

Agricultural administrative sources data quality: a proposal for standardized indicators

7 - Quality Indicators

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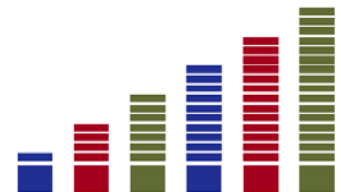
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Summary:

- Introduction
- The case study
- Quality assessment
- Final remarks

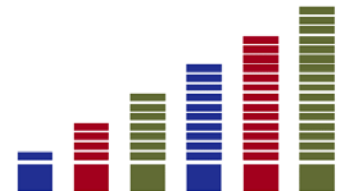


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Administrative data increasingly become an important input to the operations of Statistical Institutes (NSIs).

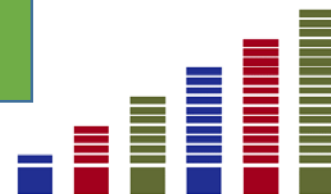
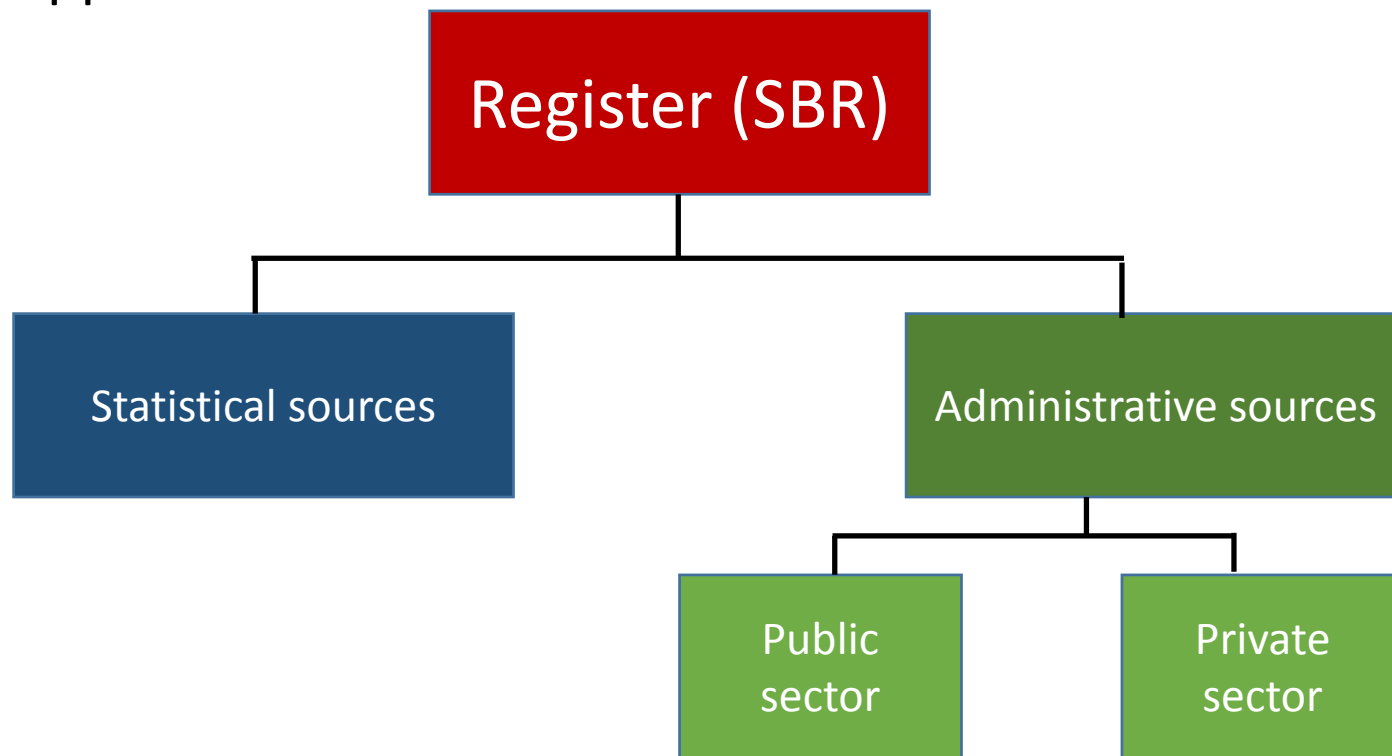
Reasons:

- Financial costs
- Response burden policy
- Rising demand of timely and detailed statistical information



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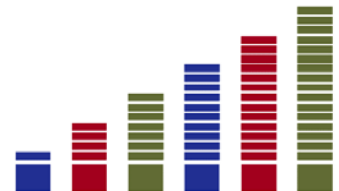
A modern scheme of output with a register-based approach



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Following new statistical demand, the aim of the present work is to identify the best fitting indicator available to measure:

- input quality, at microdata level, of available agricultural administrative sources
- output quality of a case study



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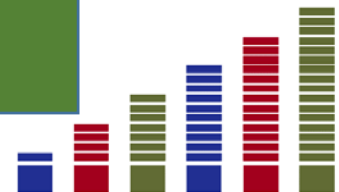
Farm Register

Statistical sources:

- Business Register
- Agricultural Census
- Survey on rural tourism accommodations
- Survey on quality products

Administrative sources:

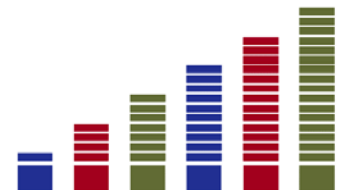
- Integrated Administration and Control System (IACS)
- Animal register
- Tax declaration on agricultural land
- Land cadastre
- Chambers of Commerce
- Value Added Tax on agricultural income



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Relevance by source

ADMINISTRATIVE SOURCE	RELEVANCE
IACS	Identify farms, localization and structural characteristics
Animal register	Identify farms with livestock and the number of animals, considering species
Tax declaration on agricultural land	Coverage of “potential” farms: it includes persons, simple partnership and non-commercial entities with agricultural land
Chambers of Commerce	Identify companies with agricultural economic activities, primary or secondary
VAT on agricultural income	Identify companies with VA declared in agricultural activities
Land cadaster	Contains information about land parcel owned by the same person, having the same quality or class and the same assigned use



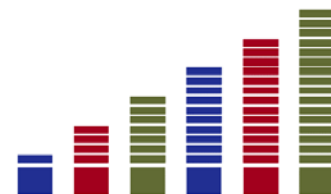
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Lists deriving from integration of sources

LIST	SOURCES BY LIST
List 1	IACS and Animal register (AR)
List 2	Tax declaration on agricultural land and Land cadaster (TD and LC)
List 3	Chambers of Commerce and VAT on agricultural income (CC and VAT)
List 4	Survey on rural tourism accommodations, Survey on quality products PDO PGI and TSG, Agricultural Census

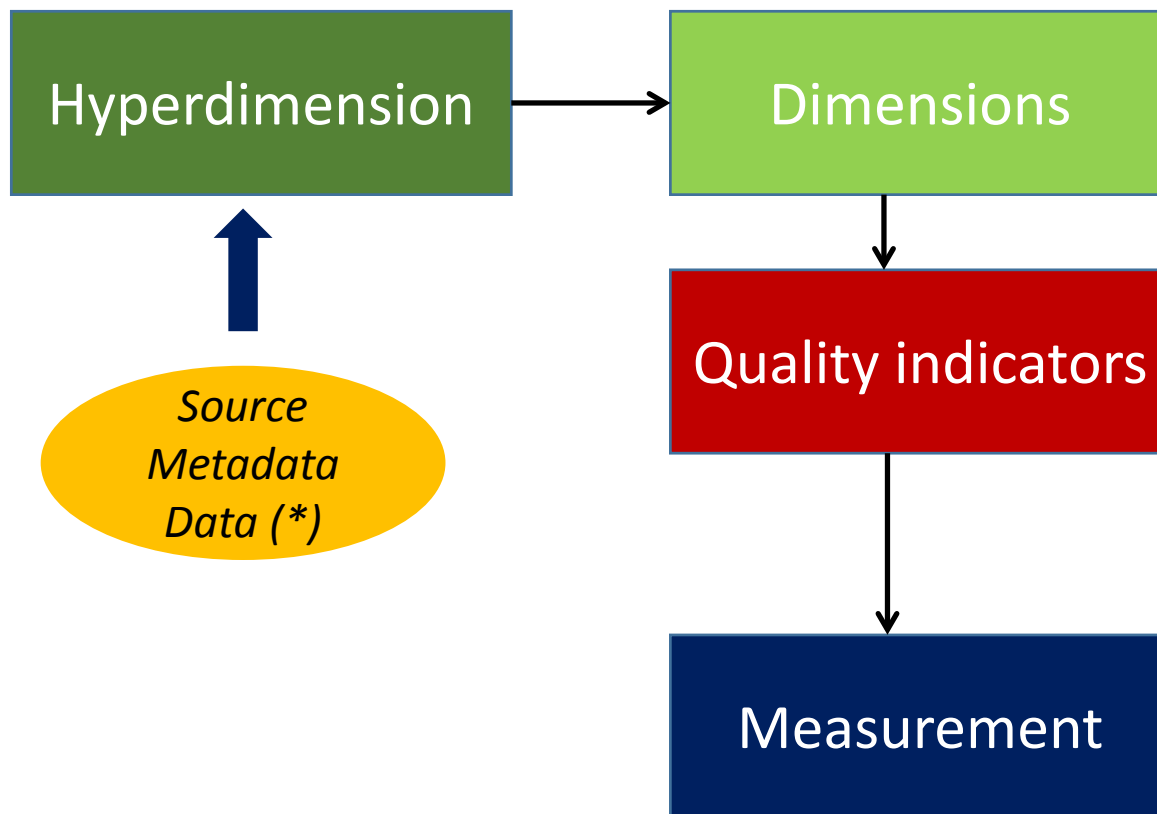
Output:

- Farms and main structural characteristics (e.g. Utilized Agricultural Area, main crops, livestock, information on eligibility rules, etc.);
- Farms and personal data (e.g. Municipality, Region, Address, telephone number, etc.);
- Land parcels (e.g. crops quality, surface, localization, etc.).

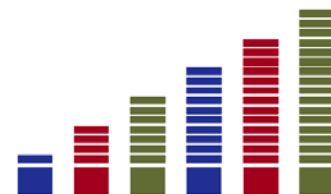


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Quality framework levels: input data



(* We didn't evaluate "data" hyperdimension for reasons of opportunity and efficiency)



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Source hyperdimension: Here the data source is viewed upon as a file delivered by the data source maintainer to the NSI

Table 1

DIMENSION	DATA SOURCES					
	IACS	AR	TD	CC	VAT	LC
Supplier	+	+	+	+	+	+
Relevance	+	+	o	-	-	o / -
Privacy and security	+	+	+	+	+	+
Delivery	+	+	o / -	+	+	-
Procedures	o / +	o / +	o	-	o / -	-

IACS *Integrated Administration and Control System*

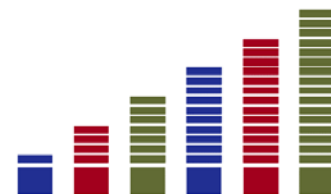
AR *Animal register*

TD *Tax declaration on agricultural land*

CC *Chambers of Commerce*

VAT *Value Added Tax on agricultural income*

LC *Land Cadaster*



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Metadata hyperdimension: Focuses on the conceptual metadata quality aspects of the data source

Table 2

DIMENSION	DATA SOURCES					
	IACS	AR	TD	CC	VAT	LC
Clarity	+	+	+	+	+	+
Comparability	o / +	-	-	-	-	-
Unique keys	+	-	+	+	+	o / -
Data treatment	o / -	o / +	-	-	-	-

IACS *Integrated Administration and Control System*

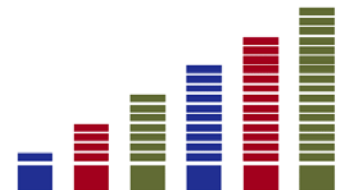
AR *Animal register*

TD *Tax declaration on agricultural land*

CC *Chambers of Commerce*

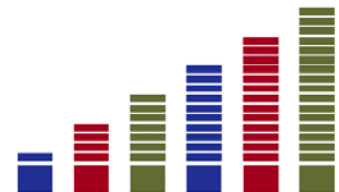
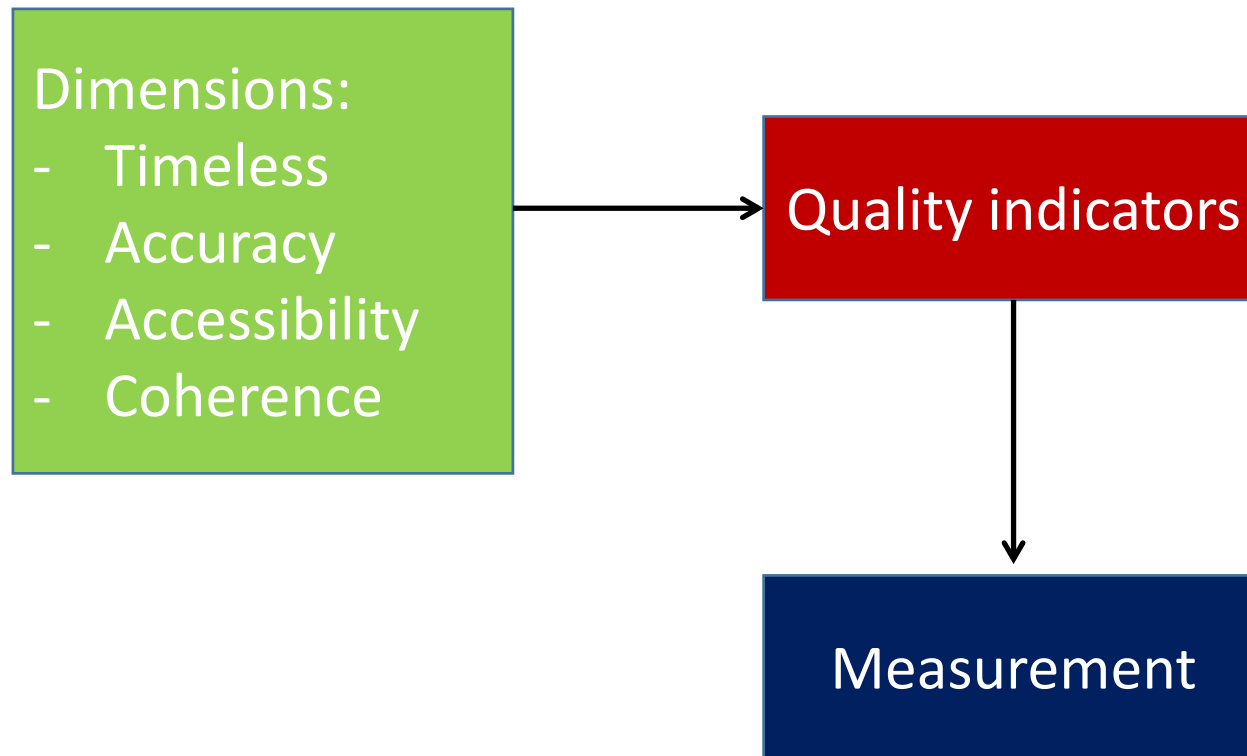
VAT *Value Added Tax on agricultural income*

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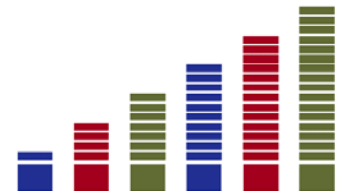
Quality framework levels: output assessment



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Each dimension is calculated considering the prototype version of SFR (year 2013) and the indicators are chosen to be suitable at the variables available in the SFR. The results of indicators released in percentage are evaluated considering the following ranges:

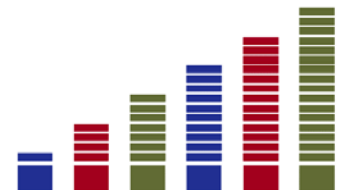
- Critical ≤ 70 ;
- $70 < \text{Fair} \leq 90$;
- Satisfactory > 90 .



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Output quality measure for SFR

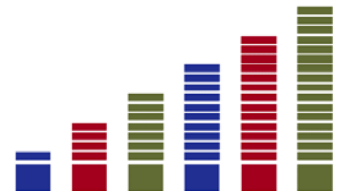
Dimension	Indicators	Value
Timeless	Temporal lag, measured in months, between the dissemination date of SFR and the reference year to which they refer	Critical
	Coverage:	
Accuracy	- Number and % of enterprises active in t and as change from t-1	Satisfactory
	- Number and % of units by list	Satisfactory
	Completeness:	
	- Farm Company name: Number of units and % with company name missing	Fair
	- Address: Number of units with address missing	Fair
	- Telephone: Number of units and % with telephone number (fax, email) missing	Critical
	Number and % of questionnaires rejected by type of error	N. A.
	Number and % of units with wrong address	N. A.
	Measurement errors	N. A.
Accessibility	How many readily available relevant data are to the users	N. A.
Coherence	Coherence with other surveys	Satisfactory



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Final remarks and future targets

- Based on the results, the quality framework developed for SBR is an adaptable tool for the evaluation of the SFR quality
- Before implementing the final methodology, the goodness of the complete list is going to be tested through a quality survey to detect and correct frame errors
- Indicators based on temporal consistency between two or more consecutive SFR edition could provide further evidence on quality
- Adopting methodologies that integrate the procedures already used for the linkage, using software already existing in the ISTAT, like RELAIS





THANK YOU
for your
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