Draft Introduction to the ISIC, Rev. 3 006875 19

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PART I. INTRODUCTION

A. HISTORICAL BACKGROUND AND REVISION

1. Historical background

1. The original version of the International Standard Industrial Classification of All Economic Activities (ISIC) was adopted in 1948. In that connexion the Economic and Social Council approved the following resolution:

"The Economic and Social Council

Taking note of the recommendation of the Statistical Commission regarding the need for international comparability of economic statistics and,

Taking note of the International Standard Industrial Classification of All Economic Activities which the Statistical Commission has developed with the advice and assistance of Member Governments,

Recommends that all Member Governments make use of the International Standard Industrial Classification of Economic Activities either by:

(a) Adopting this system of classification as a national standard, or

(b) Rearranging their statistical data in accordance with this system for purposes of international comparability". (149(VII)A).

2. Wide use has been made nationally and internationally, of the ISIC in the classification of data according to kind of economic activity in the fields of population, production, employment, national income and other economic statistics. A number of countries have utilized the International Standard Classification as the basis for devising their industrial classification scheme. Substantial comparability has been attained between the industrial classifications of many additional countries and the ISIC by ensuring, as far as was practicable, that the categories at detailed levels of classification in national scheme fitted into only one group of the International Standard Classification. An increasing number of countries have arranged a number of their statistical series according to the ISIC. The United Nations, the International Labour Office, the Food and Agriculture Organization, the United Nations' Educational, Scientific and Cultural Organization and other international bodies have utilized the International Standard Classification in publishing and analyzing data classified according to kind of economic activity.

3. The experience in the use of the ISIC has revealed the need for reviewing periodically the structure and definition of the categories of the International Classification, as well as the underlying principles of the Classification. Changes take place in the organization of economic activity and new types of economic activity become important. New analytical requirements for data classified according to kind of economic activity develop. The continuing experience in the use of the ISIC reveals aspects of the International Standard Classification which should be amplified, clarified or improved in other ways. The Statistical Commission therefore undertook a review and revision of the ISIC in 1956, 1965 and again in 1979. In each instance the Commission emphasized the need to maintain as much comparability between the revised and preceding versions of the ISIC as was possible while introducing the alterations, modifications and other improvements which were required in the International Standard Classification.

4. The first revision of the ISIC was issued in 1958, in the publication, Statistical Papers, Series M, No. 4, Rev. 1, after it had been considered by the tenth session of the Statistical Commission 1). The second revision was

1) United Nations publication, Sales No. E.58.XVII.7, New York, 1958.

issued in 1968 as Statistical Papers, Series M, no. 4, Rev. 2 2) after being considered and approved by the fifteenth session of the Commission in 1968. The present publication sets out the third revision of the International Standard Industrial Classification. It was considered by the twenty-fifth session of the Statistical Commission in January-February 1989. In conclusion to this discussion, the Commission requested the Secretary-General to prepare and issue a publication on the revised ISIC, in the light of the conclusions of the Commission; and to call the revised International Standard Classification to the attention of State members of the United Nations and of the specialized agencies (resolution .....)

2. Need for revison and harmonization

5. At the seventeenth session of the statistical Commission in 1972, the twenty-first session of the Conference of European Statisticians in 1973 and meetings of members of both bodies with the secretariats of international organizations, there was general agreement on the need to improve harmonization between the various classifications in the economic field (and, where appropriate, in other fields), which had been prepared under the auspices of the United Nations and other international bodies.

6. At about the same time, i.e. in the early seventies, the Customs Co-operation Council (CCC) decided to revise its nomenclature (CCCN) and to extend it from a four digit system, containing 1011 headings to a six digit system which now contains 1241 headings which are further subdivided into 5019 subheadings. The new nomenclature is called the Harmonized Commodity Description and Coding System (HS) 3). At the request of the Statistical Commission the Statistical Office of the UN participated intensively in the development of the HS mainly in order to ensure that the HS would take into account as much as possible the industrial origin of the goods when making dissections. The HS was approved by the Council in June 1983 and entered into force in January 1988.

7. In 1974 the UN Statistical Office convened an Expert Group with the objective to make recommendations to enhance the harmonization of international statistical classifications and to frame the recommendations in the form of a workprogramme. On the basis of the Group's report, the Commission, at its nineteenth session approved a programme to harmonize the existing activity classifications of the UN, the European Communities (EC) and, if possible, of the Council of Mutual Economic Assistance (CMEA) and to simultaneously develop a system of different but interrelated classifications of economic activities and goods and services. The latter were to use the detailed subheadings of the HS as building blocks for its part dealing with transportable goods and should take into account the three basic categories of economic use as specified in A System of National Accounts (SNA) 4), namely, capital formation, intermediate consumption and household consumption. Also the Standard International Trade Classification (SITC), when being revised, should become part of this programme of harmonization. The Commission endorsed this programme and supported its continuation at several subsequent sessions.

8. In 1977 the UN Statistical Office and the Statistical Office of the European Communities (EUROSTAT) convened a Joint Working Group on world level

1) United Nations publication, Sales No. E.58.XVII.7, New York, 1958.
2) United Nations publication, Sales No. E.68.XVII.8, New York, 1968.
3) Customs Co-operation Council, Brussels, 1983.
4) United Nations publication, Sales No. E.69.XVII.3, New York, 1969.

classifications which met six times in Brussels and Luxembourg. It was agreed that this meeting would develop an Integrated System of Classifications of Activities and Products (SINAP) which would serve as an interim classification, its categories being used as building blocks for the revision of ISIC and the General Industrial Classification of Economic Activities within the EC (NACE) 1) and, if possible, for the Classification of Branches of National Economy (CBNE) 2) of the CMEA and also for the related classifications of goods and services.

9. After completion of the SINAP, the UN Statistical Office also established an expert group which met three times at the UN Headquarters in New York. The composition of the expert group was roughly the same as the Joint UN/EC Working Group so that continuity of its work was ensured. In both groups experts from different cultural and economic systems and from countries at various stages of development were represented as well as experts from regional commissions and international organizations. Its main task was to review the drafts of ISIC, Rev. 3 and the related Central Product Classification (CPC) and to advise the Statistical Office and the Statistical Commission on how to improve these drafts.

10. At its twenty-third session in 1985 the Statistical Commission approved the third revision of the SITC 3) and confirmed that the degree of harmonization that was reached between the same and the CPC and ISIC was in accordance with its strategy previously approved. The SITC, Rev. 3 came into force in January 1988 together with the HS.

3. The third Revision of ISIC

11. The third revision of ISIC is unlike previous revisions because of the additional requirements for its harmonization with other activity classifications and with classifications of goods and services. These requirements have added considerable complexities and constraints that did not apply in the earlier revisions of ISIC.

12. The present version of the ISIC is based on studies of the experience during the last twenty years, of governments, international organizations and others with the International Standard Classification, and detailed comparisons between it and the national industrial classification of countries with differing economic systems and at various stages of economic and social development. In view of the central position of the ISIC in the international comparison and analysis of a wide range of statistics, a great deal of attention has been devoted to ensuring that the ISIC is compatible with the economic structure, and the statistical practice and needs, of the differing countries of the world. The present version of the International Standard Classification also takes into account the significant changes which have taken place during the last twenty years in the relative importance, and the organization, of various kinds of economic activity. It also reflects the uses made of industrial classification in studies which have been receiving increasing attention, such as input-output analysis, the output and use of educational, health and other social services, and the financial behaviour of enterprises. While constructing the categories of the ISIC, Rev. 3, the distinction between the material and non-material spheres of economy drawn in

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1) Statistical Office of the European Communities, Luxembourg, 1970.
2) Council of Mutual Economic Assistance, Standing Commission on Statistics, Moscow, 1975.
3) United Nations publication, Sales No. E.86.XVII.12, New York, 1986.

the System of Balances of the National Economy (MPS) 1) was taken into account as far as possible.

13. Although the coding system and the names given to the different levels of the classification are different from those in previous versions (see under B4), the general structure of ISIC has not been changed considerably. In order to improve its usefulness, the level of detail has become much greater than in ISIC, Rev. 2. The Statistical Commission as well as experts from both developing and developed countries were of the opinion that this would provide more guidance for harmonization of statistics among countries and also for the establishment of national or regional classifications. This greater detail occurs almost everywhere in the classification. Especially for the part dealing with service activities it was felt that the extension of this sector of the economy in most countries in the world should be reflected in ISIC. In many countries the share of these industries in the GNP accounts for well over 50%.

14. Since it was decided not to extend the coding system to more than four digits, several categories that were shown at the three or even four-digit level in Rev. 2, may now be upgraded to a higher level. Efforts were made, however, to maintain the principle that the two-digit level of ISIC is thought to be suitable for purposes of classifying enterprises and similar units and that each of the four levels may be used in the classification of kind-of-activity units or establishments.

B. THE UNDERLYING PRINCIPLES OF THE CLASSIFICATION

1. Purpose and nature of the classification

a. General considerations

15. The principle purpose of the ISIC is to provide a hierarchical set of categories of economic activities which can be utilized when dissectioning statistics according to such activities. Since the data required for these statistics are to be collected for entities that act as autonomous transactors (institutions) in the economy, the derived purpose is to present this set of activity categories in such a way that entities can be classified according to the economic activity they carry out. Defining the categories of the ISIC is strongly linked with the way the economic process is organized in units and the way in which this process is described in institutional statistics.

16. In this context it would be best of these units were as homogeneous as possible regarding their activity because only then they can be classified univoquely in a certain category. This is, however, in contradiction with the obvious requirement that the entities in question be real transactors, i.e. institutions that enclose all necessary functions to carry out such activities. In other words a unit to be classified must independently control and market its activities and thus keep the necessary records to do so.

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1) Council of Mutual Economic Assisstance, Standing Committee on Statistics, Moscow, 1985.

17. These two requirements, homogeneity and autonomy, are often in conflict with one another because the smaller the unit (more homogeneous), the less independence there is and thus the less data may be available. As explained in part 3 of this chapter, it is suggested to solve this problem by using different units for different statistics but to define them in such a way that each larger unit consists of a number of complete smaller units. As a result bridges can be built between statistics even when they use different units. The largest unit, autonomous regarding all finance and production functions but not homogeneous, is the enterprise-type unit. The unit which is homogeneous in its activities but autonomous in its controll of the production process only, is the kind-of-activity unit. The unit which is homogeneous according to region is the local unit and the unit which is as homogeneous as possible according to both economic activity and region is the establishment. The latter two are not necessarilly independent in controlling a complete economic activity.

18. The detail required in the classification of data by kind of economic activity differs from country to country. The accidents of geography and history and the differences in the degree of industrial development and in the organisation of economic activities, may result in differences in the detail and way in which various countries find it necessary and feasible to classify data according to kind of economic activity. The level of detail required for purposes of international comparison of data will generally be less than that needed for national analysis.

19. The ISIC is intended to meet the needs for data classified according to internationally comparable categories of kind of economic activity. It is in the nature of a reconciliation of the differing national requirements and possibilities, with emphasis on the international needs for comparable data. Hence the International Classification is not necessarily identical with the classification of any one country. It provides for separate classification in individual categories of those kinds of economic activity which are of importance in practically every country or which, while found only in some countries, are of considerable importance in the world economy. It reflects, in delineating these individual categories, the structure of production, i.e., the way in which economic activities are combined in, and distributed among, production units, as it has been found to exist in the case of most countries.

20. Thus, the purpose of the ISIC is not to supercede national classifications, but to provide a framework for the international comparison of national statistics. Where national classifications differ from the International Standard Classification, this comparison may be achieved by regrouping figures obtained under national classifications, but to do this, all the elements required for such a rearrangement need to be obtainable from the national statistics.

21. In order to attain international comparability therefore, it is suggested to all nations that they adopt in their industrial classification schemes, so far as individual requirements permit, the same general principles and definitions. The principles and definitions which were developed for this purpose and which are embodied in the International Standard Classification are set out below. As a result it will usually be feasible, where necessary, to rearrange the national classifications to the International Standard by

combining entire categories of the national classification. This may not always be feasible because certain categories at the most detailed level of classification of the ISIC may not be distinguished in the industrial classifications of some countries. In the case of the countries under discussion, the kind of activities covered in a given category may be insignificant in magnitude or may usually be combined in establishments, or similar units, with other kinds of activity.

22. The character and definition of the categories of the International Standard Classification can also serve as a useful guide to countries developing an industrial classification for the first time, or revising an existing scheme. A number of countries have utilized the ISIC in this fashion.

23. The basic purposes and character of national industrial classifications and the International Standard Classification are similar. In both cases the schemes should lend themselves to the classification, on a comparable basis, of a wide range of data so that the series may be used, compared and related, one with the other. Examples of such data are statistics on the output and costs of production, prices, employment and the labour force, wages and salaries, tangible capital assets, profit and loss, financial assets and liabilities, balance-sheet accounts. A number of these series can be gathered for units which are relatively homogeneous in respect of kind of economic activity, e.g. kind-of-activity units or establishments. The statistics of profit-and-loss, financial assets and liabilities, and balance-sheet accounts, however, can usually be gathered for less homogeneous units, e.g. enterprises, only. It will of course be feasible to classify the data for kind-of-activity units or establishments in much greater detail than the data for enterprises. It will also be desirable and necessary to classify some of the data for establishment-type units in greater detail than other series. Therefore, in order to allow for the use of the various series of data in conjunction, one with the other, the national industrial classification schemes, like the International Standard Classification, should consist of a number of intermeshing levels of classification, ranging in detail of classification from the most aggregated to the most detailed level of the ISIC.

24. The objective in the case of both national and international classification schemes is to divide data in respect of the economy according to categories of activities, the characteristics of which will be similar. Similarities between the activities covered in each category in respect of the type of goods and services produced, the uses to which these items are put, the intermediate and primary inputs, and the technology, organization and financing of production will yield the data required to describe and analyze the structure, patterns of experience and interrelations of an economy. The degree of similarity in these characteristics between the activities included in a given category will of course vary with the level of the classification at which the category appears. So as to have the required statistics, national industrial classification schemes, like the ISIC, should be applied to data concerning units of which the bulk of the activities are the characteristic activities of the category of the scheme to which each unit is to be classified.

25. The ISIC, like national classifications, is designed so that each of its levels of classification will be useful for purposes of classifying kind-of-activity units and establishments according to kind of economic activity. The classes of the International Classification, the categories at the most detailed level, are delineated in the light of the customary combination of various activities in these statistical units in the case of most countries. The groups and divisions, the successively broader levels of classification array the statistical units according to the character, technology, organization and financing of production.

26. The classes and groups of the International Classification are in some cases too detailed in scope to be used in classifying enterprises or similar institutional units according to kind of economic activity. A significant number of enterprises will own establishments which engage in a range of activities spanning more than one group of the ISIC, though most enterprises will consist of a single establishment only. The divisions of the ISIC probably embrace a wide enough range of activities to be generally suitable for purposes of classifying enterprises. Somewhat more detailed categories of national classifications than the divisions of the International Classification are used in classifying enterprises according to kind of economic activity in the case of a significant number of countries. The use of categories of the ISIC in classifying enterprises, as well as establishments, furnishes a basis for comparing and relating series of data in respect of these two types of statistical units.

27. The use of the ISIC to classify enterprises according to kind of economic activity is recommended with far less confidence than its use, for this purpose, in the case of kind-of-activity units and establishments. International experience with the industrial classification of economic units is much more limited in the case of the former statistical units than in the case of the latter ones. Furthermore, there is likely to be considerably more diversity among countries in the range of economic activities which may be carried out by individual enterprises.

b. Differences from other classifications

28. The ISIC is a classification of kinds of economic activity, and not a classification of industries. The activity carried out by a statistical unit is the type of production in which it engages. It is a characteristic of the unit according to which it will be grouped with other units for certain statistics e.g. industrial statistics. An industry is the summation of all units primarily engaged in the same or similar kind of activity.

29. For national purposes it is usually possible and appropriate to arrange the activities in the activity classification such that they embrace exactly or almost exactly the range of activities carried out by a certain industry. In such a case activity categories and industries virtually coincide. Since combinations of activities differ among countries, only in cases where it was generally agreed that in most parts of the world certain activities are combined most of the time were aggregates of activities formed (e.g. in the case of division 50: "Sale, maintenance and repair of motor vehicles and motor cycles, retail sale of automotive fuel").

30. The ISIC is a classification of kinds of economic activity, and not a classification of goods and services, or a classification of occupations. In particular, it is important to distinguish the classification of units according to principle kind of economic activity from the classification of goods and services according to type.

31. Kind-of-activity units or establishments are classified according to their principle kind of activity, based mainly on the category of goods produced or services rendered. The units classified under a given category of the ISIC will produce a range of items of the covered class of goods or services, and are likely in addition to produce goods or services which are not characteristic of the principal kind of economic activity. Nonetheless, the kind-of-activity unit or the establishment, is the most homogeneous unit in respect of kind of activity which should be classified according to the scheme of industrial classification. Thus, if establishments are grouped according to the International Classification, each category will not only contain establishments producing differing items of the same class of goods or services, but will also include establishments engaged in secondary kinds of activity in addition to the kind of activities belonging to the category.

32. The International Industrial Classification does not draw distinctions according to kind of ownership, type of legal organization or mode of operation. Units engaged in the same kind of economic activity are classified in the same category of the ISIC, irrespective of whether they are (part of) incorporated enterprises, individual proprietors or government, and whether or not the parent enterprise consists of more than one establishment. Similarly, manufacturing units are classified according to the principal kind of economic activity in which they engage, whether the work is performed by power-driven machinery or by hand, or whether it is done in a factory or in a household. Classifications according to kind of legal ownership, kind of organization or mode of operation may of course be constructed independently of the classification according to kind of economic activity. Cross-classification of such classifications with ISIC will provide useful extra information.

33. Although the ISIC does not differentiate between market and non-market activities, it should be emphasized that this distinction is fundamental to the System of National Accounts. A breakdown of economic activities according to this principle is necessary in any case where data on value added are collected on activities that take place on both a market and non-market basis. This criterion should then be cross-classified with the categories of ISIC.

- Market activities are those that produce goods or services aimed at a market when they are sold at a price which covers at least the essential part of the costs of production;
- Non-market activities produce goods or services which are provided free of charge or at a price far under the production costs.

The distinction does not coincide with the dichotomy public versus private companies because market services can be provided by public organizations and non-market services by private-non-profit organizations. In principle all activities could be arranged on a market or a non-market basis. However, non-market services are most frequently provided by Government organizations and by economic sectors such as education, health, social security, social work etc.

2. The principles used in constructing the classification

a. The type of criteria

34. A number of criteria have been employed in defining the categories of the ISIC. One set of criteria concerns the manner in which activities are combined in, and distributed among, establishments. These considerations were assigned the main weight in defining the classes of the ISIC. They are intended to ensure that it will usually be practical to use the classes of the International Classification for the industrial classification of kind-of-activity-units or establishments and that the units falling into each class will be as similar in the kinds of activities in which they engage, as is feasible.

35. A second category of criteria relates to the type, technology and inputs of the production. These considerations were given great weight in delineating the groups and divisions of the ISIC. This set of criteria was used so that data classified according to the International Classification would be of maximum value for purposes of describing, analyzing and comparing the structure of, and the underlying relationships in, the various economies of the world.

36. In order that classification of data according to the ISIC may serve these purposes on a worldwide basis, the distinctions drawn in the industrial classification of statistics in countries differing in economic and social arrangements and circumstances, e.g., between the material and non-material spheres of economic activity in the case of the centrally planned economies, were taken into account in establishing the categories of the ISIC. In raising the divisions of the International Classification, attention was also devoted to the range of kinds of activity which are not infrequently carried out under the same ownership or control and to the probable differences between enterprises in scale and organization of activities and in capital requirements and finance.

b. The main criteria in respect of divisions and groups

37. The main criteria employed in delineating the divisions and groups of the ISIC concern the characteristics of the activities of production units which are strategic in determining the degree of similarity in the structure of the units and certain relationships in an economy. The major aspects of the activities considered were (i) the character of the goods and services produced, (ii) the uses to which the goods and services are disposed of, and (iii) the raw materials, the process, technology and organization of production. Additional criteria used in raising divisions and groups were the pattern of categories at various levels of classification in national classifications and the kinds of activity frequently engaged in by establishments of the same enterprise.

38. In the case of the character of the goods and services produced, account was taken of the physical composition and stage of fabrication of the items and the needs served by them. Attention was also paid to whether in the classifications of the centrally planned economies, the goods and services were considered to be the result of material or non-material economic activity. Discriminating categories of the ISIC in terms of the nature of the goods and services produced, furnishes the basis for grouping producing units according to similarities in, and links between, the raw materials consumed and the sources of demand and the market for the items.

39. The criteria relating to the economic agents (e.g. households, producers) and purposes (e.g. final consumption, capital formation) to which goods and services are disposed, reinforce the considerations in respect of the stage of fabrication of, and the needs served by, these items. Applying these criteria in raising divisions and groups substantially enhances the value of the ISIC in distinguishing producing units according to sources of demand and markets for their output and in tracing ties among the producing units, and between them and the rest of the economy. These criteria were also employed in ordering classes within groups and groups within divisions. This improved the triangulation of data arranged according to the ISIC.

40. For a number of analytical purposes it is important to group producing units according to degrees of similarity in cost-structure, the intermediate inputs, the relative magnitudes of these inputs and of the fixed capital and labour employed, and the relative productivity and scale of operations. The criteria of the process, technology and organization of production, in conjunction with the character of the goods and services produced, furnish the basis for grouping statistical units in this manner. The use of these criteria also results in categories at the division level of the International Classification which draw distinctions according to the orders of magnitude of the capital requirements of enterprises.

41. The weights assigned to the types of criteria described above, in discriminating and ordering headings of the ISIC, varied from one category to another. The weights depended on the character, stage in fabrication and organization of the activities in question. In a number of instances, e.g., food manufacturing, the textile, clothing and leather industries, the production of machinery and equipment and the services, the various aspects of activities which are outlined here, are usually so highly correlated that the problem of assigning weights, or an order of priority, to the criteria did not arise. In the case of intermediate products, physical composition and stage of fabrication of the items were often given the greatest weight. In the case of highly fabricated goods, the end-use and the process, technology and organization of production of the items were not infrequently given priority over the physical composition of the goods.

c. The main criteria in respect of the classes

42. The classes of the ISIC are defined so that the following two conditions are satisfied: (i) the production of the category of goods and services which characterizes a given class accounts for the bulk of the output of the units classified to that class and (ii) the class contains the units which produce most of the category of goods and services which characterize it. The first condition is required in order that establishments, or similar units, may be classified according to kind of economic activity uniquely and easily and in order that the units included in a given class will be as similar, one to the other, as is feasible. The second condition reinforces the first criterion. It also is basic to co-ordinating industrial and commodity classifications and series of data on establishments and on goods and services.

43. The two conditions set limits to the detail of classification which may be achieved in the classes of the ISIC. These classes must be defined in the light of the combinations of activities in which establishments customarily engage in the case of the various countries of the world. Establishments may

house a number of different activites; and the range of these activities will differ from one unit to another even though they engage in the same general kind of economic activity. These differences will exist in the case of the establishments of a given country; and will be more pronounced in the case of the establishments in differing countries.

44. Another major consideration in raising categories in the ISIC was the relative importance of the activities to be included. In general, separate classes are provided for kinds of activities which are prevalent in most countries, or which are of particular importance in the world economy. The introduction of certain categories at the class and other levels of classification for purposes of attaining international comparability in the industrial classification of data has also affected the balance of the ISIC.

3. Statistical units

a. General remarks

45. From the point of view of data collection the most convenient way to obtain statistical data would be to collect them for entities about which complete sets of records are available. This would allow statisticians to take advantage of information available from the accounting records of producing entities, from administrative sources related to them and from empirical studies. It would also result in statistics that serve best the interests of users because it makes it possible to relate administratieve records to statistical surveys.

46. However, since record keeping practices in most countries are not standardized and since different statistics need different sets of data, it is unavoidable that guidelines be prepared so that comparable national and international statistics can be produced. While the argument is often heard that standardization imposed by statisticians results in rigidity of format and interpretation, it is in fact a basic tool in a scientific approach to any situation.

47. The benefits of internationally compatible statistics cannot be realized unless standardization is applied to both definitions and classifications of transactors as well as transactions. If two or more statistical collections cover the same industrial sector, comparison between data cannot be made unless the object of the comparison applies to the same units. The statistical unit serves as a tool to measure in an unduplicated and yet exhaustive fashion several aspects of the economy. In general, the utility of using standard classifications of activities, institutional sectors and geographic regions is weakened if they are applied to sets of transactors which are not homogeneous according to these aspects and which are not defined in a standard way.

48. The statistical units in economic statistics are autonomous institutions, i.e. (parts of) businesses, government or private-non-profit organizations which engage in economic activities. They are transactors owning and/or buying goods or services, including labour, to produce an output that may be sold, provided free of charge or utilized for future production. They may incur financial liabilities and may own real and intangible assets.

49. Statistical units are in the last resort a creation of the statistician. They are the instruments used to assemble and compile statistics. Since these statistics aim to describe economic events as faithfully as possible, the instruments used should also represent as much as possible the entities as they are found in the real (sic) world. Mostly this does not create any problems. In some cases, however, the statistician has to rearrange (combine or split) entities of the real world in order to obtain units that meet the requirements and definitions of certain statistics. These cases, although few in number, often represent the larger units which tend to account for a very significant portion of production and assets of an economy.

50. Statistical units can be observation units or analytical units. Observation units are the units on which statistics are compiled. The main constraint of this unit is that it is autonomous with regard to the processes described in the statistics in question. This follows directly from the requirement that statistics describe the economy in an institutional way. The observation units could therefore also be called institutional units. Analytical units are created by statisticians often by splitting or combining observation units with the help of estimations and inputations in order to compile more detailed and more homogeneous statistics than is possible using data on observation units. Examples of analytical units are the narrowly defined establishment unit as understood in the System of National Accounts (SNA) and the Branch unit used in the European System of Accounts (ESA).

51. Apart from units to be used for compiling statistics there is also need for units for the collection of data. This category of units is called reporting units. The term reporting unit may be used in two different ways. First it is the entity to which the data request is made. This can be the observation unit itself but it can also be a different entity all together, e.g. an accountancy company which fills in the questionnair for its client. In general, in this context the reporting unit is the mailing-address for questionnairs. The second use that can be made of the term reporting unit is the entity for which data are provided. Although in most cases they will coincide, this unit may not always be the same as the observation unit because sometimes data can only be obtained at a more consolidated level than the statistical unit aimed at. This aggregated level (which is not necessarilly the same as the next higher level in the statistical hierarchical structure) is then the reporting (or reported) unit which has to be transformed into an observation unit. In order to obtain useful and meaningful statistics, it will often be necessary to make reporting arrangements with or for reporting units.

52. As mentioned earlier, the main constraint of an observation unit is that it is autonomous with regard to the processes it controls, i.e. it must be able to make independent decisions concerning these processes. This has two consequences: (i) the unit must be in touch with the market and be able to set prices for its own products and (ii) it must be a complete unit, i.e. it must control all functions to carry out its activity. This generally leads to two levels of observation unit: those who are completely autonomous regarding all functions of the finance and production process and those who control the production process only.

53. It is assumed that whenever autonomy for a certain process exists, there must be responsability for the decisions taken and thus administrative records must be available. The requirement of the availability of records which is often mentioned in the definition of statistical units should be handled with care because on the one hand managers of entities may not keep records for the simple reason that nobody asked them to do so. This should not prevent such an entity from becoming a statistical unit. Data which at first sight are not available, may often be gathered from other sources or be completed by estimations with or without the help of the respondents. On the other hand administrative records may be available for all kinds of entities which are statistically irrelevant. The ongoing development and increased use of cheap and simple data processing equipment may allow for the introduction of full accounts (including operating profits) for entities at a much more detailed level than required for the observation units, e.g. for technical or ancillary units. Such more detailed data may, however, be useful for statistics at the level of analytical units.

54. Additional requirements when compiling statistics are that they describe the economic process of industries (= sets of units) which are homogeneous according to institutional sector, to economic activity and to geographic region. Homogeneity of these statistics can be realized by classifying all units according to the classifications provided for these criteria. For the institutional sectors the classification can be found in the SNA, Rev. 3, table 5.1. The ISIC provides the classification of economic activa and the regional homogeneity depends on classification used for the statistics in question.

55. The following diagram shows in brief the relationship between the different levels of observation units in decreasing order.

<table>
<tr><th></th><th>one or more locations</th><th>one location</th></tr>
<tr><td rowspan="2">one or more activities</td><td>group of enterprises</td><td rowspan="2">local unit</td></tr>
<tr><td>enterprise</td></tr>
<tr><td>one activity</td><td>kind-of-activity unit</td><td>establishment</td></tr>
</table>

56. It should be obvious that the more aggregated the type of unit selected the more diversified its activities are likely to be. From this it follows that it will be statistically advantageous to split such large entities into smaller units which are more homogeneous according to the requirements of the relevant statistics. This splitting may be, however, in conflict with the constraint that observation units must be autonomous with regard to their own activities. Although it may be expected that if within one organization, two activities are carried out, the management of each of them will have at least some kind of autonomy, it may well be so that this is not the case, e.g. when there are ties between the activities.

57. The extend to which this conflict between autonomy and homogeneity strongly depends on how much, when developing an activity classification, the organization of activities in units was taken into account. When splitting larger entities into smaller units, it is recommended to carefully balance the two requirements autonomy and homogeneity and to split only as long as the resulting units still act more or less independently or if they are so important in the economy that statistics would be distorted unless splitting took place. In this case the trade-off between homogeneity and data availability should be taken into account as well.

58. In most cases the real world structure and the statistical structure are similar and rather simple. At the basis of the former one always finds the legal entity. This entity can be found in almost all countries in the world. Also, the power of deciding about the allocation of resources for the production of goods and services is based on ownership and control of these resources; the authority referred to in previous paragraphs items from a legally constituted entity or group of entities. For these reasons the legal unit should be used as a starting point when demarcating and defining the statistical units.

59. In the case of market economies, the legal entity may be a corporation, trust, joint stock company, co-operative association, incorporated non-profit association, partnership (joint venture), individual proprietorship, or some other form of association. The family of legal entities consists of a group of entities owned or controlled by the same interests, i.e. where the majority of the equity of each legal unit is owned by the same interests.

60. Common ownership in the case of a family of legal entities does not always need to be controlled by the same interest of 50 percent or more of the equity. In some instances effective control exists (e.g. through common directorship and other management structures, control of patents and brand names) even though the controlling entity does not own 50 percent or more of the controlled entity's equity. In other instances, it may not be feasible to identify families of legal entities in terms of owners of equity in businesses but it may be common practice to compile consolidated profit-and-loss and balance sheet statements for the group of legal entities owned or controlled by the same interest. Under these circumstances, families of legal entities may be defined as the group for which such statements are prepared.

61. In the case of centrally planned economies, the equivalent of the legal entity is the management and bookkeeping entity known as the enterprise. The equivalent of the family of legal entities is the combine, trust or similar groupings of enterprises. A combine or trust may be made up of enterprises engaged in various stages in a chain of production or in the output of different categories of goods in which similar material is used, or in the production of the same goods. Examples of the first type of grouping of enterprises into broader management units are common in the case of metal mining, refining and fabrication, and the leather and footwear industries. Small enterprises manufacturing the same consumer goods are not infrequently grouped together into trusts primarily for purposes of marketing their products.

62. Unfortunately, the economic process is not usually organized legally in such a way that it fits in with the criteria set out by statistical institutions. Moreover, the set of legal entities under single control changes frequently and sometimes at great speed. The reasons for this include the acquisition of new entities, sale of own operations, creation of new entities as shells for financial operations or as tax shelters, including a category of dormant entities. Also, entities often cross local boundaries or carry out more than one activity in one location, producing many different products and using different production techniques and raw materials. In order to obtain meaningful statistics, such complicated entities should be reasssembled or split into more homogeneous statistical units.

63. Analytical requirements differ from one kind of statistics to another. Some need very detailed information on e.g. quantity and prices of outputs and inputs, on labour force, stocks, assets etc., others only collect rough data such as gross output, capital formation or so. Obviously the place to collect financial balance sheet information is not the management of a local unit, and conversely for information about a local units payroll, the head office may not be the most appropriate point of contact.

64. With the above in mind and in order to meet these different requirements and at the same time to allow the integration of data, a hierarchical set of statistical units is defined, each of them aimed at a special set of data that might be available for them. The definitions have been formed in such a way that they allow international comparability while at the same time respondents should be able to provide the information requested. The type of unit to be used in the presentation of statistical series will depend on the nature of the information presented. This choise is to be made by the statistician in charge of the particular kind of statistics.

65. From the introduction it should be clear that there are in principle two levels of observation units which should be used in an institutional description of the economy. One concerns both the financing and the production process and the other the production process only. The first unit is the enterprise and the second the kind-of-activity unit or the establishment. They thus represent two levels of autonomy within the organization. These units and some others will be described below.

b. Definition and use of the units

The enterprise

66. The enterprise is the smallest legal entity or family of legal entities that encloses and directly or indirectly controls all necessary functions to carry out its economic business. In the areas of business or private-non-profit organization, the enterprise is a legal entity or a family of legal entities which owns or manages the property of the organization, enters into contracts, receives and disposes of its income and maintains an independant, complete set of accounting records, including profit-and-loss and balance sheet accounts. Non-operating (dormant) legal entities are not considered as statistical units. The only requirement of an enterprise is that it has one ownership or control. It can, however, be heterogeneous with regard to its economic activity as well as to its location.

67. In the area of government organizations the appropriate entity is, in general, the organ of government (e.g. the central government, the state or provincial government, the country, municipality or town) which plan, control and manage the finances of all their constituent bodies collectively (e.g. ministries, departments, bureaux, agencies, and offices).

68. The legal entity, or its equivalent, is likely to be the most homogeneous unit in respect of kind of economic activity for which data will be available on all aspects of the business. The available data may relate to production and employment, incomes and disbursements, physical capital and financial assets and liabilities. The legal entity may therefore be the preferable enterprise-type unit to use when relatively homogeneous industrial classifications of a wide range of financial and other statistics are required. This may be the case, for example, in describing and comparing the sources and uses of funds of various industries or relating data on the finance of production with data on the level of, and income from, production.

69. Whether a given country will find it as feasible to gather statistics in respect of families of legal entities as to collect statistics in respect of individual legal entities, will depend on the enterprise-type units commonly used in the available business registers, accounts and other records. Where the individual legal entity only is in common use, the extent to which the records reveal the ties of ownership between individual legal entities is an important determining factor. If available, such information may be used to devise frames for purposes of the direct collection of data about families of legal entities.

70. The information on ties between legal units, in the taxation, business registration and other administrative records of the government, are of special importance in the collection of statistics of enterprises. These records are frequently used in compiling data in respect of the profit-and-loss and balance-sheet accounts of enterprises. The records are also used to construct frames for purposes of carrying out direct enquiries into enterprises. The extent to which it is common for business units to maintain and issue consolidated profit-and-loss and balance-sheet accounts for families of legal entities, is also an important factor in determining the feasibility of gathering data in respect of these statistical units.

71. In the case of legal entities which are members of a family of entities owned or controlled by the same interests however, the disposition of the incomes, the investment and the financing of the group are likely to be planned and managed collectively. The use of the family of legal entities is therefore preferable when the focus of attention is on data for purposes of analyzing the financial behaviour of enterprises and understanding their financial experience. The data required for these purposes relate to the sources and uses of funds and balance-sheet accounts.

72. Where in such cases the authority to take the most important decisions (e.g. international investment, mergers, closing of the business) exists at an even higher level than the individual enterprise, the group of enterprises may be used as the statistical unit. This can be done in statistical programmes concerned with ownership and control in the economy. By analyzing the legal basis of enterprises, those which are owned and controlled by the same financial interest can be brought together into one group of enterprise unit.

73. In the case of government organizations a number of organs are likely to be considerably more heterogeneous in respect of kind of economic activity than legal business entities. While many of the major parts of an organ of government will be classified under the category of the ISIC for public administration and defence, other major bodies may primarily engage in activities which should be classified to other categories of the International Classification, e.g. social and related community services. Where series of data relating to legal business entities and government bodies which are classified according to kind of economic activity are to be combined, it is desirable to use a statistical unit for the government bodies which approximates the legal business entity in scope. Combination of these series may be warranted in the case of wages and salaries, employment or value added. The ministry, department or similar government unit may be a suitable statistical unit for these purposes.

The kind-of-activity unit

74. Although by the way the enterprise unit is constructed and defined it will have already a certain degree of homogeneity with respect to its economic activities, some statistics may require an even higher degree of homogeneity. In such a case the kind-of-activity unit will be the appropriate observation unit to be used. This unit is therefore defined as: an autonomous part of an enterprise, which engages in one or predominantly one kind of economic activity without being restricted of the geographic area in which that activity is carried out. Thus the main requirements of this unit are that it is autonomous with respect to its own activities, that it falls under one ownership or control and carries out only one activity. It can, however, be heterogeneous concerning its geographic area. Each enterprise must by definition have at least one kind-of-activity unit.

75. Usually the function of such a homogeneous part of an enterprise will be the production of goods or services. In this context the management of the unit should have the responsibility and authority concerning the allocation of such production factors as intermediate consumption, labour and capital investments, although there may be upper limits for each of these categories. From this autonomy it follows that production accounts ought to be available and that it can be expected that for this unit data on revenue and expense elements can be obtained that allow the calculation of an operating surplus in the production of goods and services.

76. Splitting an enterprise into two or more kind-of-activity units can be done by either the reporting unit or the statistical authorities although in the latter case some indication from the reporting unit may be inevitable. When splitting, estimations and imputations can be made and data from other sources can be used such as published annual reports, tax records, etc.

The local unit

77. Enterprises may engage in activities at two or more locations and statistic may need to reflect this. When aggregated statistics are to be provided for individual geographic regions which are smaller then a country and when no further breakdown according to economic activities is necessary, it will be appropriate to use the local unit as statistical unit. Ideally the local unit is defined as: all economic activities carried out by an enterprise

at or from one location. Thus the main requirements of such unit are that it falls under one ownership or control and must be at one location. It can, however, be heterogeneous in its economic activities. Each enterprise must by definition have at least one local unit.

78. The word location may be interpreted in two ways. It can be a physical location, i.e. the smallest entity possible such as an individual address or even a room in a multi-storage office building or the entire area covered by a category of the regional classification used for the statistics in question. Such classifications may distinguish between provinces, states, countries, municipalities, townships or even smaller entities like mesh blocks. The first interpretation may be used for instance to measure the number of local units controlled by an enterprise within a certain area; the second for measuring activities carried out or persons employed by a certain industry in that area.

79. If activities are exercised at two or more nearby sites e.g. in the same municipality, township or similar restricted geographic areas, covering all of these sites in one single local unit will usually not represent a significant departure from the ideal concept of the local unit. However, in general the non-contiguous sites covered in the same local unit should at least be restricted to locations falling within the most detailed geographic area for which series of data are compiled.

80. Since the local unit comprises all activities of an enterprise carried out in a limited area, some of these activities may be only part of the activity falling under the control of a decision making authority. It is therefore likely that for the local unit the constraint of the institutional unit, i.e. falling under one control has to be somewhat loosened. As a result it may not be possible to obtain full records for a local unit but instead only data on persons employed, gross output and capital investments.

81. If, any or each of the various kinds of activity of a given local unit are of a substantial size or are usually carried out in distinct establishments, or if most enterprises are in a position to report on such activities separately, efforts should be made to subdivide the local unit into units comparable with the establishment and thus to collect more complete data for them.

The establishment

82. When statistics require data that are homogeneous with regard to both economic activity and geographic region, the establishment should be used as the unit of observation. Ideally, the establishment is defined as an autonomous part of an enterprise which engages in one, or predominantly one, kind of activity at a single location, e.g. an individual farm, mine, factory, workshop, store or office. This concept is applicable in most of the situations encountered in inquiries into agriculture, mining, manufacturing and service industries. In these situations, one autonomous entity engages in one category of economic activity at a single physical location, i.e. in one contiguous area. The requirements of an establishment are therefore that it is autonomous with respect to its own activities, falls under one ownership or control and carries out only one economic activity at one location. Each enterprise, each kind-of-activity unit and each local unit must have at least one establishment.

83. In practice, the ideal concept of the establishment cannot always be employed strictly. The organization and record keeping practices of units engaged in production, and the consequent limitations on the availability of data, must obviously be taken into account in defining the establishments to be used in practice. The establishment is therefore defined in operational terms as: the autonomous combination of operations and resources directed by a single owning or controlling entity towards the production of the most homogeneous group of goods and services, often at one location but sometimes spread over a number of nearby sites, for which separate records are available that can provide the data concerning the production of these goods or services and the materials, labour and physical resources (both direct and indirect) used in this production. This definition of the establishment should make it possible to use the same unit in the case of various series of statistics on the production of goods and services and intermediate inputs, labour and physical capital resources used for this purpose.

84. In the case of economic activities such as construction, transport and communication, a single enterprise will carry out the same kind of activity over a wide geographic area; and will probably not keep records on the output of, and the inputs into, goods and services classified according to given portions of the area. In some cases it may be desirable and feasible to use kind-of-activity units which refer to the individual regions, states or other large segments of a country in which the enterprises engage in construction, transport or communication activities. This of course depends on the extent to which geographic data are wanted in respect of these activities, as well as the manner the enterprises organize and maintain their records.

85. Similar problems are encountered in delineating the appropriate statistical unit in the case of the production and distribution of electricity and gas, logging and fishing. In the case of electricity and gas, it may be feasible to utilize statistical units consisting of each network of producing units and the associated system of distribution of a single enterprise, instead of all of its networks. The transformer and booster stations of each electricity network should of course be encompassed by these statistical units. It may also be advantageous and feasible to subdivide the activities of logging or fishing enterprises into statistical units consisting of individual logging camps or teams and individual fishing vessels or fleets of vessels which are operated together, respectively, regardless of the territory in which they carry out these activities.

86. In certain instances it may be found expedient to employ the kind-of-activity unit instead of the establishment in monthly or quarterly inquiries. For example, monthly or quarterly data in respect of fixed capital formation, stocks, new orders or sales may be available rapidly in respect of kind-of-activity units, but not establishments. Interest in the classification of these series of data according to the geographic area of the statistical units may be minimal. In these cases it will be valuable to delineate the connection between the kind-of-activity units employed and the establishments used in other inquiries.

87. When regional statistics are supposed to add up to national data, the activity (ISIC) code of an establishment must always be the same as the kind-of-activity unit to which it belongs. However, it does not necessarily have the same code as the local unit to which it belongs.

Technical units

88. For some statistics the kind-of-activity unit or the establishment may still not be homogeneous enough with regard to activity. In such a case the technical unit could be employed. This unit does no longer require autonomy of its management and should therefore be considered an analytical unit rather than an institutional unit.

89. The technical unit can be any part or department of the enterprise which engages directly in the production of a class of the goods made or services rendered or in a stage in the production of these goods or services. Departments of a meat packing plant which produce lard, cure bacon or can meat, are illustrations of the former type of technical unit, i.e. those horizontally integrated. The departments of a textile mill which spin yarn, weave cloth and dye the cloth, are examples of the latter type of technical unit, i.e. those vertically integrated.

90. The technical units of an enterprise do not cover all the activities of the enterprise; the activities of the ancillary units are excluded. The technical unit is used in some countries in order to collect data on the output of given categories of goods or services and the direct inputs of materials and labour into this output.

Ancillary units

91. Ancillary units provide non-durable goods or services primarily, or entirely for the use of the parent producing unit(s). These goods and services do not become a physical part of the output of the parent units and are customarily provided by subsidiary and supporting activities which are an integral part of the activities of most enterprises.

92. Like the technical unit, the ancillary unit does not fit within the hierarchy of institutional units as set out above. They are analytical units. They are of a different order in so far that once considered as being part of a certain enterprise, they will never become a separate kind-of-activity unit or establishment and they do not count in determining the activity code for the other units. Even if an ancillary unit is controlled by a fairly independent management, it should not become a kind-of-activity unit or an establishment as long as it does not operate on the market.

93. Under the definition given above, the following types of units are not to be considered ancillary units.

(i) Units producing goods or doing work which are part of fixed capital formation. If separate data are available in respect of these goods and activities, the units should be treated as separate establishments, or kind-of-activity units; and should be classified by their own activity. The type of units most affected are those doing construction work on the account of their parent unit. This approach is in accordance with the classification in the ISIC of own-account construction units for which data are available, to the construction industry.

(ii) Units which in addition to producing goods or services for the use of their parent unit, sell a significant portion of these products to others. If separate data are available on this activity, the unit should be regarded as a separate establishment; and should be classified by its own activity.

(iii) Units producing goods which become a physical part of the output of the parent unit, e.g. the production of boxes, tin cans or the like by a department of an enterprise, as packaging for its own products. As in the preceding instances, the units engaged in these activities should, if separate data are available, be treated as separate establishments and be classified by their own activity category.

94. The clearest example of an ancillary unit is a central administrative office. Other examples of ancillary units are warehouses, garages, repair shops or electric power plants and accounting or computer departments which primarily serve their parents units. Classification of these ancillary units may involve making distinctions according to function, and not kind of activity as in the ISIC.

95. If the ancillary activities are carried out for the benefit of a single entity, these activities, and the resources involved in the activities, should be included as an integral part of the activities and resources of the parent statistical unit. However, where the primary activities of the statistical unit and the supporting ancillary activities are located in different geographic areas, in terms of the areas used for statistical purposes, it will be desirable to gather separate supplementary data in respect of the ancillary unit concerning the items which are to be classified according to these geographic areas.

96. Where ancillary activities are organized in support of two or more entities of a multi-unit enterprise, they constitute a central ancillary unit. In such cases, and similarly when a large ancillary unit serves one observation unit only, it could be expedient to depart from the general principle in order to make supplementary tabulations. Such units could then be classified according to their own activity instead of the activity of their parent unit. This may be done if there is a strong interest to cover some activities entirely regardless of whether they are carried out by separate establishments or by ancillary units (e.g. research or computer activities).

97. If an ancillary unit serves two or more statistical units in different ISIC categories it is recommended that their costs be split among these categories. If this is not possible, the costs of such a central ancillary unit must be allocated to the predominant activity of the combination of activities it serves.

c. Classification of statistical units

98. The activity classification of each unit is determined by the class of the ISIC in which the primary activity, or range of activities, of the unit is included. Secondary and ancillary activities are to be disregarded when classifying a unit. The primary activities of the unit in general should be determined from the goods which its sells or ships or the services which it renders to other units or consumers. Ideally, the principal products of the

unit should be determined by reference to the value added to the goods sold or services rendered. In practice it is generally not possible to obtain this information for individual products. It is therefore recommended that in such cases, the principle kind of activity be determined by the proportion of the gross output of the unit which is attributable to the goods or services associated with these kinds of activity. Where this principle is not applicable, the principal kinds of activity should be determined from the proportion of employment in these activities.

99. Instances may arise where considerable proportions of the activities of a unit are included in more than one class of the ISIC. The number of such cases should be small since the scope of each of the classes corresponds to the combination of activities normally found in these units. These cases may result from the vertical integration of activities, e.g. tree felling combined with saw-milling, a clay pit combined with a brickworks or the production of synthetic fibres combined with a textile mill; or the horizontal integration of activities which cannot be segregated into separate statistical units, e.g. the sale at retail of shoes purchased from others as well as shoes made by the unit itself or the manufacture of bakery products combined with the manufacture of chocolate confectionery. In either situation the practical approach is to classify the unit into ISIC class which covers the goods or services of the principal part of its gross output. Thus for example, a unit combining tree felling with saw-milling should be classified to saw-milling; and a clay pit combined with a brickworks should be classified to brick making.

100. Since the activities of an enterprise sometimes cover a great variety of ISIC groups or classes, it may be appropriate for certain statistics to classify them at the division level only. In any case, when such a unit is to be classified at a lower level of the classification, first the appropriate division should be determined, then the group and then the class.

101. Whenever there is a need to aggregate data at the lower local level to a higher one or to the national level, it is recommended to classify local units in the same activity category as the enterprise they belong to and not to assign to their activity codes according to their own activity other than for reasons of supplementary tabulations.

102. The classification of a multi-activity enterprise or local unit should be determined from the value added by its constituent units. Such a unit should be classified by the category of the ISIC which covers the kinds of activity of the constituent units which account for the principal amount of value added. For example, in the case of establishments of an enterprise which make up a vertical chain of production, it gives equivalent weight to kind-of-activity units or establishments included in each portion of the chain. The use of the principle also makes it feasible to determine the category of an industrial classification to which an enterprise is to be assigned directly from the categories of the classification to which its constituent units are classified.

103. If data are not available on the value added of the constituent units of enterprises, figures on employment, or wages and salaries paid by these units might be used in order to determine their preponderant class of activities.

It is important that use be made of net measures of the activities of the kind-of-activity or establishments units. Figures of the gross output of these units can be misleading. The portion of the gross output of each establishment which is accounted for by the value added there, can vary markedly from one unit to another. In some instances, e.g. when it concerns industries with a very high investment quota and relatively low wage quota, the value of assets in each constituent unit may also be taken into account when weighing the different activities while determining the preponderant class.

104. The classification of central ancillary units, particularly central administrative offices, according to the predominant kind of activity of the establishments served by them, may in some cases, be questionable or difficult. The predominant kind of activity may account for much less than half of the total activity of the establishments served, or these establishments and the central administrative office may be located in different countries. This had led to the provision of a special category for central administratieve offices in the case of some national industrial classifications. The special category is included under the equivalent of business services in the ISIC (class 7414).

d. Changing the activity code of a statistical unit

105. It very often happens that units change their primary industrial activity either at once or gradually over a certain period of time. Such a change can be caused by a decision by the management that this actual activity is no longer profitable and that another activity might give better results or because parts of a complex enterprise become independent resulting in the primary activity of the old enterprise changing. The opposite may of course also happen. These examples result in a fairly sudden change in the activities carried out. On the other hand when the assortment of a retailer saler gradually changes from one product line to another this presents a change in activity which may take several years.

106. In all such cases the change has to be reflected in the statistics and thus in the activity codes assigned to such units. It is recommended that changes in activity codes are not made too frequently and preferably at the time when a major survey is carried out e.g. an annual census. This is in order to avoid that short term statistics (e.g. monthly or quarterly) become incomparable with longer term statistics.

e. Some general rules of interpretation

107. In the following paragraphs a number of general rules of interpretation are given which could be helpful when classifying more complex statistical units. It should be noted that the explanatory notes to some sections and divisions also indicate how to treat such cases.

108. Units must be classified in the category that best describes their activity, taking into account not only the output structure but also the input structure, including the production process used. In the case of multi-activity units, first the appropriate highest classification level should be determined, then the lower levels and finally the class.

109. In a case of vertical integration, a unit should be classified in the class indicated by the nature of the final products, unless the context of a specific category requires otherwise.

110. Except in cases where special categories occur, units carrying out activities on a fee or contract basis (jobbers) are to be classified in the same class as units that produce for their own account and risk. Conversely, units which sell goods or services under their own name and for their own risk but have the actual production done by others (converters) are to be classified as if they produce the goods or services themselves, provided that they have considerable influence on the conception of the products or, in the case of the manufacturing industry, they own the materials to be transformed.

111. Units that repair or overhaul capital goods are to be classified in the same class as the units that produce the goods 1). Three main exceptions exist to this rule: repair and maintenance of motor verhicles and motor cycles is classified in group 502 or 504 respectively; repair of personal and household goods is classified in group 526 and repair and maintenance of computers and office equipment is classified in class 7250.

112. Retail trade of goods produced in the same unit should not be considered a separate activity. Such units should be classified in the manufacturing industry. If, however, in addition to self-produced goods other products are also sold, classification should be done according to the rules described in para 98.

113. Activities carried out by Government units which are specifically attributable to other areas of ISIC should be classified to the appropriate class of ISIC and not to division 75.

4. Structure and coding system of the classification

114. All previous versions of the ISIC used an entirely hierarchical system of categories which were coded in terms of arabic numbers, arranged on a decimal system. This system was considered to be more universally applicable than one employing letters or roman numerals. It also met the requirements of offices using data processing equipment. ISIC, Rev. 2 had nine one-digit categories which were most of the time further subdivided into a maximum of nine sub-categories at each subsequent level.

115. This entirely numerical system had several disadvantages. First some of the one-digit categories were undivided and others were broken down into many subcategories often up to the four-digit level. The latter was especially the case in the manufacturing area. As a result some four-digit categories existed that, from an economic point of view, were much more important than some other categories at the two or even one-digit level.

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1) It was suggested that all repair and maintenance activities be transferred to the service part of ISIC. It was felt, however, that a change of such magnitude has many implications, also outside ISIC, and that it should be reconsided when discussing ISIC, Rev. 4.

116. Another problem that occurred when drafting Rev. 3 was that an entirely decimal system sometimes makes it necessary to combine in one category activities that have in fact very little in common and that it was impossible to elevate some activity categories to a higher level in the classification because of lack of space. This was especially the case in the area of the manufacturing industries and for important sectors of the economy such as Health, Education etc.

117. In order to overcome these difficulties a completely new coding system was introduced. It was decided to maintain an entirely numerical system, but to omit the operational use of the one-digit level. Instead the two-digit categories, which are now the highest numerical categories, are grouped in clusters of multiples of five which theoretically allows for 20 of such groups instead of only ten. These clusters represent the most important sectors of the economy: agriculture, fishing, mining, manufacturing, energy supply, construction, trade, hotels and restaurants, transport, finance, business services, public administration, education, health, community services, households and extra-territorial bodies. In order to make these sectors recognizable they are coded with an arabic capital letter. It should be noted, however, that this letter is not part of the ISIC code but rather a kind of tabulation code which can still be used to make aggregates in a uniform way. All ISIC categories can still be coded with an entirely numerical code. Since the tabulation code is not part of the ISIC code, it can be replaced by any other character so that countries which do not use the roman alphabet can use the same regoupings.

118. Another decision that was taken and that is contrary to the previous revision is that use is made of the zero as the first digit in the coding system. The very first category of ISIC at two-digit level is therefore 01, at three-digit level 011 and at four-digit level 0111.

119. Other changes that were introduced are the names given to the categories at the different levels. This was done for two reasons. First, it seemed better to discontinue the use of a name in combination with a number of digits as used in ISIC, Rev. 2. This may prevent people from confusing categories from Rev. 3 with these from Rev. 2. Only "Division" for the two-digit categories was maintained. The second reason is to harmonize the use of category names with other classifications of the UN e.g. the SITC. For practical reasons the tabulation categories referred to above in para 117 are called "sections", the two-digit categories "divisions", the three-digit categories "groups" and the four-digit categories "classes".

120. It should be noted that the new "sections" can easily be converted into the one-digit Major Division of ISIC, Rev. 2. This conversion can be done as follows: new sections A+B equals old Major Division 1; C=2; D=3; E=4; F=5; G+H=6; I=7; J+K=8; L to Q=9. The main exception is Research and Development which was transfered from Major Division 9 to new section K.

121. The number of sections is 17. Each consists of one or more divisions of which there are 60 in total. This is an extension of 80 per cent compared to ISIC, Rev. 2. Each division may, in turn, be divided into ten groups. ISIC, Rev. 3 contains 159 groups, which is 120 per cent more than Rev. 2. Further

subdivision of these groups resulted in 291 classes, an extension of 80 per cent compared to Rev. 2. The number assigned to a given category of the ISIC may be read as follows: the first and second digit, taken together, indicate the division in which the category is included; the first three digits identify the group and all four digits indicate the class.

122. In cases where a given level of the classification is not divided into categories of the next more detailed level of classification, "0" is used in the code position for the next more detailed level. For example, the code for group "Fishing" is 050 since the division "Fishing" (code 05) is not divided into groups. Or, the code for class "Mining of uranium or thorium ores" is 1200 because the division "Mining of uranium or thorium ores" (code 12) is neither divided into groups nor into classes. The group "Cargo handling" is coded 6301 as the division "Supporting and auxiliary transport activities" (code 63) is not divided into groups but the group "Supporting and auxiliary transport activities" (code 630) is divided into classes.

123. For use in computers the "0" could also be used to indicate that a total is used of all more detailed categories. So the code 2690 could be used for the total of 2691-2699 and 3300 could represent the total of 3311-3330. The same could of course be done by using the next higher level of the classification but in some instances it may be appropriate to use the same format (= number of digits) for alle code numbers.

C. APPLICATION OF THE CLASSIFICATION

1. General remarks

124. The Statistical Commission has recommended that countries classify data according to the ISIC, or according to categories convertible to the ISIC, in such areas of statistics as population data, industrial and distributive-trade statistics, and national accounts. The International Conference of Labour Statisticians has made the same recommendation in respect of labour statistics. The ISIC has been utilized by the United Nations, the International Labour Office, the Food and Agriculture Organization, the United Nations Educational, Scientific and Cultural Organization, the World Health Organization, and other international and national bodies in assembling and publishing internationally comparable data classified according to kind of economic activity of a wide range of statistical series.

2. Use of different levels of classification

125. It may be desirable to utilize less detailed classifications according to kind of economic activity in respect of some types of statistics than in the case of other series. For example, it may not be feasible to classify data on employment gathered in household inquiries in as great detail as data on employment obtained from establishment inquiries. Or, it may not be necessary to classify data according to kind of economic activity in as great detail in national accounting as in industrial statistics. By providing for three levels of classification - divisions, groups and classes - the ISIC furnishes a framework for comparable classifications of data at differing levels of detail.

3. Establishing national classifications convertible to ISIC

126. Many countries which do not have the experience or resources to develop their own national classifications or who want their national classification to be as closely related to international classifications as possible choose to use the ISIC as their national classification. In such cases ISIC may of course be used as is or, since there may be few countries in the world in which all categories of ISIC are equally important, it may be expanded or contracted, depending on the economic situation of such a country. If a particular economic sector were especially well developed or economically of great importance, the relative part of the classification could be expanded. If some other sector of the economy does not exist or is still underdeveloped or unimportant in the economy as a whole, the relative part of the classification might be contracted. It is not the intention to suggest data collection for categories which would require all kinds of artificial or arbitrary splits within existing units.

127. In order that a national industrial classification should be convertible to the ISIC, the categories at the most detailed level of classification in the national scheme should on the whole coincide with, or be subdivisions or combinations of the individual classes of the International Standard Classification. In other words, each most detailed category of the national classification should not in general cover selected portions of two or more classes of the International Standard Classification. Where the categories represent combinations of two or more entire classes of the ISIC, the classes should in general be part of the same group of the International Classification. The convertibility of the national classification to the ISIC would not be affected by the position of, or the manner of grouping the categories at the detailed level of classification in the national scheme.

4. Expansion or contraction of the ISIC

128. The ISIC may be expanded by subdividing each class, if it is so desired, into as many as nine subclasses. This may be done by appending one decimal place to the four-digit code which identifies each class of the International Standard Classification. Alternatively, the subdivision of groups into classes in the ISIC may be expanded by replacing the classes with a greater number of more detailed categories. Where this approach is employed, the more detailed classes raised may be identified by means of four digits as long as no more than nine classes are wanted for each group of the ISIC. In order to preserve comparability with the classes of the ISIC, the more detailed classes should be delineated so that they may be aggregated to classes of the International Standard Classification.

129. Extending the four-digit codes of the ISIC to five digits would also be unnecessary if, to meet national requirements, the only classes to be subdivided are those which are identical with groups. These classes of the ISIC are identified by four-digit codes ending in "0" and may be replaced by as many as nine classes, identified by specific four-digit codes.

130. The ISIC may be contracted by combining the classes of selected groups into fewer, less detailed classes, or by entirely telescoping classes into groups. It may be desirable or necessary to raise categories at the most

detailed level of classification of national schemes which in certain instances, combine classes of the International Standard Classification. This may be because the kind of activities segregated by selected classes of the ISIC are not important enough in a given country. Or, it may be due to a much smaller degree of specialization in the activities of establishments or kind-of-activity units than is required in order to use certain classes of the International Standard Classification in the national scheme. Some countries may for example find it impracticable to establish categories in their national classifications which are similar to the individual categories of divisions 29 to 32 (Machinery activities). They may need to combine some of, or all, the groups or classes into single categories at the most detailed level of classification of their national scheme.

5. Compilation of homogeneity ratios

131. Despite the care taken to define the classes of the International Classification or the most detailed level of any other national activity classification, so that the two conditions described para 42 are satisfied, some of the activities of establishments, or similar units, which are classified to a given class will be characteristic of other classes of the classification. In compiling data classified according to kind of economic activity, it will therefore be valuable to compute measures of homogeneity in respect of kind of activities for the units falling into the various categories of the scheme of classification.

132. The two most important ratios to assess the homogeneity of the various categories are the specialisation ratio and the coverage ratio. The specialization ratio of an industry is the output by that industry of goods or services characteristic to that industry in proportion to its total output. The coverage ratio is the output of goods or services characteristic to the industry in proportion to the total output of the same goods or services by the economy as a whole.

133. When calculating these ratios a number of problems should be kept in mind. Some products can be characteristic of more than one industry (e.g. by-products that occur by necessity); some other products may be non-characteristic for any particular industry (e.g. waste) and some may have to be declared characteristic to one or more industries by convention (e.g. industrial repair services). In such cases judgement should be exercized in interpreting the calculated ratios.

134. It should also be noted that the creation of an industry with high ratios is no guarantee for useful statistics or that a category with low ratios in useless by definition. It is very well feasible to create a category with a nice high specialization or coverage ratio which, however, in economic terms is negligible. On the other hand, a category with a relatively low coverage ratio but high specialization ratio may well provide useful information for further analysis. The ratios should therefore not be used as the only determining factors when establishing an industry classification, but always in combination with other criteria.

135. The homogeneity ratios might be computed in respect of the total gross output of the units classified to each class of the classification or, preferably though more burdensome, in respect of the gross output of the individual statistical units. In the latter case, the establishments or similar units, which fall into the various categories of the industrial classification, would of course be arrayed according to class intervals of the homogeneity ratio. Especially the specialization ratio should be a determing criterion when classifying a unit (see under B.3.c.).

136. Homogeneity ratios can of course be calculated in respect of the classification of kind of activity units or establishments to the groups or divisions, as well as the classes of the ISIC. It will also be desirable to compute homogeneity ratios in respect of the classification of enterprises to the divisions of the Industrial Classification. Some enterprises will own establishments the principal kind of activity of which falls outside the scope of the division to which the enterprise is classified. The homegeneity ratios of enterprises might be based on the value added, or if necessary, the employment, of the constituent units. It would indicate the proportion of the total value added, or employment, of enterprises accounted for by the constituent units classified to the same division as the owning enterprise. Such ratios would be extremely valuable to assess the degree of comparability of enterprise data from different countries.

D. RELATIONSHIP WITH OTHER CLASSIFICATIONS

1. General

137. As was already mentioned in the introduction, the Statistical Commission requested the Secretariat to prepare a set of classifications which together would form an integrated system for classifying activities, goods and services and that could be used in different kinds of economic statistics. Using SINAP as a basis, the work resulted in the revision of ISIC and SITC and the development of the CPC. These three classifications are strongly interrelated. ISIC represents the activity side of the system, CPC is the central instrument for classifying goods and services and SITC is the statistical goods classification for international trade. The latter two both use the headings and subheading of the HS as building blocks for their categories.

2. Relationship with HS, CPC and SITC, Rev. 3

138. The relationship between ISIC on the one hand and the product classifications HS, CPC and SITC on the other lies in the fact that the latter in principle combine in one category goods or services which are normally produced in only one industry as defined in ISIC. In the HS this origin criterion was respected as far as possible at the time. In some cases, for instance when it seemed impossible that a customs officer could make the distinction, the principle was not applied. Still, most (sub)headings of the HS contain goods that are generally produced in only one ISIC category. The arrangement of headings and subheadings of the HS, however, follows criteria which are quite different from industrial origin.

139. Both the CPC and the SITC, Rev. 3 regroup HS categories albeit in a different way. The SITC follows a traditional order in which the materials used, the stage of processing and the end use are the main considerations. The SITC does not contain areas for non-transportable goods or services. CPC does contain such categories and arranges its categories in groups that are similar to ISIC categories. This does not mean, however, that all goods are grouped according to their industrial origin. Although this origin was an important criterion when developing the CPC, it was developed as a classification in its own right in which goods are grouped and classified according to their own (physical) properties. Where for example meat and hides are both outputs of slaughterhouses (ISIC 1511) they appear in different sections of the CPC. Each category of CPC is, however, accompanied by a reference to the ISIC class where the goods are predominantly produced.

140. For the SITC the same relationship with ISIC exists, i.e. each item (five-digit level) of SITC is generally produced by only one ISIC class. The relationship between SITC and CPC is such that whole items of the SITC can be aggregated to one CPC subclass, and conversely, whole CPC subclasses can be aggregated into one group (three-digit category) of SITC.

3. Relationship with other classifications of goods and services (BEC, CCIO, ICGS)

141. Other UN classifications that exist in this area are the classification by Broad Economic Categories (BEC) 1), the Classification of Commodities by Industrial Origin (CCIO) 2) and the Draft International Standard Classification of all goods and services (ICGS) 3).

142. The BEC is designed to serve as a means for converting data compiled on the SITC, which as it stands is not entirely suitable for analysis by end-use, to meaningful aggregates for purposes of economic analysis of the use to which the goods are put, based on the SNA concepts. There is no relationhip between ISIC and BEC other than the fact that BEC rearranges the SITC categories in nineteen BEC categories. In doing so no account was taken of the industrial origin of the goods.

143. The CCIO was in fact not a classification in its own right but rather a conversion key between SITC and ISIC. It rearranged SITC items according to their industrial origin and since such conversion keys were found useful, they have been made available as a separate publication. The latest version of the CCIO refers to ISIC, Rev. 2 and to SITC, Rev. 1. The revision of both classifications has rendered the CCIO obsolete in its present form. The introduction of the CPC, which has a strong link with ISIC makes the revision of CCIO superfluous.

144. The ICGS was a draft classification of goods and services which was never published. Yet it was intensively used by countries as a commodity production classification, as a framework for the development of regional or national

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1) United Nations publication, Sales no. E.86 XVII. 24, New York, 1986.
2) United Nations publication, Sales no. E.71.XVII. 15, New York, 1971.
3) Doc E/CN.3/493, New York, 1976.

classifications and as a reference manual for the use of ISIC. When developing the parts dealing with services in the ISIC and CPC, the ICGS was frequently used. However, since the CPC is strongly related to the ISIC, Rev. 3, the ICGS also became superfluous.

4. Other international activity classification (NACE, CBNE)

145. From the start of the work on harmonization of economic classifications the Statistical Commission emphasized that efforts be made to harmonize ISIC, Rev. 3 with the General Industrial Classification of Economic Activities within the European Communities (NACE) and, if possible, the Classification of the Branches of National Economy (CBNE) of the Council of Mutual Economic Assistence (CMEA), which both had to be revised in due course.

146. Through the establishment of the Joint UNSO/SOEC Working Group and the co-operation of all parties concerned it was agreed that the revised NACE as well as the related product classification of the European Communities will be identical with or an extension of ISIC and CPC respectively. Also the coding systems used in classifications of UN and EC would be the same. As a result, data of either organization will be completely compatible.

147. The relationship with the CBNE is .....(Vladimir)

5. Other classifications (COFOG, ISCED, ISCO)

148. There are three other classifications developed by the UN or its subsidiary organs that have some remote relationship with ISIC. These are the Classification of the Functions of Government (COFOG) 1), the International Standard Classification of Education (ISCED) 2) and the International Standard Classification of Occupations (ISCO) 3).

149. COFOG was developed by the UN Statistical Office mainly for use in the National Accounts. Its unit of classification is, in principle at least, the individual transaction. This means that each purchase, wage payment, transfer, loan disbursement or other outlay could be assigned a COFOG category according to the function that the transaction serves. The transaction may be in the areas of final consumption, intermediate consumption, current and capital transfers, capital formation etc.

150. Since ISIC is used for classifying transactors rather than transactions, the relationship between ISIC and COFOG is only marginal. Some subdivisions of COFOG correspond in practice roughly to ISIC activity categories, and when drafting the part for public administration for ISIC, Rev. 3 the COFOG categories were used as a starting point (see however para 174). One of the problems when comparing ISIC and COFOG is that the latter covers not only direct outlays on government owned schools but also the subsidizing of privately owned schools and outlays on subsidiary services to education such as school transport, food and lodging for students etc.

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1) United Nations publication, Sales No. E.80.XVII. 17, New York, 1980.
2) UNESCO publication COM.75/WS/27, Paris, March 1976.
3) ILO publication, ISCO/88, Geneva, 1988.

151. The ISCED was developed by the UN Educational, Scientific and Cultural Organization (UNESCO) as an instrument suitable for assembling compiling and presenting statistics of education both within individual countries and internationally. It is a multi-purpose classification of education programmes to be used for phenomena such as enrolement, teaching staff and finances as well as statistics of the "stock" of educated people as obtained, for example, by a population census. The statistical unit as classified in ISCED at the lowest level is the programme or programme group.

152. Since ISIC classifies institutions that offer education programmes in different combinations and at different levels, no attempt was made to establish a direct relationship between ISIC and ISCED. Because of the fact that the number of categories in ISIC is only small, it may be assumed, however, that most of the levels of the ISCED will be offered by predominantly one ISIC category. A cross-classification of ISIC categories with ISCED programmes could of course result in very useful data.

153. The ISCO has been developed by the International Labour Organization (ILO) to provide a systematic basis for presentation of occupational data relating to different countries in order to facilitate international comparison and to provide an international standard classification that countries may use in developing their national occupational classifications or in revising their existing classifications, with the aim of achieving convertibility to the international system.

154. The units to be classified in ISCO are persons; in ISIC they are institutions such as enterprises or establishments. While ISIC is used in surveys collecting a wide range of operational and financial data, ISCO is used for surveys of earnings, employment conditions etc. Cross-classifications providing distributions of data for occupations within industries or for the industries in which each occupation is found are commonly made.

155. Despite the association of ISIC and ISCO in particular surveys and cross-tabulations there seems to be no outstanding problems requiring harmonization of their structures. This lack of conflict is due to the wide range of occupations that are not associated with any particular industry or industrial sector. For this reason, when revising the ISIC and ISCO, no attempt was made to establish a close relationship between the two classifications.

E. SOME PARTICULAR SUBJECTS

1. Annexes to the ISIC

156. At its twenty-fourth session the Statistical Commission welcomed the inclusion of annexes to ISIC covering cross-classifications of industries for particular purposes. The intention of these annexes should be to come to an international understanding on the combination of activity categories that could be regarded as representing a particular group of industries. The annexes consist of a rearrangement of whole ISIC divisions, groups or classes whose primary activities contribute to the group of industries concerned.

Similar activities carried out as secondary activities by other industries are neglected as well as activities which provide capital goods or intermediate goods to the group of industries concerned. For this reason machinery industries and construction are not included. The ISIC contains two such annexes.

157. The annex for energy includes the mining, manufacturing and distribution of energy or energy-related products. It is, as far as the break-down of ISIC allows, harmonized with the classification of energy production 1) developed by the ECE, the IEA/OECD and Eurostat.

158. The annex for tourism was developed in co-operation with the World Tourism Organization (WTO) and includes hotels and restaurants, part of transport, part of renting activities, part of public administration and part of recreational, cultural and sporting activities. WTO itself published several methodological papers including guidelines and definitions on tourism and used an expanded version of ISIC, Rev. 2 as reference for its Tourism classification of economic production activities (1983). The current annex to ISIC, Rev. 3 was developed in order to facilitate such expansion.

2. Indexes to the classification

159. In 1958, at the request of the Statistical Commission, the Statistical Office prepared numeric and alphabetical indexes to the ISIC, Rev. 1. These indexes were updated after finalization of ISIC, Rev. 2 2) but have become outdated again with this new Revision. The indexes were designed to be of assistance in adapting the ISIC to the classification requirements of individual countries, in comparing national classifications to ISIC and in classifying data according to ISIC. They should also provide a guide to the correct classification of statistical units.

160. It is scheduled that the Statistical Office will publish as soon as resources permit updated indexes to ISIC, Rev. 3. For each ISIC class the numerical index will list, in alphabetical order, titles of activities which characterize this class. The second index is a general alphabetical listing of the same entries completed with entries composed of modifications or rearrangements of the original titles as are thought likely to be of use.

3. Explanatory notes

161. The explanatory notes contained in part III of this publication refer only to primary activities. A reference to secondary activities is omited because the structure or combination of primary and secondary activities differs strongly among countries. The explanatory notes are drafted as far as possible in terms of description of activities rather than as a list of outputs (products). In some instances, however, only listing the outputs was not to be avoided.

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1) See Doc. CES/AC.32/42. This classification was adopted by the CES in June 1986.

2) United Nations publication, Sales No. E.71.XVII.8, New York, 1971.

4. Correlation tables

162. When drafting ISIC, Rev. 3 and simultaneously the CPC, a strong link was established between the two classifications (see para 7), i.e. each CPC subclass is assumed to be produced by predominantly one ISIC industry. In the CPC publication 1) the reference to these producing industries is shown for each CPC subclass. By rearranging the CPC categories according to their industrial origin a correlation table between ISIC and CPC will emerge. Via the CPC, tables can also be derived for the correspondence between ISIC and SITC and between ISIC and HS. It is the intention of the Secretariat to publish in due course all these correspondence tables in every direction.

163. A correlation table between ISIC, Rev. 3 and Rev. 2 is reproduced in part V of this publication. This correspondence table shows the most important differences between this version of ISIC and the previous one. Some of these changes are discussed below.

5. Major changes in ISIC, Rev. 3 compared to ISIC, Rev. 2

164. In the area of agriculture (section A) a new category "mixed growing of crops combined with farming of livestock" (group 0130) has been introduced. The reason for this was that in many countries this kind of mixed farming occurs very often and this creates considerable problems in classifying such units. Since the primary activity of the units can easily change over the years, statistical time series would be disturbed. The special new category may prevent such inconveniences. The new category was eventually established in concordance with advice from the Food and Agricultural Organization.

165. The specialization ratio of 67 percent mentioned in the explanatory note to the new group was a compromise between arguments to keep this group as small as possible and those that wanted to make the specialized categories as pure as possible. It should be noted that if countries or organizations already use such a category for mixed farming with a specialization ratio that differs from 67 percent but which is more suitable for that country or region, such a specialization ratio could be maintained and used for reporting data according to ISIC.

166. In the mining and manufacturing areas (sections C and D) the main changes introduced involve a much greater detail of the classification. Although many particular activities were tranferred from one group or division to another, the main structure of this part of ISIC, Rev. 2 was maintained. One new division was, however, created, i.e. for Recycling (division 37). This category is meant to include the transformation of unusable waste and scrap into usable waste and scrap by means of an industrial process. Although it can be argued that this activity is often associated with dealing, it was agreed to include it in the manufacturing area because it involves an appreciable amount of processing and capital equipment.

167. In the construction sector (section F) a break-down has been introduced.

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1) United Nations publications, Sales No. ....., New York, 19..

168. For the trade sector (section G) ISIC, Rev. 2 had no subdivision at all. Some national and international classifications have detailed divisions in this area. After many arguments in expert groups it was decided by the Statistical Commission to introduce the following break-down. There is a separate division (50) for all activities related to motor vehicles and motor cycles and retail sale of automotive fuel. This was done because many of the activities included there are often carried out in the same units although in different combinations. The second division (51) includes all other wholesale, subdivided according to the goods sold. A separate group within that division refers to all wholesale on a fee or contract basis (commission sales, etc.). The third division (52) includes other retail sale and repair of household goods and is at the group level divided according to the way goods are sold and at class level subdivided according to the goods that are sold. It is assumed that by using this combination of two criteria, more and better useful statistical information may be obtained.

169. In the area of Transport (Section I) a separate division (63) has been created in which all supporting and auxilliary transport activities are grouped regardless of the mode of transport they serve. This is contrary to their treatment in ISIC, Rev. 2 where these activities were included in the categories for each mode of transport. The new approach was made because many of these activities are performed by independent units that often work for different modes of transport especially when more than one mode of transport is involved in a particular shipment.

170. The part of the classification dealing with financial intermediation (section J) was inspired by the report of a consultant and comments from a number of countries and organizations. The new approach reflects better modern development in the banking and insurance sector. Financial leasing is included in this section.

171. A new division (71) was made for all renting and leasing. In ISIC, Rev. 2 these activities were scattered all over the classification. Since basically the activities of all renting and leasing are similar regardless of the good rented or leased, they are now all combined in one category.

172. Another new division (72) has been made for all activities which are related to computer services. It includes activities such as consultancy of hardware and software configurations, software supply, data processing and database activities as well as repair and maintenance of (mostly smaller) computers and office machines. Much of this repair and maintenance is carried out by independent units with no relationship with the units that produce or trade these machines. Upgrading or updating of main frames should be classified under manufacturing.

173. Research and development activities that in ISIC, Rev. 2 were classified in the division for Social and related community services (932), have been transferred to business services (division 73). It includes basic research, applied research and experimental development in the fields of natural science as well as social science and humanities.

174. The section dealing with Public administration (section L) has also been developed according to the advice of a consultant. Although the result is already much more detailed than the same area in ISIC, Rev. 2 it is still limited in detail. The reason for this is that there are almost as many different forms of government organizations as there are countries so that it is difficult to agree upon a common denominator. The division in this area should be seen as a proposal for international use which should be further developed in due course. When drafting this part of the classification, the COFOG served as a guideline. For the reasons explained in paras 149 - 150 no reference is made to the relevant COFOG categories. It should be noted that, as in ISIC, Rev. 2, activities carried out by Government units but specifically attributable to other areas of ISIC, should be classified under the appropriate class in the rest of ISIC.

175. Similar problems were encountered when drafting the classification dealing with Education activities (section M). Again many different systems exist in the world. After consulting ISCED and its producer UNESCO it was agreed to limit this area of ISIC, Rev. 3 to a small number of groups.

176. No major changes have been introduced in the remaining parts of the service producing activities. The detail, however, is again considerably greater than in ISIC, Rev. 2.