

# Towards a Register-based Statistical System

## 9.1 Introduction

As stated at the end of Chapter 8, if administrative data are used to develop and maintain statistical registers, and also to supplement statistical surveys, the next logical step is to consider how to link those registers and surveys, and thus move towards a register-based statistical system. This approach has been developed mainly by statistical agencies in the Nordic countries, often with the initial focus of implementing a register-based population census.

A pure register-based statistical system could be defined as one in which all statistics (for a particular domain or set of domains) are produced exclusively from administrative sources that have been combined into two or more linked statistical registers. In practice, such a purely register-based statistical system is relatively rare, as small-scale statistical surveys are often needed for quality assessment or to overcome coverage issues for specific variables or sectors of the population. A more pragmatic approach is therefore to use the term "register-based statistical system" to refer to a system based primarily on administrative data that have been organized into linked statistical registers.

This chapter takes a brief look at some of the issues involved in the transition to a register-based statistical system. It intends to complement rather than duplicate the much more detailed study of this topic contained in the United Nations Economic Commission for Europe publication "Register-based Statistics in the Nordic Countries"[1]. That publication reviews best practices, with a focus on population and social statistics, and was prepared by experts from several Nordic countries, so should be regarded as the authoritative work on this topic.

## 9.2 Feasibility

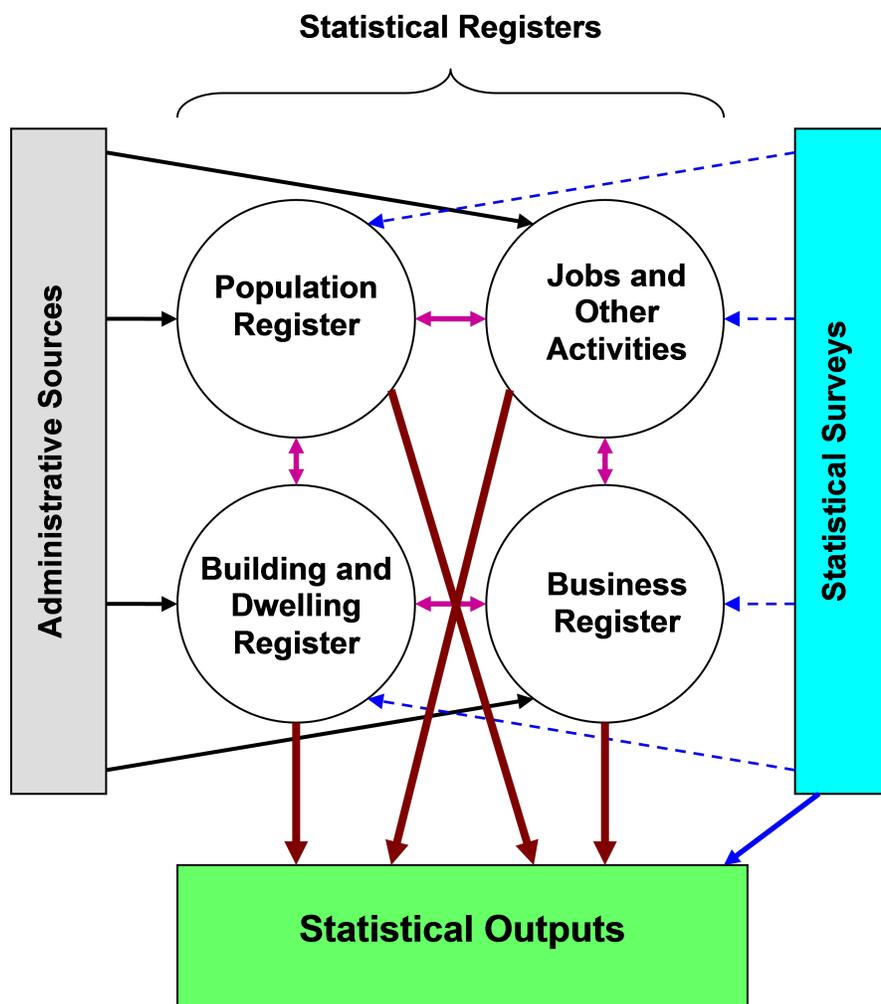
Register-based statistical systems are not feasible for all countries, or even all domains of statistics, at least in the short-term. This is because the feasibility of developing and implementing such a system depends on a number of pre-conditions relating to policy and infrastructure, some of which have been mentioned in different contexts in preceding chapters. The key pre-conditions for a successful register-based statistical system are:

- The existence of suitable administrative sources: Comprehensive administrative registers of target populations are essential. The existence of large numbers of unregistered units, e.g. illegal immigrants or businesses operating in the informal economy, will make it extremely difficult to produce meaningful register-based statistics.
- Ease of access – The administrative sources must be readily available to statisticians under the various frameworks described in Chapter 3. This includes the requirement that they are held in a format that facilitates data transfer.
- Common identifiers – Whilst Chapter 6 shows that common identification numbers for units that appear in multiple sources are not absolutely essential, they significantly facilitate the combining of those sources and therefore greatly increase the efficiency of production of register-based statistics.
- Public acceptance – As discussed in Chapter 4.2, the attitude of the general public to data linking and sharing within the government sector is a key factor in determining the extent to which administrative data can be used for statistical purposes. The balance between the efficiency of data sharing versus concerns about the protection of data relating to individual units is often the cause of fierce debate, with different outcomes depending on national cultures and traditions. In some countries the concept of a register-based statistical system is currently seen as unacceptable to large sections of the population.

If these pre-conditions are not in place, it is clearly not feasible to consider a register-based statistical system as a short-term option. This model could still, however be useful as a long-term goal, to be reached by following a step-by-step programme of changes to establish the necessary pre-conditions. Experience in the Nordic countries underlines the importance of long-term planning, as the implementation of register-based population censuses in those countries has typically taken around twenty years.

## 9.3 The Generic Model

Chapter 7.3 included discussion about register-based statistical systems insofar as they provide a model for the use of administrative data in statistical registers. Figure 7.4 in that chapter showed a generic model for a register-based statistical system, but focused only on the administrative inputs. Figure 9.1 below adapts that model to include statistical inputs and outputs. The two key features are:



- The links between the basic statistical registers - There may also be other, more specialized statistical registers, but these are not shown in the diagram for reasons of clarity.
- The balance between administrative sources and survey data in the statistical outputs - There is no clear rule determining what this balance should be, but it would be reasonable to expect that administrative sources are the main input.

**Figure 9.1 – Register-based Statistical Systems – A Generic Model**

Note: The statistical register of jobs and other activities is not always present in national versions of this model.

#### 9.4 Summary

A register-based statistical system is clearly the ultimate goal when considering the greater use of administrative data for statistical purposes. In many countries it may seem a very distant goal, perhaps not attainable for many years. However, by adopting a strategic plan based on step-by-step improvements towards creating the necessary pre-conditions, it is possible to gradually move closer to this goal.

[1] See: [http://www.unec.org/fileadmin/DAM/stats/publications/Register\\_based\\_statistics\\_in\\_Nordic\\_countries.pdf](http://www.unec.org/fileadmin/DAM/stats/publications/Register_based_statistics_in_Nordic_countries.pdf)