes discussion of some methodological and conceptual issues encountered (paras. 12-30) and descriptions of the above-mentioned draft classifications (paras. 31-59), focusing mainly on the services parts of the classifications. The report concludes with proposals for future work (paras. 60-65) and points for discussion (paras. 66-67).

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INTRODUCTION

1. At its twenty-fourth session, the Statistical Commission endorsed the continuation of the work of the Statistical Office on the harmonization of international economic classifications and requested the Secretary-General to submit to the Commission at its twenty-fifth session a progress report on that subject. The Commission also requested that final drafts of the revised International Standard Industrial Classification of All Economic Activities (ISIC) and the newly developed Central Product Classification (CPC) be submitted at its twenty-fifth session. 1/ The present report has been prepared in compliance with the Commission's request. The above-mentioned drafts are being made available to the members of the Commission and other participants.

I. BACKGROUND

A. Programme on harmonization of international economic classifications

2. The programme on harmonization of international economic classifications was approved by the Statistical Commission at its nineteenth session held in New Delhi in 1976. 2/ The programme aims at harmonizing classifications of the same type developed by different organizations, for example, the activity classification of the United Nations, ISIC, with the activity classification of the European Communities, the General Industrial Classification of Economic Activities within the European Communities (NACE) and with the Classification of Branches of the National Economy (CBNE) of the Council for Mutual Economic Assistance (CMEA). The programme further aims at harmonizing classifications of different types produced by the same organization, for example, ISIC and the Standard International Trade Classification (SITC) 3/ and harmonizing classifications of different types produced by different organizations, for example, ISIC and the Harmonized Commodity Description and Coding System (HS) of the Customs Co-operation Council (CCC). As far as United Nations classifications are concerned, the programme includes work on the third revision of ISIC and the development of a directly linked output classification, the CPC, covering transportable goods as well as non-transportable goods and services. It also involves the third revision of the SITC, which was approved by the Commission at its twenty-third session in 1985 4/ and published in 1986.

3. At the same session of the Statistical Commission the relationship between the ISIC, CPC and SITC was defined and harmonization was established as follows: both the SITC and CPC were to use the headings and subheadings of HS as building blocks which would be aggregated to form several levels of classification for economic analysis. In general CPC categories should be arranged according to their industrial origin, following the ISIC. 5/ In the process of developing the CPC as a kind of intermediate classification relating activity and commodity classifications, some adaptations in the ISIC and HS were deemed necessary. In some cases additional dissections had to be created to reflect the industrial origin of goods in HS.

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4. The basis for the harmonization work was formed by the Integrated System of Classifications of Activities and Products (SINAP), an interim classification prepared by the Statistical Office of the European Communities (EUROSTAT) under the auspices of the Joint Working Group on World Level Classifications of the Statistical Office of the United Nations Secretariat and the Statistical Office of the European Communities (SOEC). Both the Joint Working Group and the United Nations Expert Group on Harmonization of Economic Classifications include experts from countries with various types of economic systems and at various stages of development from all regions of the world as well as experts from international organizations. In this way a wide range of opinions were represented in their deliberations.

5. SINAP consisted of 95 broad activity categories which were further subdivided into several activity and/or product categories. Both the activity and the product categories were intended as building blocks to be inserted in the major international activity and product classifications at an intermediate level. On the basis of the SINAP and in several meetings of the Joint Working Group and two United Nations Expert Group meetings, the first complete drafts of ISIC, revision 3 and CPC were prepared and submitted to the Statistical Commission at its twenty-fourth session in 1987.

6. At that session the Statistical Commission approved the overall structure of both classifications and again accorded the highest priority to work on the development, updating and harmonization of standard international economic classifications. 6/ Nevertheless, the Commission noted that a number of outstanding issues needed to be resolved. In their discussion, the close relationship between service statistics and the revision of ISIC and the development of CPC was stressed, and it was pointed out that sound classifications covering the services area represented an essential prerequisite for the development of service statistics in general. Progress on service statistics in the last two years and future work proposals in that area are dealt with in a separate report (see document E/CN.3/1989/7).

B. Final stages of development of present draft classifications

7. Three important international meetings were held since the last session of the Statistical Commission: the second meeting of the Voorburg Group on service statistics, held in Stockholm in 1987, the sixth session of the United Nations Statistical Office/SOEC Joint Working Group on World Level Classifications, held in Luxembourg in December 1987, and the third United Nations Expert Group Meeting on Harmonization of Economic Classifications, held in New York in April 1988. Substantial progress was made in resolving the outstanding issues related to the draft classifications as a result of these meetings. At the second meeting of the Voorburg Group, first drafts of service classifications, which a number of countries had volunteered to develop, were discussed. The proposals proved to be major contributions to the preparation of subsequent drafts of ISIC and CPC, first for the sixth session of the United Nations Statistical Office/SOEC Joint Working Group on World Level Classifications and then for the third United Nations Expert Group Meeting on Harmonization of Economic Classifications. 7/ Those two expert

meetings dealt with a range of outstanding issues, including those related to the classification of services and, through a process of detailed discussion and compromise, the point was reached whereby the United Nations Expert Group meeting recommended that the final drafts of ISIC, revision 3 and CPC be submitted to the Statistical Commission at its twenty-fifth session in 1989 for approval. For the CPC, "it was decided ... to ask the Commission to approve CPC and have it published as a provisional document, to be used around the world, in order to gain experience and receive wider comments". 8/

8. The "Final draft of the revised International Standard Industrial Classification of All Economic Activities (ISIC), Rev.3" (PROVISIONAL ST/ESA/STAT/SER.M/4/Rev.3 and Add.1 and 2) and the "Final Draft of the Central Product Classification (CPC)" (PROVISIONAL ST/ESA/STAT/SER.M/77 and Add.1), which will be made available to the twenty-fifth session of the Statistical Commission, take into account numerous corrections and comments received prior to a 30 June 1988 cut-off date and embody the recommended compromises of the two recent expert group meetings. Naturally, the final drafts do not in all respects reflect the suggestions of each commentator. Any statistical classification must accommodate a wide range of theoretical and practical considerations. This is all the more true in the case of an international statistical classification. In this connection, it may be recalled that at its last session the Statistical Commission observed "that, as world-level classifications, their content could not exactly reflect circumstances in every individual country. However, national experts and others reviewing the draft classifications should show flexibility and, in particular, recognize the needs of developing as well as developed countries". 9/

9. The main issue remaining is the explanatory notes for the services part of the CPC. First drafts of explanatory notes were received for some service areas as voluntary contributions from countries for the Voorburg Group meeting on service statistics held in Stockholm in November 1987. Since then, as a result of the two recent international meetings in Luxembourg and New York, a number of amendments have been introduced, especially in the services part of the CPC. Therefore, the Expert Group on Harmonization of Economic Classifications recommended that the Secretariat should request countries which have already contributed to the services part of the CPC to draft revised explanatory notes to take into account any changes introduced into the final draft. It is expected that the Secretariat would make these notes available, at least informally, at the time of the twenty-fifth session of the Statistical Commission. 10/ It is assumed that if the Statistical Commission agrees, the revised explanatory notes will be included in the published version of the provisional CPC, and that the explanatory notes for the remaining service areas will be drafted in time for the publication of the definitive CPC. The third meeting of the Voorburg Group on service statistics, scheduled for October 1988 in Wiesbaden, will presumably touch upon the subject in its deliberations.

10. The United Nations Expert Group also considered the future work programme and endorsed the proposals, including follow-up work on the revision of ISIC and the development of CPC. In this connection the Expert Group meeting asked the experts and participants "to present their opinions and points of view concerning the follow-up of work, particularly for the 1990-1991 period, in the broad area of international economic classifications". 11/

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C. Harmonized Commodity Description and Coding
System of the Customs Co-operation Council

11. The International Convention on the Harmonized Commodity Description and Coding System entered into force on 1 January 1988. The more than 40 contracting parties to the HS have adopted the complete six-digit HS codes for both their customs tariff and statistical nomenclature. An important new development was the decision by the Harmonized System Committee to form a Review Sub-Committee to update the HS at an interval of every three to four years. In that context it was emphasized that not only customs but all users should be represented in the Sub-Committee, and it was suggested that the Statistical Office of the United Nations Secretariat should play a co-ordinating role in gathering and presenting the views of countries, with a view to updating the system with regard to harmonization of the development of HS, CPC and SITC. Special care should be taken that the updating of HS would have no detrimental effect on its relationship with the CPC and SITC. The need to maintain co-ordination among the classifications, including procedures to maintain and update the ISIC and CPC as well as the HS, was pointed out at the April 1988 United Nations Expert Group Meeting on Harmonization of Economic Classifications. 12/

II. METHODS AND CONCEPTS

A. Relationship between ISIC and CPC

12. The following names used for the categories at the different levels of the ISIC and CPC have been retained as proposed at the last session of Statistical Commission: "section", "division", "group" and "class" for the one-, two-, three- and four-digit level categories of the ISIC and CPC and "subclass" for the five-digit level categories of the CPC. This corresponds to the names used at the highest three levels of SITC, which uses "sub-group" at the four-digit level and "item" at the five-digit level, and in several other related statistical classifications.

13. The CPC rests on two basic classification principles - the industrial origin and the physical properties of the products; the first was the basic principle for developing the International Standard Classification of All Goods and Services (ICGS) in 1976; the second has been taken into account in response to a recommendation made at the twenty-third session of the Statistical Commission in 1985. 13/

14. The industrial origin criterion postulates the unique placement of products according to their chief industry source. This means that the relationship between the ISIC and CPC is such that each CPC subclass has only one industrial origin. As the coding system of the CPC is no longer directly linked to ISIC industrial origin categories, an additional column indicates the ISIC reference for each CPC subclass. In general the CPC is structured according to ISIC categories in ascending order. Exceptions are as follows: energy products (CPC division 17) and water (CPC division 18) are grouped together with ores and minerals in section 1 to save coding space for the breakdown of services; furniture and the residual

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category for transportable goods (division 38) are grouped so as to avoid affecting the homogeneity in classifying transportable goods in section 4 "Metal products, machinery and equipment"; and agricultural, mining and manufacturing services (division 88) have been kept in services in order to maintain the separation between goods and services, transportable goods being defined as all products which are covered by HS.

15. Whenever possible subclasses of the CPC are related to classes of the ISIC, and only in a very few cases has reference been made to the division level of the ISIC, for example, for CPC 73290 "Transportation of other freight by air", which can be carried out by either scheduled or non-scheduled air transport units, CPC 85300 "Interdisciplinary research and development services", which by definition can be attributed to neither natural nor social sciences, and manufacturing services, which are not further subdivided below the division level. Groups and classes of the CPC sometimes are not completely homogeneous in terms of the industrial origin of the products whenever products have been classified according to their physical properties. Examples include CPC 32550 "Plans and drawings for architectural, engineering, industrial, etc. purposes, being originals drawn by hand", which is considered as a product of ISIC 7421 "Architectural and engineering activities and related technical consultancy" and classified as a good with other printed matters; CPC 38210 "Pearls, natural or cultured and unworked" has ISIC 0500 "Fishing" as industrial origin but is classified together with jewellery and related articles; CPC 475 "Audio and video records and tapes" is classified among radio, television and communication equipment even if they are considered as products of the chemical industry, if unrecorded, or of publishing, if recorded.

16. The part of the CPC covering services is even more closely related to ISIC than the goods part so that the service or service package rendered is often regarded as the counterpart of the service activity producing it. In some cases this approach is simply a consequence of conceptual vagueness for certain areas of services. It reflects the tentative character of the CPC in relating activities with their output (for example, for CPC 81 "Financial intermediation services", CPC 84 "Computer and related services" and CPC 861 "Legal services").

B. Relationship between ISIC and CPC and other international economic classifications

17. Regarding efforts to harmonize the ISIC with other international economic classifications, the first aim of the Joint Working Group on World Level Classifications consisted in achieving as close a correspondence as possible between ISIC revision 3 and the forthcoming revised NACE. That has been achieved; there is now perfect correspondence at all levels, except when ISIC revision 3 classes are exactly subdivided for the NACE. For some service industries it is expected that the NACE will have a further breakdown at the division level for market versus non-market production. However, this will not affect the relationship with ISIC revision 3. A CPC version for the European Communities (CPC COM) will be related to the CPC the same way that the NACE is related to ISIC revision 3.

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18. Under the auspices of the Conference of European Statisticians attempts were made to harmonize the ISIC with the CBNE. Work was done in close co-operation by the CMEA and the Economic Commission for Europe (ECE) secretariats. Since these two classifications are the most widely used sectoral classifications applied in statistical practice, the correspondence table between the ISIC and CBNE allows comparisons of statistical data on production, employment, investments and the like. This will contribute to improving data comparability at the international level.

19. The revision of the International Standard Classification of Occupations (ISCO) 1968 has been completed by the International Labour Organisation (ILO). The revised ISCO was adopted by the fourteenth International Conference of Labour Statisticians (ICLS), held in Geneva in 1987. 14/ The most important criteria in revising ISCO were skill level and skill specialization. Although ISCO and ISIC are conceptually different, links between the two exist when describing skill specialization for certain occupational groups. For example, this is done in terms of production processes, equipment used, materials worked with and goods and services produced. These are important determinants in devising a viable industrial classification. In relating ISCO and ISIC it is important to use ISIC, Rev.3 for this exercise, as was already agreed upon at the last Expert Group Meeting in New York. 15/

20. In the CPC, the relationship with SITC revision 3 and HS is straightforward. For transportable goods CPC uses HS headings or subheadings as building blocks and reaggregates them in a less detailed manner than SITC revision 3, which itself also uses HS headings or subheadings as building blocks. The CPC and SITC revision 3, are linked in such a way that it is always possible to sum up complete CPC categories into three-digit SITC categories, that is, each CPC subclass includes products which are always classified in only one SITC group. For example, CPC 442 "Machine-tools and parts and accessories thereof" first includes machine-tools for working any material (CPC 44211-44216 corresponding HS 8456-8461 and SITC 731) and then machine tools for working metal (CPC 44217, 44218 corresponding HS 8462, 8463 and SITC 733).

21. In the services part of the CPC, reference is no longer made to categories of the International Standard Classification of All Goods and Services (ICGS). Such categories were previously included in the draft CPC presented at the twenty-fourth session of the Statistical Commission. However, due to the Voorburg Group initiative, the services part of the CPC has been completely changed and the changes make it virtually impossible to maintain the correspondence with the ICGS. Reference to the Classification of the Functions of Government (COFOG) 16/ has also been deleted from the division for services provided by Governments.

22. In the context of broader work on the revision of the fourth edition of the Balance of Payments Manual of the International Monetary Fund (IMF), a draft classification of international transactions in services has been prepared by that organization. An attempt has been made to align this classification as closely as possible with the CPC. Similar work aiming at improving statistics on international trade in services is being carried out by EUROSTAT, which is developing a Classification of Invisibles for the needs of the European

Communities, and by the Organisation for Economic Co-operation and Development (OECD), the United Nations Conference on Trade and Development (UNCTAD) and the General Agreement on Tariffs and Trade (GATT).

C. Relationship with national economic classifications

23. The relationship between international classifications, such as the ISIC and CPC, and related national economic classifications varies considerably among countries. One may distinguish two broad groups of countries: first, those countries, primarily developed countries, that have developed their own national classifications and that see international classifications as essentially based on or derived from national classifications and second, most other countries, that see their own national classifications as based on or derived from related international classifications. For the first group of countries it is hoped that when revising their national industrial activity and product classifications they will strive to maximize their comparability with ISIC and the CPC. In this way they will contribute to the international comparability of statistical data and foster international analysis of economic and social trends and developments.

24. By contrast, virtually all developing countries and a number of small developed countries, either because of their size or stage of statistical development, lack the infrastructure needed to develop and maintain their own statistical classifications. These countries will have no alternative but to adopt the ISIC and CPC as their national industrial activity and product classifications with little or no modification. In such cases, the ISIC or CPC may be used as they are or they may be expanded or contracted depending on the economy and other circumstances of the country. If a certain economic sector is particularly well developed or of great importance economically, the relevant part of either or both classifications can be expanded accordingly. If other aspects of the economy are still undeveloped or are relatively unimportant, the relevant parts of the classifications can be contracted. Ideally, most countries in the world would want to make at least some modification in the ISIC and CPC in developing their national activity and product classifications, although it is recognized that this may not always be possible.

D. Definition of statistical units

25. Issues relating to the definition of statistical units were put on the agenda of the two recent expert group meetings when the introductory materials for ISIC were discussed. At the meeting of the United Nations Expert Group on Harmonization of Economic Classifications held in April 1988, it was agreed that the unit to be applied in practice should, in general, be the one which may be considered as optimal in the conflict between the homogeneity requirement and data reporting capacity. It was recognized that the most suitable unit was not necessarily the smallest unit for which the requested data were available. It was felt that the ISIC should define its units on a theoretical basis (i.e. in ideal circumstances). However, it was felt that it was also important to cover modifications needed to take into account frequently encountered practical constraints. That approach to

definition issues was also proposed by the SNA Expert Group on Production Accounts and Input-Output Tables in Vienna in March 1988. The use of different types of units for different kinds of statistics was recommended, for example, establishments in production statistics, enterprises in financial statistics. Both the SNA and the classifications expert groups urged that discrepancies be avoided when defining the statistical units in the ISIC and SNA. The Expert Group on Harmonization of Economic Classifications agreed that the definition for enterprise, establishment, kind-of-activity unit and local unit should remain essentially the same as it appeared in ISIC revision 2. Some updating and clarification have been introduced.

E. Coding system of ISIC and CPC

26. The need for more detail in the service areas and for additional divisions in manufacturing made the use of a coding system different from that of ISIC, revision 2 necessary. The reasons for and against using a combination of letters at the highest level with purely numerical codes at the two-, three- and four-digit levels as compared to a completely decimal system have been discussed extensively in recent years. It became clear from those discussions that a full alpha-numerical system at all levels was not acceptable for the ISIC, because a number of countries considered that such a system would increase the level of errors in any manual coding operations and would generate considerable costs for the retraining and supervision for personnel in national statistical offices engaged in coding operations. It might also limit the ability of users of data to make historical comparisons.

27. In the end, a system using purely numerical codes at the two-, three- and four-digit levels and letters at the highest level for additional tabulation purposes was selected as the most viable. This resolution of the issue was presented at the Joint Working Group and the United Nations Expert Group meetings and was endorsed by both: "The addition of an alpha coding to an entire numerical code as a tabulation code was unanimously accepted". 17/ This system permits a significant increase in the number of one-digit categories and the separate identification of several important categories of economic activities, for example, J "Financial Intermediation"; M "Education"; N "Health and Social Work". Furthermore, it allows the aggregation of all manufacturing into one high-level category. The number of divisions for manufacturing has been increased from 13 to 23 by subdividing some categories, such as former division 31 "Manufacture of food, beverages and tobacco" into new divisions 15 and 16, or by elevating former groups to the division level, such as former group 243 "Manufacture of motor vehicles, trailers and semi-trailers" to new division 34. This has been done in order to accommodate national accounts data collection needs.

28. The new coding system is a numerical system which includes additional tabulation categories at the highest level. It can be used in alternative ways according to the preferences of statistical offices and other producers of statistics. All tabulation categories can also be expressed in terms of divisions. Data at the highest level can be compiled by aggregation of data collected at the lower levels, which are coded numerically. This fact has been

indicated in the explanatory notes for the ISIC by referring to the divisions which are covered by a tabulation category in brackets under the title.

29. The decimal system has been retained for the CPC. However, changes made in the structure of the ISIC had certain repercussions on the structure of the CPC, in order to maintain a close relationship between them. Attempts have been made to establish closer links in the coding systems of ISIC, revision 3 and the CPC, and more space has been reserved for the breakdown of services. Previously, seven sections covered transportable goods and three covered non-transportable goods and services. Now there are five sections devoted to each of these broad areas. To achieve this balance some regrouping was necessary, especially for manufactured products; for example, division 36 now regroups "Rubber and plastic products". A tentative correspondence table at the division level between CPC and ISIC has been annexed to the CPC.

F. Annexes

30. At its twenty-fourth session the Statistical Commission welcomed the inclusion of annexes covering cross-classifications of industries for particular purposes. ^{18/} Annexes for energy, tourism and the information sector have been worked out for both the ISIC and the CPC and presented at the two recent international meetings held in Luxembourg and New York. The annexes for tourism closely followed the proposals made by the World Tourism Organization (WTO). At its last meeting, the Expert Group on Harmonization of Economic Classifications recommended that for the time being annexes should not be included for the information sector because that would require further research on the scope of that sector, and because several conceptual issues were still not resolved. Although the experts had some reservations about the tourism annex, because the methodology used in devising it appeared to differ from the approach chosen for the ISIC in general, it was acknowledged that tourism was highly relevant, especially for developing countries. Therefore it was suggested that the possibility of improving the annexes in co-operation with WTO and OECD be explored. The annexes as presented are based on the outcome of that consultation. Annexes on energy have been included in both the ISIC and the CPC. In an attempt to establish a link between the CPC and balance-of-payments categories, an annex for income and transfer categories has been added to the CPC.

III. CLASSIFICATIONS

A. Revision of ISIC

1. General remarks

31. The newly revised ISIC is the result of extensive consultations and numerous meetings. Its overall structure reflects the search for compromises and the flexibility shown by experts on many controversial issues. The attempt to achieve correspondence with the NACE at all levels without introducing excessive detail, which would overburden the data collection capacity of developing countries, constituted a fundamental dilemma. The need for more detail, especially at the

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one- and two-digit levels, was voiced by many producers and users of statistics and finally endorsed by the experts at the two most recent meetings. The most important reasons for this request were:

(a) The necessity to structure the economy in a modern way, allowing for more space especially in the services areas, and to elevate some important activities or industries to a higher level;

(b) The need for additional detail for analytical and economic policy purposes in national accounts, particularly input-output analysis, which basically uses the two-digit categories of ISIC;

(c) The refinement of the analytical framework, especially in the services areas, resulting from concerted efforts to improve coverage of ISIC in the context of the Voorburg Group initiative.

32. To satisfy these needs additional detail has been introduced, especially at the one-, two- and three-digit levels. Compared with the ISIC draft presented at the last session of the Statistical Commission, these additions are as follows:

One-digit categories	from 10 to 17	(+70 per cent)
Two-digit categories	from 48 to 60	(+25 per cent)
Three-digit categories	from 127 to 169	(+33 per cent)
Four-digit categories	from 272 to 291	(+ 7 per cent)

The relatively small increase at the class level indicates that few new categories were actually created; rather, existing categories have been regrouped differently or elevated to a higher level.

33. The new ISIC also includes introductory materials. As the general nature and purpose of the ISIC have remained the same as in ISIC, revision 2, the introduction has not been completely rewritten. However, substantial changes have been introduced to clarify certain aspects of the use of ISIC and to reflect the changes introduced.

2. Activities producing transportable goods

34. A number of changes were introduced in this part of the ISIC (divisions 01-41) in order to improve the analytical detail for data presentation and to maintain continuity in the time-series based on ISIC, revision 2. A number of new divisions were created in manufacturing (16, 18, 19, 22, 30, 31, 32, 33, 34, 37), for manufacture of food, textiles and machinery, in order to reflect the importance of these industries, and the order of categories as they appear in ISIC, revision 2 was reinstated, that is, food manufacturing was listed at the beginning and the manufacture of metal products, machinery and equipment was listed at the end.

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35. In agriculture the proposal to create a new category 0130 "Growing of crops combined with farming of livestock (mixed farming)" was endorsed by FAO and at the recent international meetings. Its specialization ratio was specified at 66 per cent, which would still permit most farms to be classified according to their main activity in the specialized categories of the ISIC, outside mixed farming. The category "Agricultural and animal husbandry service activities, except veterinary activities" has been regrouped at the group level, improving the coverage of groups 011 and 012.

36. In the area of mining and quarrying a different treatment of service activities which are not related to oil and gas extraction has been introduced. These service activities are those that are not easily distinguishable from construction activities and are often carried out by units which are engaged in site preparation work at construction sites.

37. A number of new categories have been created in manufacturing: 2421 "Manufacture of pesticides and other agro-chemical products"; 2893 "Manufacture of cutlery, hand tools and general hardware"; 3430 "Manufacture of parts and accessories for motor vehicles and their engines". In general this has been done on the grounds that these activities produce characteristic goods which can be distinguished from, for example, other chemicals or other metal products, and because of their economic importance deserve a separate presentation. A new division 22 "Publishing, printing and reproduction of recorded media" has been introduced as the last Expert Group meeting recommended to move publishing back to manufacturing, close to printing. This transfer was justified by the nature of the publishing activity which mostly results in a good which is standardized, generally available to any customer and distributed through sales channels.

38. Other changes introduced in this part of the ISIC are as follows: a new category 2230 "Reproduction of recorded media", which covers reproduction of tapes and the like, has been developed; "Manufacture of weapons and ammunition" has been moved from manufacture of general purpose machinery to manufacture of special purpose machinery; and manufacture of radio remote control apparatus has been moved from division 32, where this type of apparatus was considered more as communication equipment, to class 3312 where it is now grouped together with measuring, checking, testing and navigating instruments and appliances.

3. Activities producing non-transportable goods and services

39. Efforts to improve the 1987 draft ISIC have focused on the part of the classification dealing with activities producing non-transportable goods and services (divisions 45-99). Revision work on ISIC has benefited greatly from international co-operation, such as the Voorburg Group initiative. In addition, several national statistical offices were utilized for the development of service classifications. The results of international sharing of the workload were discussed at the meetings held in Stockholm, Luxembourg and New York. Recently three drafts of the classifications were prepared, reflecting the outcome of the latest discussions on services held at the meetings.

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40. The final draft ISIC has a completely new structure for some service industries, such as financial intermediation, and a considerably amended structure for others, such as computer activities or education. In other areas basic choices have been made at earlier meetings which have been kept in delineating the new framework for the ISIC. This is true for the distributive trades, for which a proposal was made at the twenty-fourth session of the Statistical Commission "to classify wholesale trade according to the type of goods sold and to use a combined classification of the goods sold and the kind of organization of the sales for retail trade". 19/ This also applies to transport for which the mode of transport (land, water, air) has been chosen as the basic criterion for the breakdown of activities, followed at the next lower level of detail by the distinction between passenger and freight transport. For public administration and education a fundamental decision has already been taken at the 1986 Expert Group Meeting on Harmonization of Economic Classifications in New York. The decision was to follow as far as possible the structure of the Classification of the Functions of Government (COFOG) and the International Standard Classification of Education (ISCED), 20/ the latter developed by the United Nations Educational, Scientific and Cultural Organization (UNESCO), in these areas. A considerable number of comments were received on the contributions developed by countries in the context of the Voorburg Group initiative as well as on the successive draft classifications. These comments have resulted in numerous amendments to the explanatory notes. The following paragraphs present the most important structural changes in delimitation and coverage of the categories for service activities.

41. In construction, a new class 4510 "Site preparation" was created which includes preparatory activities carried out at construction sites, such as drainage, levelling, earth moving and demolition work. Where to classify the erection of prefabricated structures from self-manufactured parts evoked discussions at the most recent international meetings. It was finally decided to classify it in manufacturing, except when the chief constituent material was concrete, in which case it should remain classified in construction.

42. In the distributive trades area clarification was requested on how to distinguish between non-specialized and specialized retail trade (521 versus 522, 523). Different views were expressed on the definition of specialized retail trade, and finally it was agreed that reference should only be made to broad product lines sold in order to facilitate the application of the classification. The breakdown of retail trade combines three criteria: non-specialized versus specialized retail trade, goods sold versus kind of organization of sales and retail trade in stores (521-524) versus retail trade not in stores (525), with a certain degree of overlapping of the three criteria. Other changes relate to the splitting into two groups (501 and 502) of sale, maintenance and repair of motor vehicles and the creation of a residual category 5190 "Other wholesale" which covers both general merchandise wholesale and specialized wholesale in goods not included in any other category.

43. For hotels and restaurants (55) and transport, storage and communication, WTO contributed comments which are reflected in the revised ISIC. A new subdivision for 62 "Air transport" into 6210 "Scheduled air transport" and 6220 "Non-scheduled air transport" has been introduced. The distinction was made in part because

several national classifications provide such categories. Class 6304 now covers "Activities of travel agencies, tour operators and tourist guides" because all these activities appear to be closely related.

44. A completely new approach was adopted for banking and insurance activities. Instead of the more traditional distinction between activities carried out by banks and activities which typically relate to insurance companies, the new ISIC avoids referring to banks, because the definition of banks differ from country to country and because as a consequence of deregulation in this area similar services are increasingly provided by institutions not described as banks. Instead, all such activities are now regrouped under the term financial intermediation, which may be defined as activities consisting in collecting and redistributing funds. Insurance activities and pension funding have been separated at the division level (66). Activities auxiliary to financial intermediation, that is, provision of management services, advice and other assistance related to, but not in themselves constituting financial intermediation, form a third division in this area (67).

45. Titles and coverage of the categories for computer and related activities have been changed in an attempt to reflect the rapid technological development in microelectronics, which strongly influence computer technology. 7210 now specifies "Hardware consultancy". 7240 has been renamed "Data base activities" and covers a wider range of data base related activities, not only data base availability but also activities related to the development of the data base and the storage of the data. 7250 covers "Maintenance and repair of office, accounting and computing machinery". This class was transferred from manufacturing to services in response to a recommendation made at the last Expert Group meeting. These activities are often carried out by small units that are not related to the manufacturers of this equipment.

46. Business activities represent a particularly complex area encompassing a wide range of mostly information-related activities. They were the object of extensive discussions at all recent international meetings on economic classifications. Some of the most important decisions taken were: division 71 "Renting of machinery and equipment without operator and of personal and household goods" has been broken down into "Renting of transport equipment" (711) and "Renting of other machinery and equipment" (712); "Research and development" has been elevated to the division level (73) and subdivided into "Research and development on natural sciences" (7310) and "Research and development on social sciences and humanities" (7320); a new class 7413 "Market research and public opinion polling" has been created as such activities appear to be important and distinct enough to deserve separate treatment from other business and management consultancy activities; and the explanatory notes of 7414 "Business and management consultancy activities" have been considerably amended and now include, for example, the activity consisting in combined management consultancy and actual management.

47. Experts generally recommended not to introduce too much detail for the public administration categories, as governmental structures vary greatly between countries and also change significantly over time. Therefore the overall structure for public administration activities has not been altered in the last two years. The proposed solution ensures compatibility in the structure of ISIC, revision 3

with COFOG. For illustrative purposes the revised ISIC includes a tentative correspondence table between ISIC, revision 3 and COFOG in the form of an annex. The Expert Group Meeting on Harmonization of Economic Classifications advised that government-operated producing units should be classified outside public administration into other parts of ISIC if they are engaged in specialized activities, such as research and development or social work.

48. Social security and social assistance activities have been restricted to 7530 "Compulsory social security activities" in order to fall under public administration activities, whereas other welfare activities are now classified in 853 "Social work activities" together with similar services provided by private institutions.

49. For education a classification of the activities based on the level of education provided has been developed, following the ISCED and recommendations made by UNESCO. Experts agreed that the breakdown for education should be limited to broad categories as educational systems show substantial differences from country to country and undergo changes continually. The coverage of division 80 is confined to education which ultimately results in certification or diploma and does not include education for purely recreational purposes. The residual category 8090 now covers "Adult and other education", that is, types of education not classifiable by level of education. Adult education is a distinct and important type of education, likely to become even more important in the near future; experts therefore agreed that it should be incorporated explicitly into the title.

50. A number of changes have been introduced in division 92 "Recreational, cultural and sporting activities", some in response to UNESCO proposals based upon the UNESCO framework for cultural statistics as adopted by the Conference of European Statisticians and upon the international recommendations concerning the standardization of statistics on the public financing of cultural activities. A new class 9214 "Dramatic arts, music and other arts activities" has been created to separate activities relating to theatrical production from other entertainment activities. Class 9220 now covers "News agency activities". This category was transferred from business to cultural activities, and its title has been changed from press to news agency activities to make clear that these services are not rendered to the press only but to other media as well. The following two categories have been slightly amended to improve description of their contents: 9232 "Museums activities and preservation of historical sites and buildings" and 9233 "Botanical and zoological gardens and nature reserves activities".

B. Development of the CPC

1. General remarks

51. The CPC covers all products which can be the object of a domestic or international transaction. As a standard central product classification the CPC is intended to be used for all kinds of statistics which need product detail. These statistics may be on production or consumption, prices, foreign trade, commodity flows, stocks or balances or capital formation, and they may be for use in

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input/output tables or in the balance of payments. As a general purpose reference classification, the CPC is designed primarily to enhance harmonization of activity, production and trade data and to strengthen the role of the national accounts and balances as an instrument for the co-ordination of economic statistics. 21/

52. Regarding coverage of the CPC, the Statistical Commission at its twenty-fourth session decided "that the classification should maintain a strict separation between three basic categories: transportable goods, non-transportable goods and services". 22/ Conflicting opinions were expressed about the inclusion of assets. Although assets are not regarded as goods or services in the System of National Accounts (SNA) 23/ it was considered useful to include them in the CPC because there was considerable national and international trade in them, and many users were interested in data on this trade.

53. In the CPC sections 0 to 4 cover transportable goods. The classification is more condensed at the one- and two-digit levels, as it was recommended that more weight should be accorded to services in the new CPC. Non-transportable goods are classified in division 52 "Constructions", assets in division 53 "Land" and in division 89 "Intangible assets", all the other categories relate to services. Compared with the CPC draft presented at the last session of the Statistical Commission, the number of categories at the different levels for transportable goods (first term) and non-transportable goods, services and assets (second term) in the new CPC has evolved as follows:

One-digit categories:	5 + 5 = 10	previous 7 + 3 = 10
Two-digit categories:	39 + 30 = 69	previous 48 + 21 = 69
Three-digit categories:	184 + 107 = 291	previous 182 + 70 = 252
Four-digit categories:	733 + 303 = 1 036	previous 725 + 222 = 947
Five-digit categories:	1 130 + 657 = 1 787	previous 1 119 + 431 = 1 550

These figures clearly show that the increase has been particularly significant for the services categories at the three-digit (+53 per cent) and five-digit levels (+52 per cent).

54. The new CPC also includes introductory materials, a summarizing correspondence table for the sections and divisions of CPC with ISIC, revision 3 and annexes. The main points treated in the introduction refer to the history, classification principles, application, relationship with other classifications and interpretative rules of CPC.

2. Transportable goods

55. This part of the CPC is defined by its close relationship with HS and SITC, revision 3. The changes introduced recently are mostly reflections of amendments made in the structure or explanatory notes of ISIC. At the one- and two-digit levels, it was necessary to recombine categories for manufactured goods in order to

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save space for the breakdown of services. This was also the reason for merging ores and minerals categories with electricity, gas and water, a combination quite useful in energy statistics. The following is a selective list of changes introduced in this part of CPC: 03210 "Natural rubber" has been included under natural gums; a number of new subclasses were created by subdividing categories from the previous draft, such as 35334 for scouring pastes and powders and 35460 "Pyrotechnic articles"; 43550 for continuous action elevators and conveyors; 43934 "Automatic goods vending machines"; 44429 "Bulldozer or angledozer blades"; 44814 "Household sewing machines" were separated from other sewing machines and moved to domestic appliances; 48242 "Cathode-ray oscilloscopes and cathode-ray oscillographs"; all wastes have been regrouped into one division 39 "Wastes or scraps".

3. Non-transportable goods and services

56. In the area of construction, division 52, the Expert Group Meeting on Harmonization of Economic Classifications recommended a more detailed breakdown, especially for civil engineering works, group 522, and in response, the number of subclasses has been considerably increased.

57. Most conceptual and classification problems occur in the part of the CPC dealing with services. Therefore, the structure of the CPC for some service areas should still be regarded as tentative. In the following paragraphs the major changes introduced in the new CPC are described.

58. For construction services, division 51, a footnote has been added indicating that repair and alteration work are included in all the categories of the division. In the area of trade services, divisions 61 to 63, titles have been made more consistent at all levels, especially regarding correspondence between the ISIC and the CPC and between wholesale and retail trade categories. There are new subclasses: 62287 "Wholesale trade services of machinery and equipment related supplies" and 63252 "Retail sales of computers and non-customized software". For transport services an attempt has been made to treat the various modes of freight transport services in a more consistent way by using the packaging materials as classification criterion, whereas the kind of freight transported is relevant only for mail transportation and for the residual categories.

59. Business services have been the focal point of most discussions at recent international meetings. Substantial changes were incorporated into the CPC for these services areas. Division 81 is now entitled "Financial intermediation services and auxiliary services therefor" and covers banking and insurance services, in correspondence with the new approach also adopted in ISIC for this area. In developing the CPC for insurance services it is useful to keep voluntary insurance (in group 812) strictly separate from compulsory social security services, which are classified in division 91 with other services provided by the government. Social services provided by the government, which are related to social assistance, have been moved from public services to social services close to similar services provided by private institutions. A new category 81120 was created for "Financial leasing services". This category generally covers long-term

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leasing or rental services; therefore the distinction between long-term versus short-term leasing or rental services has been dropped from division 83. In the area of computer-related services group 842 has been renamed "Software implementation services" and includes services rendered at different stages of software development. More detail has been incorporated into groups 862-867, "Accounting, auditing and bookkeeping services", "Taxation services", "Market research and public opinion polling services", "Management consulting services" and "Architectural, engineering and other technical services". This development reflects the result of research undertaken in this area in the context of the Voorburg Group initiative. For "Legal services", group 861, as well as for "Education services", group 92, care has been taken to avoid introducing too much detail so as not to hamper the applicability of the classification, as both legal and educational systems differ markedly from one country to another. The following new categories have been created in the process of developing the new CPC: additional subdivisions for 8320 "Leasing or rental services concerning personal and household goods"; 96133 "Combined programme making and broadcasting services"; and a breakdown for 962 "News agency services" according to the media to which the services are rendered.

IV. PROPOSED PROGRAMME OF FUTURE WORK

60. The work of the Statistical Office of the United Nations Secretariat following the twenty-fifth session of the Statistical Commission will consist in following up the revision of the ISIC and the development of the CPC and will cover four main areas. Whether or not the envisaged activities briefly described below are carried out will depend to a certain degree on the availability of resources at the Statistical Office of the United Nations Secretariat. It will also depend on the co-operation of the international statistical community, such as was engendered by the Voorburg Group initiative, in sharing the considerable work-load on improving service classifications. The four broad activities are:

- (a) Finalization of the ISIC, revision 3 and the CPC for publication;
- (b) Work on supplementary material for the ISIC, revision 3 and the CPC, which will be issued subsequently;
- (c) Advice to countries in the implementation of the ISIC, revision 3 and the CPC and an ongoing review of implementation;
- (d) Other methodological work.

61. Point (a) refers to revision in the light of recommendations made by the Statistical Commission to be completed so that the classifications may be published. Included here is work on the explanatory notes for the ISIC and on titles for the CPC, especially for part dealing with transportable goods. It may be worthwhile to shorten these titles as often they are complete HS headings or subheadings. This should not affect the close correspondence with HS.

62. Point (b) refers to the development of indexes to the classifications as well as to the further development of correlation tables between the ISIC, revision 3, the CPC, the SITC, revision 3 and the HS. The development of indexes will follow the pattern adopted for SITC, that is, it is intended to develop a systematical index and an alphabetical index for the ISIC, revision 3 and the CPC. The indexes for the ISIC, revision 3 may be published in the same form as was done for the ISIC, revision 2 as one publication containing the indexes along with the introduction, structure, explanatory notes and annexes. ^{24/} In developing the indexes for the CPC care should be taken to harmonize the part of the index dealing with transportable goods with work on indexes for the SITC, revision 3. Advantage should be taken of the possibility of using a common core list of goods in the indexes for both the SITC, revision 3 and the CPC. Since the CPC always uses SITC items as building blocks, a CPC index for transportable goods can be generated from a correlation table of the SITC, revision 3 versus the CPC.

63. The development of the full set of correlation tables between the ISIC, revision 3, CPC, SITC, revision 3 and HS will, to a certain degree, depend on the availability of material resources. The correlations between the HS and the SITC, revision 3 already exist and were published with the SITC, revision 3 itself. ^{3/} Correspondence tables between ISIC, revision 3 and ISIC, revision 2 and between CPC and ISIC, revision 3 are completed and included in the final drafts of the classifications. Beyond that many users and international organizations would be interested in having correlation tables from each of the above four classifications to each of the other three. This task would be facilitated by additional computer resources for classification work. It has still to be decided how the correlation tables would be disseminated and whether this should be done in printed form, in computer-readable form, such as tape or diskette, or both.

64. In some countries, the transition from ISIC, revision 2 to ISIC, revision 3 will create a number of problems whose nature or extent can be anticipated but not yet precisely identified. Some may be organizational problems, others problems of interpretation. What can already be anticipated is that a great amount of technical advice will be necessary to countries in implementing the ISIC, revision 3 and even more CPC in the transitional phase from the old to the new classifications as well as in establishing correspondence between their national classifications and the new international classifications. In this context it is proposed that a report on national experiences in using the CPC should be presented to the Statistical Commission at its twenty-seventh session in 1993.

65. Point (d) includes, among other things, conceptual work related to the services part of the CPC, for which a number of amendments may still be necessary. The drafting of explanatory notes for services will also affect the body of the CPC. Another issue is the scope of the information sector for which, to date, no agreement has been reached and for which further research was recommended in order to define the coverage of an information annex to the ISIC and the CPC.

V. POINTS FOR DISCUSSION

66. The Statistical Commission may wish to:

(a) Review and comment on the proposed final draft of the ISIC, revision 3 and the proposed final draft of the CPC;

(b) Approve the final draft of the ISIC, revision 3, revised to take into account the comments of the Statistical Commission;

(c) Approve the final draft of the CPC, revised to take into account the comments of the Statistical Commission, as a provisional classification;

(d) Recommend the publication and wide dissemination of the two classifications;

(e) Urge member States to make as wide use of these classifications as possible.

67. The Statistical Commission may also wish to provide guidance and make recommendations on the following points:

(a) Implementation of the revised ISIC and newly developed CPC;

(b) Proposals for future work on economic classifications;

(c) Frequency and timing of the revision process between main revisions for the ISIC, development of an updating mechanism and its implementation;

(d) Procedure for reviewing experiences with the provisional CPC and further development of CPC;

(e) Links between work on economic classifications and ongoing work on other aspects of service statistics and the revision of SNA.

Notes

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

2/ Official Records of the Economic and Social Council, 1977, Supplement No. 2 (E/5910), para. 128 (c).

3/ Standard International Trade Classification (Rev.3) (United Nations publication, Sales No. E.86.XVII.12).

4/ Official Records of the Economic and Social Council, 1985, Supplement No. 6 (E/1985/26), para. 57 (d).

5/ Ibid., para. 45.

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Notes (continued)

6/ Official Records of the Economic and Social Council, 1987, Supplement No. 6 (E/1987/19), para. 59.

7/ Report of the Sixth Session of the United Nations Statistical Office and Statistical Office of the European Communities Joint Working Group on World Level Classifications, 1987, UNSO/SOEC/6/10, and Report of the Expert Group Meeting on Harmonization of Economic Classifications, 1988, ESA/STAT/AC.32/9.

8/ ESA/STAT/AC.32/9, para. 108.

9/ Official Records of the Economic and Social Council, 1987, Supplement No. 6 (E/1987/19), para. 61.

10/ ESA/STAT/AC.32/9, para. 33.

11/ Ibid., para. 109.

12/ Ibid., para. 12.

13/ Official Records of the Economic and Social Council, 1985, Supplement No. 6 (E/1985/26), para. 48.

14/ ILO publication, ISCO/88, Geneva, 1988.

15/ ESA/STAT/AC.32/9, para. 13.

16/ United Nations publication, Sales No. E.80.XVII.17.

17/ UNSO/SOEC/6/10, para. 9, and ESA/STAT/AC.32/9, para. 34.

18/ Official Records of the Economic and Social Council, 1987, Supplement No. 6 (E/1987/19), para. 67.

19/ Ibid., para. 66.

20/ UNESCO publication, COM.75/WS/27, Paris, March 1976.

21/ Final Draft of the Central Product Classification (CPC), 1988 (ST/ESA/STAT/SER.M/77), Introduction, para. 10.

22/ Official Records of the Economic and Social Council, 1987, Supplement No. 6 (E/1987/19), para. 68.

23/ A System of National Accounts (United Nations publication, Sales No. E.69.XVII.3).

24/ Indexes to the International Standard Industrial Classification of All Economic Activities (United Nations publication, Sales No. E.71.XVII.8).