Farm Level Indicators for New Topics in policy evaluation

Intro and objectives meeting

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Wageningen Economic Research, The Netherlands

199th FADN Committee, Brussels, November 2016
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
Current 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.)
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
  - (for example is the economic performance at the expense of environmental performance, sustainability performance of large farms etc.)
Objectives FLINT

• To demonstrate the feasibility of collecting policy-relevant data in different administrative environments
  – with newly developed farm-level indicators of economic, environmental, social issues.

• To demonstrate how the new farm level indicators can be used to evaluate policies and improve the targeting of policy initiatives
Environmental:
- E1: Greening
- E2: Soil organic matter
- E3: Semi-natural areas
- E4: Pesticide usage
- E5: Nutrient balance
- E6: Soil organic matter
- E7: Indirect energy use
- E8: Direct energy usage
- E9: On-farm RE prod.
- E10: Nitrate leaching
- E11: Soil erosion
- E12: Use of legumes
- E13: GHG calculation
- E14: Irrigation practices

Economic, innovation:
- El1: Innovation
- El2: Producing under label
- El3: Market outlet
- El4: Farm duration
- El5: Efficiency field parcel
- El6: Modernization
- El7: Insurance
- El8: Marketing contracts
- El9: Risk exposure

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
Why 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
Questions for this meeting

• Feedback on data collection experiences

• Your opinion on the scenarios for the future.
  – How to ensure that sustainability issues are take into account in policy evaluation

• Input on country specific circumstances to further quantify scenarios
  – Cost and time for data collection
  – Organisational structure in your country
Farm level indicators for new topics in policy evaluation

Experiences with data collection

Szilárd Keszthelyi, AKI, Hungary

199th FADN Committee, Brussels, November 2016
Content

- Availability of data at farm level
- Experiences in data collection
- Cost of data collection
Availability of data at farm level
# Ratio of existing data and ratio of personal interviews needed

<table>
<thead>
<tr>
<th>Category</th>
<th>Ratio of already existing data</th>
<th>Ratio of personal interview needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information and knowledge</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Quality of life</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Innovation</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Machinery and buildings</td>
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<td>•</td>
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<tr>
<td>Labelling</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Market outlet</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Greening</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Nitrate leaching reduction</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Soil erosion</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Land fragmentation</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Soil organic matter</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Insurance</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Marketing contracts</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Risk reduction</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Pesticide usage</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Livestock (quantity)</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Crops (quantity)</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Purchased feedstuff</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Purchased seed</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Manure</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Slurry</td>
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<td>•</td>
</tr>
<tr>
<td>Energy</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Water</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

Source: online survey
Assessment of data availability

Source: online survey
Experiences in data collection
Flint data collection

FADN and FLINT farm return

- Directly connected
  - Ireland
  - Poland
  - Hungary
  - Netherlands
  - Finland

- Separated
  - France
  - Spain
  - Greece
  - Germany

Data collectors

- Agricultural students
  - France

- Farm advisors or accountancy offices
  - Spain
  - Greece
  - Hungary
  - Poland
  - Netherlands
  - Finland
  - Ireland

- Researchers
  - Germany

Source: online survey
Sample size and the year of data collection by Member States in the Flint project

<table>
<thead>
<tr>
<th></th>
<th>FRA</th>
<th>IRE</th>
<th>ESP</th>
<th>POL</th>
<th>ELL</th>
<th>DEU</th>
<th>HUN</th>
<th>NED</th>
<th>FIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample farms for FLINT</td>
<td>150</td>
<td>65</td>
<td>165</td>
<td>140</td>
<td>110</td>
<td>95</td>
<td>100</td>
<td>150</td>
<td>50</td>
</tr>
<tr>
<td>Collected (3/11/2016)</td>
<td>297</td>
<td>64</td>
<td>165*</td>
<td>146</td>
<td>124</td>
<td>52</td>
<td>102</td>
<td>155</td>
<td>49</td>
</tr>
</tbody>
</table>

* Partly (25%) FADN missing

*Source: online survey*
Feasibility of data collection

<table>
<thead>
<tr>
<th>Category</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>-8%</td>
<td>44%</td>
<td>32%</td>
<td>4%</td>
<td>0%</td>
</tr>
<tr>
<td>Energy</td>
<td>-17%</td>
<td>43%</td>
<td>30%</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Nutrient Balance</td>
<td>-10%</td>
<td>20%</td>
<td>47%</td>
<td>13%</td>
<td>0%</td>
</tr>
<tr>
<td>Pesticide Usage</td>
<td>-3%</td>
<td>23%</td>
<td>43%</td>
<td>23%</td>
<td>0%</td>
</tr>
<tr>
<td>Risk Reduction</td>
<td></td>
<td>33%</td>
<td>50%</td>
<td>17%</td>
<td>0%</td>
</tr>
<tr>
<td>Land Management</td>
<td>-23%</td>
<td>-40%</td>
<td>30%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Economic</td>
<td>-10%</td>
<td>33%</td>
<td>30%</td>
<td>27%</td>
<td>0%</td>
</tr>
<tr>
<td>Innovation</td>
<td>-23%</td>
<td>40%</td>
<td>20%</td>
<td>17%</td>
<td>0%</td>
</tr>
<tr>
<td>Working conditions and Quality of life</td>
<td>-3%</td>
<td>37%</td>
<td>47%</td>
<td>13%</td>
<td>0%</td>
</tr>
<tr>
<td>Information and Knowledge</td>
<td>-10%</td>
<td>38%</td>
<td>41%</td>
<td>10%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: online survey
FADN data collection systems

Type 1
Own staff data collection
- Netherlands
- Ireland
- Poland
- Greece
- Spain

Type 2
Outsourced data collection

Type 2A
Ministry supervision
- Germany
- France

Type 2B
Research Institute supervision
- Hungary
- Finland
Feasibility of data collection in different administrative environments

Source: online survey
Cost of data collection
Incentives for farmers

• No special incentives in 7 Member States
  • good relationship between farmers and data collectors encouraged participation (feedback report)

• Germany (EUR 150-500 per farm)
Time required for data collection per farm

- Completion, delivery and control of data; 3 hours per farm
- Personal interview; 2.5 hours per farm
- Preparatory work; 3 hours per farm

Source: online survey
Cost of data collection

- Poland EUR 100 per farm return (data entry not included)
- Spain, Hungary, Finland EUR 300 per farm return
Experiences (data collection)

• Some countries already collecting more data than required by FADN – experienced

• Many FLINT variables already indirectly available in FADN information flow (eg. quantities on invoices)
  – reduce information collected from farmers

• Knowledge/skill of data collector important
  – Explain how data will be used
  – Explore where data may be already available
  – Ensure quality of data collected
Experiences (farmer participation)

• Relationship with normal data collector important for participation

• Perceived importance & awareness of sustainability varies by country
  – Impact on willingness to participate

• Some variables are ‘threatening’ or ‘private’ – country specific
  – Reconsider in recommendations, skip or explain.
Experiences (overall)

• Data collectors attitude changed from hesitant to more enthusiastic

• Collection of new data always causes some initial problems and need for adaptation –
  – Despite reviews and prior testing, still some issues need to explained more clearly

• 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
Farm level indicators for new topics in policy evaluation

Recommendations for the future

Hans Vrolijk,
Wageningen Economic Research, The Netherlands

199th FADN Committee, Brussels, November 2016
Content

• Feedback from the previous meeting
• Pacioli discussion
• Meetings with ministries
• Most promising scenarios
Starting from a wide set of Scenarios for the future

<table>
<thead>
<tr>
<th>Scope of data collection</th>
<th>Data collection on full FADN</th>
<th>New variables on a sub sample of FADN farms</th>
<th>Reduced FADN sample for old and new variables</th>
<th>Reduced frequency of some variables (once every X year)</th>
<th>Alternative farm level data collection system</th>
</tr>
</thead>
<tbody>
<tr>
<td>No change in data collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Extension of FADN with new data with fully integrated data collection</td>
<td></td>
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<tr>
<td>Extension of FADN with additional data on same farms but separately collected</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Separate environmental network with fully separated data collection</td>
<td></td>
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</tbody>
</table>
Additional data collection for national purposes

- Succession
- Water usage
- Information on livestock housing to calculate manure applications
- Pesticide usage and nutrient balance
- Use of fertilizer amounts
- Education and training
- Advisory service
- Ownership management
- Market outlet
- Greening
- Insurance
- Amounts of feedstuffs for animals
- Energy (types, quantity)
- Household economics, private consumption, taxes paid
- Soil type
- Energy use
- GHG calculation
- More detailed variables than FADN (e.g. crop categories, animal categories)
Bottlenecks additional data collection

Costs
- Who will pay for extra work
- Costly changes in software

Reaction farmers
- A burden for farmers to answer the questions
- Many farmers available for FADN selection. More sensitive questions could endanger this
- Farmers do not want to give additional data (e.g. fertilizer used)

Knowledge & resources
- Skills and education of data collectors
- Data collector needs deep knowledge in a number of areas.
- Not enough resources (data collectors)

Other
- Political support
- Sample is not chosen for the purpose of environmental and social indicators
- New selection of farms to represent wider topics
Findings groups discussions

• Everything is feasible, but at which costs
  – In terms of budget
  – In terms of burden on farmers

• Most discussion on social indicators
  – Qualitative nature, frequency of collection, expertise of data collectors

• Implications for knowledge and training of data collectors

• Support for sub sample approach

• Costs is the major limitation

• Potential to strengthen FADN

• No large differences between different organisations models of FADN
Consequences (Pacioli workshop)

• Users
  – Increases the value of the FADN Data; Large possibilities for analyses because of the combination with FADN data
  – Environmental indicators very important for politicians and public
  – Implications focus of FADN (social aspects small farms, environmental aspects large farms)

• Data collector perspective
  – Stimulate interoperability and exchange of info between databases (especially in less experienced countries)
  – Co-ordination between fadn-fss sample
  – Digital by default, once only

• IT perspective
  – Lot of home built systems. Possibilities for cooperation.
    Opportunities for cooperation with modular design and open source principles
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
– Diverse opinions on decreasing FADN sample size based on starting situation. Broad support for sub sample
– Agricultural policy is mainly EU policy, monitoring needs are also at EU level

– In case out-sourced data collection, incentives should be clear
– Data collection (and exchange of data) affected by privacy laws in a country
– Willingness of farmers is important, interest of farmers differs between countries
– Make use of existing data where possible, also strengthen legal framework

– The environmental indicators as defined by the flint project are all relevant. For social indicators farm succession is an important issue.
# Discussion: Promising scenarios

<table>
<thead>
<tr>
<th>FLINT 2: policy research infrastructure</th>
<th>FADN sub sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project like FLINT with all 28 countries</td>
<td>Collection of FLINT data on a subsample of FADN farms in each country</td>
</tr>
<tr>
<td>Flexibility at country level</td>
<td>Needs a change of legislation</td>
</tr>
<tr>
<td>No need for change in legislation</td>
<td>Affects representativity at lower levels</td>
</tr>
<tr>
<td>Could act fast</td>
<td>Two different systems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FADN full sample</th>
<th>Frequency of data collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection of FADN and FLINT variables on all farms (on less farms than now)</td>
<td>Collection of FADN and FLINT variables but some variables not every year</td>
</tr>
<tr>
<td>Needs a change of legislation</td>
<td>Needs a change of legislation</td>
</tr>
<tr>
<td>Affects representativity at lower levels</td>
<td>Align with FSS years</td>
</tr>
</tbody>
</table>