Chapter 5: Enterprises, establishments and industries

A. Introduction

5.1 Institutional units are defined in chapter 4. The present chapter is concerned with production activities and the units that undertake them, starting with institutional units and then considering parts of institutional units. ***An enterprise is the view of an institutional unit as a producer of goods and services.*** The term enterprise may refer to a corporation, a quasi-corporation, an NPI or an unincorporated enterprise. Since corporations and NPIs other than NPISHs are primarily set up to engage in production, the whole of their accounting information relates to production and associated accumulation activities. Government, households and NPISHs necessarily engage in consumption and may engage in production also; indeed government and NPISHs always engage in production and many, but not all, households do. As explained in chapter 4, whenever the necessary accounting information exists, the production activity of these units is separated from their other activities into a quasi-corporation. It is when this separation is not possible that an unincorporated enterprise exists within the government unit, household or NPISH. It is thus possible to define an unincorporated enterprise as follows. ***An unincorporated enterprise represents the production activity of a government unit, NPISH or household that cannot be treated as the production activity of a quasi-corporation.***

5.2 The majority of enterprises by number engages in only one sort of production. The majority of production, though, is carried out by a relatively small number of large corporations that undertake many different kinds of production, there being virtually no upper limit to the extent of diversity of production in a large enterprise. If enterprises are grouped together on the basis of their principal activities, at least some of the resulting groupings are likely to be very heterogeneous with respect to the type of production processes carried out and also the goods and services produced. Thus, for analyses of production in which the technology of production plays an important role, it is necessary to work with groups of producers that are engaged in essentially the same kind of production. This requirement means that some institutional units must be partitioned into smaller and more homogeneous units, which the SNA defines as establishments. ***An establishment is an enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added.*** Further, the SNA defines industries in terms of establishments. ***An industry consists of a group of establishments engaged in the same, or similar, kinds of activity.*** In the SNA, production accounts and generation of income accounts are compiled for industries as well as sectors.

5.3 This chapter first discusses productive activity and its classification in order to lay the ground for defining establishments and subsequently industries. All enterprises require some basic, routine services to support their production activities. When they are provided in house they are called ancillary activities. The recording of ancillary activities follows a number of conventions depending on exactly how they are provided. Ancillary activities are described in section D.

5.4 The definitions that emerge, as well as the underlying definitions of kinds of activities and of statistical units other than establishments, are consistent with the definitions in *ISIC, Rev. 4.* Any slight differences in wording between this chapter and the "Introduction" to the *ISIC* are noted and explained in the appropriate places below. Here and elsewhere reference is also made to the *CPC 2*, which is the classification of products used in the SNA.

B. Productive activities

5.5 Production in the SNA, as will be discussed in detail in chapter 6, consists of processes or activities carried out under the control and responsibility of institutional units that use inputs of labour, capital, goods and services to produce outputs of goods and services. Any such activity may be described, and classified, with reference to various characteristics, for example:

a. Type of goods or services produced as outputs,

b. Type of inputs used or consumed,

c. Technique of production employed,

d. Ways in which the outputs are used.

The same goods or services may be produced using different methods of production. Certain types of goods may be produced from quite different inputs; for example, sugar may be produced from sugar cane or from sugar beet, or electricity from coal, oil, nuclear power stations or from hydroelectric plants. Many production processes also produce joint products, such as meat and hides, whose uses are quite different.

1. The classification of activities in the SNA

5.6 The classification of production activities used in the SNA is *ISIC* (Rev.4). The criteria used in *ISIC* to delineate each of its four levels of the classification are complex. The structure consists of 21 Sections, 88 Divisions, 238 Groups and 419 Classes. At the Division and Group levels, substantial weight is placed on the nature of the good or service that is produced as the principal product of the activity in question by referring to the physical composition and stage of fabrication of the item and the needs served by the item. This criterion furnishes the basis for grouping producer units according to similarities in, and links between, the raw materials consumed and the sources of demand for the items. As well, two other major criteria are considered at these levels: the uses to which the goods and services are put, and the inputs, the process and the technology of production.

5.7 While it is not necessary for purposes of this chapter to explain the concept of an activity in any detail, it is necessary to clarify the fundamental distinction between principal and secondary activities on the one hand and ancillary activities on the other.

2. Principal and secondary activities

Principal activities

5.8 ***The principal activity of a producer unit is the activity whose value added exceeds that of any other activity carried out within the same unit.*** (The producer unit may be an enterprise or an establishment as defined below.) The classification of the principal activity is determined by reference to *ISIC*, first at the highest level of the classification and then at more detailed levels. The principal activity of an enterprise consists of the principal product and any by-products, that is, products necessarily produced together with principal products. The output of the principal activity must consist of goods or services that are capable of being delivered to other units even though they may be used for own consumption or own capital formation.

Secondary activities

5.9 ***A secondary activity is an activity carried out within a single producer unit in addition to the principal activity and whose output, like that of the principal activity, must be suitable for delivery outside the producer unit.*** The value added of a secondary activity must be less than that of the principal activity, by definition of the latter. The output of the secondary activity is a secondary product. Most producer units produce at least some secondary products.

3. Ancillary activities

5.10 As its name implies, an ancillary activity is incidental to the main activity of an enterprise. It facilitates the efficient running of the enterprise but does not normally result in goods and services that can be marketed. For enterprises that are relatively small and have only a single location, ancillary activities are not separately identified. For larger enterprises with multiple locations, it may be useful to treat ancillary activities in the same way as a secondary or even a principal product. A detailed discussion of the recording of ancillary activities is given in section D after the discussion on the recording of primary and secondary production is complete.

C. Partitioning enterprises into more homogeneous units

5.11 Although it is possible to classify enterprises according to their principal activities using the *ISIC* and to group them into “industries”, some of the resulting “industries” are likely to be very heterogeneous because some enterprises may have several secondary activities that are quite different from their principal activities. In order to obtain groups of producers whose activities are more homogeneous, enterprises have to be partitioned into smaller and more homogeneous units.

1. Types of production units

Kind-of-activity units

5.12 One way to partition an enterprise is by reference to activities. A unit resulting from such a partitioning is called a kind-of-activity unit (KAU). ***A kind-of-activity unit is an enterprise, or a part of an enterprise, that engages in only one kind of productive activity or in which the principal productive activity accounts for most of the value added.*** Each enterprise must, by definition, consist of one or more kind-of-activity units. When partitioned into two or more

kind-of-activity units, the resulting units must be more homogeneous with respect to output, cost structure and technology of production than the enterprise as a whole.

Local units

5.13 Enterprises often engage in productive activity at more than one location, and for some purposes it may be useful to partition them accordingly. Thus, ***a local unit is an enterprise, or a part of an enterprise, that engages in productive activity at or from one location.*** The definition has only one dimension in that it does not refer to the kind of activity that is carried out. Location may be interpreted according to the purpose, narrowly, such as a specific address, or more broadly, such as within a province, state, county, etc.

Establishments

5.14 The establishment combines both the kind-of-activity dimension and the locality dimension. ***An establishment is an enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added.*** Establishments are sometimes referred to as local kind-of activity units (local KAUs).

5.15 Although the definition of an establishment allows for the possibility that there may be one or more secondary activities carried out, they should be on a small scale compared with the principal activity. If a secondary activity within an enterprise is as important, or nearly as important, as the principal activity, then that activity should be treated as taking place within a separate establishment from that in which the principal activity takes place.

5.16 Thus, establishments are designed to be units that provide data that are more suitable for analyses of production in which the technology of production plays an important role. However, it may still be necessary to transform the resulting data subsequently for purposes of input-output analysis, as explained briefly below in describing the unit of homogeneous production and in more detail in chapter 28.

5.17 In practice, an establishment may usually be identified with an individual workplace in which a particular kind of productive activity is carried out: an individual farm, mine, quarry, factory, plant, shop, store, construction site, transport depot, airport, garage, bank, office, clinic, etc.

2. Data and accounts for establishments

5.18 The only data that can meaningfully be compiled for an establishment relate to its production activities. They include the following:

a. The items included in the production account and the generation of income account;

b. Statistics of numbers of employees, types of employees and hours worked;

c. Estimates of the stock of non-financial capital and natural resources used;

d. Estimates of changes in inventories and gross fixed capital formation undertaken.

5.19 The compilation of a production account and a generation of income account implies that it must be feasible to calculate output and intermediate consumption and thus value added and also compensation of employees, taxes on production and imports, subsidies and the operating surplus or mixed income. In principle, it must be feasible to collect at least the above kinds of statistics for an establishment, even if they may not always be available, or needed, in practice.

3. Application of the principles in specific situations

5.20 The application of the principles given above for partitioning an enterprise into establishments is not always straightforward. This section discusses several situations in which the organization of production is such that the application is particularly difficult.

Establishments within integrated enterprises

5.21 ***A horizontally integrated enterprise is one in which several different kinds of activities that produce different kinds of goods or services for sale on the market are carried out simultaneously using the same factors of production.*** This definition is consistent with *ISIC* Rev.4 which reads in part:

Horizontal integration occurs when an activity results in end-products with different characteristics. This could theoretically be interpreted as activities carried out simultaneously using the same factors of production. In this case, it will not be possible to separate them statistically into different processes, assign them to different units or generally provide separate data for these activities. Another example would be the production of electricity through a waste incineration process. The activity of waste disposal and the activity of electricity production cannot be separated in this case.

5.22 Within the SNA, a separate establishment should be identified for each different kind of activity wherever possible.

5.23 ***A vertically integrated enterprise is one in which different stages of production, which are usually carried out by different enterprises, are carried out in succession by different parts of the same enterprise.*** The output of one stage becomes an input into the next stage, only the output from the final stage being actually sold on the market. *ISIC* describes vertically integrated enterprises as follows:

Vertical integration of activities occurs where the different stages of production are carried out in succession by the same unit and where the output of one process serves as input to the next. Examples of common vertical integration include tree felling and subsequent on-site sawmilling, a

clay pit combined with a brickworks, or production of synthetic fibres in a textile mill.

5.24 In *ISIC* Rev.4, vertical integration should be treated like any other form of multiple activities. A unit with a vertically integrated chain of activities should be classified to the class corresponding to the principal activity within this chain, that is, to the activity accounting for the largest share of value added, as determined by the top-down method. This treatment has changed from previous versions of *ISIC*. It should be noted that the term "activity" in this context is used for each step in the production process that is defined in a separate *ISIC* class, even though the output of each step may not be intended for sale.

5.25 If value added or substitutes for the individual steps in a vertically integrated process cannot be determined directly from accounts maintained by the unit itself, comparisons with other units (for example, based on market prices for intermediate and final products) could be used. The same precautions for using substitutes as listed above apply here. If it is still impossible to determine the share of value added for the different stages in the chain of production activities, default assignments for typical forms of vertical integration can be applied. *The Companion Guide to ISIC and CPC* (United Nations (forthcoming)) provides a set of examples for such cases.

5.26 While the procedure for the treatment of vertically integrated activities could be applied to any unit, it should be noted that the SNA recommends that when a vertically integrated enterprise spans two or more sections of *ISIC*, at least one establishment must be distinguished within each section. With such a treatment, activities of units engaged in vertically integrated activities will not cross section boundaries of *ISIC*.

5.27 From an accounting point of view it can be difficult to partition a vertically integrated enterprise into establishments because values have to be imputed for the outputs from the earlier stages of production which are not actually sold on the market and which become intermediate inputs into later stages. Some of these enterprises may record the intra-enterprise deliveries at prices that reflect market values, but others may not. Even if adequate data are available on the costs incurred at each stage of production, it may be difficult to decide what is the appropriate way in which to allocate the operating surplus of the enterprise among the various stages. One possibility is that a uniform rate of operating surplus be applied to the costs incurred at each stage.

5.28 Despite the practical difficulties involved in partitioning vertically integrated enterprises into establishments, it is recommended in the SNA, as noted in the section of *ISIC* quoted above, that when a vertically integrated enterprise spans two or more sections of the *ISIC*, at least one establishment must be distinguished within each section. *ISIC* sections correspond to broad industry groups such as agriculture, fishing, mining and quarrying, manufacturing, etc.

Establishments owned by general government

5.29 Government units, especially central governments, may be particularly large and complex in terms of the kinds of activities in which they engage. The principles outlined above have to be applied consistently and systematically to government units. The procedures to be followed when dealing with the main kinds of producer units owned by government may be summarized as follows.

5.30 If an unincorporated enterprise of government is a market producer and there is sufficient information available to treat it as a quasi-corporation, it should be treated as a publicly controlled unit in the non-financial or financial corporations sectors as appropriate. The usual conventions about distinguishing different establishments within the quasi-corporation apply.

5.31 An example of an unincorporated market enterprise that can be treated as a quasi-corporation is a municipal swimming pool that is independently managed and whose accounts permit its income, saving and capital to be measured separately from government so that flows of income, or capital, between the unit and government can be identified.

5.32 If an unincorporated enterprise of government is a market producer and there is insufficient information to treat it as a quasi-corporation, or if the unincorporated enterprise is a non-market producer, then it remains within the general government sector but it should be treated as an establishment in its own right and allocated to the appropriate industry.

5.33 Non-market producers such as public administration, defence, health and education providing final goods or services should be partitioned into establishments using the activity classification given in Sections O, P and Q of *ISIC Rev. 4*. Agencies of central government may be dispersed over the country as a whole in which case it will be necessary to distinguish different establishments for activities that are carried out in different locations.

5.34 When a government agency supplies goods to other government agencies it should be treated as a separate establishment and classified under the appropriate heading of *ISIC*. This applies to the production of munitions or weapons, printed documents or stationery, roads or other structures, etc. A government that produces its own weapons to supply to its own armed forces is, in effect, a vertically integrated enterprise that spans two or more sections of *ISIC*. Therefore, at least one separate establishment should be distinguished in each heading. The same argument applies to a government printing office and other goods producers owned by government.

D. Ancillary activities

5.35 As noted in section B, ancillary activities require special consideration because of the different ways of recording that are recommended depending on circumstances. As a preliminary step, though, it is as well to review exactly what is meant by an ancillary activity. Essentially, they are the basic services that every enterprise needs to have in order to operate effectively. The sorts of services referred to include keeping records, files or accounts in written form or on computers; providing electronic and traditional written communication facilities; purchasing materials and equipment; hiring, training, managing and paying employees; storing materials or equipment: warehousing; transporting goods or persons inside or outside the producer unit; promoting sales; cleaning and maintenance of buildings and other structures; repairing and servicing machinery and equipment; and providing security and surveillance.

5.36 These types of services can be produced in house or can be purchased on the market from specialist service producers though, in practice, the requisite services may not be readily available in the right quantities on local markets. When the services are produced in house, they are termed ancillary activities. ***An ancillary activity is a supporting activity undertaken within an enterprise in order to create the conditions within which the principal or secondary activities can be carried out.*** In addition, ancillary activities have certain common characteristics related to their output. These additional characteristics include:

a. The output of an ancillary activity is not intended for use outside the enterprise.

b. Ancillary activities typically produce outputs that are commonly found as inputs into almost any kind of productive activity;

c. Ancillary activities produce services (and, as exceptions, goods that do not become a physical part of the output of the principal or secondary activity) as output;

d. The value of ancillary activity output is likely to be small compared with that of the principal or secondary activities of an enterprise.

5.37 The defining characteristics that ancillary activities support the principal and secondary activities of an enterprise and are used within the enterprise are by no means sufficient to identify an ancillary activity. There are many kinds of activities whose outputs are entirely consumed within the same enterprise but which could not possibly be considered as ancillary. Goods are not commonly used as inputs in the same way as services such as accounting, transportation or cleaning. For example, an enterprise may produce milk, all of which is processed into butter or cheese within the same enterprise. However, milk production cannot be considered an ancillary activity, because milk is a particular kind of input found only in special types of productive activity. In general, goods that become embodied in the output of the principal or secondary activities are not outputs of ancillary activities.

5.38 Certain activities, although common, are not so common as to be considered ancillary. Many enterprises produce their own machinery and equipment, build their own structures and carry out their own research and development. These activities are not to be treated as ancillary, whether carried out centrally or not, as they are not found frequently and extensively in all kinds of enterprises, small as well as large.

Recording (or not) the output of ancillary activities

5.39 An ancillary activity is not undertaken for its own sake but purely in order to provide supporting services for the principal or secondary activities with which it is associated. If all the ancillary activity is undertaken in the establishment where its output is used, the ancillary activity is regarded as an integral part of the principal or secondary activities with which it is associated. As a result:

a. The output of an ancillary activity is not explicitly recognized and recorded separately in the SNA. It follows that the use of this output is also not recorded.

b. All the inputs consumed by an ancillary activity, materials, labour, consumption of fixed capital, etc., are treated as inputs into the principal or secondary activity that it supports.

In this case it is not possible to identify the value added of an ancillary activity because that value added is combined with the value added of the principal or secondary activity.

5.40 When the production of an enterprise takes place in two or more different establishments, certain ancillary activities may be carried out centrally for the benefit of all the establishments collectively. For example, the purchasing, sales, accounts, computing, maintenance or other departments of an enterprise may all be the responsibility of a head office located separately from the establishments in which the principal or secondary activities of the enterprise are carried out.

5.41 If an establishment undertaking purely ancillary activities is statistically observable, in that separate accounts for the production it undertakes are readily available, or if it is in a geographically different location from the establishments it serves, it may be desirable and useful to consider it as a separate unit and allocate it to the industrial classification corresponding to its principal activity. However, it is recommended that statisticians do not make extraordinary efforts to create separate establishments for these activities artificially in the absence of suitable basic data being available.

5.42 When such a unit is recognized, the ancillary activity is recognized as a primary output. The value of its output should be derived on a sum of costs basis, including the cost of the capital used in the unit. The output will be deemed to be non-market output when the parent enterprise is a non-market enterprise and market otherwise. If the output is treated as non-market, the cost of capital should

be replaced by the consumption of fixed capital when summing costs to determine the value of output. The output of the ancillary unit is treated as intermediate consumption of the establishments it serves and should be allocated across them using an appropriate indicator such as the output, value added or employment of these establishments.

5.43 It is appropriate to treat specialized agencies serving central government as a whole, for example, computer or communications agencies, which tend to be large, as separate establishments.

5.44 Even when an ancillary activity is undertaken in the establishment where it is used, it may grow to the point that it has the capacity to provide services outside the enterprise. For example, a computer processing unit may develop in-house capabilities for which there is an outside demand. When an activity starts to provide a proportion of its services to outsiders, the part of the output that is sold has to be treated as secondary rather than ancillary output.

The role of ancillary activities in the SNA

5.45 The production accounts of the SNA do not provide comprehensive information about the production of services treated in some cases as ancillary services. It is therefore difficult to obtain information about their role in the economy. For example, it is difficult to know how much output is produced, how many persons are engaged in such activities, how many resources are consumed, etc. This may be regarded as a serious disadvantage for certain purposes, such as analysing the impact of "information technology" on productivity when the processing and communication of information are typical ancillary activities or when looking at the role of freight transport. For some purposes, a satellite account may be compiled that makes estimates of all activities of a certain type regardless of whether they are ancillary or not. The overall measure of value added does not alter because both output and intermediate consumption increase by the same amount but a more inclusive picture of the role of the activity in the economy can be obtained. There is a discussion on the role of satellite accounts in chapter 29.

E. Industries

5.46 Industries are defined in the SNA in the same way as in *ISIC*: ***an industry consists of a group of establishments engaged in the same, or similar, kinds of activity.*** At the most detailed level of classification, an industry consists of all the establishments falling within a single Class of *ISIC*. At higher levels of aggregation corresponding to the Groups, Divisions and, ultimately, Sections of the *ISIC*, industries consist of a number of establishments engaged on similar types of activities.

1. Market, own account and non-market producers

5.47 The term "industry" is not reserved for market producers. An industry, as defined in the *ISIC* and in the SNA, consists of a number of establishments engaged in the same type of production, whether the institutional units to which they belong are market producers or not. The distinction between market and other production is a different dimension of production and economic activity. For example, the health industry in a particular country may consist of a number of establishments, some of which are market producers while others are non-market producers. Because the distinction between market and other kinds of production is based on a different criterion from the nature of activity itself, it is possible to cross-classify establishments by type of activity and by whether they are market producers, non-market producers or producers for own final use.

2. Industries and products

5.48 As already mentioned, a one-to-one correspondence does not exist between activities and products and hence between industries and products. Certain activities produce more than one product simultaneously, while the same product may sometimes be produced by using different techniques of production.

5.49 When two or more products are produced simultaneously by a single productive activity they are "joint products". Examples of joint products are meat and hides produced by slaughtering animals or sugar and molasses produced by refining sugar canes. The by-product from one activity may also be produced by other activities, but there are examples of by-products, such as molasses, that are produced exclusively as the by-products of one particular activity.

5.50 The relationship between an activity and a product classification is exemplified by that between the *ISIC* and the *CPC*. The *CPC* is a classification based on the physical characteristics of goods or on the nature of the services rendered, while the *ISIC* also takes into account the inputs in the production process and the technology used in the production process. In the development of the *CPC*, it is intended that each good or service distinguished in the *CPC* is defined in such a way that it is normally produced by only one activity as defined in *ISIC*. However, due to different types of criteria employed, this is not always possible. An example would be the product of mushrooms, which can be produced by controlled growing, that is, an activity classified in Agriculture in *ISIC*, or by simply gathering wild growing mushrooms, an activity classified in Forestry. More detailed national classifications may distinguish different forms of energy production in *ISIC*, based on different technologies, resulting in separate activities for the operation of hydroelectric power plants, nuclear power plants etc. The output of all these activities, however, would be the single product electricity.

5.51 Conversely, each activity of the *ISIC*, no matter how narrowly defined, will tend to produce a number of products as defined in the *CPC*, although they are often clustered within the *CPC* structure and could be perceived as one "type" of product. As far as practically possible, an attempt is made to establish a correspondence between the two classifications, by allocating to each category of the *CPC* a reference to the *ISIC* class in which the good or service is mainly produced. However, due to the reasons outlined above, this typically does not result in a one-to-one correspondence. The majority of links between *ISIC* and *CPC* will tend to be one-to-many links, with a few cases requiring many-to-one links. It is possible to force this correspondence into a stricter relationship by selecting one link out of the many-to-one correspondence. This selection may facilitate data conversion, but is not a real description of the link between the two classifications.

F. Units of homogeneous production

5.52 In most fields of statistics the choice of statistical unit, and methodology used, are strongly influenced by the purposes for which the resulting statistics are to be used. For purposes of input-output analysis, the optimal situation would be one in which each producer unit were engaged in only a single productive activity so that an industry could be formed by grouping together all the units engaged in a particular type of production without the intrusion of any secondary activities. Such a unit is called a "unit of homogeneous production".

5.53 Although the unit of homogeneous production may be the optimal unit for purposes of certain kinds of analysis, particularly input-output analysis, it may not be possible to collect directly from the enterprise or establishment the accounting data corresponding to units of homogeneous production. Such data may have to be estimated subsequently by transforming the data supplied by enterprises on the basis of various assumptions or hypotheses. Units that are constructed by statistical manipulation of the data collected by the agency are called analytical units.

5.54 If a producer unit carries out a principal activity and also one or more secondary activities, it will be partitioned into the same number of units of homogeneous production. If it is desired to compile production accounts and input-output tables by region, it is necessary to treat units of homogeneous production located in different places as separate units even though they may be engaged in the same activity and belong to the same institutional unit.

5.55 Chapter 28 discusses the estimation of analytical units for use in an input-output context.