



# Policy Analysis And Research Based On Farm Level Data

*27<sup>th</sup> PACIOLI-workshop*  
**Prague, Czech Republic**  
**6<sup>th</sup> - 9<sup>th</sup> October 2019**



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1. The new CAP proposal
2. CAP evaluations and studies
3. Other areas of current focus
4. Environment-related information in FADN
5. Requests for individual FADN data
6. Availability of Member States' results online



# FADN and the new CAP proposal

FADN data have been used for the new CAP proposal:

- ✓ for the impact assessment using DG AGRI modelling based on AIDSK, partly AGLINK-COSIMO model, and in joint work of JRC for AGRI on the IFM-CAP model
- ✓ Preparatory analysis for the CAP impact assessment - Economic challenges facing EU agriculture and rural areas
- ✓ Analysis linked to the CAP key objectives - Ensuring viable farm income, Structural change and generational renewal



# FADN and the new CAP proposal – examples

## CAP proposal impact assessment

- FADN data used for CAP indicators

**Table 2.9 Estimation of annual compensation needs for an IST in the EU**

		MEUR
Envelope made available for risk management tools	Option 3a	3 400
	Option 3b&4	1 700
EU compensation required if IST for all farmers	Farm income, 30% drop	13 300
	Sector income, 20% drop	14 900
Compensation required if IST for larger farmers (> 50 000 EUR of size)	Farm income, 30% drop	7 200
Compensation required if IST for selected sectors (Sector income, 20% drop)	Milk	1 300
	COP	2 600
	Sugar beet	
	Olive	
	Pig&poultry	

Source: DG AGRI, AidsK, FADN data

## COMMISSION STAFF WORKING DOCUMENT

### IMPACT ASSESSMENT

**Table 2.2 Changes in land allocation due to changes in support and green requirements (%)**

	Cereals	Oilseeds	Protein crops	Sugar beet	Potato	Set aside and fallow land	Permanent grassland
Relative to baseline							
1	0.1%	-0.1%	0.3%	-0.6%	0.0%	0.1%	0.0%
Relative to option 1							
3a	-6%	5%	-23%	-23%	-10%	37%	4.5%
3b	-2%	1%	-12%	-8%	-2%	10%	3.7%
4a	-7%	6%	-9%	-23%	-10%	34%	4.5%
4b	-3%	-2%	-17%	-12%	-2%	19%	3.7%
5	-7%	6%	44%	-13%	-3%	15%	3.7%

Source: JRC, IFM-CAP, % changes based on FADN data covering 90% of EU land.



## FADN and the new CAP proposal – examples

Preparatory works for CAP impact assessment

- [Economic challenges facing EU agriculture](#)



The results indicate that organic producers get higher farm gate prices than conventional but the producers' share of added value remains relatively low. Analysis based on the Farm Accountancy Data Network (FADN) shows that net margins per unit of production are higher but so is labour input so net market receipts per labour unit are lower. Higher subsidies partly compensate.



## FADN and the new CAP proposal – examples

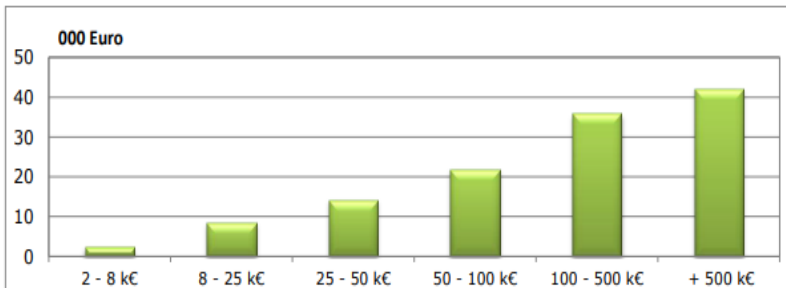
### CAP proposal 9 CAP objectives Ensuring viable farm income



**ENSURING VIABLE FARM INCOME**

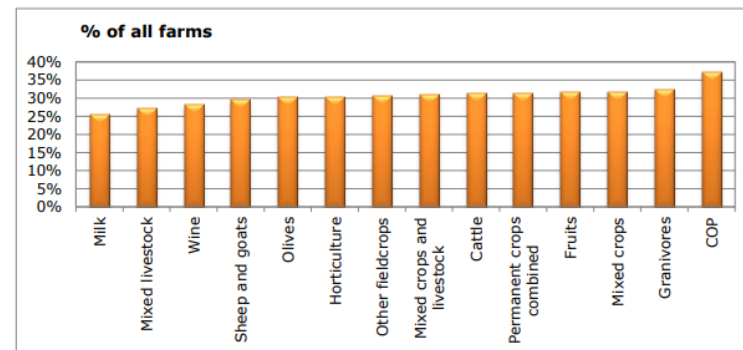


Figure 2: FNVA/AWU by economic size class in the EU-28 (2015)



Note: FNVA/AWU is the Farm Net Value Added per Annual Work Unit in the Farm Accountancy Data Network (FADN), the equivalent of Eurostat's factor income per annual work unit.  
Source: DG Agriculture and Rural Development FADN.

Figure 4: Farms with annual income drop above 30% (average of 2007-15)



Note: Share of total farms per farm type, EU-28.  
Source: DG Agriculture and Rural Development, based on FADN.



# FADN and the new CAP proposal – examples

[JRC report](#) for DG Agri IFM-CAP model

The EU-Wide Individual Farm  
Model for Common Agricultural  
Policy Analysis (IFM-CAP v.1)

*Economic Impacts of  
CAP Greening*

production technology and policy restrictions. To achieve the best levels of representation and capture the full heterogeneity of the EU farm population, the whole FADN sample (83292 farms in 2012) is individually modelled.



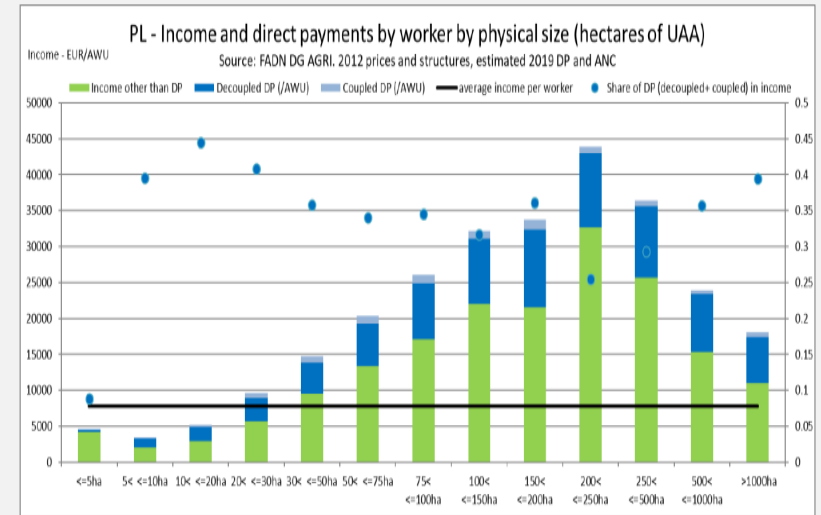
## FADN and the new CAP proposal – examples

**Analytical factsheet for Poland:**

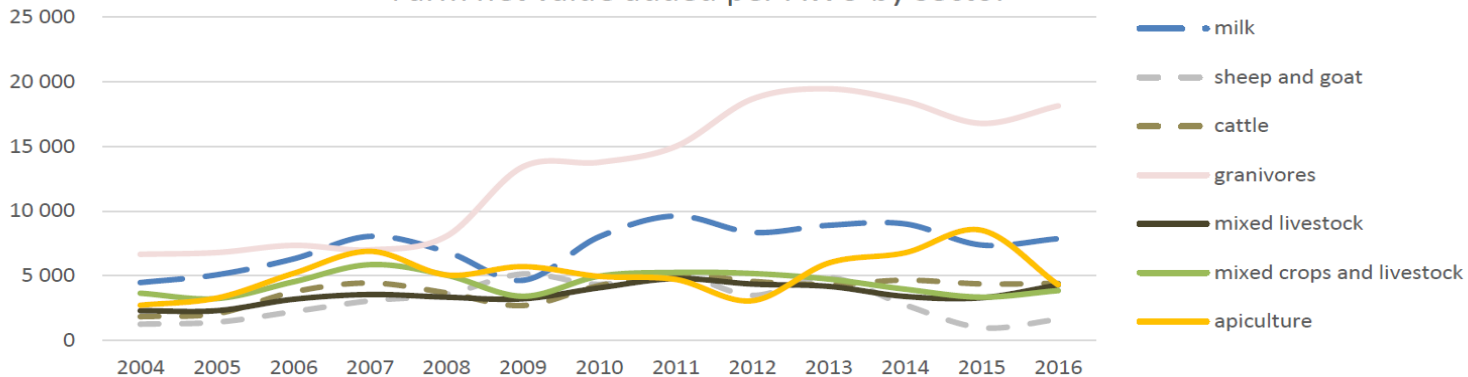
**Nine objectives for a future Common Agricultural Policy**



Evolution of agricultural income level by (physical) farm size



Farm net value added per AWU by sector







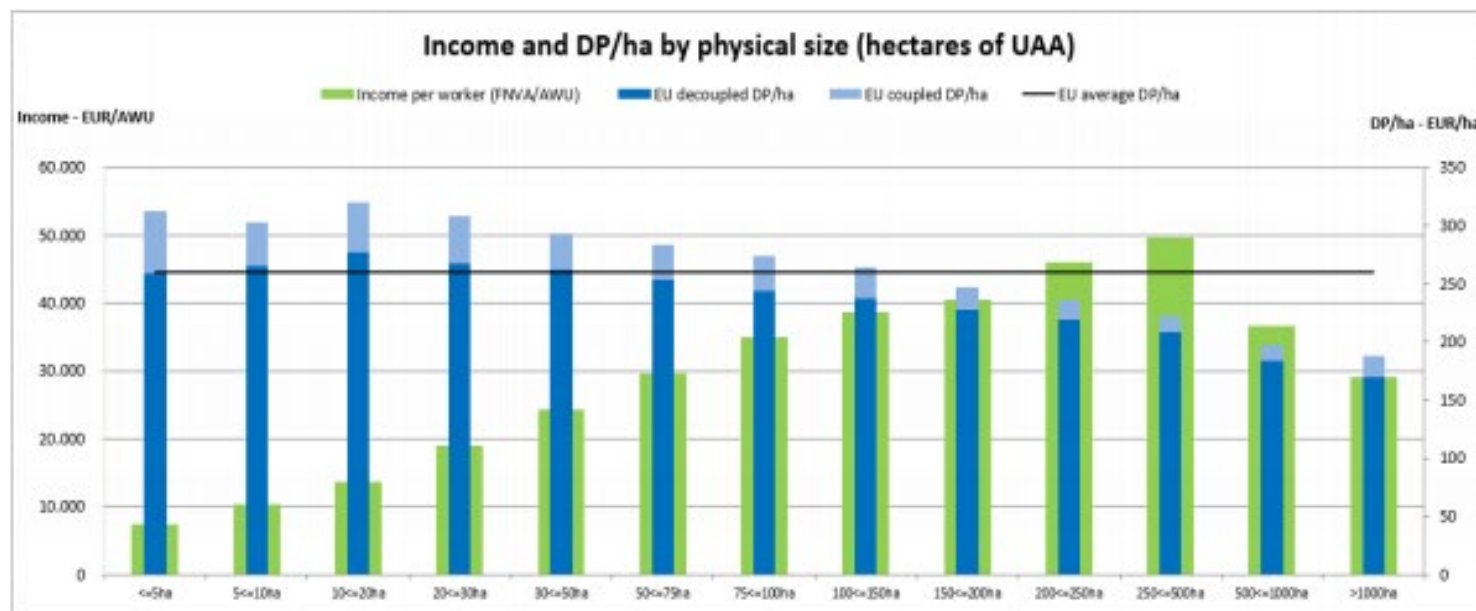
## FADN & the CAP evaluations/studies

- More than 2/3 CAP evaluations use FADN data
- DG Agri orders evaluations, studies and gives the analysts access to relevant data.
  - Selected ongoing evaluations and studies using FADN data:
    - Evaluation of the impact of the CAP on generational renewal, local development and jobs in rural areas
    - Evaluation of the impact of the CAP on water
    - Evaluation of the impact of the CAP on habitats, landscapes and biodiversity
    - Determinants and performance of producer organizations in Europe



## FADN in other areas of current focus

- Further analyses related to the new CAP proposals and discussions – the use of FADN data in modelling with AISA (successor of AIDSK)



Source: EU FADN DG AGRI, 2015 price and structure, estimated 2019 DP



## FADN in other areas of current focus

- Analysing precision of the FADN survey
- **Geo-coordinates** – testing the FADN with other data (testing phase)
- **Environment** related analysis using the FADN (testing phase)
- Improving the process of giving **access to FADN data** for evaluations, studies, research



## **Geo-coordinates - testing FADN data with other data (testing phase)**

- Geo-references are collected for that – FADN has limits, but other data can be linked to it
- Farms' geo-references are secured. Limited internal access; geo-references information are separated from the FADN data and no access to third persons
- A few tests done, including adding information from the CORINE Land Cover on crop diversity and biodiversity in the farms' areas
- Quality of reporting geo-coordinates in FADN matters



# Environment related analysis using FADN (testing phase)

Methodology used - adapted from PhD Alessandra Kirsch (INRA, Dijon) [study](#).

The main issues:

→ Does the CAP direct payment distribution benefit the most environmentally friendly farms?

→ Identifying the most and the least environmentally friendly farms in a given type of farming and linking it with direct payments



# Environment related indicators

- 1.) Part of low productive land in UAA (%)
- 2.) Part of meadows' area (%)
- 3.) Feeding purchases per LU (EUR/LU)
- 4.) Part of protein crops' area (%)
- 5.) Crop diversity: Simpson's Reciprocal Index
- 6.) Organic N pressure (kg/ha)
- 7.) Synthetic fertilisers expenses per productive UAA (EUR/ha)
- 8.) Synthetic pesticides expenses per productive UAA (EUR/ha)
- 9.) Veterinary fees per cattle per LU (EUR/LU)
- 10.) Direct energy use per economic size (EUR/SO)
- 11.) Water expenses per 1 ha (EUR/ha)



# Methodology

## Step 1

Rank farms based on each indicator within its type of farming – split into deciles (10 groups)

- The most environmentally friendly farms get the highest score, the least friendly the lowest one

## Step 2

Sum up the points at farm level for all indicators

## Step 3

Rank farms based on sum of points and split farms into quartiles

- Q1 → farms with bad impact on environment
- Q4 → farms with good impact on environment

## Step 4

Compare income and CAP support for farms in Q1 and Q4



## Progress

- Currently test were focused on dairy farms, all 28 Member States for a period 2004-2017
- Other sectors will be added soon
- A working meeting is planned to discuss the methodology between AGRI and Ms Kirsh. It will take place in November 2019





# Use of individual FADN data (IFD) for evaluation and research

1. Access to IFD
2. Three groups of IFD requestors
3. Data requests overview
4. Subjects in data requests 2017-19
5. Challenges and actions



# Legal aspects of access to IFD

Art. 1 of Regulation 1217/2009:

1. **To meet the needs of the common agricultural policy**, a Union farm accountancy data network ('**FADN**' or 'data network') is set up for the collection of farm accountancy data.
  
2. **The purpose** of the data network shall be to collect the accountancy data needed for, in particular:
  - (a) an annual determination of **incomes** on agricultural holdings coming within the field of the survey defined in Article 5; and
  - (b) a business **analysis** of agricultural holdings.
  
3. The data obtained pursuant to this Regulation shall, in particular, serve as the basis for the drawing up of **reports by the Commission** on the situation of agriculture and of agricultural **markets**, as well as on farm **incomes** in the Union. Those reports shall be made **publicly available on a dedicated website**.



## Basic rules of access to IFD

- To make the best use of the collected data, the Commission lets others analyze them in order to obtain relevant information.
- Access to the data has to respect the basic FADN Regulation 1217/2009.
- A limited access to individual FADN has to:
  1. comply with the purpose of FADN,
  2. ensure safe handling of the FADN data.
- The Commission is not obliged to grant access to individual FADN data. However it wants to obtain information from FADN data so it can grant a temporary and limited access to the data if it finds it useful and safe.



## Basic restrictions of access to IFD

- Access to the whole data set is never granted
- No access to data on individual farm's location (not even in Rica2)
- No access to data of sample farms from populations up to 5 farms of similar farms in terms of their type and economic size class
- Farm numbers are fictitious (encrypted)
- Access to data on FADN sub regions or NUTS3 regions has to be justified and analyzed separately,
- The time of access to IFD should be as short as possible
- Questionnaire asking about the reasons should be filled in by the requestor
- Only persons authorized to access the IFD can view and process them from samples of less than 15 farms
- In case of external data requests number of variables is limited to 300
- Time limit for the variables is 10 years
- Granting access above those limits the requestor might be invited to DG AGRI C.3 offices to present in the case detail



## Three groups of IFD requestors (1)

- The procedure distinguishes three types of request
  - Type 1 – EU Institutional project meaning projects of any EU institution or body
  - Type 2 – EU Contract project meaning a project under a contract/agreement of any other than DG AGRI Commission service or EU institution or body. Both types require an approval of the Head of Unit C.3 who can refer to the IFDC and Director
  - Type 3 – External request means any other than types 1 or 2 and includes among others independent researchers, research institutions or their consortia. All research subsidized by the EU (FPs e.g. Horizon 2020). Approval begins with assessment of DG AGRI C.3 then is presented to IFDC for evaluation and opinion. The Director of DG AGRI C Direction takes the decision.



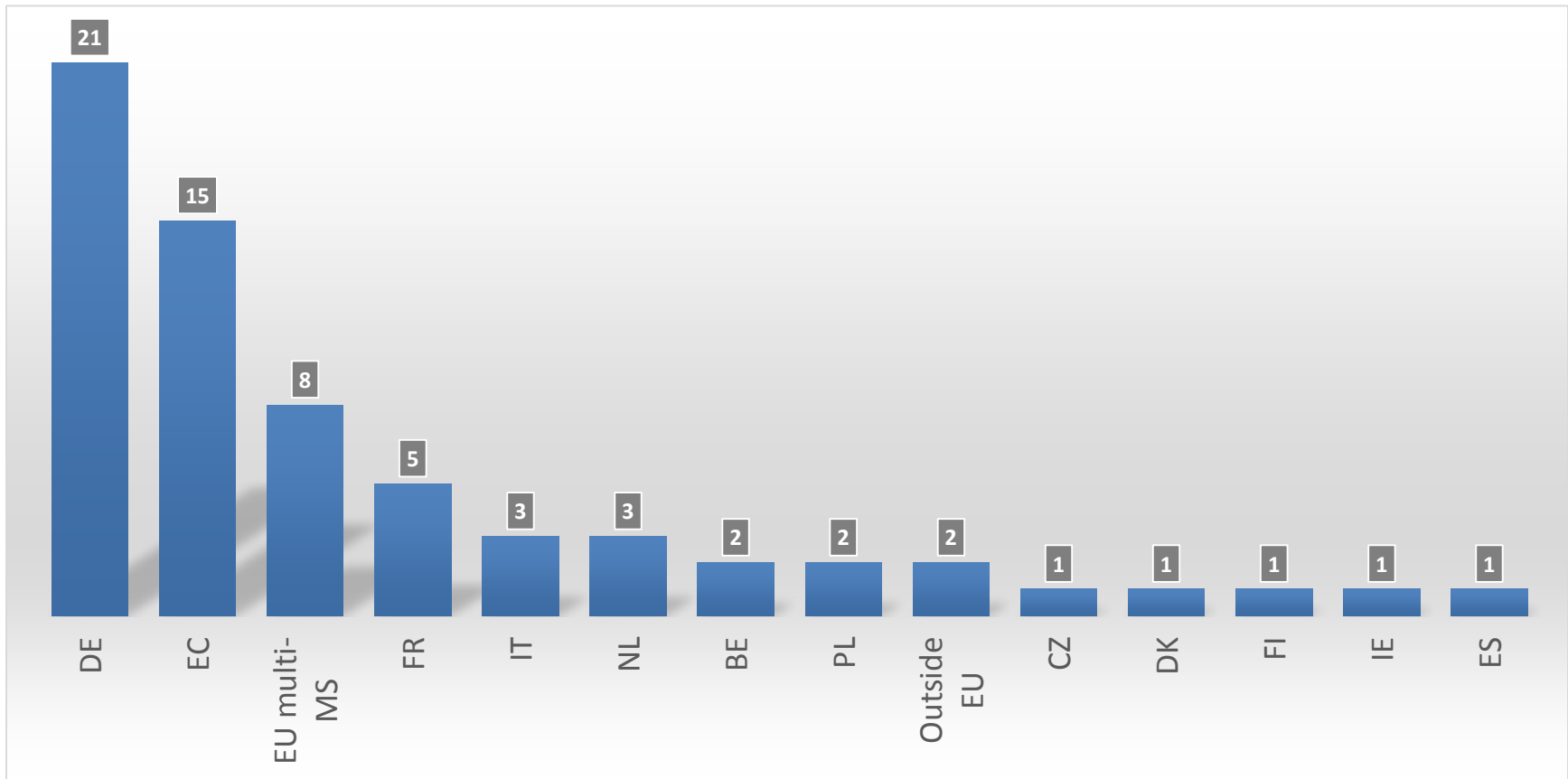
## Number of requests by groups

Year	Total number of requests	FADN in EU-founded analyses	Students (PhD, MSc)
2013	14	9	1
2014	30	12	1
2015	19	12	2
2016	21	6	5
2017	28	16	7
2018	21	10	7
2019 (till 15 September)	19	7	4
<b>Total</b>	<b>152</b>	<b>65</b>	<b>27</b>

- The average share of the EU-funded analyses is 43% and it varies from 29% (in 2016) to 65% (in 2013).
- The variation is partly caused by cycles of the CAP policy analyses and Research Framework Programmes
- Share of EU-funded analyses is rather declining and suggest and increasing use of the FADN data by universities and research institutes

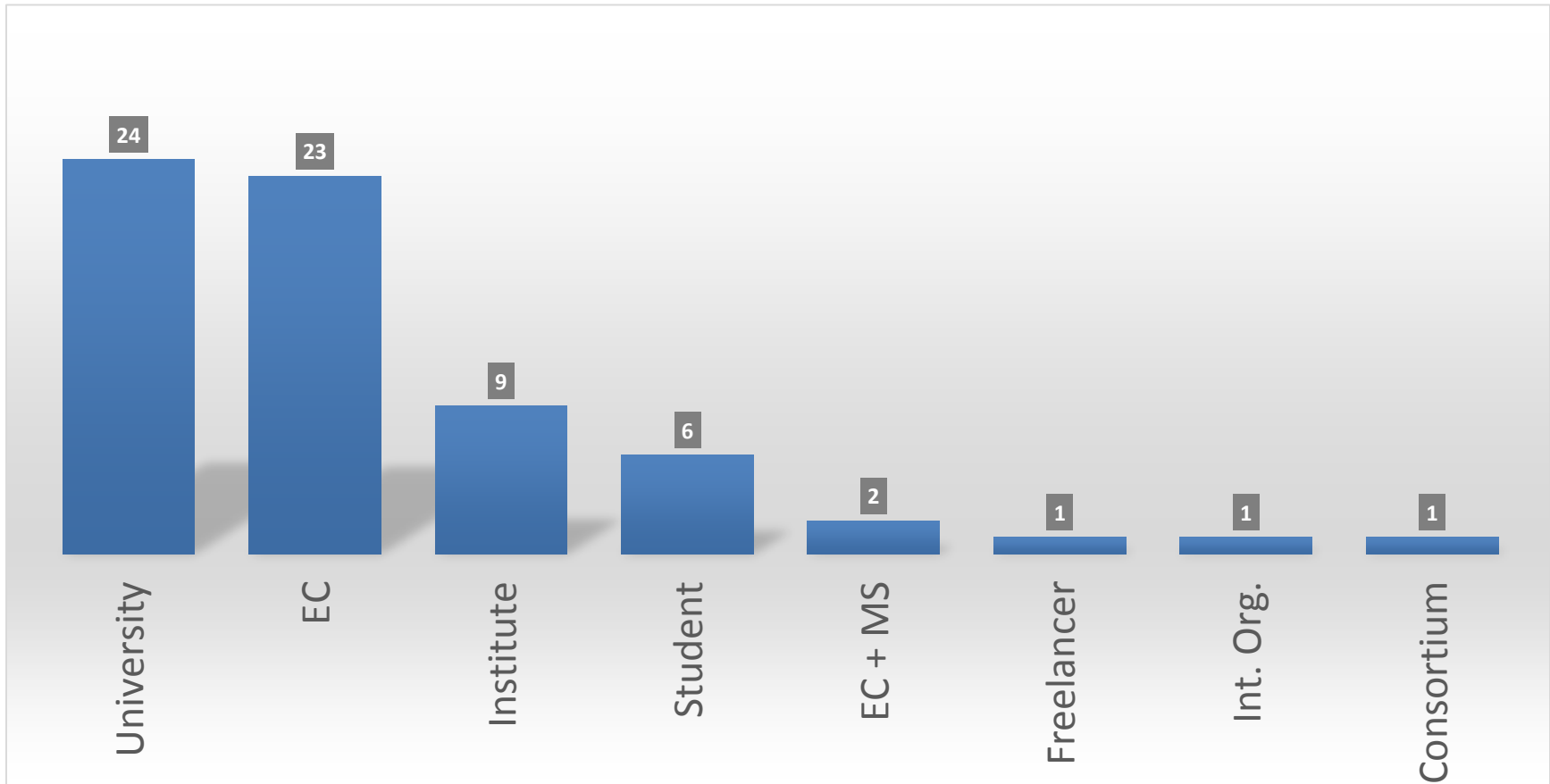


## IFD requests by owners' country 2017-2019 (till 15 September)





## IFD requests by owner type 2017-2019 (till 15 September)





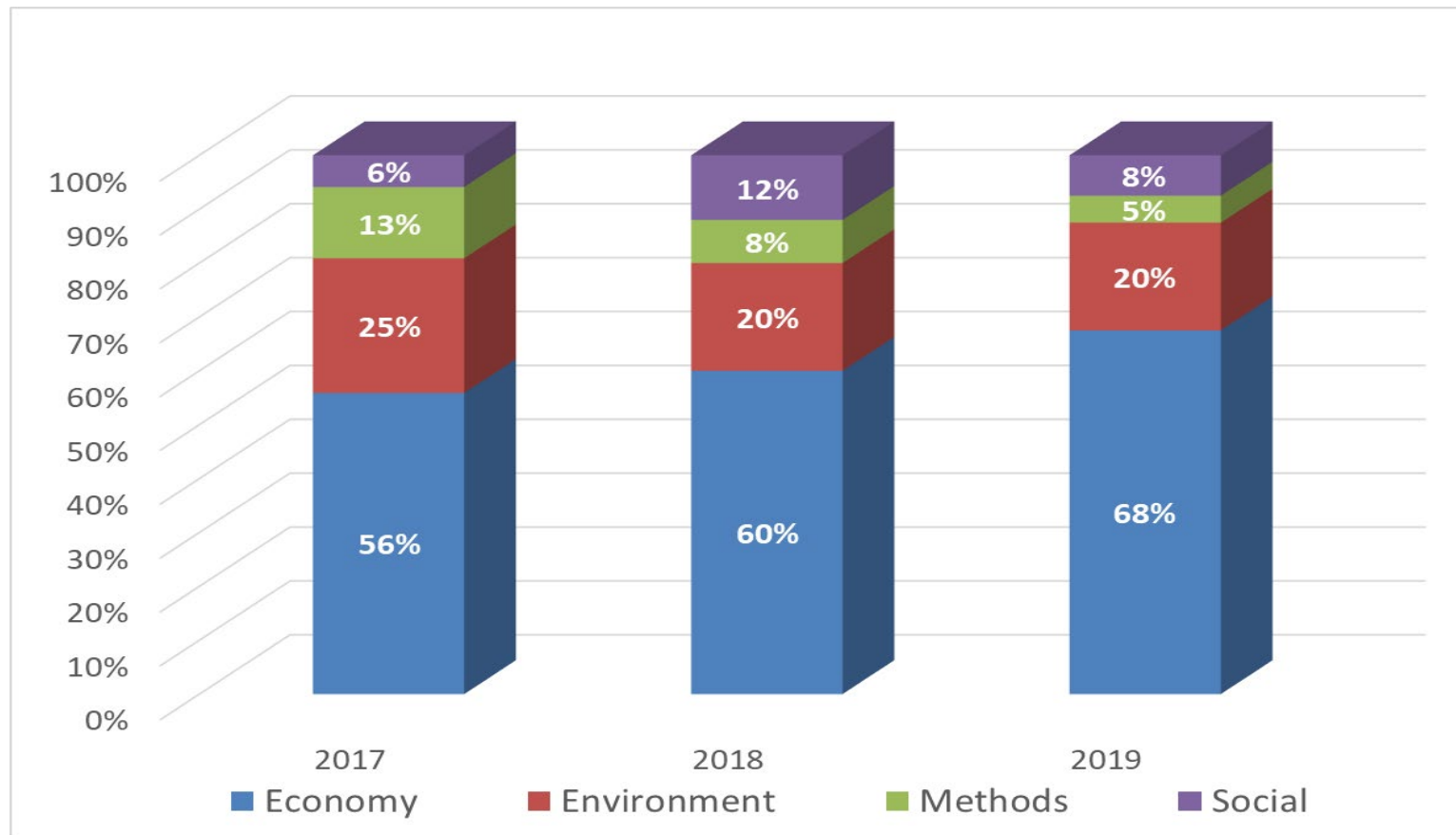


## The most frequently used keywords 2017-2019 (till 15 September)

<b>Category</b>	<b>Keyword</b>	<b>% of occurrences</b>
Economy	Productivity	6.5%
Economy	Evaluation	5.4%
Economy	Efficiency	3.8%
Environment	Sustainability	3.8%
Methods	Modeling	3.8%



## IFD requests by category 2017-2019 (till 15 September)





## Expected growth of IFDs request

- The growth is expected to be considerable because of:
  - Growing trend in use of IFD request (from 2 in 2009 to 28 in 2017)
  - Large increase in financing of the agricultural research from about 4 to 10 bln € in the next Framework Programme



## Actions and challenges

- Incremental improvements of the procedure:
  - Three groups of the requestors (one with limit of 300)
  - Personal data handling of the requestors
- Ideal solution :
  - Designing and implementing a tool to allow researches to use the IFDs without viewing records of any individual farm
  - But is an efficient solution feasible?
  - **Any experience or known best practices?  
Please share.**



## Overview of the Member States' FADN results online

- *What we looked for?*
  - Online availability of the national reports/publications that used most recent FADN results, i.e. for accounting years 2014 to 2017
- Method: on-line screening
- Timing: September 2019
- Collection of links to national FADNs is published on EU FADN website:

[European Commission >Agriculture > FADN >Links >National FADN units](#)

