



# **Strategic View on Business Statistics in Africa** **Mexico city 23rd to 25th May 2018**

## ***Review of the Statistical Business Registers Program in Africa***

### ***Key findings***

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# Outline

- Role of SBR in economic statistics programs
- Justification for SBR project in Africa
- Conduct of the Project
- Findings of SBR reviews - problem areas
- Development and content of SBR guidelines
- The way forward

# Role of the SBR in Economic Statistics



- **The SBR's role is to provide National Statistical offices (NSOs) with comprehensive, good quality frames that provide the coverage and stratification variables used in the computation of economic statistics and National Accounts**
- The frame is starting point for a survey
  - Poor coverage means estimates are wrong
  - Unknown coverage means estimates are of unknown quality
  - Missing or wrong stratification data causes inefficient sampling and/or errors in estimates
  - Missing or wrong contact data results in inefficient collection and increased possibility of non-response bias
- **Recent concerns over quality of African statistics emphasise importance of ensuring good quality frames**

# Justification for SBR Project



- Decision in 2011 to promote development of SBRs as part of Statistical Capacity Building Program
- Components of economic survey programme
  - Surveys and administrative sources
  - System of National Accounts provides conceptual framework
    - defines “enterprise” and “economic production”
  - ISIC Rev 4 provides standard economic activity classification
  - central statistical business register provides common set of enterprises
    - for use by surveys in constructing their survey frames
  - Benefits of SBR in addition to harmonisation
    - More efficient than for each survey to maintain its own individual frame
    - Allows computation of response burden and can be direct source of economic statistics

# Conduct of the Project



- Development of first draft of ***Guidelines for Building Statistical Business Registers in Africa (SBR Guidelines)*** January 2012
- Discussion at Expert Group Meeting, May 2012
- Completion of revised version of SBR Guidelines October 2012
  - Hard copy version now available
  - Program of missions by consultant who developed guidelines to NSOs
    - October 2012 – March 2015
    - Seven countries visited to date

# Conduct of the Project (continued)



- Objectives of each mission
  - To review existing SBR at NSO
  - To make recommendations for future SBR developments
    - in accordance with Guidelines
  - To discuss Guidelines and obtain feedback
- Production of second version of Guidelines (November 2013)
  - Taking account of feedback from missions
  - and comments received when Guidelines circulated
- Support development of a prototype generic SBR system
  - Need for systems support in developing SBR systems became apparent during missions

# Findings of SBR Reviews – Problem Areas



- Multiple sources used to create enterprises
  - Including Yellow Pages and area enumeration
- Coverage actually provided by SBR cannot be explained
  - Because multiple sources used, do not know what the coverage actually is, i.e., what is and is not, included
- Lack of use of administrative data to maintain SBR
  - Some administrative sources not even analysed
  - No memorandum of understanding with source
  - Lack of common identifier can be a barrier
- Lack of access to taxation data
  - Even though access specified in Statistics Act



# **The African Development Bank guidelines for building Statistical business registers in Africa**

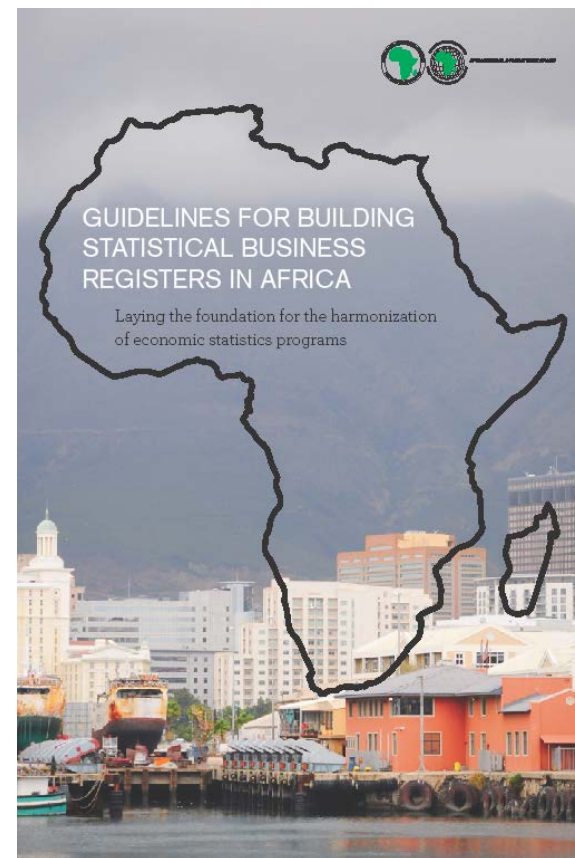


# Guidelines for building Statistical Business Registers in Africa

African Development Bank  
Statistics Department  
Avenue Joseph Anoma 01 BP 1387  
Abidjan 01, Côte d'Ivoire 2014  
ISBN: 978-9973-071-94-1

162 pages  
English

<https://www.afdb.org/en/knowledge/publications/guidelines-for-building-statistical-business-registers-in-africa/>



## Structure and purpose of the guidelines

- Provides a conceptual framework for the construction and operation of an SBR in Africa.
- Covers all aspects and components of a functioning SBR:
  - The standard statistical unit model
  - Its contents and coverage
  - Classifications
  - Population, updates and general maintenance strategy
  - Re-engineering and enhancements of existing SBR systems.

# Findings of SBR Reviews – Problem Areas



- High survey non-response rates due to
  - out of date data in SBR
  - too many very small volatile enterprises in sample
  
- Insufficient status of SBR within NSO
  - SBR is second priority
    - For example, is sub-function within a survey department, eg labour survey
  - Perception of insufficient SBR resources
  - SBR staff cannot keep SBR up to date
    - Because update not automated
    - SBR data in excel files on personal computers
    - Poor SBR Systems

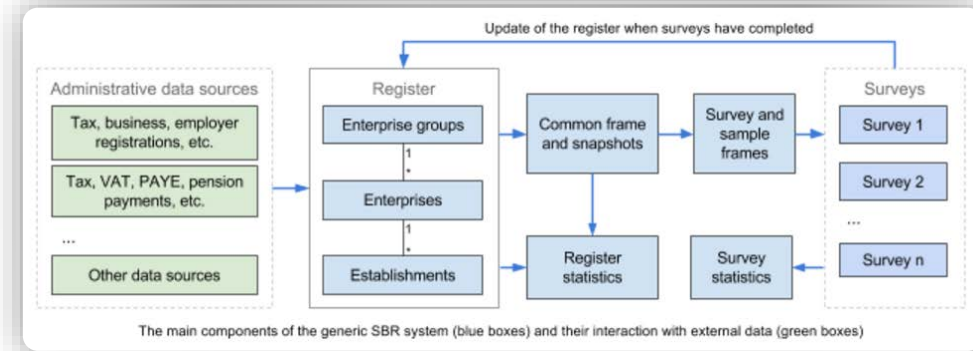


# **Operationalising the guidelines with a generic SBR system**

# The generic SBR system



- The guidelines is necessary but not sufficient for promoting the adoption of SBRs;
- In 2015 AfDB developed the generic SBR system which can be readily adapted to African countries.
- The goal of the generic SBR system is to induce adoption of the guidelines and associated concepts and frameworks by simplifying the task of constructing and deploying an SBR.
- The core component of the generic SBR system is a register supporting the three-tier AfDB SSU model.
- It has several functionalities ranging from data import, transformation, snapshots, register statistics, survey frames, sampling and survey analysis.



# Design goals of the generic sbr system

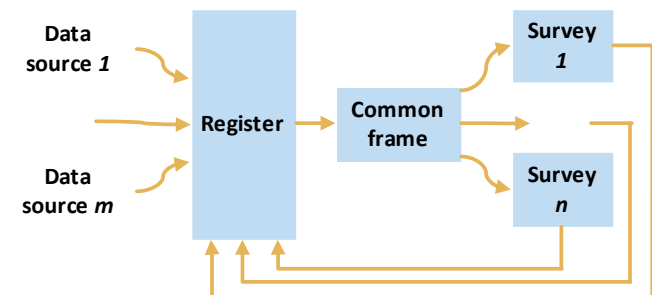


An SBR needs:

- **Accuracy:** an SBR must provide an accurate depiction of the entities active in the economy at any point.
- **Low latency:** the value of an SBR lies in how accurately it reflects the economy at any point in time and, thus, the time lag between events happening in the economy and them being reflected in the SBR must be kept at a minimum.
- **Persistence:** the SBR, while remaining fluid to achieve accuracy and low-latency, must also be viewable in the same state that it was at certain points in time to allow for stable sample selection and survey analysis.
- **Sole source of truth:** the SBR must be the sole source of business frames in the organisation; the existence of competing sources of such information in the organisation increases the risk of conflicting information on businesses, thus thwarting harmonisation.

# How the generic SBR system realises these design goals

- **Accuracy:** the system can be updated with an unlimited number of data sources with several techniques for linking business data and to ensure that the register business data is not overwritten but less reliable/accurate data.
- **Low latency:** all updates to the register is automated with manual intervention kept to a minimum, limited only to exceptional and non-recoverable error conditions.
- **Persistence:** the system allows for a frozen copy of a subset of the register to be made at any point in time; this subset is known as a snapshot or a common frame and can be used as the frame for economic surveys.
- **Sole source of truth:** the system implements the functionalities of a complete SBR complex mitigating the need for the register data to be moved to another system where it might evolve independently.





# **Challenges Adapting The Generic SBR system to African countries and solutions**





# Statistics Mauritius

## Data acquisition

The main challenge in Mauritius was the acquisition of the necessary tax data from the Revenue Authority (MRA) to populate and update the register.

Statistics Mauritius thus had to find acceptable alternative sources. The Registry of Companies (ROC), a reliable source of business registration data, was used for the initial population and to provide information on demographic changes to the businesses.

Data from the Mauritius Social Security, a governmental agency mandated to collect pension payments from employers for their employees, was then used to supplement the ROC data for evidence of activity.



# Statistics Mauritius

## **Birth of substantial new businesses after start of a survey**

In some cases, new businesses of substantial size may come into existence after a survey has started.

In 2016, a series of events in Mauritius led to many thousands of people in the labour force moving to newly created companies. The latter were not in the common frame and thus an ongoing labour survey could not cover them.

To support this scenario while keeping the constraint that common frames must never change, the SBR system was enhanced to allow for a survey to obtain its frame from more than one common frames.

Using this new feature, a supplementary frame was then created to include the missing businesses which could then be added to the ongoing labour survey.

# Central Statistics agency of Ethiopia



- **Long imports with frequent power failures**

- Initial population of the register required the import of millions of tax registration records in which the economic activity and location automatically coded.
- Automatic coding is slow resulting in a very long import process of several hours and sometimes even days.
- There were frequent power failures at the CSA (daily or more) occurring before the full import could be completed.
- As the import system works on the whole batch of data at each step, all the records must be coded before being used to update the register; thus, with a power failure during coding, all work up to that point is lost and relaunching the import at the next restart entails starting from the first record again. This process is then again subject to the same risk of power failures.

- **Solution**

- Firstly, large set of records are automatically broken into smaller batches with each having a higher chance of being completely processed in a short period of time (up to one hour).
- Secondly, the system saves its progress after each completed step of the import program. At restart following a power failure, the system checks if there were ongoing imports that were not completed and, if so, relaunches the corresponding import programs at the point where they failed.

# Central Statistics agency of Ethiopia



## Support for data in multiple languages

The official language of Ethiopia is Amharic, a Semitic language with its own writing system. Some data sources, such as the Ministry of Industry and Trade keeps their list of registered businesses partially in Amharic and thus support for this language had to be included in the SBR system.

The latter was enhanced to be able to correctly display and compare Amharic text.

Support for the Oromo language, another language in wide use in Ethiopia, is planned.



# Other ongoing adaptations

- **Adaptations are ongoing in the following countries:**
  - **Zambia**
  - **Botswana**
  - **Swaziland**
- **Future adaptations:**
  - **Namibia**
  - **Malawi**



## ° Concluding remarks

The generic SBR system has proven successful in inducing the faster adoption of concepts, structures and tools which can improve the quality of economic statistics in Africa.



**Thank you**