

Review of the availability of administrative sources and possible use to support field collection

Ene-Margit Tiit
Estonia



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Introduction

- Administrative sources (registers) are in all countries rich data-sets
- It is reasonable to use them in official statistics, especially for censuses.
- In Estonia the administrative data-sets have been used in statistics with different aims.
- Registers have been used in different stages of preparation and conducting population and household censuses.
- The aim of the paper is to share our experiences and lessons of usage administrative data-sets in census.

REGISTERS AND REGISTER'S SYSTEM

Administrative data-set

- Administrative data-set is a set of data, gathered for different administrative aims (not for making statistics).
- The content of administrative data-sets is defined by its law and charter.
- Usually the data of an administrative data-set are based on documents, not on utterances.
- Often definitions of variables in administrative data-sets do not coincide with definitions of similar variables used in statistics.

Register

Register is a data-set that satisfies the following conditions:

1. It covers the all population;
2. All records are uniquely identified;
3. The data are regularly updated.

The second condition is satisfied if there exists a unique (one-to-one) variable that connects the record with the person measured.

In principle it is also possible that instead of unique variable there exists a set of variables determining the record uniquely.

Administrative data-set that satisfies the conditions 1—3 is **administrative register**.

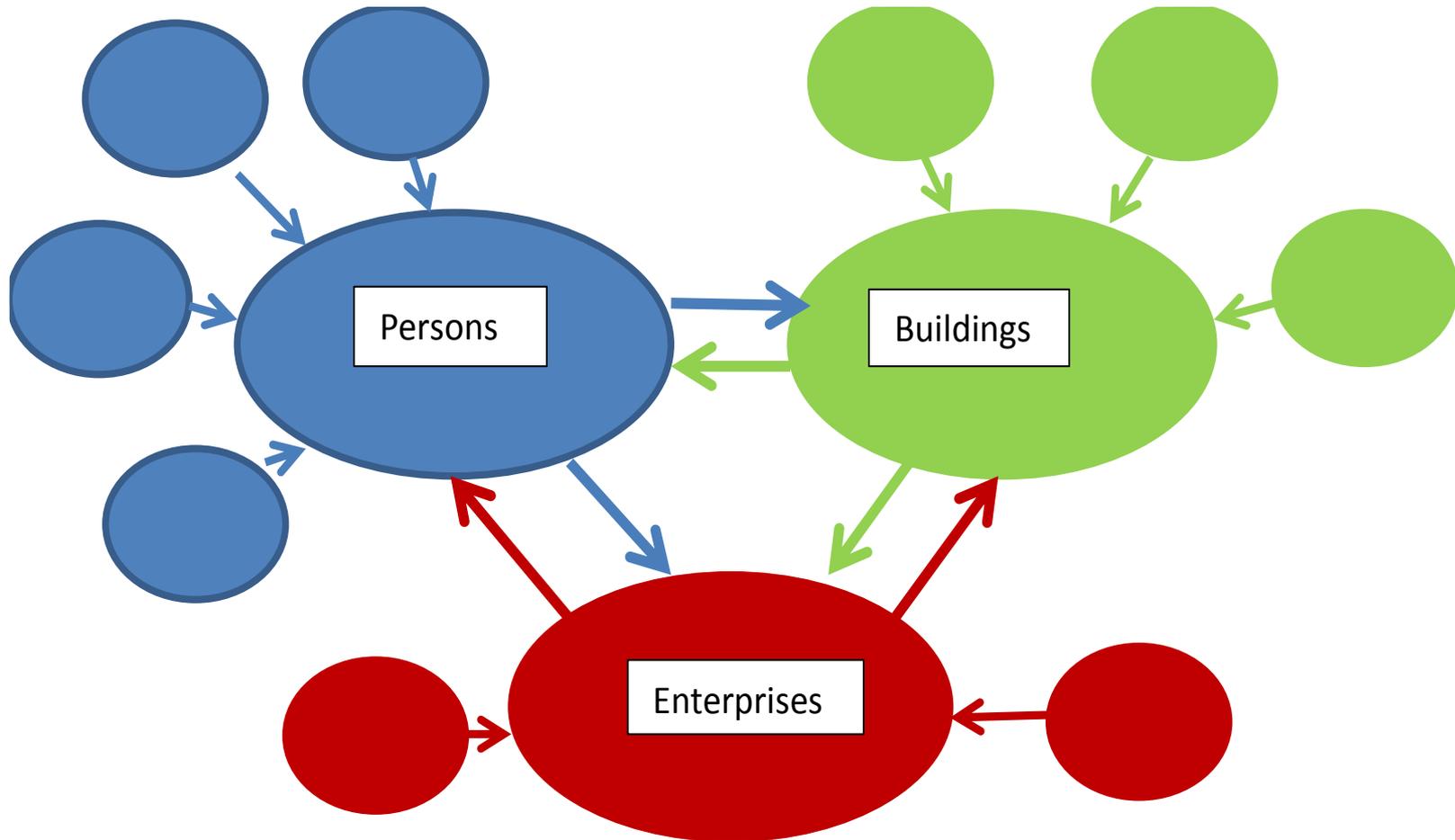
Registers in Estonia

- In Estonia (as also in many other countries) exists the Population Register.
- In Estonia all residents, that is people having either Estonian citizenship or residence permit have the ID-code that is fixed in Population Register.
- Also all other administrative registers use these ID-codes to identify the persons.
- That makes all administrative registers coherent.
- Consequently, it is easy using the ID-codes to combine the data from different administrative sources

Register's system

- Among administrative registers there are registers describing different objects: persons, buildings, enterprises.
- To use them for statistical purposes it is necessary that also buildings and enterprises have their id-codes and are uniquely identified.
- Additionally, it is necessary, that the registers are linked by these codes.
- Register's system is a set of registers, where all registers are linked by ID-codes

System of administrative registers in Estonia



PREPARATORY PERIOD



Premises of usage administrative data-sets in census

Before the decision has been made to use administrative data-sets in census, a thorough revision of all useable data-sets should be done, checking the following points:

1. Which census variables are theoretically available from existing data-sets?
2. Are the records in data-sets correctly and uniquely identified?
3. Does the data-set cover the whole population?
4. Which is the frequency of updating of data in data-set?
5. Are the definitions of variables used in data-sets the same as in census?
6. The correctness of data-sets must be assessed to check the existence of random and systematic errors.

Decision to use registers in census

- In Estonia the first such revision was made in 2006—2008
- But registers were not ready for register-based census
 - not all census variables were covered by registers
 - quality of some registers was not on satisfactory level.
- When it appears that in the country exist such administrative data-sets that fulfil the conditions then it is possible to use administrative data-sets in census.
- Estonia reached this stadium just before the census term 2011.
- In 2010 here was initiated a project to elaborate the methodology of register-based census having in mind the census of 2020.

USAGE OF REGISTERS IN CENSUS



Register variables and census variables

- Variables taken from the administrative data-sets should be transformed to get the census variables.
- The task of census-team is to elaborate and implement algorithms for these transformations.
- For forming several variables the data from several data-sets should be used.
- For instance, to get the necessary information for census variable **social status** in Estonia more than ten different registers were used.
- Creation of such variable is possible only in the case when all necessary administrative data-sets exist.

SS Practical preparations for register-based census

When planning the practical usage of registers for census there are several facets to pay attention on:

- It is very important to have the **juridical support** for usage of administrative data.
- In Estonia in 2010 was imposed the Law of Statistics that allows to use the data gathered by different organisations for Statistics Estonia with the aim of making statistics.
- **Technical organization** of data transfer from admin. data-sets to statistical office is a complicated task.
- In Estonia there has been elaborated a data-exchange environment X-way.
- Good **cooperation** between the census team (statistical office) and owners of admin.data-sets is the key feature.



Usage of registers in traditional census

In general, the data from administrative data-sets can be used during three stages of traditional census:

- Before the census, in the preparations stage;
 - Creating the working lists and maps;
- During the census, in carrying through the field-work;
 - Prefilling the questionnaires (in Estonia the following variables were prefilled: citizenship, sex, time and place of birth, legal marriage status, previous living place etc
- After census;
 - Adding to census data-base variables not asked,
 - Filling blanks and improving the quality of data gathered



Estimation of coverage

- In Estonia the under-coverage of census was checked using the registers.
- Using statistical methodology the under-coverage of 2.3% was found and also the structure of non-enumerated population was estimated.
- In population statistics is in use the corrected population size.



Preparations for register-based statistics

- In Estonia it is planned to make the following population and household census in 2020 register-based.
- The preparations for this started already before the last census with
 - revision of existing registers,
 - completing the methodology and software for register-based census and
 - regular cooperation with owners of administrative registers
- Very important steps are piloting and testing censuses that are repeatedly organised (in each two years).
 - Their aim is to discover all possible problems in preparations of register-based census.

Thank you for attention

