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Statistical Units in the context of Third Revision of the International Standard Industrial Classification of All Economic Activities (ISIC)

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Introduction

1. This paper was prepared for the Round Table on Business Survey Frames, organized by the Bureau of Labour Statistics in Washington, D.C., at the request of the organizers. The work of the United Nations Statistical Office in the field of economic statistics and activity classifications is closely related to the work on business registers because both must concerned with the statistical units used. In view of the fact that the Office is in the process of revising its industrial classification (ISIC) as well as the System of National Accounts (SNA) each of which contains guidelines on the statistical units, it gratefully accepted the challenge to prepare a paper on these units. The Office hopes to benefit from the presentations and discussions in the meeting.

2. The paper focusses first on the history of the ISIC and its use and goes somewhat deeper into the development of the third revision of it and the harmonization with other international classifications. It is stated that the first part of this revision dealing with agriculture, mining and manufacturing is almost in its final stage whereas the part dealing with services is still very preliminary. Still, it is intended to present a complete draft to the Statistical Commission at its 25th session in 1989.

3. The paper then treats some general aspects of the statistical units which according to the Statistical Commission needed some updating and modernization in ISIC. It emphasizes the interaction between an activity classification and the statistical units for which the classification is developed as well as the importance of the definitions of these units for the results of the relevant statistics and the problems that can occur in difficult situation such as vertical or horizontal (des)integration. The question is raised whether an multinational company or enterprise classification could be developed and whether it is better to maintain the current terminology of units in ISIC or to replace it by new names. Lastly the issue of business registers and their use in demographies of economic units is briefly discussed.

4. The annex to the paper contains a first provisional draft of the new chapter in the introduction to ISIC, dealing with the statistical unit. This paper contains of course much of the current text of ISIC, but also a number of paragraphs and sentences were borrowed from national classifications. These sources are not mentioned in the paper. However if a country would like to claim copyright, it could be accommodated. Comments on the paper and especially on its annex would be very much appreciated either during the meeting or in writing.

The author of the paper wishes to express his thanks to all who helped him with the drafting and editing.

Background of ISIC

5. The original version of the International Standard Industrial Classification of All Economic Activities (ISIC) was adopted in 1948. At that time 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 All Economic Activities either by:

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

(b) Rearranging their statistical data in accordance with this sytem for purposes of international comparability."

6. 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. Most developing countries and a number of smaller developed countries have utilized the International Standard Classification as the basis for their industrial classification schemes with little or no change. 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 schemes fitted into only one category 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, the United Nations Industrial Development Organization and other international bodies have also utilized the International Standard Classification in publishing and analyzing data classified according to kind of economic activity.

7. Experience in the use of the ISIC has revealed the need for periodically reviewing the structure and definition of the categories. 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 Statistical Commission undertook a review and revision of the ISIC in 1956-1958 and again in 1965-1968. 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.

8. The current ISIC, Rev.2, much more than its previous versions, is based

on detailed comparisons between it and the national industrial classifications 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 fully compatible with the economic structure and the statistical practices and needs of the differing countries of the world.

The third revision of ISIC

9. In the early seventies a number of countries and international organizations realized that the next revision of ISIC should be part of a larger long-term project, i.e. to harmonize existing activity classifications of different international organizations and to establish a classification of goods and services closely linked to ISIC, being a kind of master classification which can be used for statistics of output, trade (domestic as well as international), prices, consumption etc. In order to examine these possibilities the Statistical Office of the United Nations established an expert group which met in 1974 and whose report was presented to the Statistical Commission in 1976. At the recommendation of the Commission a Joint United Nations Statistical Office (UNSO)/Statistical Office of the European Communities (SOEC) Working Group on World Level Classifications was formed. To date this group has met five times in Brussels and Luxembourg and discussed proposals for the ISIC, Rev.3 and for the related Central Product Classification (CPC). A sixth meeting of this UNSO/SOEC working group is scheduled for December of this year.

10. Parallel to the work of this group, the UNSO also convened two working group meetings at its headquarters in New York to discuss the proposals made by the Secretariat. For practical reasons the membership of both working groups was almost identical. A third and hopefully last meeting of this group is scheduled for April 1988.

11. To date, as a result of these meetings, which reflect the input of the Secretariats of UNSO and SOEC and of many experts of national and international organizations, the Statistical Commission at its 24th session early this year discussed the first complete drafts of ISIC, Rev.3 and CPC. Concerning the first parts of the classifications dealing with agriculture, mining, manufacturing and energy distribution in the ISIC and their relative outputs (goods) in the CPC, it was stressed that these could be considered as almost final. Minor improvements may still be introduced in the texts as well as in the explanatory notes but the main structure of these parts should not be changed anymore.

12. Harmonization with other classifications has been established in a reasonable way. One of the main advantages of working closely together with SOEC is that while revising their economic activity classification (NACE) they committed themselves to use the same categories as in ISIC with probably some further breakdown. Harmonization between CPC and the Standard International Trade Classification (SITC), Rev.3 - which was approved by the Statistical Commission in 1985 - is established such that each category of the CPC consists of one or more whole categories of the SITC. Moreover both the CPC and the SITC use the categories of the Harmonized Commodity Description and

Coding System (HS) of the Customs Co-operation Council as building blocks which links these three classifications even closer together.

13. The second parts of the drafts of ISIC and CPC which deal with services are still very tentative. Although all work on classifications in general was given highest priority by the Commission, it was understood that most of the time spent on it by the Secretariat should be devoted to the service area. Especially in a time where more and more data are needed on services, e.g. in the fields of international trade, price and quantity measurement and their share in the balance of payments, all efforts should be made to establish a classification on services as a tool to collect data on them. Not only in the UN and EC but also in individual countries the classifications in the services area have proved to be particularly complicated.

14. In view of the rather limited financial and personnel resources in international organizations in general and in the UNSO in particular, an attempt was launched at the initiative of Statistics Canada to share the workload by distributing it among some volunteering countries. During an ad hoc meeting in Voorburg, the Netherlands, in January this year, several countries committed themselves to contribute a first draft of ISIC and CPC for a specific service area. A second meeting of the same group plus some other interested countries and organizations is scheduled for early November this year. Hopefully these efforts will result in a better and more up-to-date draft of ISIC and CPC which then will be discussed during the sixth UNSO/SOEC meeting and the third UN expert group meeting.

15. A new complete draft of ISIC, Rev.3 and CPC will be presented to the Statistical Commission at its session in 1989 when, according to its request, the Commission intends to approve it.

Statistical units in ISIC, Rev.3

16. One of the subjects that, apart from the content of the classification itself, was discussed several times in working groups and in the Commission, was the definition of the statistical units. 1/ Although the Commission emphasized that the scope and use of ISIC should not be altered, it agreed that the definitions of the statistical units need some updating and modernization. It is important to have these definitions established because they may serve as guidelines for those who use ISIC as their national classification or as an instrument for international comparison of statistics.

1/ It should be noted that the term "statistical unit" is sometimes used to refer to the unit of measurement of transactions or observation according to which statitical information is reported. For the purpose of this paper, however, it is used only to refer to the transactors, i.e. the organizations that engage in producing goods or services.

17. On the one hand it could be argued that the definition or delineation of units could be omitted from an activity classification such as ISIC and indeed several national classifications do omit such a chapter. On the other hand the ISIC is used by statisticians and economists as a tool to subdivide the economy into parts which contain elements that are mutually comparable according to certain criteria such as industrial activity. In order to ensure the usefulness of ISIC it is necessary to know how activities are organized within the units that are supposed to be grouped in a certain ISIC category, i.e. what kind of activities are often carried out together in one unit and which activities are never or very seldom carried out together. Thus when talking about classifications of units, one has to have at hand a definition of the units and while defining the units, one has to keep in mind the structure of the classification. Unfortunately, this results in a kind of arguing in a circle.

18. The way in which statistical units are defined is extremely important for the outcome of statistics. Usually units are classified according to their primary economic activity. For statistical purposes an "industry" is defined as the total of all units mainly engaged in a specific range of activitiesthat can be identified or labelled by reference to the detailed classification. Therefore the outcome of industry statistics depends strongly on the kind of units used. Recently it has become more and more common practice to create separate legal units for parts of enterprises or companies that engage in secondary or ancillary activities. It is clear that if this practice were to be followed by statisticians, creating as many statistical units as there are legal units, the outcome of industry statistics would be seriously affected. The transformation of what was previously part of an existing unit into a separate unit creates a new flow of trade between the old and new one.

19. Statistical information must be organized into categories suitable for economic analysis. This can be done by classifying units and all data pertaining to them according to characteristics such as economic activity, institutional sector, legal structure, size, geographical distribution (location), nature of ownership, type of operation, types of financing etc. The ISIC deals with only one of these characteristics i.e. economic activity whereas separate classifications exist for most of the other characteristics. This means that although single ownership and single location are more or less prerequisites for the definition of the units, the homogeneity economic activity should be the predominant factor when establishing them. A clear example for why activity is important is vertical and horizontal integration.

20. An entity which produces grapes for the market is completely different from one which produces the grapes and then at the same location makes wine of them. Their contributions to value added and employment of the industry are very different although their classification in terms of ISIC may be the same. Ideally the latter entity should be split into two units, one being classified in agriculture and the other in manufacturing. Alternatively, a separate category for the combined activity (grape growing and wine making) could be established in ISIC.

21. The same problem arises with different forms of horizontal integration or, as has become more popular recently, desintegration. As indicated above, industrial companies quite often decide to house parts of their business in

separate legal units which then, in turn, are classified in a different industry, nowadays usually being a service industry. Although such actions often concern ancillary activities or units, they do of course disrupt time series. It may be assumed that at least part of the recent rapid growth of the service industries is due to this phenomenon. Also the fact that the growth of international trade in services stays behind the domestic growth of the service industry can be explained in part by the circumstance that the latter data are obtained from statistics on transactors and the former from (lack of) data on transactions. The creation of a new unit has a direct impact on domestic trade but not on international trade in services.

22. The question could be raised whether in cases of desintegration as mentioned above statisticians should try to maintain existing time series by reshaping these "artificial" split-ups into the original combinations or should they follow industry practice by treating the newly created units separately and thus transferring them to other industries. In either case explanatory notes should accompany the relevant publication in order to make clear what policy is followed.

23. On the other hand, in order to compile meaningful statistics, some legal units need to be separated into two or more statistical units. This is particularly so where the significant activities of a single legal entity span two or more broad activity categories. Also, in situations where separate parts of a legal entity operate more or less independently, combining them for statistical purposes would be avoiding realism.

24. ISIC is always conceived as being an instrument for classifying establishments. In principle, however, it can as well be used for classifying broader units such as enterprises or local units or even families of enterprises or companies since all of these units have by definition a primary activity. Especially the less detailed levels of classification should meet the requirements of classifying such larger units. Some countries have, however, developed special classifications for complexy structured companies. It is questionable whether such a classification can be developed at the international level since practices differ greatly across countries.

The terminology for statistical units in ISIC

25. The terms enterprise and establishment have been used for many years in different contexts to cover very different situations. For this reason it has been argued that these terms better be dropped all together and replaced by new terms in order to avoid ambiguity and confusion. In fact, several countries have already done so in their national classifications. For use in international statistics, however, it seems more convenient to retain the existing terminology because many users of the systems and statistics of UNSO are familiar with them. It is therefore suggested to maintain these terms for international use. This, of course, does not prevent countries from using their own terminology and definitions although the latter should preferably not deviate too much from those suggested in international guidelines.

26. It should be noted that, although in most statistics that reach the UNSO it is said that the establishment was the statistical unit employed, more detailed research showed that in many cases the definitions applied to it

differ strongly from country to country and that in several cases completely different units were effectively used. Especially large countries tend to interpret the local boundaries requirements of the establishment in a different way than smaller countries which may lead to different treatment of secondary and ancillary activities. This of course hampers the international comparability of industry statistics.

Registers and demography

27. One of the recent concerns of statisticians in the field of economic statistics is to develop and maintain up-to-date records of statistical units and to publish a kind of demography about them registering their birth, growth, changes in status such as activity, location, ownership, etc. and eventually death. This is not only of importance for statistics on the existence, lifetime and mobility of statistical units or as basis of surveys, but also for the ability of explaining certain data obtained in industrial surveys or censuses. This issue has recently become more important since, especially in the service industries, small units are born very frequently. They then either grow quickly into large companies or die almost as quickly as they appeared. Very often it is hardly possible to obtain economic data from them but if records can be obtained through a register of units (statistical or non-statistical) then at least some estimations could be made about their activity.

28. Many of the registers now receive their data from non-statistical sources such as the Chamber of Commerce, departments of government, tax records, social security etc. where companies have to register themselves. In order to transform such data into a useful register of statistical units a whole series of activities has to be carried out, sometimes called profiling. Since the UNSO does not itself collect data from individual units, it has no experience whatsoever in this field. Moreover, since practices and legal requirements differ greatly from country to country, it seems unlikely that international guidelines could be developed in the area of business registers. However, it is hoped that national guidelines will not be in conflict with the recommendations given in ISIC concerning the definitions of the statistical units.

Annex: First provisional draft of the introductory part to ISIC, Rev.3

STATISTICAL UNITS

INTRODUCTION

1. The most convenient way to obtain statistical data is to collect them from entities that keep complete sets of records. 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 also might result in statistics that serve best the interests of users.

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

3. The benefits of internationally integrated statistics cannot be realized unless standardization is applied to all dimensions of both definitions and classifications of transactors as well as transactions. For transactors the reasons for this are two-fold. If two or more statistical collections cover the same industrial area, comparison between data cannot be made unless the collections cover the same units. In other words, the statistical unit serves as a tool to measure in an unduplicated and yet exhaustive fashion several aspects of the economy. Secondly, the utility of using standard classifications of activities, institutional sectors and locations is weakened if they are applied to sets of transactors which are not defined in a standard way.

4. In this context it seems useful to make a distinction between statistical units and other (non-statistical) entities. The first group includes those units for which data are assembled and statistics are compiled whereas the latter group includes all other kinds of organization such as legal entities, local entities, administration entities etc. which have not gone through a statistical selection process and which may or may not coincide with statistical units. In other words the entities that are found in the real (sic) world may have to be rearranged (recombined or split) or profiled in order to create statistical units that meet the requirements of integrated statistics. Besides, there are entities being statistical units themselves which do the bookkeeping and reporting for not only themselves but for other statistical units as well. Such entities are often called reporting or accounting entities.

5. Administrative requirements differ from one kind of statistics to the other. Some need very detailed information on e.g. quantity and prices of outputs and inputs, on labour, stocks, assets etc., others only collect rough data such as gross output, capital formation or so. In order to meet these

different requirements a hierarchical set of statistical units is defined in this chapter each of them aimed at a special set of data that might be available for them. The definitions have been formed such that they allow international comparability but at the same time that respondents can provide the information requested.

6. The statistical units in economic statistics are (parts of) businesses, government or private-non-profit organizations which engage in economic activities. They are transactors buying and/or owning 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.

7. The basic concept of the statistical unit is determined by two constraints i.e. control and location. In other words, the ideal statistical unit cannot belong to more than one owner and cannot cross regional boundaries. For certain statistics an additional constraint relating to economic activity is also applied namely when statistics are expected to publish data on certain industries or on sets of units which are homogeneous in terms of the activity they carry out. Other characteristics may be attached to each statistical unit such as size, legal organization, mode of financing etc. but these characteristics should not influence the classification or definition of the unit.

8. Unfortunately, the economic world does usually not organize itself legally in such a way that it fits in the constraints set out by statistical institution. The set of legal entities under a single control changes frequently. 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, assignment of existing legal entity from one of the previous categories to another including a category of dormant entities. Also entities do 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 must be reassembled or split into more homogeneous statistical units.

9. One of the problems which are often encountered by statisticians when establishing the statistical units they collect data from, is that the appropriate records are not always available for the units they want to inquire. If this problem cannot be solved by discussions between the authority and the entity (entities) concerned, there are only two options left, i.e. whether to stick with the statistical unit that was originally envisaged and to fill the data gaps with estimations or to fall back to the hierarchically next higher type of unit.

10. With the above in mind, the following hierarchical set of statistical units can be distinguished and defined. It should be kept in mind that in by far the most cases all of these units will coincide, i.e. there is one owner who at one location carries out only one activity. Thus enterprise equals local unit, equals kind-of-activity unit and equals establishment. In only 5 to 10 percent of the cases one needs to introduce the separation between the different units described below. The type of unit to be used in the

presentation of statistical series will depend on the nature of the information being presented and the data being available. This choice is to be made by the statisticians who deal with a particular kind of statistics.

DEFINITIONS

The enterprise-type unit

11. The enterprise is the smallest legal entity or family of legal entities that encloses 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 manages the property of the organization, enters into contracts, receives and disposes of its income and maintains separate bank accounts and an independant, complete set of accounting records, including profit-and-loss and balance sheet accounts. Non-operating (dormant) legal entities are not considered as being statistical units.

12. In the case of market economies the legal entity may be a corporation, trust, joint stock company, co-operative association, incorporated non-profit association (joint venture) partnership, individual proprietorship, or some other form of association. The family of legal entities consists of a group of entities which are 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. 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.

13. Common ownership in the case of a family of legal entities does not always need to be control 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 controled 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 which are owned by the same interest. Under these circumstances, families of legal entities may be defined as the group for which such statements are prepared.

14. A combine or trust may be made up of enterprises engaged in various stages in a chain of production or in the input of different classes 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.

15. 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 county, municipality or town) which plan, control

and manage the finances of all their constituent bodies collectively (e.g. ministries, departments, bureaux, agencies and offices).

The location-type unit

16. In some instances a single legal entity or family of legal entities may engage in more than one kind of economic activity at a single location or at two or more nearby sites. If the organization and record keeping practices of the enterprise are such that data in respect of the outputs and related inputs of the differing classes cannot be separately compiled or if the relevant statistics do not require such separate data, it will be necessary to use the local unit as the statistical unit. The local unit is then defined as all the economic activities carried on by an enterprise at or from a single physical location. Each enterprise by definition must have at least one local unit.

17. In several cases the enterprise may engage in economic activities at two or more nearby sites e.g. in the same municipality, township or similar restricted geographic areas and may not maintain complete records for each site. 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. In other words, all sites which are to be grouped into a single local unit should be located within the same mesh block.

The kind-of-activity type unit

18. Where the local unit results from a breakdown of an enterprise according to regional criteria, regardless of the economic activities carried out in the local unit, the kind-of-activity unit does the opposite. The kind-of-activity unit is therefore defined as the part of an enterprise which engages in one or predominantly one kind of economic activity without being restricted in respect of the geographic area in which that activity is carried out. Again, each enterprise by definition must have at least one kind-of-activity unit.

The establishment-type unit

19. The establishment is, ideally, a part of an enterprise which engages in one, or predominantly one, kind-of-activity at a single physical location, e.g. an individual farm, mine, factory, workshop, store or office. This ideal concept is applicable in most of the situations encountered in inquiries into agriculture, mining, manufacturing and services. In these situations, a single legal entity engages in one class of economic activity at a single physical location, i.e. in one contiguous area. Each enterprise, kind-of-activity unit and each local unit must have at least one establishment.

The technical unit

20. The technical unit is a section or department of the establishment which engages directly in the production of a class of the goods made, or services rendered, by an establishment, 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, i.e. those horizontally integrated in an establishment. 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 in an establishment.

The ancillary unit

21. 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 establishments. Generally speaking ancillary units owe their whole existance to the other activities of the enterprise.

APPLICATION AND CHOICE OF THE UNIT

The enterprise

22. In general it will be desirable to use the individual legal entities, or the equivalent, for some purposes and the families of legal entities, or the equivalent, for other purposes. Whether it will be feasible to use both types of enterprise units will largely depend on the ways in which businesses keep and summarize their accounts and are required to register with, and report to, government bodies.

23. 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.

24. 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. There may also be a number of formal financial links between the members of the group which are of little, if any, significance. 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.

25. In certain situations it will also be appropriate to use the family of legal entities as the statistical unit in compiling data on selected aspects of the production and receipt of income of enterprises. For example, some members of the families of legal entities may not actually engage in business

activities; they will have been established for reasons of convenience only. Or, many of the groups of legal entities may be highly integrated vertically or horizontally; and the subject of major interest may be production for sale on the market. Families of legal entities must of course be used in studies of the distribution and concentration of the ownership of business.

26. 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. Such information may be used to devise frames for purposes of the direct collection of data about families of legal entities.

27. The enterprise unit used, and the information on ties between these 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.

28. 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 are 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, services incidental to transport, or agricultural 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 wanted 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.

Splitting

29. Although the concept of a separate legal unit at a separate physical location has been used as one of the basic criteria for defining the statistical unit in integrated economic statistics, a number of modifications will be found necessary. One of these modifications involves splitting of enterprises and local units into two or more kind-of-activity units or establishments respectively. The rationale for this splitting has its origin in the desire to have statistical units which are relatively homogeneous in terms of activity. This desire is based, in turn, on the more fundamental aim

to form industries (aggregates of statistical units for which data are published) which are as homogeneous as possible in terms of activity. This aim tends to often conflict with another goal, i.e. to represent in statistical series as realistically as possible the industries as they are actually organized and structured. It is recommended to balance these two aims as well as possible for national as well as international statistics and to use the kind-of-activity unit and the establishment whenever the enterprise or the local unit are not homogeneous enough in terms of economic activity.

The local unit

30. If each of the various kinds of activity of a given local unit are substantial and are usually carried on in distinct establishments, or if most legal entities are in a position to report on the activities separately, efforts should be made to subdivide the local unit into statistical units which are comparable to the establishments which can be delineated in most instances.

The kind-of-activity unit

31. In the case of economic activities such as construction, transportation and communication, a single legal entity will carry on 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.

32. 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 on these activities.

33. 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; and interest in the classification of these series of data according to the geographic area or the size 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.

The establishment

34. The establishment as defined in para. 19 above is the most ideal statistical unit since it carries out only one activity at only one site. In practice, however, the ideal concept of the establishment cannot always be employed strictly.

35. 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 combination of activities and resources directed by a single owning or controlling entity toward 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. Where the establishment is used it should be defined identically in each case in order that the various series will be comparable.

36. Tying the sub-division of multi-activity legal entities into establishments to the availability of separate records and data results in most cases in establishments and local units which are co-extensive, one with the other. In other words, the records maintained usually do not permit the gathering of the required data on more homogeneous combinations of activities than is usually carried on by single legal entities at separate locations. This results in establishments which often embrace a range of related activities. In the case of very large local units which engage in a number of kinds of activity, efforts should be made to divide them into separate establishments so as to limit the range of activities covered under each unit to that usually included in distinct establishments.

37. It should be noted that the activity code (ISIC) of an establishment must be always the same as the kind-of-activity unit to which it belongs. However, it has not necessarily the same code as the local unit to which it belongs.

Technical units

38. The technical units of an establishment 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 classes of goods or services and the direct inputs of materials and labour into this output. The technical unit is therefore relevant to the construction of commodity classification schemes which detail the categories of industrial classification schemes such as the ISIC. The technical unit may furnish an appropriate basis for dividing the characteristic products of a given kind of economic activity into categories at the level of the community classification scheme where the groups of the industrial classification scheme are first subdivided.

Ancillary units

39. Strictly speaking, this type of unit does not fit within the hierarchy of statistical units as set out above. 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, establishment or technical unit and they do not account in determining the activity code for the other units. Under the definition given in para. 21 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 to 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 the product or service to others. If separate data are available on this activity, the unit should be regarded as a separate establishment; and should be classified to its own activity.

(iii) Units producing goods which become a physical part of the output of the parent unit, e.g. the making of boxes, tin cans or the like by a department of an enterprise, as packaging for its own products. As in the preceeding instances, the units engaged in these activities should, if separate data are available, be treated as separate establishments and be classified to their own activity.
If separate data are available, these units should be treated as separate establishments and be classified to their own activity category. It is characteristic of an ancillary activity that records making possible the delineation of a separate unit are not available. Where the only statistics missing is a measure of gross output, imputation by the respondent or the Statistical Office may be acceptable.

40. 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 parent units. Classification of these ancillary units may involve making distinctions according to function, and not kind of activity as in the ISIC.

41. If the ancillary activities are carried on for the benefit of a single statistical unit, 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 main 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.

42. Where ancillary activities are organized in support of two or more statistical units of a multi-unit enterprise, they constitute a central ancillary unit. If the required data can be supplied in respect of this unit, it might be treated as a separate unit. It should in general be classified to the same category of the ISIC as the predominant kind of activity of the units which it serves. Similarly, a large separately located ancillary unit for which the appropriate data may be gathered, might be treated as a separate statistical unit though it serves a single statistical unit only. As in the case of the central ancillary unit, it should be classified to the activity of the statistical unit which it serves. However, in both cases, i.e. the central ancillary unit and the large, separately located ancillary unit, classification of the units according to their own activities is not precluded for purposes of supplementary tabulations.

43. 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 has led to the provision of a special category for central administrative offices in the case of some national industrial classifications. The special category is included under the equivalent of the activities, business services, in the ISIC, or is provided for under manufacturing, wholesale and retail trade and perhaps under other major divisions of the national classification. In the second case, the central administrative office is classified to the special category under the major division in whch the predominant activities of the parent enterprise fall.

CLASSIFICATION OF STATISTICAL UNITS

44. The activity classification of each unit is determined by the group of the ISIC in which the primary activity, or class of activities, of the unit is included. Secondary and ancillary activities are usually disregarded when classifying a unit. The primary activities of the unit should in general be determined from the products which it sells or ships or the services which it renders to other units or consumers. Ideally, the principal products or services of the unit should be ascertained by reference to the value added to the products sold or services rendered. In practice, however, it is generally impossible to obtain this information for individual products or services. Thus it becomes necessary to adopt some other criterion which may be expected to give approximately the same results. It is therefore recommended that in most cases, the major kind of activity or class of activities, of units should 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. The major portion of the gross output of the unit should be accounted for by these goods or services. In cases where it is clear that this principle is not applicable, the major kinds of activity should be ascertained from the proportion of employment in these activities. This

situation will arise where the proportion of gross output accounted for by the value added in the establishment or kind-of-activity unit in question, differs considerably from one class of its end products to another.

45. Instances may arise where considerable proportions of the activities of a unit are included in more than one group of the ISIC. The number of such cases should be small since the scope of each of the groups corresponds to the combination of activities normally found in these units in the various countries of the world. 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 can not 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 only practical approach is to classify the unit in the group of ISIC in which are covered the goods or services which account for the preponderant part of its gross output. In many instances of vertical integration practically the only goods or services included in gross output will be the end products of the unit. Thus for example, a unit combining tree-felling with saw-milling would be classified to saw-milling; and a clay pit combined with a brickworks should be classified to brick making.

46. The classification of a multi-activity or local unit enterprise should in general be determined from the value added in its constituent units. Such unit should be classified to the division of the ISIC which covers the kinds of activity of the constituent units which account for the preponderant amount of value added. The use of this principle sets up as close links as is possible between the kinds of activity of their parent units. For example, in the case of establishments of the same enterprise which make up a vertical chain of production, it gives equivalent weight to establishments or kind-of-activity units 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.

47. If data are not available on the value added in 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 establishments or kind-of-activity units. Figures of the gross output of these units can be misleading concerning the relative importance of their kinds of activity. 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.