EconomyDoctor - reporting of differences of means

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Background (FADN data)

- The Farm Accountancy Data Network (FADN) is an instrument for evaluating the income of agricultural holdings and the impacts of the Common Agricultural Policy[1].
- FADN data is collected every year from a sample of the agricultural holdings in the European Union.
- Natural Resources Institute Finland (Luke) is responsible of organizing the delivery of survey results to the EU from Finland.
- Every year microeconomic data is collected from approximately 900 voluntary agricultural holdings.
- Using the weight factors the data are used to describe the results of all Finnish farms.

1 CAP at glance: https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cap-glance_en

Background (Economy Doctor)

- Economy Doctor[1] is a reporting service for publishing time series of business activities and income of Finnish agricultural holdings.
- Due to data confidentially decrees the results are published at average level by region, economic size and type of holding.
- Year-to-year changes are often of interest when studying economic performance and comparing the previous results present situation.
- To calculate the changes it may be needed to gather information from various sources and then subtract the results.

1 Economy Doctor: www.luke.fi/economydoctor

Objectives

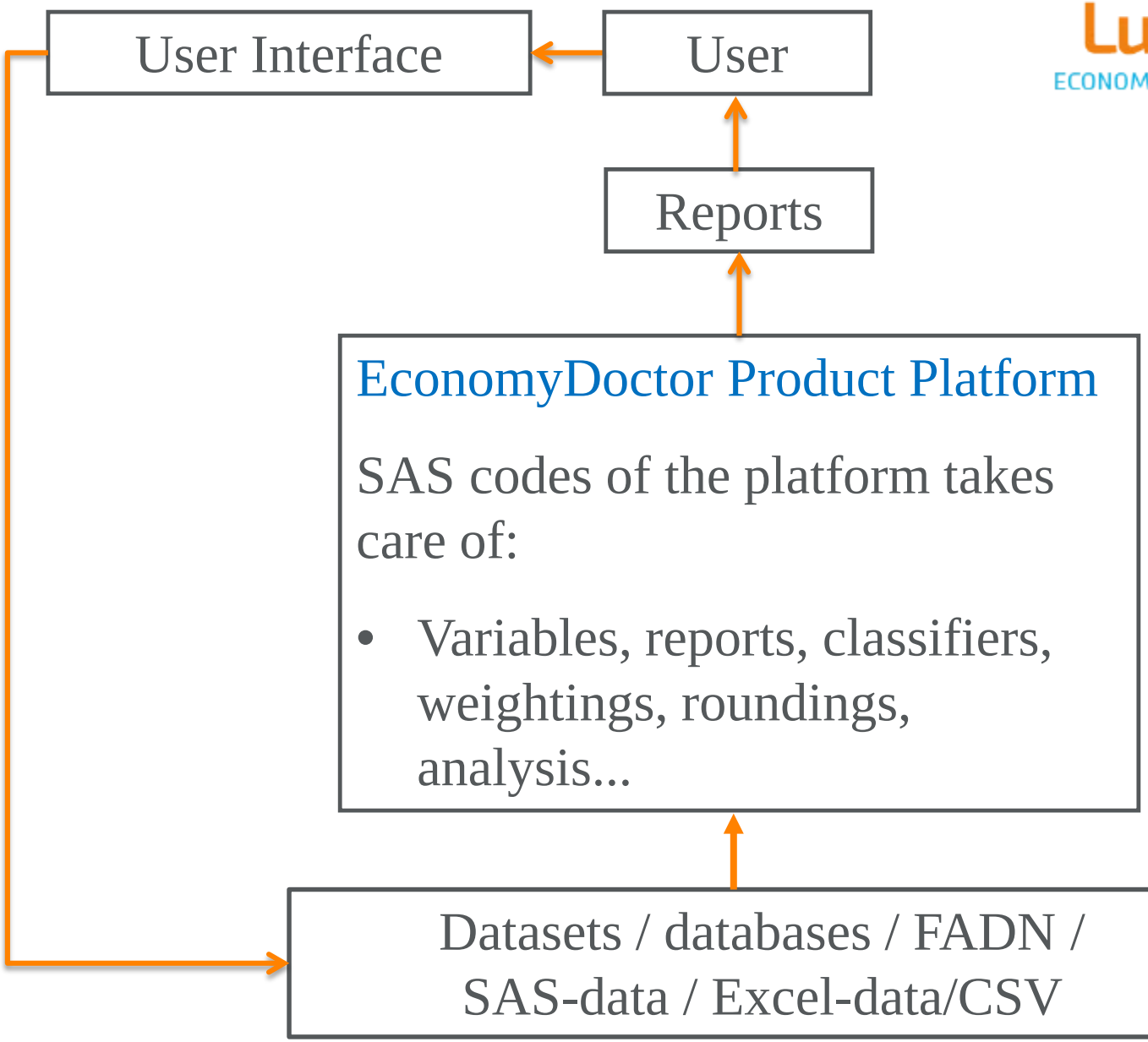
- We developed a new feature in Economy Doctor internet reporting service.
- A routine programmed in Economy Doctor calculates for any economic report the differences between selected years of interest.
- The objective of this project was to implement automated calculation routines for more effective utilization of sample survey results without compromising data privacy.
- The overall target is to develop Economy Doctor reporting service to produce more concrete help for researchers, decision makers and the public audience.

Economy Doctor Internet-service www.luke.fi/economydoctor

Reporting tool in Economy Doctor

- A new feature to calculate the differences in Economy Doctor Agriculture and horticulture services was programmed.
- User can get reports between any selected years by classes of interest.
- The system produces automatically the differences reported in table format.
- Before the result table presented to user the system calculates first weighted annual averages and further differences between years.
- It is not obligatory to study consecutive years, but any period of change can be reported.
- The results are calculated in real time by automated calculation routine.

The EconomyDoctor Analysis service



Reporting tool and results

Production Costs	Dairy Farms				
	2011_2010	2012_2011	2013_2012	2014_2013	2015_2014
Farms represented	9 520	8 950	8 430	8 040	7 680
Farms in sample	330<n<340	320<n<330	310<n<320	300<n<310	280<n<290
Arable land	3,1	4,5	0,5	3,6	3,8
Livestock Units	1,6	4,2	1	3,2	3,1
PRODUCTION COSTS	**18 056**	**39 255**	**8 036**	**14 275**	**6 868**
Material costs	**8 175**	**9 668**	**4 246**	**1 893**	**1 813**
Fertilizer. Lime	504	1 627	162	1 006	-486
Other crop production costs	776	914	226	583	528
Fuel and lubricants	1 465	1 784	70	-286	-170
Electricity	710	481	66	-13	381
Forage costs	4 721	4 862	3 723	603	1 560
Farm use	**5 052**	**9 153**	**1 131**	**-107**	**1 559**
Livestock costs	**388**	**2 328**	**78**	**1 113**	**809**
Livestock purchasing	-313	603	-329	-154	32
Other livestock costs	701	1 725	407	1 267	777
Machinery cost	**3 287**	**3 924**	**2 332**	**3 893**	**411**
Depreciation of machines	1 169	1 235	674	919	934
Other machinery costs	2 118	2 688	1 658	2 975	-523
Buildings costs	**594**	**1 603**	**898**	**2 018**	**-423**
Depreciation of Buildings	287	1 373	1 042	746	595
Other buildings costs	308	230	-145	1 272	-1 018

Example printout:

- differences for the dairy farms' production costs in 2010–2015

Conclusion

- The utilization of collected datasets can be promoted by automated calculation routines without compromising the data privacy.
- The aim is to develop Economy Doctor online portal even more user-friendly and to offer more versatile possibilities to study key indicators and economic results based on the need of users.
- Future work is to add a visual reporting environment.

Thank you!

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