PART II
SBR DESIGN
Part II of the Guidelines builds on the conceptual and methodological framework described in Part I, in particular the basic SBR objectives and components outlined in Chapter 5. Part II is divided into three parts as follows:

- Part II-A concerns SBR coverage, content, and inputs;
- Part II-B concerns SBR outputs and output functions; and
- Part II-C concerns SBR organization, systems, and quality management.

In combination they present a prescriptive design framework summarized in Figure II-A as the basis for the development, construction, and implementation of an SBR, as discussed in Part III.

Within this framework, an NSO needs to formulate its own design, taking into account its own particular circumstances. For example, an NSO with limited resources in a country with a small economy may decide not to profile large businesses, or not to produce business statistics direct from the SBR. General factors to be taken into account in the design include the following:

- the number and type of surveys for which the SBR will provide frames – affecting the choice of economic units model, the coverage and content of the SBR, and the overall scale of the SBR in terms of human resources and systems;
- the number of enterprises in the SBR – affecting the overall scale of the SBR;
- the number, distribution, and impact of large complex enterprises – determining the proportion of SBR resources allocated to profiling;
- the human (statistical, methodological, clerical, IT) resources available – affecting the overall scale and complexity of the SBR;
- the computing resources (network, databases) available – affecting the overall scale and complexity of the SBR; and
- the scope/for and/or need to develop the SBR as a combination of regional registers – affecting the data acquisition procedures and storage and transmission requirements.

**FIGURE II-A: PRIMARY SBR INPUT AND OUTPUT FUNCTIONS**

<table>
<thead>
<tr>
<th>Administrative processes</th>
<th>NSO direct data collections</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Examples) VAT registrations and transactions</td>
<td>Business surveys</td>
</tr>
<tr>
<td>Income tax transactions</td>
<td>SBR improvement survey</td>
</tr>
<tr>
<td>Payroll deductions</td>
<td>SBR profiling</td>
</tr>
<tr>
<td>Automated* SBR update from admin data sources</td>
<td>SBR ad hoc investigations</td>
</tr>
<tr>
<td>Summarize enterprise reporting status</td>
<td>Manual SBR update using directly collected data</td>
</tr>
<tr>
<td>Compile total respondent burden</td>
<td>Compile and publish business statistics</td>
</tr>
<tr>
<td></td>
<td>Generate SBR quality &amp; performance reports</td>
</tr>
<tr>
<td></td>
<td>Produce survey files</td>
</tr>
</tbody>
</table>

* with manual verification options
PART II-A
SBR DESIGN – COVERAGE, CONTENT, AND INPUTS
6 • SPECIFICATION OF SBR UNITS

6.1 INTRODUCTORY REMARKS

This chapter deals with specification of the economic units model on which the SBR is based and decisions regarding the statistical coverage of the SBR.

As discussed in Section 3.2, the SBR economic units model includes definitions of the unit types of relevance to the SBR and their interrelationships, and of the populations and various subpopulations of these units that are used during the conduct of a survey. In addition to the standard statistical units (SSUs), the model includes the real economic world units (legal, organizational, and administrative units) associated with businesses, and the sampling and observation units associated with survey design. The model is a core element of SBR design. In developing the model, the aim is to include all relevant unit types and no superfluous ones.

6.2 SPECIFICATION OF STANDARD STATISTICAL UNITS

General approach

The core of the economic units model is the statistical units model comprising the set of standard statistical units (SSUs). The reason for having more than one standard statistical unit is to be able to subdivide data from large complex enterprises by economic activity and by region.

As noted in Section 3.2, there is no universally adopted international SSUs model. An NSO needs to define its own SSUs, or adopt those defined by another NSO. The optimum choice of SSUs depends upon the particular situation in the country – the surveys being conducted, the sophistication of national accounts’ compilation, the number and significance of large complex enterprises, the capacity of the NSO, and, to a minor extent, the choice of administrative sources.

An important step in selecting an appropriate model is to review the SSUs defined and used by other NSOs. The review should cover (at least) two groups of NSOs:

- well-developed NSOs like Statistics Canada and the Australian Bureau of Statistics – the aim of the review being to get an idea of what sort of model is needed in a complex economy, and how it can be implemented given considerable resources; and

- NSOs in countries that have a similar economic situation and level of resources and that have developed a model of their own – the aim being to get an idea of what is practical given the resources available, but not necessarily optimal.

The key principle in choosing an SSUs model is that it should be as simple as possible whilst providing detail sufficient to meet user needs. There are three reasons for simplicity:

1. The high cost of defining the smaller producing units into which enterprises are to be partitioned;

2. The high cost of building, partitioning and maintaining an SBR database that is capable of supporting the data associated with a complex model;

3. The possibility that enterprises may not maintain the records needed to provide data for smaller producing units.

The simplest model of all is to define a single standard statistical unit – an enterprise – without any partitioning at all. Then, when collecting data from a large complex enterprise, to ask it to report data broken down by kind of economic activity and location. In effect, this is asking the enterprise to make its own breakdown of its activities.
without providing guidance on how to do this. It does not generally work well, as enterprises cannot be expected to understand the breakdown that is required. On the other hand, for an NSO that is developing its SBR for the first time in a country that does not have many large complex businesses, this may be the most appropriate approach.

Recommended SSUs model

In the absence of strong reasons to the contrary, a good choice for the SSUs model is one loosely based on the EC regulation, comprising just three hierarchically organized standard statistical units, as illustrated in Figure 6.1.

- **Enterprise Group**: comprising one or more enterprises; required to handle the sort of complex inter-corporate ownership and control situations found in countries with modern developed economies. This unit is not currently needed for most African countries at their current stages of development but is included in the model to ensure that the model can cope with a future situation in which the economy has become more complex.

- **Enterprise**: the core standard statistical unit defined as legal or natural person engaged in economic production, in accordance with SNA 2008. (In certain circumstances it may be appropriate to refine the definition of enterprise to that of the smallest combination of legal units that is an organizational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources, but this is not recommended in these Guidelines.)

- **Establishment** – the breakdown of an enterprise by economic activity and/or location as required; only required for large complex enterprises.

It should be emphasized that in almost every country, whatever model is chosen, the number of enterprises that are sufficiently large and complex to require partitioning into smaller statistical units and/or grouping into enterprise groups, is likely to be quite small. In other words, for the vast majority of enterprises, the enterprise comprises a single establishment and is the only member of the enterprise group to which it belongs. However, although small in number, large, complex enterprises may jointly account for a significant proportion of overall economic activity and employment, and this justifies their partitioning.

6.3 SPECIFICATION OF SBR ECONOMIC UNITS MODEL

**General approach**

Given the choice and definition of the SSUs, the first step in completing the economic units model is identification and definition of the real economic world units (legal, operating and administrative units) on the basis of which the SSUs will be identified as well as the inter-relationships with one another and with the SSUs. The goal is to determine how the SSUs relate to, and can be created from, the legal, operating, and administrative units.

The second step is to specify how the SSUs will be used in defining survey target populations, in creating survey frames, in sampling, and in creating the survey observation units.

**FIGURE 6.1: RECOMMENDED STATISTICAL UNITS MODEL**
The ultimate goal is a comprehensive economic units model containing all the types of units relevant to the creation and use of survey frames.

Whilst it is not possible to specify in detail a model that would be entirely appropriate for all countries, Figure 6.2 and the following text provide the model recommended in these Guidelines and a framework to guide model formulation by NSOs.

**Recommended economic units model**

The economic units model recommended in these Guidelines is based on models developed by Statistics South Africa and the Ethiopian Central Statistical Office. The elements of the model and some of the interrelationships between various types of units are shown in Figure 6.2.

The units are organized in three groups:

- **organizational (legal and operational) units** – comprising legal units and groups of legal units that own and control businesses and operational units that businesses create for their own purposes, independently of administrative regulations and statistical requirements;
- **administrative units** – comprising the types of units that businesses create in response to administrative regulations in order to comply with those regulations; and
- **statistical units** – the SSUs created by the NSO itself for the purpose of collecting data from businesses.

Data about the organizational and administrative units associated with businesses form the basis for identifying the SSUs. It is therefore vital that these units and their relationships to one another be well defined.

### 6.4 LEGAL UNITS

In the recommended model, the basic building-block is the legal unit. A legal unit is a **legal** (or **juridical** person or a **natural person**. A **legal person** is a unit whose existence is recognized by law independently of the individuals or institutions that may own it, or are members of it.

---

**Figure 6.2: Recommended Model for Organizational, Administrative, and Statistical Units**
Thus defined, a legal unit is equivalent to the SNA 2008 notion of *institutional unit*, except that the latter includes households containing natural persons rather than individual natural persons.

It is also close to the ESS Units Regulation, which defines a legal unit as a *legal person or a natural person who is engaged in an economic activity in their own right*. This ESS definition makes explicit that the only natural persons of interest are those with economic production.

In the recommended model, a slightly different view is taken, namely that, from the perspective of economic production and the SBR, the legal units of interest – termed *active* legal units – are those that:

- are conducting economic production activities; or
- have indicated an intention to conduct economic production activities; or
- have recently conducted economic production activities.

Legal units are the core concept in the model in the sense that they:

- create the operational units by which they manage themselves;
- register administrative units in response to administrative requirements; and
- have production activities that are modeled in terms of standard statistical units in the SBR.

A *business* is defined as a legal unit engaged in commercial economic production. The focus of the SBR is typically businesses, but it may include other legal units, for example general government units.

### 6.5 RELATIONSHIP OF LEGAL UNITS TO ENTERPRISES

In the Guidelines model, legal units and enterprises are defined to be in one-to-one correspondence, in the sense that there is one and only one legal unit per enterprise. This is simple and easy to operationalize. It is also consistent with the SNA, which defines an institutional unit as an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities.

It is different from ESS Statistical Units Regulation, which defines an enterprise as the smallest combination of legal units that is an organizational unit producing goods or services which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources.

The ESS Units Regulation definition is aimed at dealing with more complex ownership and control situations. The following examples illustrate how the ESS model and the Guidelines model deal with two such situations.

**Example 1**

Legal unit A has bought the assets of and controls legal units B, C, and D and it operates them as divisions X, Y, and Z of its business, each of which produces a particular range of goods or services sold on the market. Units B, C, and D do not have sufficient autonomy to be capable of separately reporting their assets and liabilities, however they have retained their separate legal identities and file tax returns indicating nominal assets (say $1)

### FIGURE 6.3: BUSINESS OWNERSHIP EXAMPLE 1

[Diagram showing the ownership structure with Head Office (Legal Unit A) at the top, Division X (Legal Unit B), Division Y (Legal Unit C), and Division Z (Legal Unit D) below.]
and no income. This sort of situation, which is common in South Africa (where it is referred to as divisionalization), is illustrated in Figure 6.3.

- According to the ESS model, there is only one enterprise and it comprises four legal units (A, B, C, and D in combination) and has four establishments (corresponding to the head office and the three divisions).

- In the Guidelines model, there are four enterprises. The enterprise corresponding to legal unit A is active and has four establishments. The enterprises corresponding to units B, C, and D are treated as inactive.

**Example 2**

Figure 6.4 illustrates another example where legal unit A owns and controls three legal units B, C, and D. In this case, legal unit B provides computing services to the other units and has no market production; legal unit C provides labor for the legal units B and D and has no market production; and legal unit D has market production, buying computing services from legal unit B and employment services from legal unit C. Legal units B, C, and D do not have sufficient autonomy to be capable of separately reporting their assets and liabilities.

- According to the ESS model, there is only one enterprise and it comprises four legal units (A, B, C, and D in combination) and has two establishments (corresponding to the head office and the production unit) and two ancillary units.

- In the Guidelines model, there are four enterprises. The enterprises corresponding to legal unit A is active and has two establishments (corresponding to the head office and the production unit). The enterprises corresponding to units B, C, and D are treated as inactive.

**Example 3**

Figure 6.5 shows an example where legal units C and D operate autonomously. They are owned by legal unit B, which is a holding company with no productive activities and which is owned by legal unit A. Legal unit A has production activities of its own.

- According to the ESS model, there are three enterprises, one corresponding to legal unit C, one to legal unit D, and one to legal units A and B in combination.

- In the Guidelines model, there are four enterprises, one for each legal unit, but the enterprise corresponding to legal unit B is inactive.

Each NSO has to make its own decision regarding the appropriate relationship between legal units and enterprises, but in the absence of compelling reasons to the contrary, the simplicity of defining legal units and enterprises to be in one-to-one correspondence is recommended.

### 6.6 Administrative Units

Whilst the legal unit is the core unit type in the model, and whilst there are lists of corporations and registered partnerships, there is never any readily available and complete list of active legal units that can be used as a source for the SBR. Rather there are lists of operational and administrative units. Administrative units are used as surrogates for legal units in constructing SBR enterprises, while organizational units are the basis for subdividing large, complex enterprises into establishments.
Administrative units may be in one-to-one correspondence with legal units, or there may be more than one administrative unit associated with a legal unit, depending upon the particular administrative source.

- For example, in the case that the source is income tax, the corresponding tax regulation typically requires each legal unit to submit one and only one tax return for each reference period. Thus the income tax unit and the legal unit are in one-to-one correspondence.

- On the other hand, in the case of a payroll deduction (pay as you earn) source, the regulation may well allow a business person to divide the employees for whom it is making deductions into several different groups, each of which has a separate payroll deduction unit. In this case there may be more than one payroll deduction unit per legal unit and hence per enterprise.

There are very few situations in which an administrative unit corresponds to more than one legal unit. The reason is the government organization responsible for administering the regulation needs to know unambiguously which legal unit is responsible for fulfilling the requirements of the regulation. A rare exception occurs in countries where a consolidated income tax return from a conglomerate of companies is permitted.

The model developed by Statistics South Africa (see Figure 3.2) shows the administrative sources from which data may be drawn to update the SBR. The primary administrative source is VAT, which is used in automatic updating of coverage and content. Income tax is also a source for automated update of SBR content, but is not used to expand coverage. Data from four other administrative sources may be reviewed manually as required but not used for automated updating of the SBR.

In Ethiopia, there is a single administrative process for registering tax payers for all tax streams. This means that when the Central Statistical Office develops its SBR, it will be able to use all types of tax data in combination to create and maintain SBR coverage and content. In addition there is a licensing regulation (the Commercial Registration Proclamation for business persons and branch offices) which also uses the tax identification system and hence constitutes another administrative source that can be exploited for coverage and content.

In order to be as practical as possible, an assumption is made in the Guidelines model (Figure 6.2) that three particular types of administrative sources are available, namely income tax, value added tax (or equivalently goods and service tax), and some form of employer-based administrative source, which could be payroll deduction (often called pay-as-you-earn) or unemployment insurance. In adapting the model to the particular circumstances of a country, the types of administrative source that do not exist, or that exist but

**FIGURE 6.5: BUSINESS OWNERSHIP EXAMPLE 3**

- Head Office (Legal Unit A)
- Holding Company (Legal Unit B)
- Operating Company (Legal Unit C)
- Operating Company (Legal Unit D)
are not used in the SBR, should be removed, and other administrative sources should be added, as appropriate.

6.7 ORGANIZATIONAL UNITS

Organizational units are the units into which, and by means of which, businesses and other economic producers organize themselves. In essence there are two types of organizational units:

- **legal units and groups of legal units** linked by ownership and control; and

- **operational units**, which, for the purpose of the model, are classified into two types – divisions and local units.

Divisions are typically created for different types of production, for example a manufacturing division and a wholesaling division. Local units are individual workplaces at a single location, such as a farm, mine, quarry, factory, plant, shop, store, construction site, transport depot, airport, garage, bank, office, or clinic.

These organizational units are the basis for grouping enterprises into enterprise groups and partitioning enterprises into establishments.

6.8 DEFINITIONS OF UNITS IN RECOMMENDED MODEL

Figure 6.6 contains definitions and descriptions of all units in the model recommended in these Guidelines. (The Glossary in Annex B contains definitions of all the terms used in the Guidelines.)

**FIGURE 6.6: DEFINITIONS AND DESCRIPTIONS OF ALL UNITS IN RECOMMENDED GUIDELINES MODEL**

<table>
<thead>
<tr>
<th>LEGAL UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
</tr>
<tr>
<td><strong>Unit type</strong></td>
</tr>
<tr>
<td><strong>Identification Scheme</strong></td>
</tr>
<tr>
<td><strong>Enumeration</strong></td>
</tr>
</tbody>
</table>
**INTER-CORPORATE OWNERSHIP GROUP**

<table>
<thead>
<tr>
<th>Definition</th>
<th>Inter-corporate ownership group is a collection of legal persons hierarchically linked to one another by ownership and/or control.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit type</td>
<td>Legal.</td>
</tr>
<tr>
<td>Identification Scheme</td>
<td>There is typically no identification scheme.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Through profiling.</td>
</tr>
</tbody>
</table>
| Remarks    | Typically some of the legal persons in an inter-corporate ownership group are holding companies that have no productive activities of their own but that own active companies.  
Inter-corporate ownership groups are of enormous significance in developed countries. However, there are few (possibly no) such groups presently in many African countries. The inclusion of an inter-corporate ownership group in the Guidelines units model anticipates that, as an economy expands and ownership structures become more complex, such groups will come into existence and play a significant role. |
DIVISION

**Definition**

*A division* is an operational unit defined by a legal unit for the purpose of managing its production activities by partitioning them.

**Unit type**

Operational.

**Identification scheme**

Individual to each legal unit.

**Enumeration**

Divisions are identified through profiling, but only for large, complex enterprises.

**Remarks**

A division is an operational unit defined by the business itself for its own purposes, not in response to administrative requirements.

A division typically has a certain degree of autonomy in the way it conducts its activities.

Typically, different divisions are engaged in different economic activities. For example, an enterprise might have a manufacturing division and transportation division.

Two or more divisions are an indication of two or more establishments.

LOCAL UNIT

**Definition**

*A local unit* is the smallest type of unit that an enterprise identifies for the purpose of managing its activities geographically.

**Unit type**

Business operational.

**Identification Scheme**

Individual to each legal unit.

**Enumeration**

Local units are identified through profiling, but only for large, complex enterprises.

**Remarks**

In the Guidelines model, a local unit is not a standard statistical unit type. It is a unit defined by a legal unit.

A local unit may be a head office, branch office, plant, sales outlet, service point, etc. It may be at a single physical location (set of premises) or several close locations.

Local units that help in defining appropriate reporting units can be identified for surveys. Listing the local units of a large enterprise is a starting point for ensuring that all productive activities of the enterprise are included within the establishments that are defined.

A branch and local unit may be coincident. Having branches and local units as separate unit types enables branch data to be retained in the SBR when investigations identify local units that are not branches.
## INCOME TAX UNIT

**Definition**
An *income tax unit* is an administrative unit created by a legal unit and maintained by the National Tax Office, reflecting the obligation of an active legal unit to pay income tax.

**Unit type**
Administrative.

**Identification Scheme**
The income tax unit identification number is assigned by the National Tax Office. The National Tax Office may or may not maintain a general purpose taxpayer identification number. If it does so, the income tax number will likely be linked to it.

**Enumeration**
The list of income tax units is maintained by the National Tax Office.

**Remarks**
In most countries a legal unit has one and only one income tax account. In some countries an income tax account can be shared by two or more business persons, i.e., a consolidated tax return is permitted. All business persons can be assumed to have income tax obligations, thus income tax units likely provide broader coverage of business persons than VAT account units. However, VAT account units may include active legal units that are not business persons. Income tax transaction data provide size measures that are useful in the absence of more current VAT account based size measures.

## VAT UNIT

**Definition**
A *VAT unit* is an administrative unit belonging to a legal unit and registered under VAT legislation with the National Tax Office.

**Unit type**
Administrative.

**Identification Scheme**
Identification is assigned by the National Tax Office during the course of VAT registration process. The National Tax Office may or may not maintain a general purpose taxpayer identification number. If it does so, the VAT account number will likely be linked to it.

**Enumeration**
The list of VAT units is maintained by the National Tax Office.

**Remarks**
A VAT account refers to a legal unit that has registered to pay VAT. Typically, a legal unit may have more than one VAT account; and a VAT account belongs to a single legal unit and cannot be shared by two or more legal units.

Having a recent VAT transaction is evidence that a legal unit is active.

The set of legal units with VAT accounts is typically smaller than the set of legal units paying income tax. Thus VAT account units do not provide much additional coverage of active legal units to that provided by income tax units. However, VAT transaction data are a better source of current activity status and size.
## EMPLOYER ACCOUNT UNIT

<table>
<thead>
<tr>
<th>Definition</th>
<th>An employer account unit is an administrative unit of an employing legal unit that is required to make deductions or remittances on behalf of employees.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit type</td>
<td>Administrative.</td>
</tr>
<tr>
<td>Identification Scheme</td>
<td>Depends upon the administrative agency.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>The list of employer account units is maintained by the corresponding administrative agency, as noted in the paragraph below.</td>
</tr>
<tr>
<td>Remarks</td>
<td>There are two important and quite different types of employer account unit. The first is an employer payroll deduction (also called pay-as-you-earn) unit, which is required to make deductions from employees’ income for income tax purposes and to remit the deductions to the National Tax Office. The second is an employer unemployment insurance unit, which is required to make deductions and to contribute to unemployment insurance payments, and to remit to the government agency responsible for unemployment insurance.</td>
</tr>
</tbody>
</table>

## OTHER ADMINISTRATIVE UNIT

<table>
<thead>
<tr>
<th>Definition</th>
<th>Not a specific unit, rather a place holder for any other administrative unit of significance to a NSO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit type</td>
<td>Administrative.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>The list of administrative units is maintained by the corresponding administrative source.</td>
</tr>
<tr>
<td>Identification Scheme</td>
<td>Depends upon the administrative source.</td>
</tr>
<tr>
<td>Remarks</td>
<td>In application of the model to be replaced by an actual administrative source.</td>
</tr>
</tbody>
</table>
## Enterprise

<table>
<thead>
<tr>
<th>Definition</th>
<th>An enterprise is a unit created by the SBR to represent a legal unit in its role as actual or potential economic producer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit type</td>
<td>Statistical.</td>
</tr>
<tr>
<td>Identification Scheme</td>
<td>Decided by the SBR.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>By the SBR using data from the administrative source(s) and from direct collection, i.e., profiling, SBR improvement survey, business survey feedback, and other investigation.</td>
</tr>
<tr>
<td>Remarks</td>
<td>By definition and construction an active legal unit can have only one enterprise, and an enterprise can belong to at most one active legal unit. The primary focus of the SBR is enterprises belonging to legal units that are businesses. However, the SBR may contain enterprises belonging to legal units that are not businesses, for example government departments. The inclusion of enterprises for legal units that are not active, only potentially active, or that have ceased activity is a deviation from the SNA. (The SNA requires an institutional unit to have economic production in order to be an enterprise.) The deviation is required in order to take into account legal units that (1) have indicated an intention to be active, for example by registering an administrative unit, or (2) have ceased activity but have not given up legal status and still have active administrative units. The activity statuses of the enterprises corresponding to such legal units are defined to be “not yet active” and “inactive” respectively.</td>
</tr>
</tbody>
</table>

## Enterprise Group

<table>
<thead>
<tr>
<th>Definition</th>
<th>An enterprise group is the set of enterprises for which the corresponding legal units belong to a single inter-corporate ownership group.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit type</td>
<td>Statistical.</td>
</tr>
<tr>
<td>Identification Scheme</td>
<td>Decided by the SBR.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Through profiling.</td>
</tr>
<tr>
<td>Remark</td>
<td>As for inter-corporate ownership group, the inclusion of enterprise group in the Guidelines units model is for possible future use as the economy expands and ownership structures become more complex.</td>
</tr>
</tbody>
</table>
### ESTABLISHMENT

<table>
<thead>
<tr>
<th>Definition</th>
<th>An <em>establishment</em> is the whole or part of an enterprise engaged in a single type of economic activity at one or more locations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit type</td>
<td>Statistical.</td>
</tr>
<tr>
<td>Identification scheme</td>
<td>Decided by the SBR.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>Through profiling.</td>
</tr>
</tbody>
</table>
| Remarks    | In practical terms, an establishment is a unit created by the SBR to represent the economic production of an enterprise in a particular industry for which production data can separately reported, as established through profiling. The vast majority of enterprises have just one type of economic activity at a single location that, by definition, is the head office. Each such enterprise is defined to have a single establishment. A few enterprises have more than one activity for which they can report production data. Additional establishments are created only through profiling. The initial triggers for profiling are:  
  - an indication from an administrative source or survey that the legal unit is very large; and/or  
  - the presence of several administrative units of the same type belonging to the legal unit.  
  Typically, but not necessarily, separate establishments of an enterprise correspond to separate divisions and/or are at separate local units.  
  An enterprise can have different establishments engaged in the same type of activity at different local units. This enables production to be apportioned more precisely by region. |

### SAMPLING UNIT

<table>
<thead>
<tr>
<th>Definition</th>
<th>A <em>sampling unit</em> is a member of a sampled population for a survey.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit type</td>
<td>Statistical.</td>
</tr>
<tr>
<td>Identification scheme</td>
<td>Decided by the SBR.</td>
</tr>
<tr>
<td>Enumeration</td>
<td>In accordance with a survey frame specification, the appropriate set of sampling units for any given survey is extracted from the Common Enterprise Frame, which is itself extracted from the set of enterprises in the SBR.</td>
</tr>
<tr>
<td>Remarks</td>
<td>A sampling unit is not a distinct unit type. It refers to a standard statistical unit in its role in a sampling frame. The sampled population of a survey comprises the set of sampling units from which the survey sample is selected. Usually the sampling unit is the same type as the target unit for the survey. Occasionally the target unit may be the enterprise but the sampling unit is the establishment. In early use of the SBR at least, the only type of sampling unit recommended is the enterprise.</td>
</tr>
<tr>
<td><strong>Observation Unit</strong></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Definition</strong></td>
<td>An <em>observation unit</em> is a unit about which data are collected during the course of a survey.</td>
</tr>
<tr>
<td><strong>Unit type</strong></td>
<td>Statistical.</td>
</tr>
<tr>
<td><strong>Identification scheme</strong></td>
<td>Decided by the SBR in conjunction with the survey management.</td>
</tr>
<tr>
<td><strong>Enumeration</strong></td>
<td>The sample (of sampling units) is selected in accordance with the survey sampling specification. Based on this sample, the set of observation units is derived, by extracting additional identification and contact data from the SBR, taking into account the choice of target unit and the reporting arrangements.</td>
</tr>
<tr>
<td><strong>Remarks</strong></td>
<td>An observation unit is not a distinct unit type. It refers to the target standard statistical unit about which data are collected. Usually an observation unit is a survey target unit. Occasionally, target units are combined or split for data collection purposes. Reporting arrangements indicate how and from whom data about an observation unit are to be collected, for example from an accountant nominated by the observation unit.</td>
</tr>
</tbody>
</table>
7.1 INTRODUCTORY REMARKS

Chapters 6, 7, and 8 are interrelated in the sense that the choice of units model (Chapter 6) and the choice of administrative sources (Chapter 8) both play a major role in determining the statistical coverage provided by the SBR whilst, conversely, decisions regarding coverage influence the choice of units model and of administrative sources. Thus, all three chapters should be read in combination.

Except where otherwise specified, coverage and content are described with reference to the primary standard statistical unit, that is, the enterprise.

7.2 SPECIFYING THE STATISTICAL COVERAGE OF THE SBR

Given the limitations on coverage inherent in the use of an administrative source, or sources, to create and maintain the SBR, it is prudent to limit the statistical coverage of the SBR to what can be realistically achieved. For example, European Commission Regulation CR 2186/93 restricts the scope of the SBR for EU member countries by identifying the enterprises that should be excluded on account of their small size. The excluded groups are:

- household unincorporated enterprises producing for their own final use, including households that are employers of domestic staff; and
- households owning property and earning rental income from it.

The Regulation also states that, optionally, enterprises engaged in agriculture, hunting and forestry and/or fishing, and/or public administration may be excluded, excepting those that have significant activity in another division. Certainly enterprises in these divisions, and in finance, need special treatment as the sources of data for them are quite different than for enterprises in other divisions. Hospitals and schools also pose a particular problem as they can be both private and public.

These Guidelines recommend that the most effective and practical approach is to define SBR coverage as the coverage that can be provided by the administrative source(s) on which it is based (as discussed in the next chapter).

- Household non-agricultural market enterprises that are not included in the SBR because they do not register with the administrative sources on which the SBR is based are defined to constitute the informal sector. In other words, by definition, the informal sector is out of scope for enterprise surveys based on the SBR.
- The SBR is not expected to contribute to the measurement of illegal or underground activities, as these are precisely the sorts of activities that escape the administrative registration processes on which the SBR is based.
- The SBR is not expected to cover small-scale agricultural production.

Figure 7.1 illustrates SBR coverage by showing the general structure of a plausible minimal program for acquiring production data about all enterprises as input to the compilation of the production account in the national accounts. As can be seen, the role of the SBR is simply to provide frames for surveys of formal sector enterprises, with the exception of general government and financial enterprises that are more effectively covered by administrative collections.

Whilst from this figure the coverage of SBR-based surveys appears to be very limited, in fact
SBR-based enterprise surveys account for a significant portion of economic production, and this proportion tends to increase with the development of the economy within a country.

In addition to supporting production surveys, the SBR is capable of providing frames for other surveys by collecting, for example, data on employment, wage costs, environmental and innovation for formal sector enterprises.

**General government**

Data for general government units can often be obtained from central government sources rather than requiring a direct survey of individual government ministries, departments, and agencies.

So two questions arise, namely: (i) whether general government needs to be represented in the SBR, and (ii) if so, how the corresponding enterprises should be identified.

The argument in favor of identifying and including enterprises in the SBR to cover general government activities is that it means a single system can provide frames for all surveys. Appropriate reporting arrangements can be defined to ensure that data are collected from a single central source rather from individual government units, where this is appropriate. Where no single source can provide the data required, for example, data on innovation or research and development, such data can be obtained by direct survey of government units.

**FIGURE 7.1: PLAUSIBLE MINIMAL PROGRAM FOR ACQUIRING PRODUCTION DATA**

<table>
<thead>
<tr>
<th>Sector/Activity Type*</th>
<th>Enterprise Type</th>
<th>Recommended Method for Acquiring Production Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal</td>
<td>General government</td>
<td>Administrative collection (government data about itself)</td>
</tr>
<tr>
<td></td>
<td>Financial corporations and quasi-financial corporations</td>
<td>Administrative collection</td>
</tr>
<tr>
<td></td>
<td>Non-financial corporations and quasi corporations</td>
<td>SBR-based enterprise survey, or administrative collection where data available (for example education, health)</td>
</tr>
<tr>
<td></td>
<td>Not for Profit Institutions Registered household enterprises</td>
<td></td>
</tr>
<tr>
<td>Informal</td>
<td>Non-registered non-agricultural household market enterprises</td>
<td>Area-based household-enterprise survey, or estimation where value is small</td>
</tr>
<tr>
<td>Informal Agriculture</td>
<td>Non-registered agricultural household market enterprises</td>
<td>Area-based agricultural survey</td>
</tr>
<tr>
<td>Own-use Production</td>
<td>Non-registered household non-market enterprises</td>
<td>Area-based agricultural survey, or estimation where value is small</td>
</tr>
<tr>
<td>Illegal*</td>
<td>Corporations and household enterprises</td>
<td>Ignore, or use experimental estimation within national accounts</td>
</tr>
<tr>
<td>Underground*</td>
<td>Corporations and household enterprises</td>
<td>Estimation within national accounts</td>
</tr>
</tbody>
</table>

*Note: Illegal and underground activities can occur in any of the sectors listed above.
Statistics South Africa does not include general government units in its SBR. For the survey of employment and labor costs, such units have to be appended to the survey sample after it has been selected from the frame derived from the SBR. This is a slightly more laborious and error-prone process than if the units were included in the SBR.

As regards identifying general government enterprises, the same principles can be used as for profiling other large complex enterprises, as further discussed in Chapter 9.

7.3 SPECIFYING THE STATISTICAL CONTENT OF THE SBR

To complement the coverage provided by the SBR in the form of lists of enterprises, the SBR must also provide corresponding statistical content, meaning the attributes of those enterprises that are required in generating survey frames and in contacting survey samples. In particular, for each survey, frame data are needed to enable identification of the relevant population, stratification and selection of the sample, and contact of the sampled units. As noted in Section 5.6, these frame data items may be divided into four categories, as discussed below.

**Identification and contact data**

These are required in order to define the observation unit and reporting arrangements and to enable the survey to contact the enterprise, or its representative, in order to obtain data. At a minimum the SBR should include for every enterprise:

- names, including legal and trading names;
- SBR identification code – with no embedded information, other than (possibly) tombstone data, i.e., data that can never change;
- physical and mailing addresses;
- website and e-mail addresses;
- telephone and fax numbers; and
- contact person(s).

**Descriptive data**

Descriptive data are required for sampling purposes and for analysis purposes. They should include the following items, which are further elaborated in Section 7.4:

- activity status;
- legal form;
- institutional sector;
- economic activity;
- size measures; and
- region(s) of operation.

**Demographic data**

Demographic data are useful in the event of difficulty in contacting an enterprise and are the basis for the preparation of demographic statistics. They include:

- date when the enterprise started operations;
- date of incorporation of enterprise as a legal person (if applicable);
- date of creation of enterprise in SBR; and
- dates of recent change of activity status or economic activity, or structure (e.g., change of position within enterprise group resulting from change of operational structure, or merger, or amalgamation).

**Linkage data**

Linkage data refer to links from the enterprise to related units. These links are essential in conducting a profile of an enterprise and in bringing together data for the enterprise across databases. They may also be useful in the event of difficulty in contacting the enterprise or an observation unit belonging to it. They include:

- links to establishments belonging to the enterprise;
• links to the enterprise group to which the enterprise belongs, and hence to other enterprises in the group;
• a link to the legal unit that conducts the enterprise;
• links to the administrative units associated with legal unit and hence with the enterprise; and
• links to data about the same enterprise in other databases.

Random number for sampling

In addition to the statistical data associated with an enterprise as described above, it is good practice for a random number, typically in the range \([0,1)\), to be assigned permanently to an enterprise at the time it is created. Such a number is useful in sampling to control the overlap between survey samples as further discussed in Chapter 11.

7.4 CLASSIFICATIONS USED FOR DESCRIPTIVE DATA

This section presents guidelines for the development and application of the classifications that are used as a basis for recording the values or classes of descriptive data items.

Classification by activity status

As there is no international standard, a national standard for classifying the activity status of an enterprise should be defined and used. In this context, classifications developed by other NSOs may be informative.

These Guidelines recommend the use of the following set of activity states for an enterprise:

• **in formation** – there is evidence of an intention to be economically active but the enterprise has not yet started production (sometimes called *birth*);
• **active** – in production;
• **seasonally inactive** – not currently in production because production activities are seasonal;
• **temporarily inactive** – not currently in production for reasons other than seasonal, but expected to resume production. For example, workers are on long term strike, or the legal unit has filed for bankruptcy protection;
• **permanently inactive** – not currently in production and not expected to ever resume production. For example, the corresponding legal unit is bankrupt or has wound up operations permanently; and
• **no longer exists** – the legal unit that conducted the enterprise no longer exists or, in the case of a natural person, has permanently ceased conducting a business.

A similar classification can be used to categorize the activity status of an establishment.

Classification of economic activity

The NSO must define an economic activity classification for use in the country. This may be done by an organizational unit with overall responsibility for developing and ensuring implementation of national classifications. In the absence of such a unit, it is generally the responsibility of the area conducting production surveys and producing production statistics.

The national classification should be fully compatible with the international standard ISIC, (preferably Version 3.1) as outlined in Chapter 2. **Fully compatible** means that:

• it includes all ISIC sections, divisions;
• it includes all ISIC groups and classes, except that:
  – if it excludes a certain class, then it excludes all classes within the same group;
  – if it excludes a certain group, then it excludes all groups within the same division;
• it might include additional breakdowns of some classes needed for local purposes.

This does not imply that statistics have to be published for all classes. It implies that data are not published for combinations of classes other than
groups, nor for combinations of groups other than divisions, nor for combinations of divisions other than sectors.

The SBR should include an economic activity classification value/code for every statistical unit. The code should be to the finest level of detail required:

- **for sample selection**, in the case of production surveys that collect data enabling determination of economic activity to the level of detail required for publication; and

- **for publication**, in the case of surveys (e.g., employment, labor costs, innovation, research and development) that do not collect data enabling determination of economic activity to the level of detail required for publication.

### Classification of geography

The NSO must use a national standard geographic classification. Often the development of such a national standard classification is the responsibility of another government department or agency. However, there may be no such classification or there may be more than one. In either case, the NSO will have to develop and/or select the classification standard to be used. Typically this is done by an organizational unit with overall responsibility for developing and ensuring implementation of national classifications. In the absence of such a unit, it is often the responsibility of the area that develops software for publication by geography.

There is no single international standard for geographical classification on which to base a national standard. However, the ESS nomenclature of the statistical territorial units (NUTS) is an example of a framework within which regional classification can be formulated. Classifications developed by other NSOs may also be informative.

The classification should be hierarchical, but it may also include alternative breakdowns. The factors to be taken into account in selecting or designing this national standard are:

- user needs for geographic breakdown;
- the area boundaries of most use for sample stratification and data collection; and
- administrative boundaries – in addition to the fact that users may require data for administrative areas, it is cheaper for the NSO if an administrative organization is responsible for defining and maintaining the classification.

The SBR should include a geographic classification value/code for every statistical unit. It should be determined in accordance with classification guidelines.

### Classification of size

Classification of enterprises by size is vital for data collection purposes, and useful for analysis and sometimes publication. As there is no international standard size classification, the NSO has to define its own. Usually this is done by the SBR itself in discussion with the key survey areas and taking into consideration size classifications used by other NSOs.

Attributes such as sales, income, assets, and employment individually or in combination may be used as the basis for a standard size classification. It may be appropriate to define more than one size classification, for example an income-based classification for production surveys and an employment-based classification for a labor costs survey.

A classification containing four size categories is appropriate for sampling purposes. Fewer categories tend to result in inefficient sampling, while additional categories tend to result in classification errors and, again, inefficient sampling.

Using the standard size classification(s), the SBR should assign a classification size code (or codes, as appropriate) for every enterprise and establishment.

### Classification of legal form / type of ownership

Legal form and type of ownership are attributes of an enterprise, not of an establishment or enterprise group. The corresponding value domains may be determined in terms of a single classification or two separate classifications. There are no appropriate international standard classifications as the options for establishing legal persons, and for ownership, vary from country to country.
Classifications developed by other NSOs may be informative, but in view of the differences in legal forms and ownership types between countries, the NSO has to define and use a national standard(s) appropriate for the particular circumstances of the country.

Classification development may be undertaken by an organizational unit with overall responsibility for developing and ensuring implementation of national classifications. In the absence of such a unit, it is generally the responsibility of the SBR in conjunction with the national accounts area.

Using the standard classification, the SBR should assign a legal form/type of ownership classification value(s)/code(s) for every statistical unit.

Classification of institutional sector

The SNA classification of institutional sector (as described in Chapter 2) is required for national accounts purposes. This should be adopted without change.

The SBR should include an institutional sector classification value/code for every statistical unit. It should be determined in accordance with rules provided by the national accounts area. Typically, these rules will involve the use of economic activity code and legal form/type of ownership code.

7.5 STATISTICAL CONTENT – ENTERPRISE GROUPS AND ESTABLISHMENTS

The previous sections refer to enterprises. The two other standard statistical units in the recommended Guidelines model are enterprise group (EG) and establishment. The enterprise is the primary statistical unit as there is no enterprise group or establishment without an enterprise. Furthermore, the numbers of enterprise groups and of establishments that are not in one-to-one relationships with enterprises are very small.

Enterprise groups

EGs result from profiling and are required only for profiling. As they are not directly for sampling or data collection purposes, they do not have as many descriptive attributes as enterprises. They are to a large extent identified by the top operating enterprise in the EG and thus can adopt some of the attributes of this enterprise.

Identification and contact data should include:

- name (often as for the top operating enterprise);
- SBR identification code – with no embedded information, other than (possibly) tombstone data, i.e., data that can never change;
- physical and mailing addresses (usually as for the top operating enterprise);
- e-mail addresses (usually as for the top operating enterprise);
- telephone and fax numbers (usually as for the top operating enterprise); and
- contact person(s) (usually as for the top operating enterprise).

Profiling data should include:

- date of creation of EG in SBR;
- lists of legal units constituting the EG;
- links to the enterprises representing the EG;
- names, addresses, activity descriptions, and size measures of divisions belonging to EG;
- names, addresses, activity descriptions, and size measures of local units belonging to EG; and
- organization charts indicating relationships between legal units, divisions, local units, enterprises, establishments, and observational units associated with the EG.

Establishments

Establishment data are used in sample selection and in data collection for large enterprises where a breakdown of activity by industry and/or by geography is required. They are identified by means of profiling. They can inherit some, or even all, of the properties of the enterprises to which they belong.
Identification and contact data should include for every establishment:

- names, including trading names;
- SBR identification code – with no embedded information, other than (possibly) tombstone data, i.e., data that can never change;
- physical and mailing addresses;
- e-mail addresses;
- telephone and fax numbers; and
- contact person(s).

Descriptive data should include:

- activity status;
- economic activity;
- size measures; and
- region of operation.

Demographic data should include:

- date establishment started operations;
- date of creation of establishment in SBR; and
- dates of recent change of activity status or economic activity.

Linkage data should include:

- link to the enterprise to which the establishment belongs; and
- links to the administrative units directly associated with the establishment (if any).
8.1 INTRODUCTORY REMARKS

As previously noted, the recommended approach for constructing an SBR is to base it on one or more administrative sources. This chapter deals with the specification of the procedures for acquiring and processing administrative data. It includes identifying the primary and other administrative sources and specifying how the data they provide are to be processed and interpreted in the form of births, deaths, and changes to statistical units. The chapter also discusses establishing relationships with the administrative organizations. Such relationships are greatly dependent upon whether the NSO has the right of access to government administrative information under its Statistics Act.

8.2 REVIEW AND SELECTION OF ADMINISTRATIVE SOURCES

Every administrative source relating to businesses is potentially useful in creating and maintaining the SBR. The first step in deciding what administrative data to use is to identify and review the potential sources. Each country has its own particular legislation. Typical candidate sources are VAT (equivalently Goods and Service Tax), corporate and individual business income tax, commercial registration requirements, employee payroll deduction data, unemployment insurance fund, and hospital insurance funds.

In Mauritius, the Business Register is based on licenses from municipalities and district councils; registrations from National Transport Authority (covering public transport), Ministry of Education and Human Resources (covering private schools), Judicial Department (covering lawyers), Professional Councils (covering medical practitioners, dentists, and architects), Board of Investment (covering freeport companies), Financial Services Commission (covering offshore companies), Police Department (covering driving schools), Tourism Authority, and Beach Authority; and data from the Revenue Authority (Income Tax, VAT, Customs), and Ministry of Social Security (National Pension Unit).

Use of all these sources in combination is facilitated by the Business Registration Act 2006, which provides an important tool for the coordination, link, control and harmonization of economic activities. The Business Registration Number (BRN), which is assigned to operators at registration time, uniquely identifies the operator and is used by most organizations.

For each potential source, the review should cover:

- the legislation and regulations governing the source, and their implications for data coverage and content and access by the NSO;
- the administrative operations and actual quality of the data as regards coverage and content;
• the right of access accorded to the NSO and the extent of the possible need for new legislation/regulations to ensure better access;

• the relationship between the administrative organization and the NSO and the need for a formal agreement in the form of a memorandum of understanding (MoU) or a service level agreement; and

• the technical options for access and transmission of data to the NSO.

The end result should be decisions regarding the primary source, the additional sources to be used on a regular basis, and the issues that need to be addressed before implementation.

8.3 SELECT PRIMARY ADMINISTRATIVE SOURCE

The source most appropriate for the role of primary source has to be selected based on its coverage and content, i.e., the businesses to which it refers and the details about them that it contains. Access, coverage, and content are the most important factors in the sense that they are largely determined by legislation, which cannot readily be changed. Other factors, such as quality of data and relationship with the administrative organization, are less important in the sense that they can be improved.

In essence, the best primary source will be the one that provides the broadest coverage of active legal units coupled with sufficient information on activity status, economic activity, and size for sampling purposes, in addition to sufficient contact information.

Examples of Primary Administrative Sources

Statistics Canada uses as its primary source the register of taxpayers with business income, which is maintained by the Revenue Canada.

The Australian Bureau of Statistics uses the Goods & Services Tax (GST) register maintained by the Australian Tax Office.

Statistics South Africa uses the register of VAT account holders from the South African Revenue Service.

8.4 SELECT ADDITIONAL ADMINISTRATIVE SOURCE(S)

Using data from other administrative sources is an option for improving coverage and/or content provided by the primary source. As previously noted, this means ensuring that there is no resulting duplication of the legal units responsible for the administrative units and hence of enterprises. In reality, this restricts consideration to administrative sources that fulfill at least one the following criteria:

• They share a common unit and identification scheme with the primary source. The common identification number allows records relating to the same legal unit in each of the sources to be brought together, to avoid duplication of the enterprises generated from the two sources.

• They contain very small numbers of units. This means that they can be checked and any duplication removed by manual investigation.

• They refer to a set of legal units that does not overlap with that of the primary source. For example, if the primary source is income taxpayers, then a source listing government ministries, departments and agencies (which are not income taxpayers) provides mutually exclusive coverage.
In Ethiopia, businesses in the Register of Commercial Businesses carry their taxpayer identification numbers, thus the taxpayer registration data and commercial registration data can be used in combination.

8.5 ESTABLISH COMMUNICATION ARRANGEMENTS WITH ADMINISTRATIVE ORGANIZATIONS

Having identified the primary and additional sources on which the SBR is to be based, the next steps are to establish the legal basis for administrative data access, to develop good relationships with the administrative organizations, and to set up appropriate data access and transmission procedures.

Establish legal basis for access

The statistical legislation should justify access to administrative data. If not, changes in legislation should be initiated.

Develop relationships

A memorandum of understanding (MoU) or service level agreement (SLA) should be put in place with each administrative organization. The MoU/SLA should:

- acknowledge the right of the NSO to have access to the data;
- specify the units for which data are required, the required attributes of those units, the quality of the data, and the frequency with which they are to be transmitted to, or accessed by, the SBR; and
- indicate how quality issues will be addressed and establish a process and timeframe for the regular review of procedures and quality.

In the event of quality problems, it is much better for the NSO to invest resources in helping the administrative organization to produce good-quality data than to spend the same resources (or more) in trying to correct/or supplement poor-quality data received.

Statistics Canada improved the quality of economic activity codes assigned by Revenue Canada to income tax filers, by assigning its own staff to carry out coding of tax filers during the processing of income tax returns by Revenue Canada.

With a similar goal in mind, the Australian Bureau of Statistics provided the Australian Taxation Office with a semi-automated economic activity coding system.

Establish data access/transmission procedures

The procedures for accessing/transmitting data from each administrative organization to the SBR need to be formulated and put in place. Reliability, frequency, mode and security of transmission are important issues to discuss. Assuming that data are to be supplied on a fairly frequent (e.g., monthly) basis, a decision also has to be made as to whether each transmission should (i) include all the administrative data or (ii) just births, deaths and changes since the previous data transmission.

The benefit of the first option is that the administrative data held in the SBR can never become out of step with the data at source. The disadvantage is that much more data have to be transmitted.

A third option is a mixture of the other two, to transmit births, deaths and changes for say five months, then in the sixth month to transfer the complete data set.

In all such cases, births, deaths, and changes have to be identified. The only question is whether this should be done by the administrative organization before transmission, or by the NSO on receipt of the complete data set.

8.6 DEFINE SBR ADMINISTRATIVE DATA-PROCESSING PROCEDURES

The final step is to define, develop, and implement the processes that will receive and store the administrative data from each source and that will use these data in updating SBR enterprises.
These processes should be automated. The outputs from processing each source are threefold:

- an updated exact copy in the SBR of the data about the administrative units from the source;
- (automated) births, deaths, and changes to SBR enterprises; and
- lists of enterprises and administrative units that need manual investigation because of apparent anomalies, errors, omissions, or uncertainties in the data received.

The investigation lists are input to the direct data collection and manual intervention processes discussed in the next chapter. The rules for creating and updating enterprises and establishments based on administrative data are discussed in Chapter 10. In essence, each new administrative unit will generate a new enterprise. Each change in data for an existing administrative unit will cause a change in data for the corresponding enterprise.

Other outputs include processing summaries and performance and quality indicators, as further discussed in Chapter 15.

A simplified view of the process is presented in Figure 8.1.
9.1 INTRODUCTORY REMARKS

As previously noted, administrative data alone are not sufficient to create and maintain the sets of statistical units satisfactorily. The SBR has to complement administrative data with data that are directly collected by SBR staff or that are obtained as feedback from economic surveys. This chapter discusses how such data are collected by profiling large complex enterprises, by conducting SBR surveys, by making use of survey feedback, and by undertaking ad hoc investigations.

9.2 LARGE BUSINESS PROFILING

Objectives and subject of profiling

As discussed in Chapter 8, administrative sources provide lists of administrative units belonging to legal units, on the basis of which SBR enterprises are be constructed and updated. However, administrative data do not provide sufficient information to partition the enterprises into establishments nor to link them together into enterprise groups. This has to be done by SBR staff using profiling.

The objectives of profiling are twofold:
- to partition large complex enterprises into establishments; and
- to determine enterprise groups based on inter-corporate ownership and control.

The subject of a profiling operation is an enterprise group (EG). An EG comprises an enterprise that has been classified as large and complex, plus any other enterprises that it controls. If the enterprise is itself owned and controlled by another active enterprise, then that enterprise is included in the EG. The EG is known by the name of the top active enterprise in the inter-corporate ownership group.

Results of profiling

The core result of this operation is a profile of the EG with details of all the enterprises that it contains and their relationships. This includes:
- a list of the legal units comprising the EG, including their types (e.g., head office, subsidiary, holding company) and their inter-relationships in the form of a hierarchical ownership and control chart;
- the operational structure of the EG in the form of lists of divisions and local units with links to the corresponding legal units; and
- a list of the enterprises representing the EG.

And for each enterprise:
- the link to the corresponding legal unit and the administrative units;
- the enterprise data items, including activity status indicator, economic activity code, size measure, name, contact details, etc.;
- the establishments belonging to the enterprise, each establishment being linked to the divisions and/or local units on which it is based and including establishment data items; and
- the observation units for every survey in which the enterprise is participating or likely to participate in the foreseeable future.

Establishing a profiling function

This involves:
- defining how the enterprises to be profiled are to be identified;
identifying enterprises subject to profiling

profiling should be restricted to large, complex enterprises, plus any other enterprises that they own and control. there are two reasons for this. first, profiling is both expensive and resource-intensive and cannot possibly be applied to all enterprises. second, it is rarely worth profiling medium-size or small enterprises, even if they are engaged in a variety of activities, because:

- they may not be able to report data for subdivisions of themselves; and
- the gain in information by subdividing the enterprises is not likely to be statistically significant.

determining the enterprises to be subject to profiling is, thus, a matter of defining the criteria for assessing whether they are large and complex, and of identifying the enterprises that satisfy these criteria.

the criteria for large may be one of the following:

- the enterprise is one of, say, the 200 largest enterprises in the country; or
- it makes a significant contribution to the estimates in its particular industry; or
- it is identified by one or more survey areas as being of particular importance or sufficiently large to be in the certainty stratum for the survey.

the criteria for complex relate to the legal unit conducting the enterprise and may include one of the following:

- the legal unit has several divisions, or
- it has local units in several different areas, or
- it has several administrative units of the same type, or
- it is the top operating legal unit within an inter-corporate ownership group, or
- it is particularly difficult to survey.

the set of enterprises subject to profiling, plus the enterprises they own and control, is hereafter referred to as the profiling maintenance group of enterprises.

identifying enterprises to be profiled in the upcoming year

the aim is to profile the enterprises in the profiling maintenance group regularly to ensure that all changes are quickly detected. however, there are usually too many enterprises for them all to be profiled or reprofiled each year. it is therefore advisable to develop criteria for determining which enterprises in the profiling maintenance group should be profiled in the upcoming year. possible criteria include:

- the enterprise has been identified by one or more survey areas as being of particular importance and difficult to collect data from; or
- the enterprise has not been reprofiled for several years.

in addition, administrative data may be a starting point, in the sense of providing signals of a need for profiling or reprofiling. in particular, administrative data may indicate that an enterprise not presently in the profiling maintenance group is large and complex and should be profiled, or that an enterprise in the group has changed and needs reprofiling.

defining and establishing profiling processes

there are essentially two distinct profiling processes: (i) conducting a profile and (ii) establishing and managing the profiling program, as detailed below.

1. conducting a profile involves sbr staff in the following sequence of operations, each of which has to be specified in detail:

- defining the profiling procedures; and
- defining how the resulting information is to be used in updating the organizational and statistical data held in the sbr.
Gathering all available information about the enterprise and the EG to which it belongs, including the results of the previous profile (if any);

In discussions with survey areas, determining the particular reasons for the profile and the questions to be answered;

Setting up the arrangements for the profiling interview with the comptroller/secretary/other senior manager of the legal unit that conducts the enterprise that is at the top of the enterprise group;

Conducting the profiling interview, explaining the issues, and collecting the required information;

Following up the interview by summarizing the information obtained and sending it for verification to the legal unit, and by conducting further interviews if needed;

Discussing the implications of the information obtained with the survey areas that collect data from any of the enterprises involved; and

Incorporating all the information obtained in a revised profile for the profile group in the SBR.

2. Establishing and managing the profiling program involves: assembling and training SBR staff in profiling; ensuring profiling procedures are fully documented; establishing a profiling plan for the year; and monitoring its execution.

9.3 SBR IMPROVEMENT SURVEY PROGRAM

As noted in Section 5.5, deficiencies in frame data for those enterprises not included in the Profiling Maintenance Group are typically addressed through an SBR Improvement Survey Program. The survey is conducted by SBR staff on a continuous basis. The survey design – in particular the frequency with which enterprises are contacted, the number of enterprises contacted, and the data collected – depend upon the quality of the data from the administrative sources, the capacity of the NSO, and the frequency with which changes in enterprises occur. An SBR Improvement Survey may be assembled from a suite of survey modules, each collecting a different set of data. For example, one module may focus on identifying whether or not an enterprise is active and its contact data; another may deal exclusively with the economic activity of the enterprise.

Objectives of an SBR Improvement Survey

The basic goals of an SBR Improvement Survey are to verify existing data item values and/or to obtain the values of missing data items, for a selected set of enterprises.

The survey may enable the resolution of two conflicting pieces of information from two different sources, for example two different economic activity codes for the same enterprise.

The survey may result in the confirmation of a new enterprise but is never the source of a new enterprise. New enterprises are created only as a result of administrative processes or profiling.

The survey results are used to update the attributes of individual enterprises in the SBR. They are aggregated only to produce quality indicators to inform SBR and NSO management.

Survey design

The survey should be designed and conducted in much the same way as other sub-annual business surveys except that, for the most part, the sample is purposively selected and there is very limited or no focus on estimation.

The survey should be conducted on a continuous basis, with selection of a new sample each month, quarter, or year.

Total annual sample size

The total sample size for a year should be determined by taking into account:

- the frequency with which changes occur in the economic world;
- the quality of data received from the administrative sources;
- the quality of data in the SBR; and
Part II-A: SBR design - coverage, content, and inputs

• the resources available.

Sample selection

Enterprises should be prioritized according to their significance and those with the most significant problems selected in the sample. High priority should be given to enterprises that are:

• large but lacking an economic activity classification;
• likely to be selected in a survey sample in the near future; and
• specified by survey areas as needing verification, for example because of non-response to a survey questionnaire.

Data collection

Ideally, but depending upon circumstances of the NSO, the SBR should be multimodal, including web-based data collection where possible.

Data processing and updating the SBR

The survey results are used to update the values of enterprise attributes. To the extent possible, the update process should be automated.

9.4 ECONOMIC SURVEY FEEDBACK

Feedback of frame data obtained from previously conducted economic surveys is another vital source of information about enterprises and (depending upon the survey) establishments.

By design, the first few questions asked by any business survey should constitute a check of the data items in the survey frame, such as name, address, contact information, and activity status. Subsequent questions may collect updated versions of economic activity and size measures. All these data should be fed back to the SBR to supplement, correct, or update the information there.

Potential for bias using survey feedback

There are no technical problems with using data for enterprises that have been sampled with certainty – typically the large ones. However, for medium-size and small enterprises that are sampled with probability less than one in repeating surveys, there is a potential for causing bias in future survey samples. In this situation, updates have to be very carefully applied.

For example, suppose that when a particular quarterly survey is first conducted, the sample is found to contain 30% dead enterprises (this is not an improbable figure). Furthermore, suppose that, based on this sample information, the dead enterprises are removed from the SBR, and that the survey sample for the next quarter comprises the 70% live units from the previous sample plus a replacement of the 30% drawn afresh from the SBR. This new sample will contain about 9% (30% of 30%) dead units. Thus, it will no longer be representative of the population of dead enterprises on the SBR, which is still nearly 30%, assuming that the survey sample is a relatively small proportion of the population. There are proportionally too many live enterprises in the sample. If the weighting procedures do not take this into account (by making allowance for the dead enterprises that were found in the sample), the result will be an upward bias in the estimates. Furthermore, the bias will increasingly worsen with each survey repetition.

Recommended updating procedure

The conclusion is that feedback from repeating surveys about attributes used for sampling for enterprises that were not selected with certainty, should not be used to update the corresponding enterprise attribute values in the SBR. Instead, the information should be held elsewhere in the SBR so that it can be applied to the survey observation units in the survey control file for the next repetition of the survey.

This is best illustrated by an example. Suppose Enterprise X has been selected with probability of 1/40 in the sample for the January cycle of quarterly survey. Suppose that during the course of data collection, it is found that X is no longer active, in fact is dead. This information is not used to update the activity status of the corresponding enterprise record in the SBR, but is stored for reference in association with the enterprise. Assuming a sampling scheme that ensures maximum sample overlap between quarters, X will be selected in the sample for the next (April) cycle. However, when the sample control file of observation units is created for April,
the information that X is dead will be applied and the corresponding observation unit will be marked *dead, do not attempt to collect data*. In this way there will be no bias in the estimates as X will continue to represent other enterprises that have died, whilst at the same time no time will be wasted in trying to collect data from it.

**Survey transition to use of SBR**

Survey feedback should also be used at the time of initial creation of an SBR. In using a survey frame derived from a new SBR for the first time, it is vital to match this new frame with the previous survey frame and survey data. This will:

- enable the likely impact of the change of frame on survey estimates to be determined; and
- provide a starting point for identifying large complex enterprises that should be subject to profiling.

### 9.5 OTHER AD HOC INVESTIGATIONS

There must be provision for SBR staff to conduct ad hoc investigations to resolve anomalies, errors, omissions, and other problems that need to be addressed quickly, or can be addressed easily.

Investigation methods may include a review of telephone and business directories, business pages of newspapers, and annual accounts of public corporations.
10.1 INTRODUCTORY REMARKS

As previously noted, a country’s economy is constantly evolving – businesses are created, their activities change, they may merge, be sold, go into receivership, or become defunct. This produces a need for SBR maintenance, meaning constant update of the SBR in terms of both coverage and content.

SBR maintenance resources are limited and it is vital to make use of them effectively. This suggests maintenance mechanisms of different degrees of complexity for enterprises according to their size and economic significance.

Updating requires care. Updates of most statistical units have to be deduced from observed changes to administrative units. Sometimes changes are temporary and will reverse. Sometimes the updating of sources presents conflicting information. This indicates a need for a comprehensive system of updating rules, including:

- *unit continuity rules* – distinguishing births and deaths of enterprises from changes in ownership, organizational structure, and administrative reporting arrangements;
- *attribute change and resistance rules* – preventing enterprises (especially large ones) from oscillating between sampling strata and hence in and out of sample; and
- *screening of incoming information* – selection of the appropriate action in the event of conflicting information. For example, where survey feedback indicates that an enterprise is defunct but according to the primary administrative source it is still active.

10.2 MANAGING THE DYNAMICS OF LEGAL, ADMINISTRATIVE, AND STATISTICAL UNITS

**Dynamics of legal units**

Legal units can be born, i.e., come into existence, for example a corporation receives a charter. They can die, i.e., go out of existence, for example a corporation relinquishes its charter. They can also change name, address, or ownership. They can be involved in mergers, amalgamations, spin-offs, etc.

As regards their operational and production activities, legal units can:

- create new production units, acquire production units from other legal units, or sell production units;
- create, change, or eliminate groupings of operational units such as divisions;
- create, change, or eliminate physical operational units such as plants, outlets, and warehouses;
- change economic activity, introduce new economic activities, or cease existing ones; and
- change activity status, for example, from *in formation to active*, or from *active to temporarily inactive*.

All possible types of change to legal units that could have any impact on the productive capacities of the corresponding enterprises should be listed and described, including details of how each type of change can be detected and what impact it might have.
Dynamics of administrative units

Administrative units can be born, i.e., a unit is registered by the corresponding administrative office. Alternatively, they can die, i.e., the unit is canceled by the administrative organization. The unit attributes can change, for example changes in registered name, address, or economic activity. Transaction data resulting from implementation of the administrative regulations can vary in volume. The legislation or regulations according to which the unit is registered can change.

All possible types of changes to administrative units that could reflect a change in the productive capacities of the corresponding legal units should be listed and described, including the type(s) of productive changes reflected.

Dynamics of enterprises and other statistical units

All possible types of changes to enterprises, establishments, and enterprise groups, and to their attributes, that are needed to represent changes to the productive capacities of the corresponding legal units should be listed and described, and the possible means by which they can be detected should be described.

In this context, the focus should be on enterprises. Changes to the other statistical units are subordinate to changes to enterprises.

10.3 SBR MAINTENANCE STRATEGY

A maintenance strategy should be articulated and implemented to ensure resources are used effectively. The amount of maintenance effort devoted to an enterprise should be in accordance with its size and potential impact upon published statistics, and should take into account its propensity to change and the sources of updating information. Thus, enterprises should be partitioned by size and potential impact into maintenance groups, each of which is subject to a particular set of updating procedures. Figure 10.1 illustrates a strategy based on four SBR maintenance groups. The SBR staff should define a strategy along similar lines.

10.4 SBR UPDATING PROCEDURES

Legal and operational units

Whilst administrative sources, business surveys, and ad hoc investigations may provide signals indicating the need for profiling or reprofiling, the only definitive information about legal and operational units is obtained through profiling.

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**FIGURE 10.1: SBR MAINTENANCE STRATEGY**

<table>
<thead>
<tr>
<th>Sector (Administrative Registration)</th>
<th>Size/complexity/significance</th>
<th>Admin Source</th>
<th>SBR Survey</th>
<th>Business Survey Feedback</th>
<th>Profiling</th>
<th>Ad hoc investigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal (Registered and hence included in SBR)</td>
<td>Large &amp; complex or influential</td>
<td>Use as signal</td>
<td>No</td>
<td>Use as signal</td>
<td>Yes</td>
<td>Use as signal</td>
</tr>
<tr>
<td>Other large</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Informal (Not registered)</td>
<td>Small/very small</td>
<td>Not included in SBR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
When a profile has been completed, it is transferred from the profiler’s laptop, or wherever else it is stored, to the SBR. In the case of a new profile, this means creating a new set of legal and organizational units. In the case of a repprofiling, this means updating an existing set of legal and organizational units and their attributes.

As there are no sources of legal and operational unit information other than profiling, there is no question of conflicting information and the updating process is straightforward. The only checks that need to be made as the updates take place are that the new units and attribute values are valid and consistent. The sources of the information, the name of the person responsible for the profile, and the date of the update should also be recorded.

Data about legal and operational units are not of much intrinsic interest in their own right. They serve primarily to create or update statistical units.

**Administrative units**

As information about administrative units is obtained only from the corresponding administrative sources, the updating process is straightforward.

- In the case of a new administrative unit appearing in the incoming administrative data, a corresponding new administrative unit must be created in the SBR (copy of the) administrative data.

- In the case of changes in attribute values of administrative units appearing in the incoming administrative data, the values in the corresponding administrative units in the SBR (copy of the) administrative data must be updated.

- In the case of an administrative unit being marked as canceled, or simply not appearing in the incoming administrative data, the activity status of corresponding administrative unit in the SBR (copy of the) administrative data must be updated accordingly, for example changed to *dead*.

Data about administrative units are not of intrinsic interest in their own right. They serve primarily to create or update statistical units.

**Statistical units**

Specification of the updating procedures for SBR statistical units is more complicated as it depends on defining the relationships associating legal, operational, and administrative unit changes with statistical unit updates. Legal, operational, and administrative changes are regarded as *real-world signals of change*, and the corresponding statistical unit updates are the *statistical world reactions to these signals*, reflecting the changes to statistical units required to represent the actual real world changes.

Specification is best approached through the development of a matrix with:

- one axis containing all possible types of legal and administrative signals that can be detected;

- the second axis containing the various types of statistical unit change; and

- the cell entries defining the rules regarding how each signal is to be reflected in appropriate updates to the statistical units, taking into account continuity rules, resistance rules, and methods for dealing with conflicting information, as outlined in the following paragraphs.

**Statistical unit birth, death, and continuity rules**

Updating procedures must incorporate rules identifying the types of legal and administrative signals that result in the birth, death, or continuation of an enterprise (or establishment). As discussed in Section 5.5, there should almost certainly be differences in treatment according to the signal source and the maintenance group to which the enterprise belongs.

For example, consider the death of a unit in an administrative source on which the coverage of the SBR is based.

- If the corresponding enterprise is not in the Profiling Maintenance Group and is not
Currently in any survey sample, then the enterprise activity status should be set to inactive and, after a further period, to dead.

- If the enterprise is in the Profiling Maintenance Group, then the signal should be sent to the SBR Profiling Team for ad hoc investigation. It may ultimately trigger a reprofile. If the unit is large, it is unlikely that the end result will be setting the enterprise activity status to inactive. It is more likely that the signal will be simply a change in administrative arrangements that either has no impact on its statistical representation or that results in the death of an establishment.

- If the enterprise is not in the Profiling Maintenance Group but is currently in a survey sample, then the signal should be sent to the SBR investigation staff. In conjunction with the affected survey area, the SBR staff should further investigate the enterprise to determine whether or not it is active and, if so, why the administrative unit is dead. The end result may or may not be setting the enterprise activity status to inactive.

**Attribute change resistance rules**

As discussed in Section 5.5, it is essential that changes to the enterprise attributes used for sampling are subject to resistance rules, which ensure the change is permanent before an update is made. The aim is to prevent the enterprise from unnecessary oscillations across sampling strata and hence in and out of survey samples.

**Dealing with conflicting information**

In order to deal with conflicting information from different sources, the sources must be prioritized according to their reliability. For example, information from an administrative source is considered less reliable than conflicting information from profiling or an SBR survey or business survey, unless the latter information is not current. Figure 8.1 illustrates how potential updates based on administrative data can be overruled by profiling or other manual investigation.

**Observation units and reporting arrangements**

The default presumption is that the observation units for a survey are identical to the enterprises selected in the sample and so the reporting arrangements involve simply contacting the enterprise. Modifications to observation units and reporting arrangements are made only when direct contact with enterprises through profiling, improvement surveys, or survey feedback indicates the need for making changes (as further discussed in Chapter 11).
PART II-B
SBR DESIGN – OUTPUTS AND OUTPUT FUNCTIONS
11.1 INTRODUCTORY REMARKS

This chapter deals with the procedures for generating survey frames, samples, control files and shell databases, along the lines discussed in Chapter 5. In essence, the recommended approach is to use a common frame as an intermediary step in the creation of survey frames. More specifically, it entails regular derivation of a snapshot of enterprises in the SBR, from which active, classified enterprises are extracted to form the **Common Enterprise Frame**. This is then used as the basis for creating survey frames from which survey samples are selected and survey control files and shell databases are generated.

The approach is in line with current practice at Statistics South Africa and the Australian Bureau of Statistics. An alternative approach (as used for example by Statistics Canada) is to extract a frame for each survey independently from the SBR as required. The advantage of this latter approach is that the survey frames are likely to be more up to date, i.e., less subject to time lag between their content and the survey reference period. However, the common frame approach is preferred because it produces more harmonized survey frames and enables more comprehensive quality control.

Sample selection and survey file creation are typically regarded as survey functions rather than SBR functions. However, in these Guidelines they are considered part of the **SBR complex of service functions** because (i) they are closely related to, and must be harmonized with, frame creation and (ii) the SBR is the primary source of the observation units that constitute the survey control file and survey shell database.

In selecting survey samples, it is vital to spread the respondent burden imposed by the survey samples as equitably as possible. Samples can be controlled so that no small business receives questionnaires from more than, say, one survey per year. Several control methods are available and the Guidelines recommend the assignment of a random number to an enterprise at the time it is created, for later use in a selection of samples.

**Process sequence**

The recommended sequence of processes in the creation of survey frames, sample control files, and shell survey databases is as follows:

1. Create an **Enterprise Snapshot**
2. Create a **Common Enterprise Frame**
3. Create the **survey frame**
4. Select the **survey sample**
5. Generate the **survey control file and shell survey database**.

Ideally, the first two steps should take place quarterly and the remaining steps should take place quarterly for monthly and quarterly surveys and as needed for annual and occasional surveys. During the initial introduction of an SBR, there may be a good case for annual frame creation and sample selection until all the systems and procedures have been well tried and tested.

**Statistics South Africa** produces quarterly snapshots and common frames and annual survey frames and has no immediate plan to move to the production of quarterly frames and samples.
11.2 CREATION OF AN ENTERPRISE SNAPSHOT

The first step is to create an Enterprise Snapshot, which is a flat file extracted from the SBR at a given point in time. It should contain every enterprise in the SBR together with all the data items needed for survey sample selection. These include:

- **identification data** – enterprise name, identification code;
- **descriptive data** – legal form, institutional sector, economic activity, size, region, activity status; and
- **demographic data** – date of creation, incorporation as a legal person (if applicable), change of structure or activity; activity status indicating whether the unit is active, dormant, defunct, etc.

The reason for extracting the Enterprise Snapshot is to obtain a frozen view of the SBR that can be analyzed in depth and that can form the basis for the Common Enterprise Frame, while the SBR continues to be updated.

On a quarterly basis, snapshot counts of enterprises by subregion and by economic activity sector should be compared with counts for the previous snapshot. Significant differences, if any, should be investigated to find their origins. If substantial errors are found in the underlying data, corrections should be made to the SBR, and the Enterprise Snapshot recreated.

11.3 CREATION OF A COMMON ENTERPRISE FRAME

The next step is to create a Common Enterprise Frame from the Enterprise Snapshot by eliminating enterprises that are not active and/or that do not have a sufficiently detailed economic activity code for frame definition purposes.

On a quarterly basis, Common Enterprise Frame counts should be checked by SBR staff against counts for the previous quarter. Significant differences, if any, should be investigated to find their origins. If substantial errors are found in the underlying data, corrections should be made to the SBR, and the Snapshot and Common Enterprise Frame recreated.

11.4 CREATION OF SURVEY FRAMES

For each individual survey, the *survey frame* should be extracted from the Common Enterprise Frame by including just those enterprises that are in scope for the survey according to the *survey frame specification* submitted by the survey team. The frame specification should define the reference period to which the frame refers, the population of sampling units to be included, and the data items that are required for sample selection.

In the early days of the SBR, the sampling unit for all SBR-based surveys should be the enterprise. Even with a mature SBR, a very strong case has to be made for using any unit other than the enterprise as the sampling unit.

The survey frame counts should be checked by SBR and survey staff against values for the previous survey cycle (if there was one) and significant differences investigated. In addition, checks should be made for unexpected changes of activity status, size, or economic activity of enterprises known to make significant contributions to the survey estimates. If substantial errors are found in the frame data, corrections should be made to the SBR Database, and then the Enterprise Snapshot, Common Enterprise Frame and survey frame should all be recreated.

11.5 SELECTION OF SURVEY SAMPLES

For each individual survey, the *survey sample* should be selected from the survey frame in accordance with the *sampling specification* provided by the survey sampling specialist. A sampling specification defines:

- the stratification;
- the method of sample allocation;
- the overall sample size and/or the target coefficients of variation (or equivalent) for key data item(s) and strata; and
- the sampling method.
The process will take place in a sequence of three stages.

1. Production of the strata

2. Sample size determination and allocation

3. Sample selection

Typically, these stages are performed using off-the-shelf sample selection programs. At the end of each stage, the results should be analyzed by the survey sampling expert. The end result is a selected sample of enterprises.

**Sample overlap control**

Large businesses, by the very fact of their size and influence on the estimates, are likely to be selected with certainty by surveys for which they are in scope. Their burden can be mitigated by good questionnaire design and multimodal data collection options, but not by withdrawing them from the sample. This situation is different for small businesses, which are typically selected with quite low probability. In their case, the samples can be controlled so that no small business receives questionnaires from more than, say, one survey per year. Thus, survey sample overlap control is a vital part of sample selection.

Several control methods are available. The Guidelines recommend that a permanent random number be assigned to each enterprise at the time of its birth. Non-overlapping survey samples can be obtained by selecting the enterprises with random numbers in non-overlapping intervals. The required sample size can be obtained by using the appropriate width of the interval, and sample rotation can be obtained and controlled by appropriately shifting the interval.

**11.6 GENERATION OF SURVEY CONTROL FILES AND SHELL DATABASES**

For each individual survey, the survey control file should be created from the selected sample of enterprises in accordance with the survey control specification provided by the survey operations specialist. The specification defines how the set of observation units is to be derived and what data items are to accompany them.

Often, but not always, the set of observation units is exactly the same as the set of sampled enterprises. However, in the case of a survey of production, such as the annual manufacturing survey, the sampling units may be enterprises whilst the observation units are the establishments belonging to these enterprises.

The survey control file should contain the observation units for the survey and the identification and contact data items required in order to collect data about them, plus any special reporting arrangements. These data items are not in the Common Enterprise Frame (as it is designed for frame creation and sampling). They are extracted from the SBR at the time the survey control file is created, in order to be as up to date as possible.

The survey shell database should be created in accordance with the *survey shell database specification*. In principle, the main database table lists the set of observation units in rows, while the columns contain data item values carried over from the survey control file or they may be empty awaiting data from the survey. In practice, the database may have the same content but with a quite different structure.

**11.7 PROVISION OF SURVEY FRAMES TO OTHER ORGANIZATIONS**

The NSO will no doubt receive requests for survey frames from other government agencies, private organizations, and researchers who wish to conduct surveys. The requirements associated with each such request should be analyzed. As discussed in Chapter 5, the response will depend primarily upon confidentiality considerations. The statistical act and/or regulations in most countries do, or should, guarantee the confidentiality of statistical information collected by the NSO. This limits the data about individual enterprises that can be included in a survey frame for another organization, especially a non-government one.
In accordance with the Statistical Act No.6 of 1999, *Statistics South Africa* does not release lists of businesses to any other organizations.

*Statistics Mauritius* releases lists of businesses on request but without size measures.

As an alternative to providing a survey frame, an NSO can offer to undertake the survey itself on a cost-recovery basis and to provide the resulting data, in anonymized form, to the requesting organization.
12 • OTHER SBR OUTPUT SERVICES

12.1 INTRODUCTORY REMARKS

These Guidelines recommend that, in addition to its primary function of providing survey frames (with associated selection of survey samples and generation of survey control files and shell databases), the SBR should provide two other important sets of services. The first is the identification of the reporting obligations of individual enterprises, the statuses of their responses, and the measurement of overall respondent burden. The second is the production of business statistics, including possibly business demographics, directly from the SBR.

In addition, the SBR can assist in the linkage of business data from a variety of sources.

12.2 RESPONDENT MONITORING

Identification of respondent reporting obligations

The SBR should include functionality for determining the set of surveys to which any given enterprise will have (or will have had) to respond in a particular year, together with the status of each of those responses. In the case where the survey observation unit is an establishment and the enterprise has multiple establishments, the functionality should determine the response status for each establishment.

The necessary information can be drawn from the survey control files and databases. (This is one of the reasons why the production of these files is included in the SBR Complex.) For each survey in turn, the first step is to determine whether the enterprise is in the sample. If the enterprise is in sample, the next step is to determine the response status. Collectively, the set of surveys for which the enterprise is in sample defines the reporting obligations of the enterprise, and the status of the responses indicates the extent to which these obligations have been met.

Respondent burden considerations

Low response rates can be a source of error in survey estimates. One of the factors affecting the response rate for a survey is the respondent burden imposed by the survey. The more that can be done to reduce the burden, the greater the likelihood of a response. However, in order to manage respondent burden, it is necessary to measure it. Given its role in generating survey control files, the SBR is a good place to assemble information on respondent burden.

The respondent burden imposed on each enterprise by each survey, and for all surveys, should also be calculated, as further discussed in the following paragraphs.

Calculation of respondent burden

For each survey (or survey repetition in the case of a repeating survey), the notional respondent burden in hours imposed on enterprises should be computed as the number of observation units in the sample multiplied by the estimated average respondent-hours per response.

The actual respondent burden in hours should be computed as the number of observation units responding to the survey multiplied by the estimated average respondent-hours per response.

Estimating average respondent-hours per response

In the case of a personal interview, the “respondent-hours per response” is defined as the length of the interview, regardless of how many persons from the enterprise participate in the interview. The length of the interview should always be recorded.
In the case of a self-completed questionnaire, the respondent-hours per response refers to the hours actually spent by the respondent in answering the questions, not to the total elapsed time from the time of receipt of the request to the completion of the response. For every annual survey, and at least once per year for sub-annual surveys, the last question of the questionnaire should ask the respondent to report the number of hours and minutes spent in completing the questionnaire. Alternatively, average respondent-hours per response can be much more roughly estimated by desktop analysis or through focus group discussions involving potential respondents.

The average respondent-hours for a survey should be estimated as the average over all completed interviews/questionnaires for the survey, i.e., without weighting.

**Overall annual respondent burden imposed by the NSO**

The overall annual respondent burden should be computed as the sum of the respondent burdens for all the surveys conducted during the year. In the case of sub-annual surveys, this includes each survey repetition separately.

### 12.3 PRODUCTION OF BUSINESS STATISTICS

The Guidelines recommend that the SBR be regarded as a source of publishable data in just the same way as any business survey database. Business statistics staff and SBR staff should jointly review user requirements, compare these with the enterprise data items available from the SBR, and determine the data to be published, taking quality concerns into account.

The outputs considered will likely include counts and quarterly growth rates of enterprises by sector/division and/or by region. Consideration should also be given to producing enterprise demographics – births, deaths, and changes over time. Furthermore, if profiling includes collection of ownership and control data, then counts of large businesses by domestic/foreign ownership can be prepared.

The main quality concerns are likely to arise from the fact that most of the data in the SBR are derived from administrative sources, and these data are liable to reflect the deficiencies in, and the periodic changes to, administrative processes. In particular, administrative sources are well known for retaining administrative units long after the corresponding legal units have ceased to engage in economic production. In this case, the corresponding enterprises may well carry an active status on the SBR when they are in fact inactive. Poor economic activity coding is another frequent cause for concern. All such reservations regarding quality should be examined, taken into account in deciding what data to publish, and conveyed to data users.

### 12.4 LINKAGE OF BUSINESS DATA

Through its unique enterprise identification number, the SBR should provide a mechanism for linking enterprise micro-data across survey databases. This is the first step in the direction of creating an output data warehouse containing all business data.
PART II-C
SBR DESIGN – ORGANIZATION, SYSTEMS, AND QUALITY MANAGEMENT
13 • SPECIFICATION OF SBR ORGANIZATION AND OPERATIONS

13.1 INTRODUCTORY REMARKS

Regarding the organizational structure of the SBR, there is no international standard, or even commonly used practice, amongst NSOs. Therefore, each NSO has to determine its own particular SBR structure and its place within the economic statistics infrastructure and program as a whole.

Factors to consider in determining the structure are:

- numbers of staff in the NSO and economic statistics program – evidently the SBR cannot expect to have more than its fair share of the human resources;
- current numbers and skill levels of SBR staff;
- number of surveys that the SBR is servicing, or will service;
- degree of centralization/regionalization of the NSO and scope/need for regional business registers; and
- sophistication of computer systems supporting SBR operations.

13.2 SBR UNIT STRUCTURE

Many alternative groupings of the functions are possible. This section presents a feasible organizational structure involving four SBR organizational work units (or components or sections) suitable for an SBR of, say, 10–25 staff. It should be expanded, contracted, or modified as required to take account of the particular circumstances of the NSO and the functions that the SBR performs.

General operations and quality assurance unit

This work unit is responsible for ensuring that the updating of the SBR from administrative sources takes place as planned. This involves establishing and monitoring memoranda of understanding (MoUs) with the administrative organizations, and verifying that the data are transmitted and received on schedule, that the SBR automated updating procedures run satisfactorily, and that missing or inconsistent data are detected and automatically corrected or are output for subsequent investigation.

The work unit is also responsible for overall SBR planning and management, for defining SBR quality and performance indicators, and for ensuring that quality and performance data are collected, analyzed, and used for developing and implementing quality improvements.

SBR profiling, special investigations, and improvement survey unit

This work unit is responsible for investigating problems arising from missing or inconsistent administrative data updates, or from SBR system integrity checks, or from discrepancies between administrative data and data observed during the course of survey taking. Problem resolution for all enterprises other than those that are large and complex is via an SBR improvement survey or ad hoc investigation. The unit is also responsible for identifying and profiling large complex businesses and ensuring that the profiling results (regarding divisions, local units, and establishments and their attributes) are recorded in the SBR.

The combination of profiling, special investigations, and improvement survey within a single work unit is made on the assumption that there are not likely to be many large complex
enterprises in the economies of most African countries. If there are a number of such enterprises, as for example in South Africa, then the profiling unit should be separate. In any case, as an economy grows, there will be increasing pressure to create separate work units.

Consideration should be given to an arrangement whereby the work unit responsible for profiling large complex businesses is also responsible for collecting data from these enterprises for all surveys for which they are in scope. The advantage of this approach is that staff become very familiar with the enterprises concerned and establish strong relationships with them. This approach has been used in Statistics Canada and by the Australian Bureau of Statistics.

**Frame production and sample selection unit**

This work unit is responsible for the regular production of the Enterprise Snapshot and the Common Enterprise Frame, preferably on a quarterly basis. It is also responsible for production of the frame, sample, survey control file and (possibly) shell database for each occasion of each individual survey, in accordance with survey specifications.

**Respondent relations and business statistics production unit**

This work unit is responsible for ensuring that every business survey questionnaire contains an initial module in which the survey frame data items are checked and corrections/updates are recorded. The work unit is also responsible for ensuring that these corrections/updates are fed back to the SBR and used to update it in accordance with the agreed procedures.

The work unit is also responsible for ensuring that the reporting status of every enterprise in every survey is recorded and that, based on these data, the reporting burden on any particular enterprise can be determined. It is also responsible for ensuring that the overall annual respondent burden imposed by all business surveys is calculated and discussed by senior management. In addition, the work unit has the remit to determine the content, format, and frequency of business statistics published directly from the SBR and for compiling these publications. It also assists in linking business data across separate survey databases and in promoting an output warehouse in which business micro-data and aggregates are brought together.

**Alternative arrangements**

There are many other possible arrangements. In particular, the quality and performance functions can be taken on by any of the work units or can be the responsibility of a fifth work unit.

With a smaller number of staff, the above work units can be regarded as defining groups of tasks that can be assigned to individual staff or pairs of staff.

At Statistics South Africa, the Business Register is divided into three organizational units:

- **Profiling Unit** – responsible for all aspects of profiling;
- **Operations and Maintenance Unit** – responsible for administrative data processing and BR survey; and
- **Quality Improvement Unit** – responsible for frame production and all aspects of quality and performance measurement.

**13.3 STAFF IN REGIONAL OFFICES**

Depending upon the degree of centralization or regionalization of the NSO, and the scope or need for regional business registers, all SBR staff may work in Head Office, or there may be regional staff working on regional registers that are combined to form the national SBR. The latter arrangement is more difficult to manage and should be implemented only if there is a government imperative to maintain staff in regional offices.

**13.4 SBR OPERATIONAL SCHEDULE**

The processing of administrative data should be on a regular, preferably monthly, schedule that is matched to the schedules for receipt of data from administrative sources.
The schedule for the production of the Enterprise Snapshot and Enterprise Common Frame should be quarterly.

The schedule for the production of monthly, quarterly, and annual survey frames should be annual. If there is a demand from survey areas, consideration should be given to the quarterly production of frames for monthly and quarterly surveys.

The SBR improvement survey, profiling and other investigations should take place on a continuous basis.

Production of statistics should be on a quarterly or annual basis as determined by the publication schedule, which itself should be published in advance.

Production of quality and performance indicators should be on a monthly basis for administrative data processing, quality improvement survey and profiling, and on a quarterly basis for outputs.

13.5 SBR TRAINING

The SBR management should make a periodic assessment of the skills required by SBR staff to perform their functions and by survey and other NSO staff to make use of SBR outputs. It should then make comparisons with the skills actually available in the SBR, survey and other areas. This leads to the identification of SBR-related training needs, expressed in the form of specific groups of staff needing training, and the training specifically required for each group.

SBR staff should also set aside time for development of training material and courses (including e-learning), as it is unlikely that courses relevant to the SBR will be available from the market. This could well involve obtaining advice from other NSOs, international organizations, and consultants.

13.6 SBR COMMUNICATIONS

In addition to effective internal communications, SBR staff should establish good relationships and communications arrangements with:

- the organizations responsible for the supply of administrative data;
- the survey managers and methodology staff responsible for frame, sample and survey control file specifications;
- the staff responsible for data collection and respondent relations; and
- the staff responsible for the production of business statistics.

Means of achieving good relationships include regular staff meetings, quarterly meetings with stakeholders (including both administrative data suppliers and survey managers), and establishment of an SBR Steering Committee to ensure senior management are kept informed and are consulted about major issues and decisions.
14.1 INTRODUCTORY REMARKS

In this chapter, the term *SBR system* means the *SBR database and the application programs* that enable all functions within the SBR complex to be carried out.

Evidently, the SBR system has to support and automate, to the fullest extent possible, the functions of the SBR, i.e., the processing of administrative data, profiling, maintenance of smaller enterprises, production of survey frames, samples and control files, respondent burden monitoring, and production of business statistics as illustrated in Figure IIA. This chapter presents a plausible set of system modules, which can be expanded, contracted, or modified by an NSO as required, to take account of the particular circumstances of the IT environment and the actual functions of the SBR.

As is the case with SBR organizational structure, there is no international standard or even commonly used practice amongst NSOs regarding the design of SBR systems. Each NSO has to design its own systems within the IT environment of the NSO as a whole.

International ICT standards and guidelines, such as The Open Group Architecture Framework (TOGAF) and Solutions Integrated Development (SID) should be used in the development of an SBR system.

14.2 SBR SYSTEM MODULES

**Administrative data-processing module**
- Processing bulk input from administrative sources;
- Updating SBR copies of administrative data;
- Updating statistical data;
- Producing processing summary statistics and diagnostics; and
- Producing lists of update queries for manual investigation.

**Statistical and administrative unit viewing and updating module**
- Viewing and printing of data for individual enterprises, establishments, and enterprise groups;
- Viewing and printing of data for individual administrative units; and
- Manual updating of data for statistical units based on information from SBR surveys, business surveys, and other ad hoc investigations. (There is no update facility for administrative data as these are driven only from administrative sources and not updated by SBR staff.)

**Profiled unit viewing and updating module**
- Recording, viewing, and printing of data for individual legal units, divisions, and local units obtained by profiling;
- Viewing, updating, and printing of data for individual enterprises, establishments, and enterprise groups.

**Frame extraction module**
- Producing SBR Enterprise Snapshot extracted from the SBR Database, including summary counts and counts of changes from the previous version;
- Producing a Common Enterprise Frame selected from the Enterprise Snapshot,
including summary counts and counts of changes from previous version; and

- Producing frames for individual surveys in accordance with survey specifications, including comparisons with previous sample and summary counts and counts of changes from previous version.

Sample selection module

- Producing samples for individual surveys in accordance with survey sampling specifications, including comparisons with previous sample and summary counts and counts of changes from previous sample;

- Typically, the sample selection software will have been developed in house by the IT department for the sampling statisticians, or purchased from private vendors (such as SAS or STATA) or acquired from other NSOs. Thus the SBR sample selection module will not itself perform stratification, sample size determination and allocation, or sample selection. Instead it will make service calls to existing programs within the NSO environment that perform these functions.

Survey control file and shell database creation module

- Producing survey control files and shell databases for individual surveys;

- Likely comprising a standardized version of programs that already exist for individual surveys.

Respondent management module

- Producing the list of surveys to which any specified enterprise is, has been, or will be obliged to respond and the statuses of the responses to each survey;

- Interrogating the survey control files and databases for all business surveys conducted, and extracting the sample size and the number of respondents for each;

- Storing average respondent-hour estimates for each survey;

- Computing the total respondent burden on a notional and actual basis for each survey; and

- Aggregating the totals over all surveys to produce a summary of overall respondent burden across all business surveys for any specified annual period.

Business statistics production module

- Producing data tables for specified populations and data items; and

- Using standard data table production programs that already exist to tabulate survey data.

Quality and performance statistics module

- Producing quality and performance indicators for all SBR functions, for use by SBR management.

14.3 DATA STORAGE

SBR data should be stored in a purpose-built database that can support all the types of units in the economic units model, and their interrelationships and attributes, and which has appropriate confidentiality and access provisions.

There should be provision in the database, or within an associated controlled environment, for storing and accessing data generated by all SBR functions, including Enterprise Snapshots, Common Enterprise Frames, survey frames, survey control files, survey databases, respondent reporting obligations and statuses, and respondent burden.

Access and update control

There should be access and update controls that enable the database administrator to assign the appropriate access and update rights to SBR staff and other users within NSO Head Office and regional offices. At a minimum, the following classes of access and update rights should be allowed for:
Chapter 14: Specification of an SBR system

- No access;
- Viewer of individual data;
- Creator of aggregate tables;
- Updater of data for simple enterprises;
- Updater of data for complex enterprises and associated units; and
- Database administrator – capable of correcting or modifying any data items (subject to satisfying integrity checks).

**Integrity maintenance**

Data creation and updating should be subject to appropriate integrity checks, to be conducted automatically in association with updating, or at the request of the database administrator.

### 14.4 IDENTIFICATION NUMBERING SYSTEMS

Every legal, operational, administrative, and statistical unit in the SBR should be assigned a unique identification number. The number should contain no embedded information, other than (possibly) tombstone data, i.e., data that can never change. In particular, no attempt should be made to use the numbering system to indicate relationships between different types of units, for example between establishments and enterprises, the reason being that these relationships can change.

### 14.5 OTHER DESIGN CONSIDERATIONS

**Consultation with other NSOs**

Whilst there are no standard practices amongst NSOs regarding the design of an SBR system, discussions with NSOs having well-established and functioning systems are invaluable in making design choices. In all likelihood this will lead to the choice of a relational database and service-oriented architecture.

When **Statistics Canada** redesigned its Business Register system over the period 2007–08, it built a Microsoft Windows application installed on a client PC using a service-oriented architecture. There are five major components comprising the system:

- VB.Net is the programming language for the Windows Forms User Interface, the business layer and the data layer;
- SQL Server 2005 is the underlying database that both stores and manipulates the data;
- SAS is used to crunch and manipulate input data from external sources;
- The system is message based and uses BIZTALK for routing the messages; and
- Web services are used to manage both security and access to the data.

All users access the business register by means of the same common interface with a privilege administration tool as the control mechanism to manage this access. The Business Register includes information on legal and operating units and their structural relationships. It maintains a journal/log of all updates applied to these units as well as to stratification variables and information on reporting arrangements.

Seven modules within the Business Register manage different aspects of this information. They are: browser module; update module; structure manager module; collection entity (meaning reporting arrangements) module; workload module; survey interface module; and response burden module. They are complemented by reporting and analysis tools.

(For more details see Annex D1.)
Build, buy, or acquire

Given the general shortage of ICT resources required for SBR system development, consideration should be given to the possibility that part or most of an SBR database, including the functionality required for data input, output, and storage, can be purchased or acquired elsewhere and adapted to meet NSO needs. For example, Statistics South Africa (SSA) purchased a business register system from Statistics New Zealand, and modified and extended it to fit the SSA environment. Similarly, five Portuguese-speaking NSOs use a common SBR system developed under the auspices of the Portuguese NSO.

In this context, the AfDB is developing a generic SBR system and will assist in its installation in NSOs that express an interest.

Effective and actual update dates

There is a case to be made for distinguishing between the date a change took place in the country’s economic situation and the date the corresponding update is made to the SBR.

Managing history

The SBR is constantly being updated, which raises the question as to how historical information should be stored, and at what intervals. One approach is always to add data, never to replace data, and to record the date and time each item of data is created and, if it is subsequently updated, the date and time of the update. With this approach, it is possible to create a view of how the SBR looked at any past date and time.

The alternative, significantly simpler approach is to take periodic snapshots of the database and keep these for as long as seems necessary.

Managing mistakes

Correcting mistakes should be considered separately from making updates. An update is where a change that has taken place in the economic situation of the country is reflected in the SBR by altering the corresponding unit(s) and attribute(s) appropriately. Correcting a mistake is where the data in the SBR do not correctly represent the economic situation and the corresponding unit(s) and attribute(s) are altered so that they do represent the economic situation. In other words, an update represents a real world change, whereas a mistake has nothing to do with a real world change.

Contractor characteristics

Especially if the SBR systems are developed from scratch, the developing contractor should have proven experience in building statistical systems for NSOs. Previous experience in building an SBR would be an even greater asset.
15 • SPECIFICATION OF SBR QUALITY AND PERFORMANCE MANAGEMENT

15.1 INTRODUCTORY REMARKS

This chapter discusses quality and performance management, in particular quality and performance indicators (QPIs). Whilst there are no international standards for SBR quality per se, there are many standards and guidelines for survey quality assurance and measurement, which can be adapted to the particular circumstances of the SBR. Also, guidance can be obtained from NSOs that have well-developed quality systems.

15.2 QUALITY DESIGN CONSIDERATIONS

SBR quality management policies should be formulated within the context of the general NSO quality management framework, in so far as it exists. It is entirely possible that the NSO has a definition of output data quality in terms of dimensions such as relevance, accuracy, timeliness, accessibility, interpretability, and coherence. If so, these same dimensions should be used in considering SBR quality issues and measurements.

It is also possible that the NSO has adopted general Total Quality Management (TQM) principles and, if so, these should be taken into account.

15.3 QUALITY INDICATORS

Quality indicators should include the following:

- number of enterprises lacking a valid and complete economic activity class;
- number of enterprises for which the activity status is unknown;
- estimates of under-coverage:
  - due to inherent limitations in the coverage provided by the administrative sources;
  - due to time lag in receiving and processing data about new businesses from the primary administrative source;
- estimates of the proportion of enterprises that have an active status but which are actually inactive or dead;
- estimates of duplication of enterprises;
- estimates of misclassification by economic activity, by geography, and by size; and
- estimates of the incidence of incorrect contact data.

15.4 PERFORMANCE INDICATORS

Performance indicators should include the following:

- number and proportion of business surveys for which the SBR provides frames;
- adherence to the processing schedule;
- number of unfilled SBR positions;
- training administered;
- staff costs; and
- computing costs.

15.5 QUALITY AND PERFORMANCE TARGETS

Jointly with NSO senior management, the SBR staff should identify a few key indicators and set annual targets expressed in terms of these indicators. Possible targets might include:
• number of enterprises lacking a valid and complete economic activity class to be reduced by 25%;
• number of surveys using the SBR as source of frame to be increased by two;
• average time to complete an enterprise profile to be reduced to three months.

15.6 QUALITY AND PERFORMANCE DASHBOARD

A Quality and Performance Dashboard containing an overview of the key QPIs, in particular those for which specific objectives have been set, should be maintained for use by SBR managers and NSO senior managers.

15.7 SBR EVALUATION

There should be a periodic and independent SBR evaluation against quality objectives and performance targets, with identification of problems and of potential quality and performance improvements.
Chapter 15: Specification of SBR quality and performance management

An Example from Statistics South Africa (SSA)

At Statistics South Africa (SSA), the Business Register Quality Management Framework (BRQMF) provides the basis for a regular suite of quality and performance indicators (QPIs) for the SSA Business Register. The QPIs are reported for six sources/functions:

Section A – Administrative sources;
Section B – BR: Large Business Unit (LBU);
Section C – BR: Quality Improvement Unit;
Section D – BR: Operations and Maintenance component;
Section E – Frame creation;
Section F – Subnational Statistics.

Selected indicators for the first two sections follow. More details are provided in Annex D2.

Section A – Administrative sources

QPIs include:

- counts of enterprises, and quarter-to-quarter and year-to-year changes
  - by turnover size range by sector;
  - active with no SIC classification;
  - active with at least sector classification; and
  - total active.

- proportion of enterprises with missing size indicators (VAT or IT turnover);
- counts of administrative units and their statuses by month.

Section B – Large Business Unit (LBU)

Indicators for the last three quarters, including:

- enterprises flagged as belonging to LBU;
- enterprises updated and quality-checked by LBU;
- geographic units (GEOs) updated and quality-checked by LBU;
- average time to profile an enterprise group (EG) from initiation to completion;
- employees per enterprise group;
- new enterprise group profiles completed;
- existing enterprise group profiles completed;
- counts of incorrect SIC codes detected by LBU;
- counts of incorrect turnover detected by LBU;
- counts of duplicate enterprises detected by LBU.