

Development and Application of Statistical Business Register Guidelines in African Countries

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Abstract

Within the framework of its Statistical Capacity Building Program the African Development Bank (AfDB) is supporting development and improvement of statistical business registers (SBRs) in African countries. As a first step, the AfDB prepared a document entitled *Guidelines for Building Statistical Business Registers in Africa*, which describes SBR design, construction, introduction, use and maintenance. To support dissemination, interpretation and effective use of the Guidelines, the AfDB is now sponsoring a programme of review and recommendations for enhancements to SBRs in selected African national statistical offices. The paper outlines the content of the Guidelines and experiences in their application. The views expressed are those of the authors and do not necessarily reflect an official position of the AfDB.

Key Words: administrative data, economic statistics, profiling, statistical capacity building, statistical integration

1 Introduction

1.1 *Motivation for Guidelines*

Coordination of the individual surveys and administrative collections that constitute the economic statistics program of a national statistical office (NSO) is vital. It depends upon the use of a common conceptual framework, including, in particular, the System of National Accounts (SNA) and the International Standard Industrial Classification of All Economic Activities (ISIC). A crucial requirement in making this framework operational is to ensure that the frames for the individual surveys are properly harmonized.

An up-to-date survey frame (meaning a list of units and information about those units needed for the survey) is required for each repetition of a regularly conducted survey. It is more effective and efficient to maintain a frame so that it can support the sequence of repetitions of a survey than it is to create the frame afresh with each repetition. Survey frame maintenance is best achieved through the development of a single *statistical business register (SBR)* and its use as the source of frames for all economic surveys. (The adjective *statistical* is added to the usual term *business register* to emphasize that the register is developed by an NSO for statistical purposes.)

The design, development, and introduction or enhancement of an SBR is considered so important that it appears as a core goal in the five-year national strategies of most, if not all, African NSOs. In response to requests from NSOs, the African Development Bank (AfDB) established a project to prepare and promote the document entitled *Guidelines for Building Statistical Business Registers in Africa* (abbreviated *SBR Guidelines*).

1.2 *Objectives of SBR Guidelines*

The objectives of the Guidelines are to provide:

- a general background on the need for a SBR and the concepts on which it is based;
- a detailed description of the functions of an SBR and its inputs and outputs;
- detailed information on the development and implementation of an SBR; and

- a starting point for harmonization of SBRs across African NSOs.

The Guidelines are expected to be useful to:

- SBR managers and staff – by detailing SBR concepts, SBR creation and maintenance procedures, and SBR quality and performance measures;
- economic survey managers and staff – by providing the basic concepts on which an SBR is based, by describing the generation of survey frames from the SBR, and by discussing the possibility of publishing SBR data;
- staff responsible for respondent relations – by defining and enabling calculation of individual and cumulative respondent burden imposed by economic surveys;
- staff responsible for liaison with other organizations in the national statistical system and with international organizations – by providing the basic concepts; and
- senior managers – in outlining the basic concepts, and providing quality and performance measures and suggestions for quality improvements.

1.3 Existing Documentation on Business Registers

The starting point for development of the SBR Guidelines was existing international documentation on SBRs. This includes:

- papers from 23 meetings of the *Wiesbaden Group on Business Registers* (formerly International Round Table on Business Survey Frames), which provides a forum for the exchange of views on development, maintenance and use of business registers;
- papers from joint UNECE/EUROSTAT/OECD meetings on business registers;
- the *Business Registers Recommendation Manual* for European Union (EU) countries;
- discussions of the *Euro Groups Register Project* – a network of SBRs in EU countries, focusing on multinational enterprise groups;
- EU regulations - Regulation 177/2008 establishing a common framework for business registers for statistical purposes, and Regulation 696/93 on the statistical units for the observation and analysis of production systems.

By and large this documentation is too sophisticated to provide the basic guidance required by developing African NSOs, some of whom do not have a working SBR, or have one with only a very limited functionality.

The Wiesbaden Group has recognized need for international SBR guidelines and has set up guidelines development project. However, the resulting product will likely go through several iterations and this will take time. It will also be aimed at all Group members, in particular NSOs with well developed SBRs, and thus will likely address with the sort of complex issues that the Group members are currently tackling.

1.4 Development of SBR Guidelines

Taking into account relevant international standards, existing SBR documentation, and current status of SBRs in Southern African countries, the AfDB prepared a preliminary draft of the SBR Guidelines in January 2012. The draft was discussed at an Expert Group Meeting (EGM) held in Pretoria in May 2012 and attended by SBR unit heads from 12 NSOs belonging to Southern African Development Community (SADC) and Common Market for Eastern and Southern Africa (COMESA) countries. Comments and examples from EGM were used in preparation of the first version of the Guidelines in October 2012.

1.5 Application of SBR Guidelines

To promulgate and promote the SBR Guidelines, the AfDB set up a program of mission visits to selected SADC and COMESA countries. The program aims are:

- to review the existing register(s), if any, in at each NSO visited; to prepare a comprehensive suite of recommendations for register improvement, incorporating ideas from SBR Guidelines but tailoring them to each particular country's specific requirements;
- to identify additions and changes to the SBR Guidelines to make them more useful.

2 Content of SBR Guidelines

2.1 *SBR Guidelines Part I: Underlying Concepts and Methods*

The aims of Part I are, first, to describe the environment within which an SBR operates and to indicate the role of the SBR, second, to detail the underlying concepts and methods, including broadly accepted principles and practices, on the basis of which an SBR should be designed, developed, and implemented.

- Chapter 2 summarizes the conceptual framework for economic statistics provided by the *System of National Accounts 2008 (SNA2008)* in so far as it is relevant to the SBR. It defines what is meant by *economic production* and by *enterprise*. It explains the need to profile (divide) large complex enterprises into smaller units such as *establishments* for data collection purposes and it introduces the *International Standard Industrial Classification of All Economic Activities (ISIC) Rev 4*.
- Chapter 3 describes the types of units – *legal, administrative, statistical units* – that are important in the context of survey frames, and how they relate to one another.
- Chapter 4 discusses the elements of an economic statistics program and the need for and use of a frame for each survey, and it details the contents of a survey frame.
- Chapter 5 explains the reasons for an SBR, its primary function in providing survey frames, its other possible functions in measuring business respondent burden and as a stand-alone source of business statistics.

2.2 *SBR Guidelines Part II: SBR Design*

Part IIA focuses on design of SBR coverage (units) and content (data items) and the input sources and functions by which coverage and content are created and maintained.

- Chapter 6 presents a framework for specification of an economic units model and the coverage and content of the SBR.
- Chapter 7 provides details of the administrative sources of SBR data and how they are used in combination to construct and maintain the SBR.
- Chapter 8 describes additional sources of SBR data involving direct data collection, including profiling of large businesses, SBR surveys, and use of survey feedback.
- Chapter 9 indicates how the various sources are used in combination to update the SBR as businesses are created, transformed, and disappear over time.
- Chapter 10 sets out an SBR maintenance strategy and outlines update procedures.

Part IIB focuses on design of the outputs and output functions of the SBR.

- Chapter 11 discusses the primary output function of the SBR, namely the production of survey frames, also the coordination of sample selection across surveys and the creation of survey control files.
- Chapter 12 deals with the other output functions relating to respondent management, business statistics, and linkage of data across sources. It describes how the reporting commitments of individual business respondents can be identified and overall respondent burden can be compiled. It discusses the production of business statistics directly from the SBR and the role of the SBR in bringing together data from surveys and administrative sources.

Part IIC focuses on the organization of the SBR and the system that supports it.

- Chapter 13 discusses SBR organization and operations.
- Chapter 14 deals with SBR systems, i.e., application programs and database.
- Chapter 15 focuses on SBR quality and performance management and evaluation.

2.3 SBR Guidelines Part III: SBR Implementation

Part III details the steps in the implementing or enhancing an SBR.

- Chapter 16 presents a broad level plan for first-time design, development, and introduction of an SBR.
- Chapter 17 presents a broad level plan for review of an existing SBR, for determination of the extent of the changes required – reengineering, major enhancement, or continuous improvement – and for implementation of these changes.

2.4 Summary Diagrams

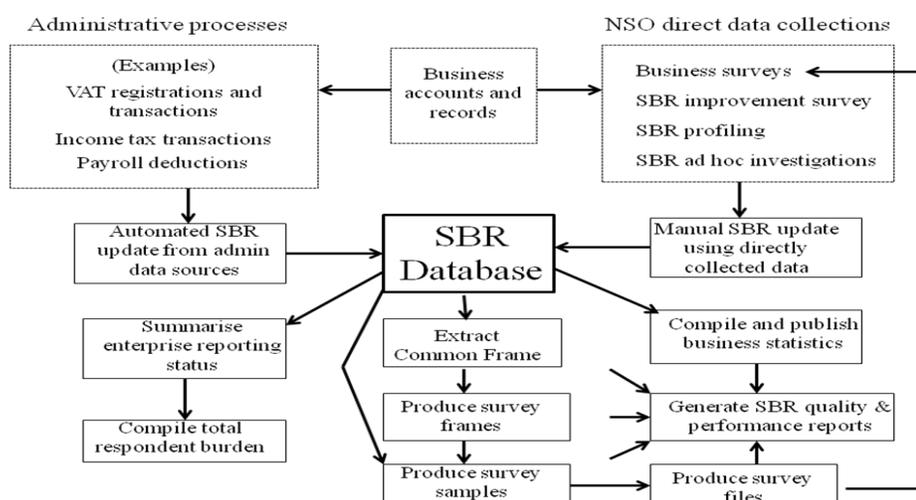


Figure 1: Summary of SBR Functions, Inputs and Outputs

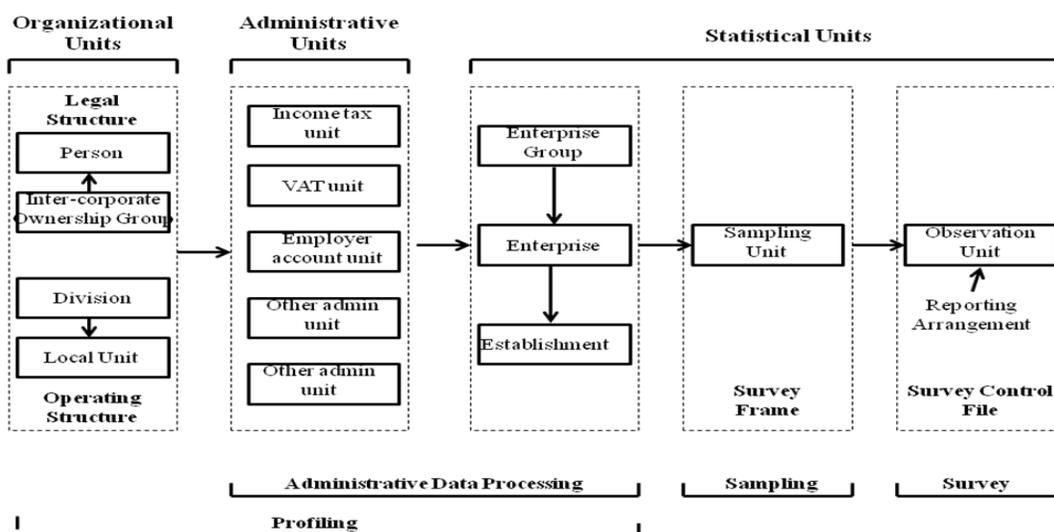


Figure 2: Summary model of organizational, administrative and statistical units

3 Experiences in Application of the SBR Guidelines

3.1 NSOs and Countries Visited

SBRs have been reviewed and recommendations for improvements made in five countries to date: Statistics Botswana, the Central Statistical Office (CSO) Zambia, the National Bureau of Statistics (NBS) Tanzania, Statistics Mauritius (SM) and the Instituto Nacional de Estística (INE) Mozambique.

3.2 Principal Findings

There are both striking similarities and significant differences in SBRs across the NSOs.

In theory, the SBR is a high priority in all NSOs. In practice it is sometimes poorly staffed and not always actually used. It is administered by separate organisational unit in four of the five countries. (The advantage of SBR administration by a separate unit is that it is likely to receive more priority.)

In only one country is the SBR based on and maintained from an administrative source. In this one case it is based on *business licences*, which is not a particularly good source for two reasons. First, a single enterprise may have several licenses and hence there is potential duplication of enterprises. Second, licences are administered by local authorities and ministries so many organisations are involved and data collection is difficult.

In all cases the SBR contains too many enterprises to be sustainable in the absence of automated updating from an administrative source, and in no case is updating automated. The result is that in all but one case the SBR is not sufficiently comprehensive or up to date to be used as the source of the frame for the primary annual enterprise survey, and thus the survey maintains and uses its own frame.

In the past there were few large complex enterprises but, as countries grow, they become more numerous. This, coupled with an increasing demand for regional statistics, means there is a need to divide large complex enterprises into establishments for data collection purposes. However, in no case does the SBR contain enterprises and establishments. Thus, there is general lack of capacity to deal effectively with large complex enterprises.

In three countries the SBR System comprises a set of Excel files on personal computers. This means there is no effective version control and little capacity to increase functionality or to automate. In the two countries with databases, the latter have limited functionality.

3.3 Principal Recommendations

Use international standard concepts and best practices. It is both efficient and effective to make full use of international standards such as SNA2008 and ISIC Rev 3. It is efficient because it saves development effort. It is effective because it results in use of well tried and tested concepts, systems and procedures

Define an enterprise to be in one to one correspondence with a legal entity. As most administrative processes register and deal with legal and natural persons, this makes lists of enterprises easy to obtain directly from administrative sources.

Use the simplest possible statistical units model. The SNA2008 describes three possible types of smaller standard statistical units into which an enterprise can be divided. One unit – the *establishment* - is sufficient. Provision should also be made for associating enterprises linked by ownership and/or control into *enterprise groups*.

A good quality well defined small SBR is better than a larger poorly defined SBR of inferior quality. It is simply not possible for the SBR to provide coverage of every

enterprise within the SNA2008 production boundary. Many small enterprises are too difficult to identify and locate and then too volatile to track over time. Thus, there has to be a type/size related threshold below which the SBR does not provide coverage. In defining this threshold it is better to aim for well defined coverage of a smaller number of clearly visible and trackable enterprises than for less certain coverage of a larger number of enterprises that are more difficult to identify and to track. The temptation to add enterprises that have been found during the course of field operations should be resisted.

Use administrative data to provide SBR coverage. Administrative registers list and track specific groups of enterprises according to the particular legislation being enacted. The most efficient and effective way of identifying and tracking enterprises is to make use of administrative registers. They should be the only source of coverage.

Define the coverage provided by the SBR to be the formal sector. This definition is very practical and easily understood. Also, given that the SBR coverage is based on administrative sources, the definition is perfectly in line with the informal sector framework given in the International Conference of Labor Statisticians 1993 Resolution.

Undertake SBR design in broader context of economic survey program redesign. The introduction of a comprehensive SBR is a catalyst for review and re-engineering the economic survey program as a whole. Formal sector surveys should be driven by the SBR. Informal sector production should be covered on an occasional basis by introduction of a household based informal sector survey.

Incorporate sample selection and sample control file creation procedures in the SBR. In order to ensure that sample selection and sample control file creation procedures are standardised and follow smoothly from survey frame creation, these functions should be included within the SBR framework.

Automate as much as possible. The key to efficiency is to standardise and to automate, in particular to avoid the need for repetitive clerical activities. In the context of the SBR processing of data from administrative sources must be automated, as must be the production of survey frames and samples

Ensure SBR database and applications are maintainable. It is essential to use a database not spreadsheets as the repository of SBR data. Spreadsheets are well known to be error-prone, processing can be automated only in a clumsy way, and maintenance is difficult especially if the development staff leave.

4 Conclusions

Future developments include SBR review and recommendations in more countries, revision of the SBR Guidelines in light of experiences, and establishment of a project for development of generic SBR System and its installation in NSOs who want to use it.

Without a reasonably well developed SBR System (meaning database and accompanying programmes) only very marginal improvements to an existing SBR are possible. At a minimum, the SBR System has to be able to support automated processing of incoming administrative data and to produce survey frames on demand. A universal problem is that NSOs do not have on site IT capacity to build even a minimal SBR System.

The SBR used by INE Mozambique, actually called the Fichier Unidades Estística (FUE), provides an excellent example of how this problem is best addressed. The FUE was developed (with financial support from Eurostat) by Instituto Nacional de Estatística Cape Verde (INECV) for the five Portuguese speaking countries. A private consulting company working on contract for INECV built and installed system in the countries. Whilst the FUE system does not have functionality needed to enable automated update, it shows the direction to go. It is envisaged that the generic SBR System will be based on Statistics Mauritius' New SBR System or will be an enhancement of the FUE System.