

# Reduction of response burden by replacing survey questions with register data: Cases of crop rotation, non-regular non-family labour, and number of animals

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# Introduction

## Why use register data?

- no need to collect the data in surveys
  - > less work and costs (both for survey makers and for respondents (farmers))
  - > no risk for misinterpretation of survey questions by respondents
- almost total coverage of farms/persons

## Problems

- usually questions can not be defined by survey makers
- availability and information content of registers may change over time according to changes in legislature and in administrative procedures
- personal interests of the respondents may affect the data given to administrative purposes

# Introduction

- Eurostat supports the use of administrative data.
- Natural Resources Institute Finland (Luke) has a long experience of using administrative registers as a source for statistics.
- When the administrative data develops, new possibilities arises.

## 2. Crop rotation

- The IACS parcel data obtained from the Finnish Agency for Rural Affairs (Mavi) has been used as a source of annual cultivated area of crops for crop statistics and FSS.
- Farm Structure Survey (FSS) variable "Share of arable land included in crop rotation", source register: IACS parcel data from the Finnish Agency for Rural Affairs (Mavi)
- Objective is to investigate possibilities for a broader analysis of crop rotation based on the IACS parcel data

*new geospatial parcel data obtained from the farmers through farm subsidy administration from the year 2015 on offers new possibilities of tracking the cropping history of a single parcel.*

# Crop rotation



# Project plan – Crop rotation

- The IACS parcel data obtained from the Finnish Agency for Rural Affairs (Mavi) has been used as a source of annual cultivated area of crops for crop statistics and FSS.
- cultivation history of individual parcels over several years has not been investigated for statistical purposes
- it will be screened which data are available that help to track cultivation history of a single parcel over several years.
- new geospatial data collected from farmers by farm subsidy administration available from the year 2015 on will be checked out.
- A calculation procedure is compiled that gives information about crop rotation in the investigated parcels (for example, the proportion of field area where the same crop has been cultivated over several consecutive years).
- first stage: register data is compared with the earlier FSS data of crop rotation collected from farmers in the year 2010, whereby a calculation procedure is developed and the usefulness of the data is evaluated.
- second stage: register data of the year 2016 is used in the calculation of the corresponding variables for FSS 2016.

### 3. Farm relief workers' amount of work

- Farm relief workers' amount of work (part of the FSS variable "non-family labour employed on a non-regular basis")
- Objective is to pilot the use and examine the quality of the individual level personal register information that can be linked with identifiers to farm level from a register other than IACS as a source of FSS data.



# Annual work performed in agriculture and horticulture by region, 2013

Maa- ja puutarhatalouden vuosityömäärä alueittain vuonna 2013									
Årsarbete inom jordbruket och trädgårdsodlingen områdesvis år 2013									
Annual work performed in agriculture and horticulture by region, 2013									
ELY-keskus NTM-central ELY Centre	Viljelijät ja yhtymien osakkaat Jordbrukare och sammanslutningens delägare Farmers and joint owners	Perheenjäsenet Familjemedlemmar Family members <sup>1)</sup>	Vakituisesti palkatut Fast anställda Regular labour force <sup>2)</sup>	Lyhytaikainen työvoima Kortvarigt anställda Temporary labour force	Maatalouslommittajat Lantbruksavbrytare Holiday relief staff	Urakoitsijat Entreprenörer Contract workers	Yhteensä Total	Totalt	Ulkomainen palkkatyövoima Utländsk arbetskraft Foreign labour force <sup>3)</sup>
Henkilötyövuosia - Årsverke - Person-years									
Uudenmaan	2 126	857	452	265	77	73	3 850		196
Varsinais-Suomen	4 039	1 516	896	746	157	192	7 545		679
Satakunnan	2 349	900	359	239	130	94	4 073		188
Hämeen	2 923	1 138	312	319	164	82	4 938		196
Pirkanmaan	2 841	1 234	458	209	186	186	5 115		184
Kaakkois-Suomen	2 250	891	300	249	129	72	3 891		169
Etelä-Savon	1 823	843	288	263	154	82	3 453		277
Pohjois-Savon	3 647	1 796	357	912	392	64	7 168		704
Pohjois-Karjalan	1 929	857	148	190	181	45	3 351		102
Keski-Suomen	2 012	974	160	146	182	45	3 519		53
Etelä-Pohjanmaan	4 310	1 910	574	240	331	156	7 521		124
Pohjanmaan	3 899	1 623	780	287	262	116	6 967		271
Pohjois-Pohjanmaan	4 334	1 874	398	282	466	97	7 450		80
Kainuun	823	407	95	90	77	16	1 508		9
Lapin	1 113	541	100	55	126	17	1 952		7
Ahvenanmaa - Åland	325	163	99	62	6	8	664		71
Koko maa - Hela landet - Whole country	40 744	17 525	5 777	4 555	3 020	1 345	72 965		3 308

# Project plan – Farm relief workers' amount of work

- New Data Source: the Finnish Farmers' Social Insurance Institution (Mela) (recently adopted legislation).
- The individual personal level data is investigated and linked with individual identifiers (social security code) from persons to individual farms. -> calculation of the amount of farm relief work by farm as a part of the FSS variable "non-family labour employed on a non-regular basis".
- first stage: register data is compared with the earlier FSS data for the year 2013, calculation procedure is developed and the usefulness of the data is evaluated.
- second stage: register data of the year 2016 is used in the calculation of the corresponding variables for FSS 2016.

## 4. Number of pigs, sheep and goats

Objective is to evaluate the quality and feasibility of Pig register and Sheep and Goat register as sources of data for animal statistics and FSS.

# Number of pigs

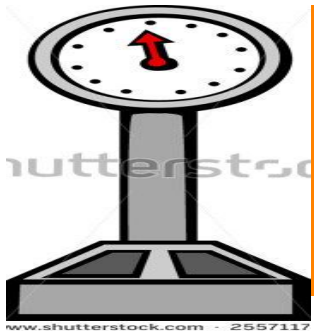
→ 2014

IACS (Integrated  
Administrative and  
Control system)  
(1251932)

Statistics  
(sample survey  
yearly, FSS once  
in 3 years)

2015→

Pig Register  
(1273138)



# Number of pigs

Data sources: IACS → 2014;  
Pig register 2015→

Problems of pig register:

- incomplete coverage
- inconsistency in the classification of pigs: Pig register by age, ESS animal statistics by weight

Objective: a statistical model where reliable pig statistics could be made by using the administrative pig register -> yearly pig survey in December could be closed down, no need to include the number of pigs in FSS questionnaire

# Challenge 1: classification

## Pig Register

- Piglets ( $\leq 3$  months)
- Pigs (3- 8 months)
- Sows
- Boars

## Statistics

- Piglets ( $< 20$  kg)
- Pigs (20-50 kg)
- Pigs (50-80 kg)
- Pigs (80 – kg)
- Sows
- Boars

## Challenge 2: Timetable

### Pig Register

- 1.1.2014 data is ready about 2-3 months too late

### Statistics

- Deadline: 16.2.2015
- (ref. Date 1.12.2014)

# The sheep and goat register

- already used as an administrative source for animal statistics
- in some cases it takes a long time before changes in animal numbers are reported and entered into the register
- quality of the administrative sheep and goat register will be evaluated and the process of estimating the number of sheep and goats from the register will be improved.



Thank you!