



Farm Level Indicators for New Topics in policy evaluation

Hans Vrolijk

Wageningen Economic Research, The Netherlands

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SDG's, COP21 (Paris' Climate change): new policy goals asks for new data



- European policies are (being) adapted:
 - Common Agricultural Policy: Cross Compliance, Greening
 - CAP Rural development: innovation (EIP Agriculture)
 - Nitrate directive
 - Water directive
 - Etc.
- Policy evaluation has a need for data on these topics

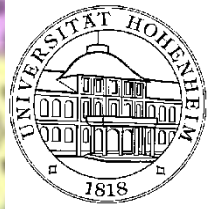
Assessment situation

- Information needs on sustainability from private sector, government, NGO's and research
- Official agricultural statistics (slowly) adapt to new information needs
- No agreement on what the future data infrastructure at EU level should look like.
 - Extend FADN, link FADN to other administrative data or separate environmental data network
- Developments
 - Combining statistical and administrative data
 - Farmers often have to collect and provide data on sustainability and food safety issues (Global Gap, BRC, SAI initiative, cool farm tool etc.)

Objectives FLINT

- To demonstrate the feasibility of collecting policy-relevant data in different administrative environments
- To demonstrate how the new farm level indicators can be used to evaluate policies and improve the targeting of policy initiatives

Source: EUROSTAT (geographic data) and DG AGRI L20 (Thematic data)
Cartography: DG AGRI GIS-Team 11/2009
© EuroGeographics Association for the administrative boundaries



IT

Why did we use FADN in the pilot

- Interest is at the farm-level
- Need multi-dimensional data source – economic, social, environmental (& innovation)
- EU harmonised data
- Implemented annually
- Indicators must be credible
 - Objective, verifiable and empirical data
- BUT: where possible, link to existing data

Need for an Integrated data set

- Measurement of different sustainability indicators on the same set of farms
- Allows the analysis of the full chain from: Policy objective -> policy measure -> impact on farm -> farm management decisions -> up to: sustainability performance of farms
- Trade-off and jointness of performance on different sustainability measures as a consequence of policy measures

Environmental

E1: Greening

E3: Semi-natural areas

E4: Pesticide usage

E5: Nutrient balance

E7: Indirect energy use

E8: Direct energy usage

E9: On-farm RE prod.

E6: Soil organic matter

E10: Nitrate leaching

E11: Soil erosion

E12: Use of legumes

E14: GHG calculation

E16: Water usage,
storage

E17: Irrigation practices

Economic,
innovative

EI1: Innovation

EI2: Producing under
label

EI3: Market outlet

EI4: Farm duration

EI5: Efficiency field parcel

EI7: Insurance

EI8: Marketing contracts

EI9: Risk exposure

EI6: Modernization

Social
sustainability

S1: Advisory service

S2: Education and
training

S3: Ownership
management

S4: Social engagement

S5: Working conditions

S6: Quality of life

S7: Social diversification

Z1
Z2
Z3
Z4
Environmental

- E1: Greening
- E5: Nutrient balance
- E9: On-farm RE prod.
- E11: Soil erosion
- E16: Water usage, storage

- E3: Semi-natural areas
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- E4: Pesticide usage
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- E14: GHG calculation

Z5
Economic, innovative

- E11: Innovation
- E14: Farm duration
- E18: Marketing contracts

- E12: Producing under label
- E15: Efficiency field parcel
- E19: Risk exposure

- E13: Market outlet
- E17: Insurance
- E16: Modernization

Z6

Z7 - Z8
Z9
Z10
Social sustainability

- S1: Advisory service
- S4: Social engagement
- S7: Social diversification

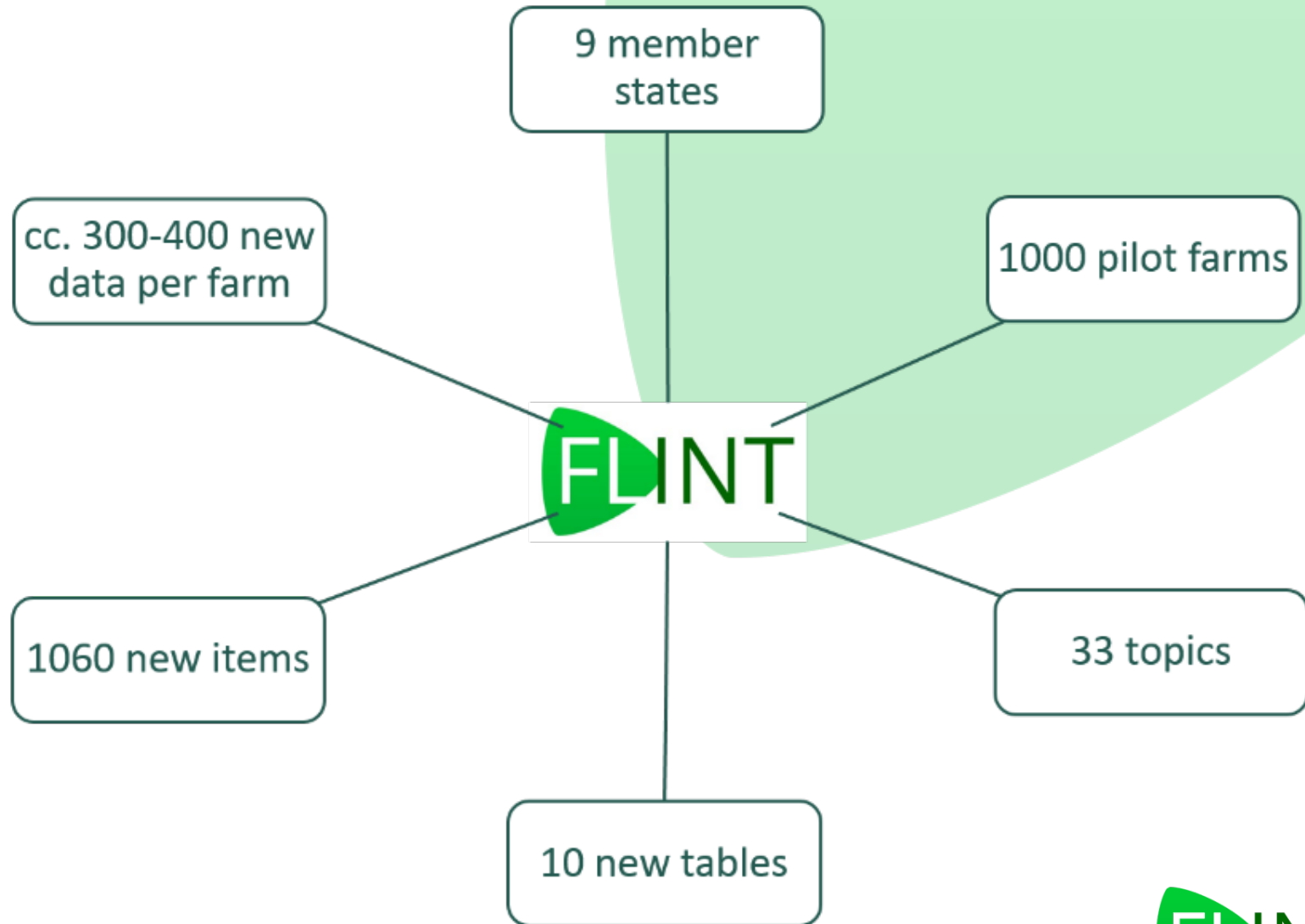
- S2: Education and training
- S5: Working conditions

- S3: Ownership management
- S6: Quality of life

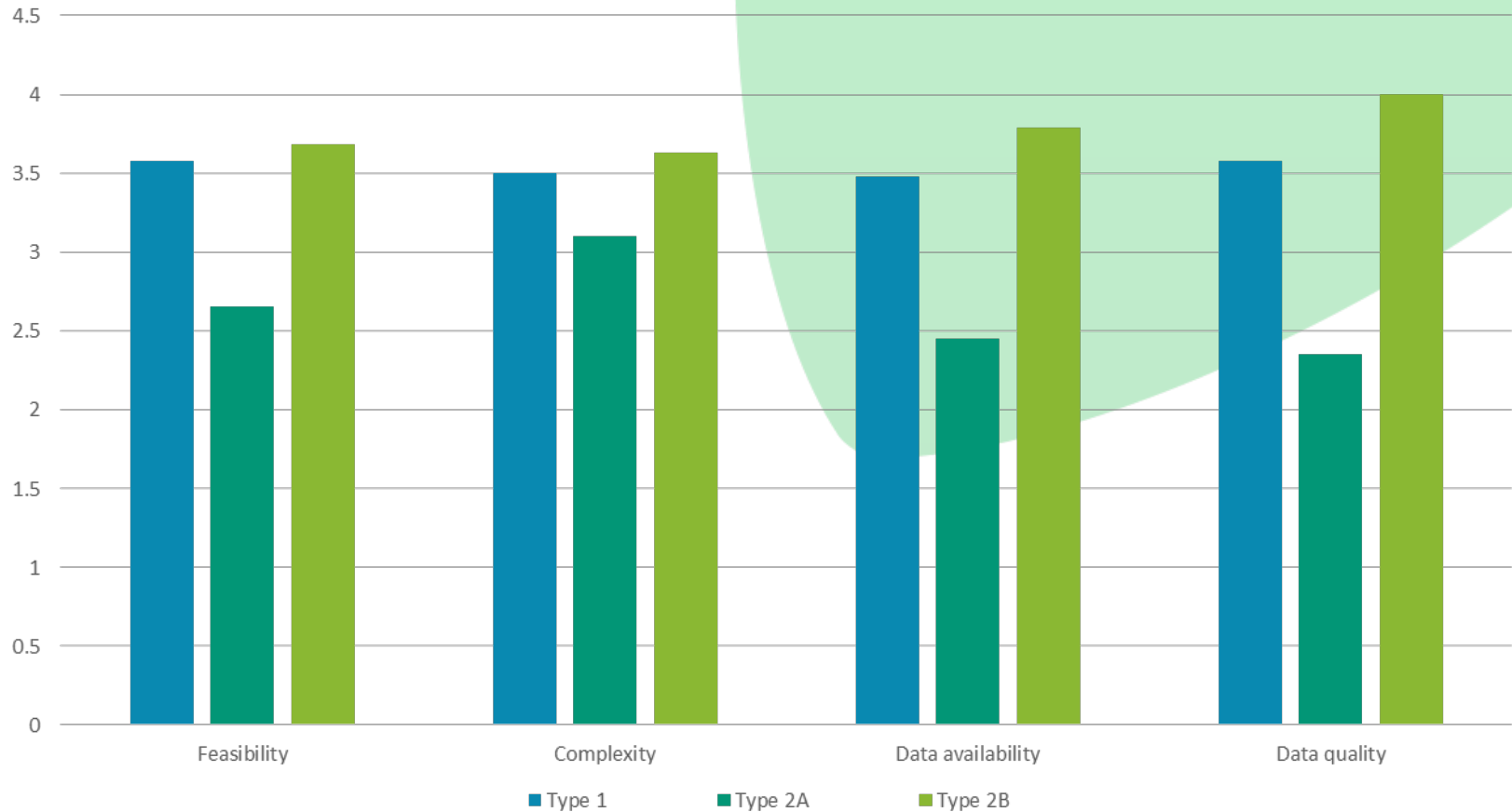
Structure of the FLINT farm return (example)

Category	Column	Notes
Group of information AS - Advisory Services		
Consultancy Cat. 1011 to 1016	Type of Advice Z1_AS*_VT	<p>Public Advisor (1011): It includes all public advisory services or public extension agents offering direct advice services to the farmers: e.g. advisory centre, chambers of agriculture, agricultural authorities, state-owned advisory firms, public research institutes.</p> <p>Farmers' Cooperative (1012): It includes farmers' cooperatives or its organizations which offer direct advisory services to the farm.</p> <p>....</p> <p>Others (1015): Includes all the providers not covered on the previous categories: universities, environmental NGOs, private research institutes, religious organizations.</p> <p>Allowed values for value type (column VT), multiple selections are allowed:</p> <p>1 = Accountancy, bookkeeping, taxes: includes advisory service for bookkeeping; accountancy, taxes, FADN.</p> <p>2 = Management, business planning, and marketing: includes advisory services for planning, monitoring or executing plans. It includes: business/financial/marketing planning, human resources, management, marketing advice, marketing information service.</p> <p>3 = Crop production: it includes advisory service with the aim to solve problems and implement solutions of all the categories of crops contemplated in Table I (Crops)</p> <p>4 = Livestock production: it includes advisory services with the aim to solve problems/ implement solutions of all the categories of livestock described on Table J (Livestock production)</p> <p>...</p>

Flint data collection



Feasibility of data collection in different administrative environments



Source: online survey



Experiences data collection (overall)

- Data collectors attitude changed from hesitant to more enthusiastic
- Collection of new data always causes some initial problems and need for adaptation –
 - Land management (erosion risk, national circumstances, and due to timing: farms not familiar with EFA, cross checking of data with FADN)
 - Innovation
- However, first year collection of sustainability data seems far less complicated than first year FADN data collection
- Collection in scope of FADN provides advantages in terms of farmer participation and quality assurance

Case studies

- Wide range of case studies conducted (partly published in scientific journals and accepted for conferences)
- Taking into account the pilot project limitations: sample size, representativity, one year data, time pressure
- Case studies to illustrate added value of having these type of data
 - Filling gaps in terms of research methodology (i.e. social performance, economic viability)
 - Provide better understanding in the sources of sustainability performance (i.e. impact of land fragmentation, advisory services, age of assets).
 - Additional insights in challenges faced by farmers (i.e. trade-offs between environmental and economic performance)
 - Provide more precise recommendations for policy makers (i.e. effect of CAP subsidies on technical efficiency; investment subsidies on age of assets)

Case studies

<u>Risk management</u>	the adoption of risk management strategies in european agriculture
<u>Technical efficiency</u>	the Cap subsidies and technical efficiency including environmental outputs: the case of european farms
<u>Innovation</u>	the adoption of innovation in european agriculture
<u>Farm fragmentation</u>	evaluates farm fragmentation, performance and subsidies in the european union
<u>Social indicators</u>	the social indicators of farm-level sustainability
<u>Age of assets</u>	effect of age of assets on farm profitability and labour productivity
<u>Economic sustainability</u>	evaluates the farm economic sustainability in the eu: a pilot study
<u>Farmer age</u>	impact of farmer age on indicators of agricultural sustainability
<u>Extension</u>	the role of extension in agricultural sustainability
<u>Greening</u>	investigation of indicators for greening measures: permanent grassland and semi-natural area
<u>Nutrient use</u>	develop nutrient use efficiency indicators for milk production
<u>Trade-offs</u>	tradeoffs between economic, environmental and social sustainability: the case of a selection of european farms
<u>Advisory services</u>	advisory services and farm level sustainability
<u>Soil organic matter</u>	indicators for soil organic matter management from flint data
<u>Water usage</u>	water usage, source and sustainability: examples from the region of navarra (spain) and greece

Recommendations

- Policy researchers need to understand relation between policy measure and farm management with exact relation between inputs, outputs and income.
- Collecting these data on the same set of farms is conceptually and empirically superior to a solution of separate panels (as illustrated in some show cases)
- Collecting environmental data very often also depends on systematic recording of flows: environmental accounting is based on documents also used in financial accounting. Reduces administrative burden and increases quality

FLINT proposal : adapt FADN

1. CAP Reform and other policies demand better data for policy evaluation
2. Collect sustainability data on a sub-sample of 15.000 farms
3. Financed by additional resources or from a reduction of current FADN sample

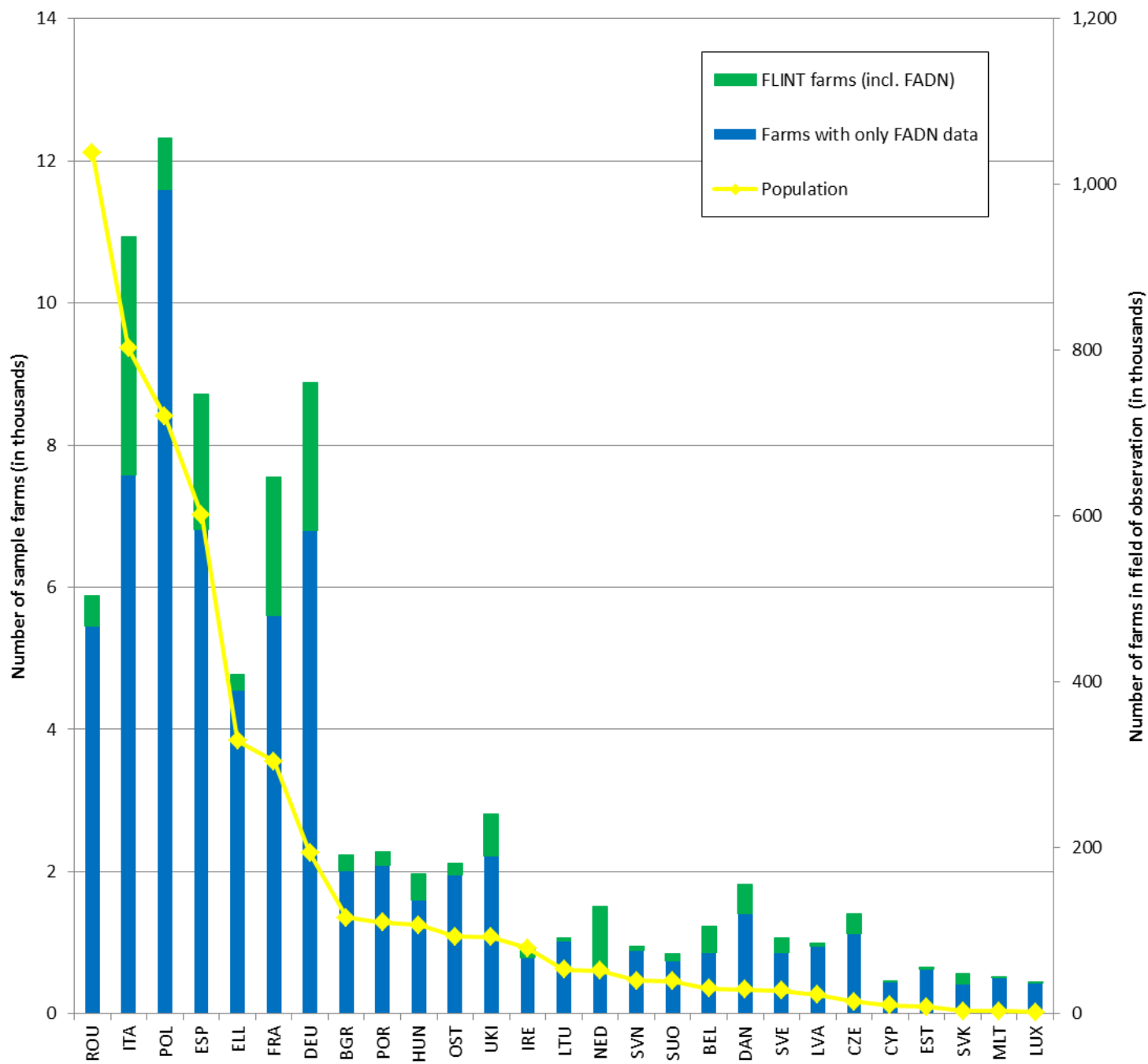


Meetings with national Ministries

- Common feeling that there is a need for sustainability data. Some ad-hoc data collection takes place
- Having an integrated dataset would be crucial for policy analysis (even it is not optimal for certain aspects)
- Monitoring costs are limited compared to subsidy payments
- Agricultural policy is mainly EU policy, monitoring needs are also at EU level
- Data collection (and exchange of data) affected by privacy laws in a country
- Make use of existing data where possible, also strengthen legal framework

Detailed recommendations (1)

- Start collecting FLINT data
- Including FLINT data on all FADN farms would increase total running costs with 40%.
- More feasible option to collect FLINT data on a subsample of farms.
- **Create FADN sub-sample of 15.000 farms on which sustainability data are collected**
- Distribution of 15.000 over member states based on optimal allocation over the member states



Recommendations (2)

- Would increase operating costs of FADN (to be paid by MS or EU?)
- Alternative solution within current budget limitations:
 - Reduction of current sample of about 85.000 to 75.000 farms
 - impact on quality of estimates (at EU and MS level) of economic indicators very limited.
 - Large differences between MS depending on level of costs of current FADN data collection and estimated costs of FLINT data collection
 - Negotiation needed for countries like FR and D where this applies

Recommendations (3)

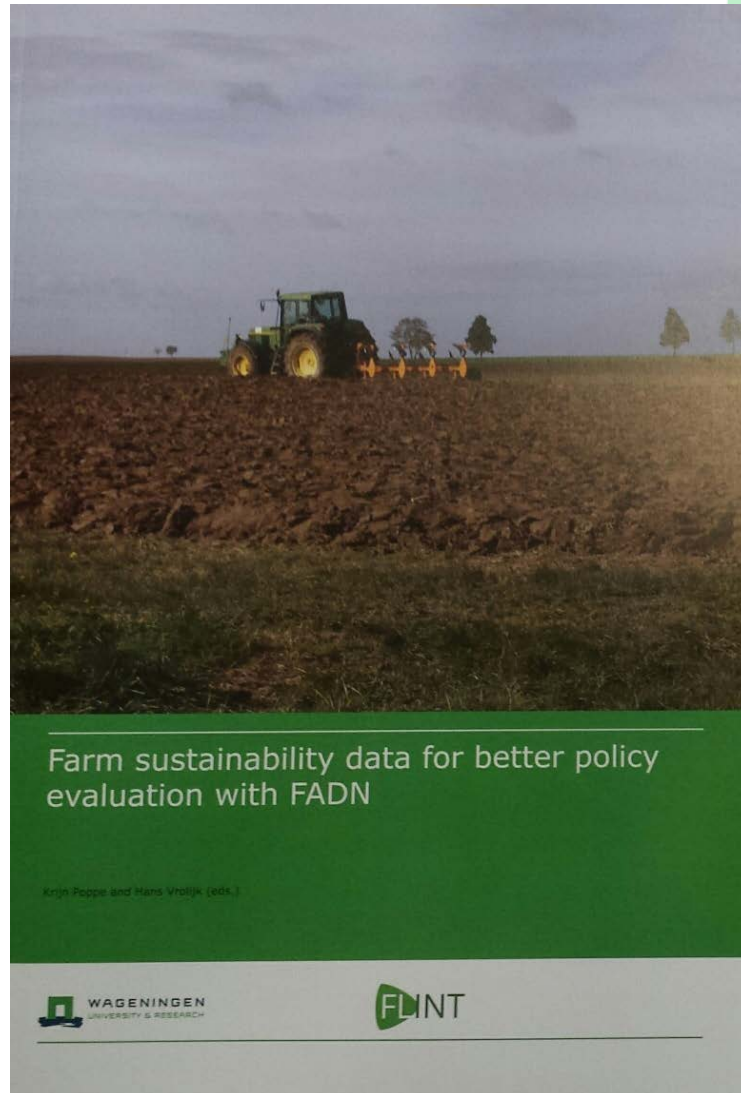
- Setting up FLINT data collection requires investments (software, instructions)
- DG-AGRI could support exchange of experiences and best practises
- Recommendation to start a FLINT-2 project.
 - Could start soon
 - Make use of existing data in MS for policy analysis in 2018 (also from FLINT partners who will continue their data collection)
 - Transfer of FLINT knowledge to other MS, start testing

And:

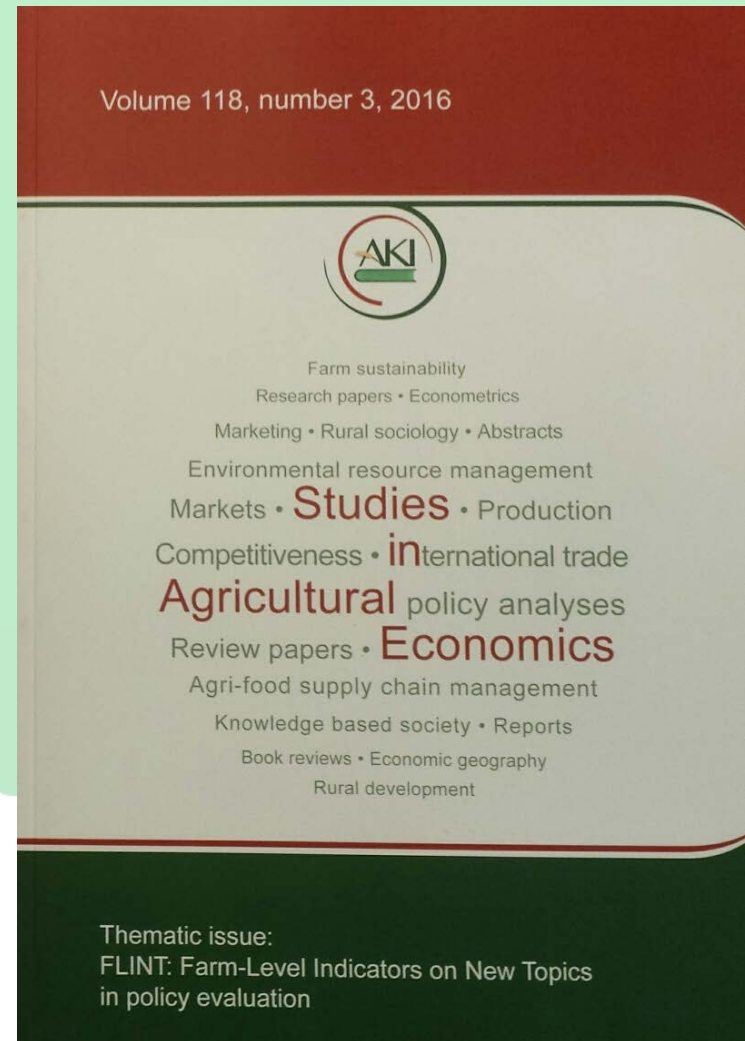
- Connect with developments in IT and private sustainability schemes
- Share best practises and legal arrangements in use of administrative and commercial data



Publications



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FLINT developed a data-infrastructure needed by the agro-food sector and policy makers to provide up to date information on farm level indicators on sustainability and other relevant new issues. Better decision making is facilitated by taking into account the sustainability performance of farms on a wide range of relevant topics, such as (1) market stabilization; (2) income support; (3) environmental sustainability; (4) climate change adaptation and mitigation; (5) innovation; and (6) resource efficiency. The approach explicitly considered the heterogeneity of the farming sector in the EU and its member states. Together with the farming and agro-food sector the feasibility of these indicators was determined.

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[For research](#)

[For policy makers](#)

[Structure](#)

[W/ps](#)

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