

EUROPEAN COMMISSION

EUROSTAT Directorate E: Sectoral and regional statistics Unit E-1: Farms, agro-environment and rural development



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National Methodological Report to be used for Census and SAPM 2009/2010

Explanatory note

The objective of the revision of the template presented here is to set the FSS NMR at higher standards and to contribute to a stronger harmonization between countries. Along with the principle of harmonization, this new version of the template also seeks more transparency of the used statistical process. The NMR should also be considered to provide the basis for the identification of the main problems in the statistical process (difficult questions, etc). It should contribute to spot out the need for future improvements and changes.

Legally, the deadline for the delivery of the NMR is the same as for the transmission of the validated survey data. Regulation $1166/2008^1$ structures the content of the NMR in four main areas:

- (a) the organisation and methodology applied;
- (b) the levels of precision achieved for the sample surveys referred to in this Regulation;
- (c) information on the quality of any administrative and other data sources used; and
- (d) the inclusion and exclusion criteria applied to meet the coverage requirements specified in Article 3 (*Member States which use a survey threshold above one hectare shall fix this threshold at a level that excludes only the smallest agricultural holdings which together contribute 2 % or less to the total utilised agricultural area excluding common land and 2 % or less to the total number of farm livestock units.*)

The present template for the NMR for FSS and SAPM 2009/2010 is produced having into consideration the following:

- There will be only one report per country for the activities related to both FSS 2009/2010 and SAPM 2009/2010, combining methodological and quality issues (according to Commission Recommendation 2009/498/EC of 23 June 2009 on reference metadata for the European Statistical System and Regulation (EC) No 223/2009²). The template for NMR 2010 takes into consideration the ESQRS (European statistical Quality Report Standard) as provided by Eurostat's Directorate B "Quality, methodology and information systems".

- The NMR template is a document that should fit all countries, carrying out a survey(s) according to Regulation (EC) No 1166/2008. Thus there are parts of the template not relevant for some countries. In these cases, the countries are asked to explain briefly the reasons;

- The document aims to respond to the best possible extent to the raised requests for metadata from the users, this document is non-confidential.

Chapter 2 consists of a detailed description of the applied methodology. Chapters 3, 4 and 5 deal with quality assessment.

¹ Regulation (EC) No 1166/2008 of the European Parliament and of the Council of 19 November 2008 published in the Official Journal of the European Union L 321, p.14 of 1 December 2008.

² Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics and repealing Regulation (EC, Euratom) No 1101/2008 of the European Parliament and of the Council on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities, Council Regulation (EC) No 322/97 on Community Statistics, and Council Decision 89/382/EEC, Euratom establishing a Committee on the Statistical Programmes of the European Communities

Template for the NMR

Farm Structure Survey 2009/2010 Survey on agricultural production methods 2009/2010

National Methodological Report (NMR)

According to Art. 12 of Regulation (EC) No 1166/2008 of the European Parliament and of the Council of 19 November 2008 published in the Official Journal of the European Union L 321, p.14 of 1 December 2008

Member State: ...

FARM STRUCTURE SURVEY 2009/2010 SURVEY ON AGRICULTURAL PRODUCTION METHODS 2009/2010 NATIONAL METHODOLOGICAL REPORT

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SUMMARY

The summary should focus on the survey methodology. The main topics to be dealt with are:

- A brief history of the FSS this item is of special interest for countries with less experience in FSS surveys. In these cases it will be useful to make a short description also about he related statistical activities i.e. establishment/up-date of statistical register, etc.
- Survey period
- Coverage
- Survey organisation
- Work process
- Preparing the survey operations
- Data collection and data entry
- Data processing, estimation and analysis
- Whether sampling for SAPM and/or for OGA is applied and respect of the precision requirements

1. CONTACTS

Contact organisation	(The name of the organisation of the contact points for the data or metadata.)
Contact organisation unit	(An addressable subdivision of an organisation).
Contact name	(The name of the contact points for the data or metadata.)
Contact person function	(The area of technical responsibility of the contact, such as "methodology", "database management" or "dissemination".)
Contact mail address	(The postal address of the contact points for the data or metadata.)
Contact email address	(E-mail address of the contact points for the data or metadata.)
Contact phone number	(The telephone number of the contact points for the data or metadata.)

2. SURVEY METHODOLOGY

2.1 National legislation

- Reference of national legal base of the FSS 2009/2010 (Act, Government Decree, etc.)
 - Does the national legislation deal with:
 - scope and coverage,
 - frequency of the census and time reference,
 - responsibility for the census,
 - o administrative and financial provisions,
 - o obligations of the respondents with respect to the census,

- o identification, protection and obligations of enumerators,
- right of access to administrative data
- o confidentiality

2.2 Characteristics and reference period

- Overview of national characteristics (main groups, specialties). Please indicate characteristics which are surveyed only for national purposes (please specify for which purpose and where the request came from (by the NSI or by the Ministry of Agriculture (MoA), etc.).
- Characteristics not collected (reasons: e.g. non-significant). Which characteristics, from the EU list of characteristics, are considered as irrelevant? For the characteristics considered NE or NS explanation should be given mentioning the known information and the source it was obtained from you may repeat the information already sent to Eurostat according to art 7 par. 3 of Regulation 1166/2008.
- Exact reference date/period of the characteristics.
- Changes of definitions of characteristics and/or reference time and/or measurement affecting the comparability with previous survey (census) data.
- Please indicate the version of the Handbook on implementing the FSS and SAPM definitions used for the organisation of FSS and SAPM 2010 and whether there are any differences between national and EU concepts.
- Please provide a copy of questionnaire(s) in Annex (if possible, in English, French or German)

2.3 Survey organisation

• Short description about organisation, main responsibilities and functions of all the actors, pilot surveys, promotion of the census, etc.

2.4 Calendar (overview of work progress)

• Key activities of the survey, from the preparations until the dissemination of the results, in a time frame with the exact time/period (if possible, in form of a table). Please indicate serious deviations from the established calendar occurred during the implementation and the reasons. (This information could help countries in the future planning of the activities.)

2.5 **Population and frame**

• Population

- Target population (1999/2000 census, register, etc.)
- Definition of a holding including a description of thresholds applied whether it's different from the one in Regulation 1166/2008 and why
 - Proofs that the requirement stipulated in art. 3.2 of the Regulation 1166/2008 are met. ([...] 2. However, Member states which use a survey threshold above one hectare shall fix this threshold at a level that excludes only the smallest agricultural holdings which together contribute 2% or less to the total utilised agricultural area excluding common land and 2% or less to the total number of livestock units.)

- Number of holdings within the population, according to EU definition (³) and, if different from EU definition, according to national definition.
- Changes in the definition of a holding (of the statistical unit) affecting the comparability with previous survey (census) data
- Frame (⁴)
 - Type of frame (list frame, area frame, multiple frame, other)
 - Used item sources:
 - statistical registers (farm register, business register, etc.)
 - administrative sources
 - other
 - Time frame of reference and updating process of the frame

2.6 Survey design

• Enumeration: exhaustive, sample, combination of exhaustive and sample, other (please specify)

2.7 Sampling, data collection and data entry

2.7.1 Drawing the sample –for SAPM and/or OGA, if applicable

- Sample size: How was the sample size decided?
- How are the sampling units chosen (expert's choice, enumerator's choice, etc)
- Statistical/other programs used in the sample selection
- Sampling design and estimation method: probability sampling (fully, partly, not at all)⁽ⁱ⁾
- Stratification: list of stratification variables. How are the stratification variables classified? Pre-/post-stratification?
- List/description about strata where the sampling ratio is 100%.
- Sampling across time:
 - drawing a new sample in each occasion
 - retaining the same sample throughout all occasions
 - \circ other (please specify)
- Co-ordination with other surveys taking into account the number of surveys. Is there any co-ordination between surveys to avoid the situation that some farms have to answer multiple questionnaires with the same kind of questions?
- Elements related to the precision requirements stipulated in Annex IV "Precision Requirements" of the Regulation 1166/2008:

^{(&}lt;sup>3</sup>) See Articles 2 and 3 of Regulation (EC) 1166/2008 of the European Parliament and of the Council on farm structure surveys and the structure of agricultural production methods and repealing Council Regulation (EEC) 571/88

^{(&}lt;sup>4</sup>) The *frame* is the listing or listings of units that delimit, identify, and allow access to the elements or sets of elements of the target population.

Please provide information in the following tables:

NUTS2 regions with more than 10000 holdings Crop characteristics:

		NUTS2 regions			
Precision requirements	Field codes				
Number of holdings in the NUTS2 region					
UAA, ha of the NUTS2 region	A_3_1				
Area of cereals in ha in the NUTS2 region	B_1_1				
% Cereals in the UAA of the NUTS2 region					
Area of potatoes and sugar beet in ha in the NUTS2 region	B_1_3 + B_1_4				
% potatoes and sugar beet in the UAA of the NUTS2 region					
Area of oilseed crops in ha in the NUTS2 region	B_1_6_4 + B_1_6_5 + B_1_6_6 + B_1_6_7 + B_1_6_8				
% oilseed crops in the UAA of the NUTS2 region					
Area of permanent outdoor crops in ha in the NUTS2 region	B_4 - B_4_7				
% permanent outdoor crops in the UAA of the NUTS2 region					
Area of fresh vegetables, melons, strawberries, flowers in ha in the NUTS2 region	B_1_7 + B_1_8				
% fresh vegetables, melons, strawberries, flowers in the UAA of the NUTS2 region					
Area of temporary grass and permanent grassland in ha in the NUTS2 region	B_1_9_1 + B_3				
% temporary grass and permanent grassland in the UAA of the NUTS2 region					

Livestock characteristics:

			NUTS	S2 regio	ns	
Precision re	quirements	Field codes				
LSU in the I	NUTS2 region					
als (all	Number of Bovine animals in	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$				
animals	the NUTS2 region, in LSU % of the LSU in the NUTS2 region	C_2_99*0.8	-			
Bovine ages)	% of national share of bovine animals in LSU					
Sheep and goats (allBovine ages)	Number of Sheep and goats in the NUTS2 region, in LSU	C_3_1*0.1 + C_3_2*0.1				
and	% of the LSU in the NUTS2 region					
Sheep ages)	% of national share of sheep and goats in LSU					
	Number of Pigs in the NUTS2 region, in LSU	$C_4_{1*0.027} + C_4_{2*0.5} + C_4_{99*0.3}$				
	% of the LSU in the NUTS2 region					
Pigs	% of national share of pigs in LSU					
	Number of Poultry in the NUTS2 region, in LSU	C_5_1*0.007 + C_5_2*0.014 + C_5_3*0.030				
~	% of the LSU in the NUTS2 region					
Poultry	% of national share of poultry in LSU					

NUTS2 regions with less than 10000 holdings Crop characteristics:

		NUTS2 regions			
Precision requirements	Field codes				
Number of holdings in the NUTS2 region					
Associated NUTS1 region					
Number of holdings of the associated NUTS1 region					
UAA, ha of the associated NUTS1 region	A_3_1				
Area of cereals in ha in the associated NUTS1 region with at least 1000 holdings	B_1_1				
% Cereals in the UAA of the associated NUTS1 region with at least 1000 holdings					
Area of potatoes and sugar beet in ha in the associated NUTS1 region with at least 1000 holdings	B_1_3 + B_1_4				
% potatoes and sugar beet in the UAA of the associated NUTS1 region with at least 1000 holdings					
Area of oilseed crops in ha in the associated NUTS1 region with at least 1000 holdings	B_1_6_4 + B_1_6_5 + B_1_6_6 + B_1_6_7 + B_1_6_8				
% oilseed crops in the UAA of the associated NUTS1 region with at least 1000 holdings					
Area of permanent outdoor crops in ha in the associated NUTS1 region with at least 1000 holdings	B_4 - B_4_7				
% permanent outdoor crops in the UAA of the associated NUTS1 region with at least 1000 holdings					
Area of fresh vegetables, melons, strawberries, flowers in ha in the NUTS2 region	B_1_7 + B_1_8				
% fresh vegetables, melons, strawberries, flowers in the UAA of the NUTS2 region					
Area of temporary grass and permanent grassland in ha in the associated NUTS1 region with at least 1000 holdings	B_1_9_1 + B_3				
% temporary grass and permanent grassland in the UAA of the associated NUTS1 region with at least 1000 holdings					

Livestock characteristics:

			NUTS	S2 regio	ons	
Precision re	equirements					
Precision re	equirements	Field codes				
LSU in the	associated NUTS1 region					
all ages)	Number of Bovine animals in the associated NUTS1 region with at least 1000 holdings, in LSU	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$				
Bovine animals (all ages)	% of the LSU in the associated NUTS1 region with at least 1000 holdings					
Bovine	% of national share of bovine animals in LSU					
(all ages)	Number of Sheep and goats in the associated NUTS1 region with at least 1000 holdings, in LSU	C_3_1*0.1 + C_3_2*0.1				
Sheep and goats (all ages)	% of the LSU in the associated NUTS1 region with at least 1000 holdings					
Sheel	% of national share of sheep and goats in LSU					
	Number of Pigs in the associated NUTS1 region with at least 1000 holdings, in LSU	C_4_1*0.027 + C_4_2*0.5 + C_4_99*0.3				
	% of the LSU in the associated NUTS1 region with at least 1000 holdings					
Pigs	% of national share of pigs in LSU					
	Number of Poultry inthe associated NUTS1 region with at least 1000 holdings, in LSU	C_5_1*0.007 + C_5_2*0.014 + C_5_3*0.030				
~	% of the LSU in the associated NUTS1 region with at least 1000 holdings					
Poultry	% of national share of poultry in LSU					

2.7.2 Data collection and data entry

- Data collection methods by Mail, or Personal interview, or Telephone (including the use of Computer Assisted Telephone Interview (CATI) technology), other
- Data entry modes: Please give information about the data entry methods applied. For example:
 - optical character recognition (OCR)
 - Electronic data capture during personal interview
 - Entering the data online by the holder

 \circ other

2.7.3 Use of administrative data sources

All characteristics that are not obtained directly from the holder for the FSS, and are taken from administrative sources will need to be reported.

- Information on the administrative source used
 - o indication of administrative data source name, description, legal base;
 - definition of reporting unit (holding);
 - identification of the units identification variables, linkage methods, handling of mismatching cases;
 - list of characteristics taken from the data-source
 - population covered, completeness (if the information available does not cover all units, how is the missing information derived), under- or over-coverage, misclassification and/or duplicates
 - o information on quality issues: processing errors, measurement errors, etc
 - the purpose of the administrative source used for building the sample frame, for validating the results, etc.
- Information on the characteristic (or on group of characteristics if they tightly related and coming from the same administrative source)
 - any differences in the definition of the characteristic between the administrative source and the FSS; method(s) used to eliminate these differences (if possible)
 - reference date of used information the reference year/date for each characteristic and if different from the FSS: what kind of measure(s) has been taken to get as close as possible (adjustments, interpolation)
 - checking the reliability, accuracy and coherence (comparison to other available data) of the data originated from administrative data source (*ante- and/or ex-post*). If data of the System for the Identification and Registration of Bovine Animals is used, an assessment of the rate of unreported events.
 - record linkage algorithm, rate of false matches and their handling
- Information on the method(s) of integration of the administrative data into the FSS:
 - inserted directly to the survey,
 - \circ pre-printed in the questionnaire and then checked by farmers,
 - o used for quality control (and actions taken in case of large discrepancies),
 - summing up (creation the variable from different information by adding them together), etc.
- limitations, drawbacks of the use of data from administrative source

2.8 Specific topics

2.8.1 Common Land

The legal change of the UAA concept, and also the fact that there are various possibilities for the coverage of the common land, makes this an obligatory chapter in the NMR for all the countries. It should include a brief description of the national situation of common land including:

History:

- Whether or not is had been previously included in FSS.
- If previously covered what methodology was used.
- If not covered previously what was the reason for its exclusion.

Current Methodology:

- If covered in previous FSS whether or not the collection of the common land area has a different methodology and the reason for the change
- Description of the methodology used for including the common land area in the census
- If there was a particular question(s) or separate questionnaire used to survey the common land. (In the case of a separate questionnaire it should be included in the report.)
- Problems encountered and possible solutions for future actions.

Results:

- Total area of common land surveyed
- Change from FSS 2007-2009/10 on the total area of common land and on the number of holdings (if applicable), and the possible <u>reason(s)</u> for the change.

2.8.2 Geographical reference of the holding

Please describe the method used to obtain the geo-reference of the holding.

2.8.3 Volume of water used for irrigation

Please describe the method used for the estimation of the volume of water used to irrigation on the holding (in m3).

2.8.4 Other issues

- Any regional specification, ex. Extreme weather conditions in certain region(s) during the agricultural year (reference period) or differences in the methodology used in the collection phase
- Possible improvement in the future

2.9 Response-burden policy

- Please indicate the measures taken to increase response rates:
 - call-back strategy
 - written reminders, telephone reminders
 - giving priority to important, for example large farms
 - o contacting respondents who have only partly completed the questionnaires
 - taking care that the mailing list is based on up-to-date information
 - o training staff in handling difficult respondents
 - o follow up interviews
 - legal actions taken on non-response
 - \circ other (please specify)

3. ACCURACY AND RELIABILITY OF THE DATA COLLECTED

3.1 Data processing, analysis and estimation

3.1.1 Estimation and sampling errors – for SAPM and/or OGA, if applicable

- Identification of main sources of error
- Assessment of the potential for bias
- If comparison with another source or consistency study is made, please give short description of the source used and the differences observed
- Methods for deriving the extrapolation factor
 - basic weight
 - o non-response
 - wrong classification
 - o other (please specify)
- Sampling errors
- Please provide information on methods and formulas to calculate RSE
- Please give the RSE for each relevant characteristic included in p. 2.7.1 the tables related to the precision requirements stipulated in Annex IV "Precision Requirements" of the Regulation 1166/2008

3.1.2 Non sampling errors (ⁱⁱ)

- Types of errors
 - Coverage errors (ⁱⁱⁱ): under-coverage (^{iv}), over-coverage (^v), misclassification (^{vi}), contact errors (^{vii}), multiple listing errors, other (please specify). Please indicate the estimated % on the EU target population of each type of coverage error. Were the statistics corrected for?
 - Measurement errors (^{viii}): cause (respondent, questionnaire, interviewer, other). If available, assessments based on comparisons with external data, re-interviews. Information to be included on failure rates during data editing. Were the statistics corrected for?
 - Non-response errors

There is a variety of interpretations to the concept of non-response. Please provide information about following cases:

- Unit non-response: Please provide the ratio of the number of units with no information or not usable information to the total number of in-scope (eligible) units
- Item non-response: Please indicate the ratio of the in-scope (eligible) units which have not responded to a particular item and the in-scope units that are required to respond to that particular item. Were the statistics corrected for?

Any particular characteristic(s) having higher item non-response rate should be mentioned together with the reasons of the non-response. This information is important and will be useful for the organisation of future surveys.

• Other (please specify)

3.1.3 Methods for handling missing or incorrect data items

- Completion/correction methods applied:
 - follow up interviews
 - imputation (please specify what kind of imputation methods are used and for which variables these methods are used and in which cases); Please give the imputation rate (the ratio of the number of replaced values to the total number of values for a given variable) for each variable where this method was applied.
 - re-weighting
 - use of other data sources
 - other (please specify)
- Tools used and people/organisations authorised to make corrections. Analysis of processing errors affecting individual observations or qualitative assessment.

3.1.4 Control of the data

Description of controls used for checking the questionnaires and entering the data:

- edit rules/checks: completeness check, routing check, data validation, valid value checks, range checks, relational checks, arithmetic checks, ratio edits, other (please specify)
- tools used
- level (interviewer, supervisor, local collection centre, final collection centre)

3.2 Evaluation of results

Have comparisons been made (micro/macro level) with other data sources (for example administrative data, crop production surveys, animal surveys, labour force surveys)?

- If not, why not?
- If yes, please give a brief description of the results of this comparison.

The following 2 tables should be completed by MS in order to collect exact information of the number of surveyed units in a uniform way. They will be considered as a part of the data-validation process.

	Survey		
	FSS (excl. OGA in case of sample survey)	OGA (if sample survey)	SAPM (if sample survey)
Initial list of units			
Initial sample	NA		
Number of holdings with completed questionnaires (incl. Eventual imputed questionnaires):			
over the threshold applied			
under the threshold applied* Number of units under the threshold applied *			

Holdings with ceased activities:		
- (If information is available) of which definitely ceased, i.e. the land is abandoned		
- (If information is available) of which holdings with change of the manager		
Unit Non-response:		
- Refusals – not corrected		
- Refusals – corrected (imputed)		
Number of records transferred to Eurostat *		
Common land units (A_2_1)	NA	NA

* Units included in the initial lists for which the questionnaires are completed but which do not meet anymore the threshold criteria.

* Units that do not meet the national threshold criteria (in some countries there could be completed questionnaires for them, in others - not). In case it's impossible to provide this information, a short explanation about the reasons to be provided.

**The number of holding with completed questionnaires for FSS 2010 may be different from the number of records transferred to Eurostat in case that very low national threshold is applied.

Comments on major trends from FSS 2007 to FSS 2010.

Comments must be given in case there is a change of more than 10% at national level between FSS 2007 and FSS 2010 for any of the groups below:

	From 2007	FSS	From FSS 2010	Difference in %	Comments
Number of holdings;					
UAA (A_3_1), ha;					
Arable land, ha;					
Permanent grassland (B_3), ha;					
Permanent crops (B_4), ha;					
Wooded area (B_5_2), ha;					
Unutilised Agricultural area (B_5_1), ha;					
Fallow land (B_1_12_1 + B_1_12_2), ha;					
LSU in LSU;					
Cattle (C_2), head;					
Family Labour force - in persons;					
Family Labour force - in AWU;					
Non family labour force - in persons;					
Non family labour force - in AWU					

3.3 Data Revision Policy

- Short description of the revision policy
- Data revision practice Average number of revisions (planned and unplanned) for key items.
- The main reasons for revisions, and the extent to which the revisions improved accuracy.

4. ACCESSIBILITY AND PUNCTUALITY

4.1 **Publications**

How and when the results have been/will be published?

- Reports: preliminary results, final results, technical report, quality documentation, other (please specify)
- Date of issuing (actual or planned)
- Do the publications contain meta-data (methodological information etc.)?
- On-line database Information about on-line databases in which the disseminated data can be accessed and, if possible, the number of consultations of data tables within a statistical domain for a given time period displayed in a graph.

4.2 Timeliness and Punctuality

Time lag first results - The number of months from the last day of the reference period to the day of publication of first results

Time lag final results - The number of months from the last day of the reference period to the day of publication of complete and final results

Punctuality for delivery and publication - The number of days between the delivery/ release date of data and the target date on which they were scheduled for delivery/ release

5. CONFIDENTIALITY AND SECURITY

The confidentiality is required by law. The NMR should confirm these arrangements. Please give information about the following, taking into consideration that this report is a non-

confidential document:

- The procedures for ensuring confidentiality during dissemination (incl. general description of the rules for defining confidential cells in output tables and procedures for detecting and preventing residual disclosure.).

- Whether external users may access micro-data for research purposes, and, if so, the confidentiality provisions that are applied.

REFERENCES

• Methodological notes available

• Main scientific references

ANNEXES

- Questionnaire(s)
- Formulas applied for estimation methods and calculating sampling errors
- Other

ENDNOTES

(^{vi}) *Misclassification* refers to wrongly classified units, (for example by industry, geographical area or size) which belong to the target population.

(^{vii}) *Contact errors*: units with incomplete or incorrect contact data.

(viii) *Measurement error* can be thought of as the difference between the value collected during the survey and the true (individual) value. These errors may result from: the survey instrument (the form or questionnaire), the respondent, the information system (respondent's report-keeping system), the mode of data collection (face to face interviewing, telephone interviewing, self-administered mail survey, diary surveys, administrative records, direct observation, and electronic observation), and the interviewer.

Probability sampling assures for each element in the population a <u>known positive</u> probability of selection. In practice, it may be that, only for some stage of the sampling design, this condition is not fulfilled. In this case, the sample is here indicated as *not completely probabilistic sample*.

^{(&}lt;sup>ii</sup>) *Non-sampling error* is the error attributable to all sources other than sampling error. Non-sampling errors arise during the planning, conducting, data processing and final estimation stages of all types of survey.

^{(&}lt;sup>iii</sup>) *Coverage errors* are due to the disagreement between the frame and the target population and subpopulations.

 $[\]binom{v}{v}$ Under-coverage: Failure to include in the frame all units' belongings to the target population. This mainly includes new units not included in the frame, either through real birth or demergers, and wrongly classified units. This generally leads biases in the estimates.

^{(&}lt;sup>v</sup>) There is *over-coverage* when units (elements or sets of elements) that are included in the frame do not belong to the target population. These cases are usually observed for contacted units, but not necessarily for non-contacted units or those excluded from a sample. The *over-coverage* in a register generally biases the estimators drown from that sampling list.