



Agricultural Institute of Slovenia

Quality analysis of the FADN results for Slovenia – first stage results

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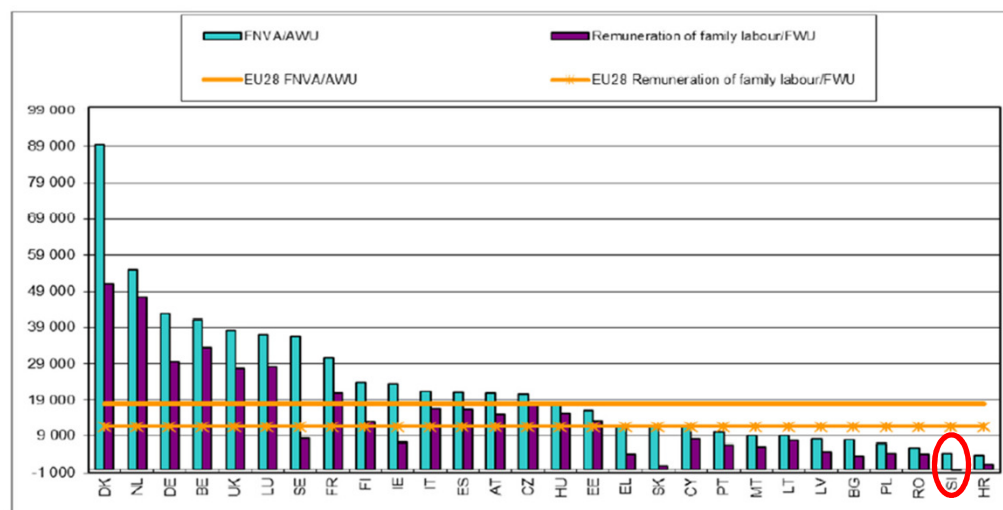
Outline of presentation

- Motivation for research
- Data quality assessment: theory
- FADN data quality management: EU, Slovenia
- Approach used
- Selected components of data quality – first stage results
- Conclusions
- Key mid-term recommendations
- Limitations and recommendations for further research

Motivation

- **FADN data: data gold mine and invaluable data input for EU** (50 years of FADN conference, June 2015), wide range and volume of different uses throughout EU (EC and EU member states)
- **But not in Slovenia** – (hints of) insufficient quality by several quality components (previous research), modest use
- **Slovenian FADN: total quality management not systematically developed yet**; comprehensive quality analysis of FADN for Slovenia not performed yet
- **But growing awareness about data richness and potentials of FADN for Slovenia: incentive for a national project**

FNVA per AWU and remuneration of family labour per FWU, by Member State in 2013 (average in EUR)



Motivation – Cont.

- **„Development of Holistic Model of Agricultural Holdings and Related Databases for Decision Making in Slovenian Agriculture“**; 100% state financed, 3-year project; partners: Agricultural Institute of Slovenia, University of Ljubljana, Agricultural Advisory Service (public)
- **Key aim - from the perspective of FADN data quality:** systematic, in-depth quality analysis of FADN data for Slovenia, recommendations to improve data quality & usability
- **2-stage project - from the perspective of FADN data quality:**
 - *First stage:* quality analysis of Slovenian FADN from the organizational (operational) perspective
 - *Second stage:* more in-depth analysis of basic FADN data (cross-checking with other databases, model)
- **Results presented today** – first stage results (collected up to December 2015)

Data quality assessment: theory

- **Quality of data: ,fitness for use'** (Statistics Canada's Quality ..., 2002)
- Not only *accuracy* (one component); but a **mixture of several different components/dimensions**
- **Selection, range, hierarchy of components** – user defined
- **EUROSTAT (European Statistics Code of Practice, 2011) – quality at 3 levels:**
 - institutional environment (system)
 - statistical processes
 - statistical output
- **Assessment and monitoring of data quality:** part of total quality management (TQM); rigorous procedures in commercial companies and statistical offices; quality of EU statistics – legislative obligations

FADN data quality management (EU)

- **No new idea**; proposals for a more comprehensive (total) quality management of FADN data following example of statistical offices in 90s (first PACIOLI workshops);
- **FADN not official statistics**, but strongly connected, also some MS already have similar starting point/approach (recent efforts in Sweden, Denmark; FADN within statistics offices)
- **But to our knowledge not at the EU level**; main reasons: different systems of data collecting, processing, quality assessment, time consuming procedures
- **Growing awareness about multidimensional nature of quality of FADN data/systems** (recently: Bradley and Hill, 2015; Eur. Court of Auditors, 2016)
- **At EU level very detailed and harmonized activities regarding:**
 - *accuracy and reliability* (data quality checks – raw data, aggregate data, sample)
 - *timeliness and punctuality* (determined by legislation)
 - *accessibility and clarity* (more quick infos, periodic publications)
- **Problem: ,aggregate‘ approach** (,aggregate‘ categories, ,important‘ countries, regions, sectors, maintenance of averages/order of magnitude between years...)

FADN data quality management (Slovenian FADN network)

- **At national level no official plan of quality management of FADN data**
- **Top priority: timeliness to fulfill EC obligations;** regarding the data controls: the same system as EC – adopting the ,aggregate‘ approach can be a problem!
- **With current staff at the ministry (LAO) :** more proactivity regarding the improvement of data quality and quality assessment by other components, coordinated efforts within the network, better communication:
 - Accuracy and reliability (interinstitutional co-operation regarding data quality checks and data validations)
 - Commitment to quality: national FADN commission meeting 1x/year
 - Adequacy of resources: stability of resources – multiannual contract with accounting office
 - Timeliness and punctuality, accessibility and clarity: feedback to farms somewhat upgraded and delivered faster
 - Cost effectiveness, non-excessive burden on respondents: Agriculture act (law) now enables interoperability of FADN database with some admin. databases

Approach used

- **Analysis by quality components adapting EU guidelines for preparation of statistical quality reports** (*European Statistics Code of Practice*, 2011; ESS Handbook for quality reports, 2015; Quality Assurance Framework of the European Statistical System, 2015); 3 levels: institutional environment, data and processes
- **First stage of project: Selected components - most problematic for Slovenian FADN or the ones for which assessment was possible within the project capacities:** commitment to quality, adequacy of resources, relevance, timeliness and punctuality, accessibility and clarity, non-excessive burden on respondents and cost effectiveness
- **Second stage of project:** accuracy and reliability, sound methodology and appropriate statistical procedures; update of others if needed
- **Analysis by selected components:** principle (description of component adapted to FADN SLO), indicators, current state of FADN in Slovenia, recommendations
- **Data used:** literature, interviews/talks, SR FADN 2007-13, best practice (other MS)

Interviews

- **Semi-structured interviews;** questionnaire; some questions closed (Likert scale); 2015
- **Interviewees:** farms, advisers, FADN coordinators (focus group), 2 accounting offices
- **Farms:** mixture of ,pure‘ FADN sample farms and ,RDP‘ farms; from two regions
- **Advisers:** one region
- ***Small sample, not representative – generalizations of findings not recommended!***
- **Nevertheless, very valuable insights**
- **Results** presented as frequencies

Interviewees	Number
Agricultural holdings:	11
- Included in FADN sample (not necessarily all years)	7
- <i>Excluded from analysis</i>	1
<i>Agricultural holdings analyzed</i>	10
Other interviewees (advisers, FADN coordinators, accounting offices):	13
- <i>Excluded from analysis</i>	1
<i>Other interviewees analyzed</i>	12
Interviewees - total:	24
<i>Interviewees analyzed - total</i>	22

Commitment to quality

*„Slovenian FADN network is committed to quality of data and processes. Strengths and weaknesses are systematically and regularly identified to continuously improve the quality of FADN data for Slovenia.“
(Adapted 4th principle of European Statistics Code of Practice, 2011)*

Selected indicators:

- Quality policy is defined and made available to the public. ❌
- Procedures established to plan and monitor quality of the data (output) production process. ✔️
- Data quality is regularly monitored, assessed with regard to possible trade-offs and reported. ✔️
- Key results (outputs) regularly and thoroughly reviewed. ✔️

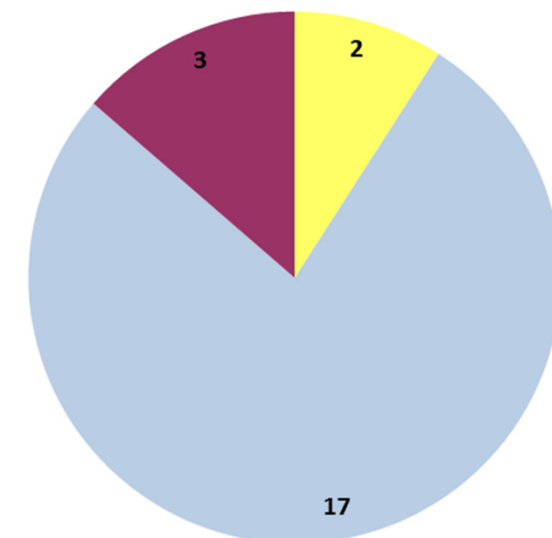
Current state:

- **No (total) data qual. management regarding FADN**
- **Insufficient commitment of key stakeholders** in network (conflicting purposes of FADN in practice, path dependency, avoiding responsibility, uncritical use of results)
- **Almost entirely about fulfilling EU commitments**; some improvements recently

Key recommendation:

- **National consensus about data quality management** (defining key principles to follow - declaration; main stakeholders; divide responsibility)

Opinions about who is more responsible for quality of FADN data: FADN farms or farm advisers (n=22)



- FADN data quality - both equally responsible
- FADN data quality - farmer more responsible
- FADN data quality - adviser more responsible

Adequacy of resources

„The human, financial and IT resources, available to the Slovenian FADN network, are sufficient in volume and quality.“

(Adapted 3rd principle of European Statistics Code of Practice, 2011)

Selected indicators:

- Resources, adequate in magnitude and in quality, are available to meet the key data needs. ✓
- Scope, detail and costs of producing the data are commensurate with data needs. ✗
- Procedures are established to assess the need for collecting new data or discontinue collecting the existing data. ✗

Current state:

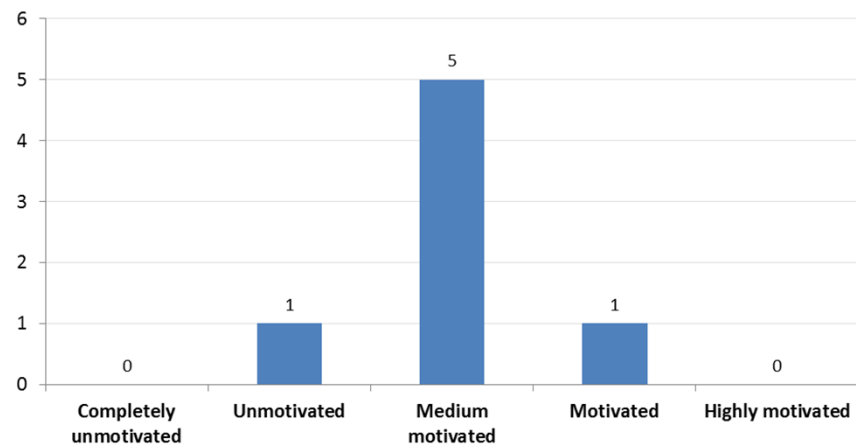
- **Scope of resources (esp. HR) not so problematic** (2013: 32 hrs/FADN farm return; avg. 2012-2014: 329 EUR//FADN farm return; source: Bradley in Hill, 2015)
- **Problem of scatteredness of (HR) resources**, esp. extension service (200 advisers in FADN; most max. 15% time engaged in FADN related activities); negative consequences!
- **Improvements:** more proactivity, co-operation

Key recommendation:

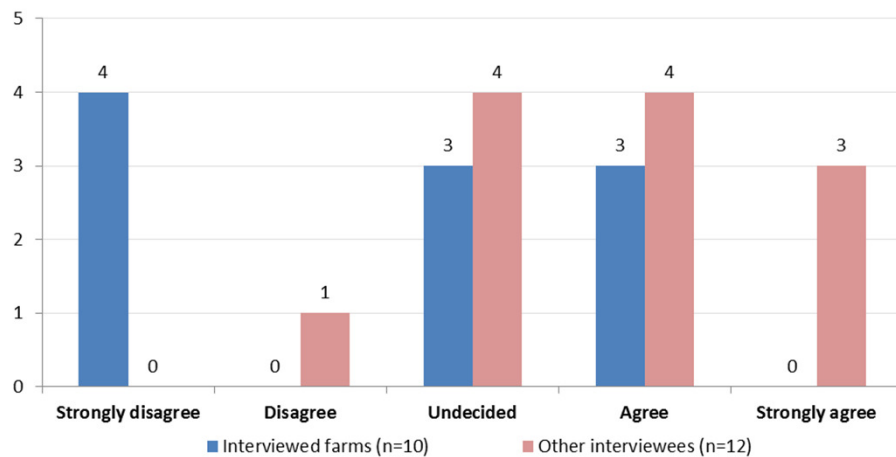
- **Reorganization: increase specialization and HR stability** (tasks reassignment, reorganization of institutions)

Adequacy of resources: survey results

Opinions of the focus group about motivation of farm advisers for FADN related activities (n=7)



Opinions about the progress of Slovenian FADN network in recent years



Relevance

*‘FADN data for Slovenia meet the needs of key users in the country.’
(Adapted 11th principle of European Statistics Code of Practice, 2011)*

Selected indicators:

- Processes are established to consult key users, e.g., about their priority or new data needs. ❌
- Priority data needs are being met and reflected in the work programme. ✓
- User satisfaction is regularly and systematically monitored. ❌

Current state:

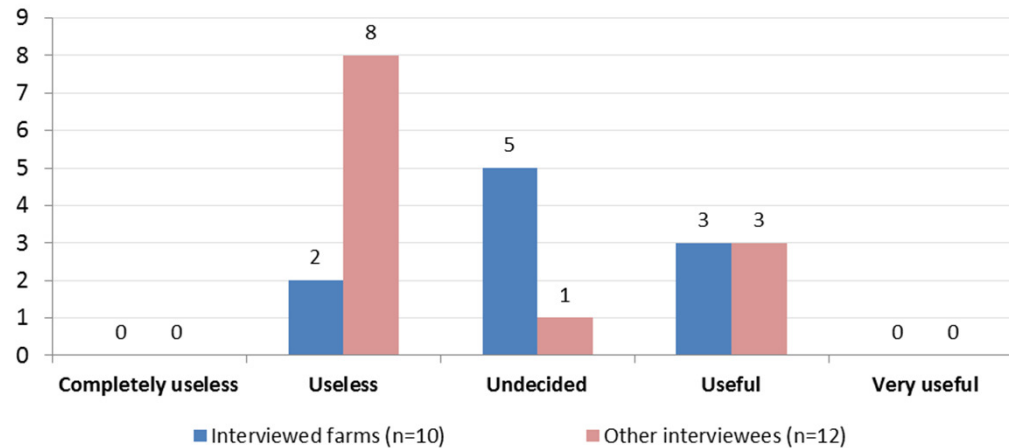
- Main purposes of FADN declared on paper, but in practice unsystematically and too modestly implemented; **conflicting purposes, path dependency** – influences relevance and the range of use of the FADN results
- Interview results: **weak understanding of FADN database content, usability and potentials**

Key recommendation:

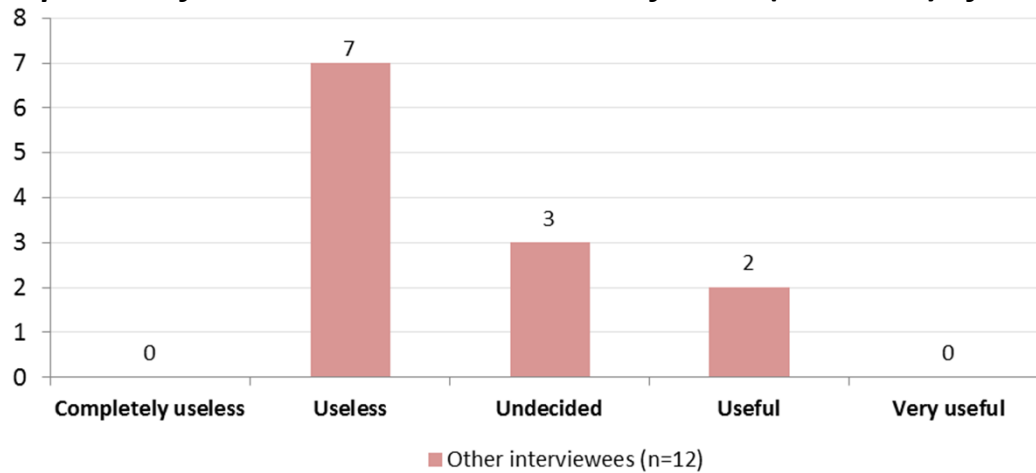
- **To explicitly define key users and their main data needs;** adapt the activities and organization of Slovenian FADN system to them (esp. sampling, one system for ‘pure’ FADN sample farms and ‘RDP’ farms)

Relevance: survey results

Opinions about usefulness (relevance) of FADN data for farms



Opinions of other interviewees about usefulness (relevance) of FADN data for (farm) advisers



Timeliness and punctuality

‘FADN data for Slovenia are released timely and punctually.’

(Adapted 13th principle of European Statistics Code of Practice, 2011)

Selected indicators:

- European and other international release standards are taken into account. **X**
- Time for the dissemination of data is made public; divergence is publicized in advance & explained. **X**
- User requirements are taken into account as much as possible (publication periodicity). **X**
- Preliminary results can be released when considered useful. **X**

Current state:

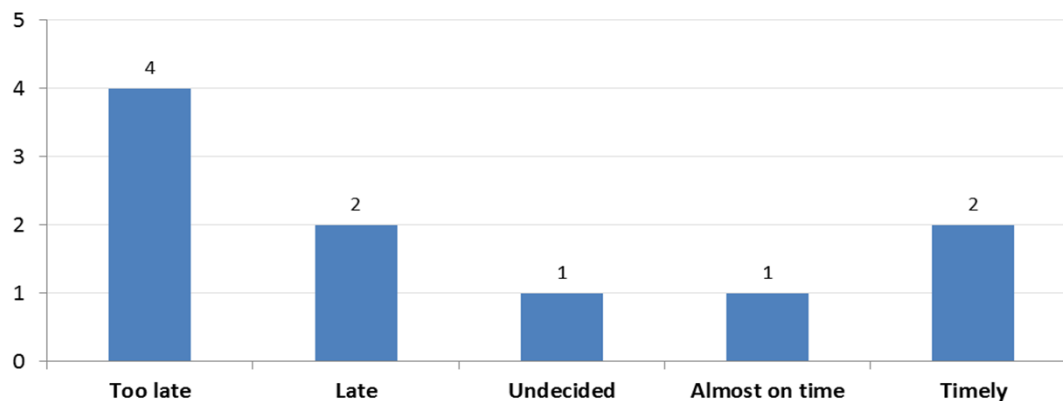
- **No time schedule for dissemination**; but legislative deadlines respected
- **Punctuality can't be determined** (no time schedule, scarce periodic publications)
- **Timeliness: data too late for decision-making** (12-24 months after end of accounting year)
- Improvement: **FADN feedback results to farms quicker**

Key recommendation:

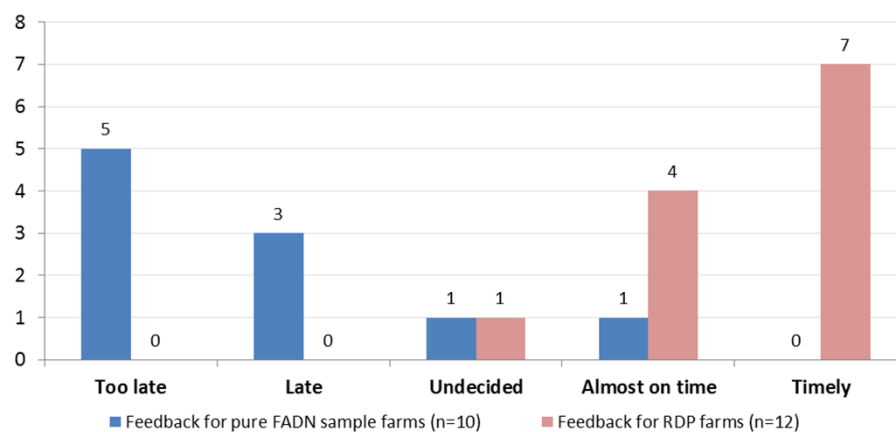
- **Further automatization**; ,digital by default', database pooling & exchange, speeding up or abolishing administrative procedures

Timeliness and punctuality: survey results

Opinions of interviewed farms about timeliness of the FADN feedback results (n=10)



Opinions of other interviewees about timeliness of FADN feedback results for farms (differentiated by type of farms)*



* Feedback for pure FADN sample farms (n=10): 2 persons did not give ratings for this type of farms.

Accessibility and clarity

„FADN data for Slovenia are presented in a clear and understandable way and easily accessible to key users in the country.“

(Adapted 15th principle of European Statistics Code of Practice, 2011)

Selected indicators:

- (Meta)data presented in form that enables appropriate interpretation and comparisons. ❌
- Modern ICT used in dissemination, hard copy (paper) only if necessary. ❌
- Possibility of custom-designed analyses of FADN data. ❌
- Access to microdata allowed (privacy respected). ✓
- Users are informed about methodology, uses, quality of FADN data. ✓

Current state:

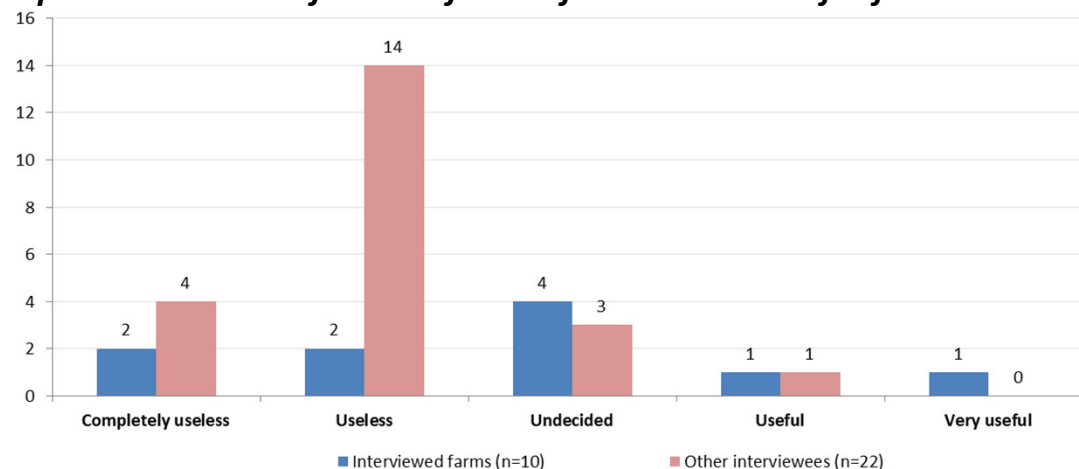
- Accessibility and clarity traditionally the **most problematic quality components**
- FADN results, information: **too scarce, weak public presence, not very interesting** outlay...

Key recommendation:

- **Accessibility:** *„digital by default“* for respondents and users of FADN data, simplify access to FADN data (privacy respected!)
- **Clarity:** *„simplification and personalization“* (easy, quick, efficient, personalized)

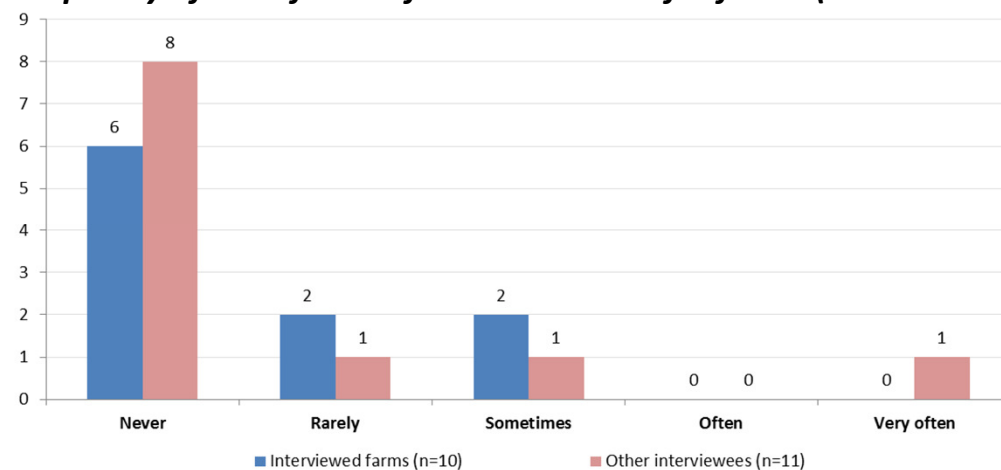
Accessibility and clarity: survey results

Opinions about usefulness of FADN feedback results for farms*



* *Other interviewees (n=22): 10 respondents from this group gave separate ratings for 'pure' FADN sample farms and for 'RDP' farms, and 2 respondents gave ratings only for 'RDP' farms.*

Frequency of use of FADN feedback results for farms (other interviewees: frequency of use at their work)**



** *Other interviewees (n=11): One person from this group did not respond to this question.*

Non-excessive burden on respondents

„The reporting burden of Slovenian FADN agricultural holdings is not excessive and is proportionate to the needs of the key users in the country.“

(Adapted 9th principle of European Statistics Code of Practice, 2011)

Selected indicators:

- Use of administrative and other data; electronic means. ✓
- Data sharing along all parts of FADN network. ✓
- Specific measures, enabling linking of data sources in order to reduce reporting burden. ✓

Current state:

- **Improvement in last years:** option for electronic/online data entry
- **Enabling better interoperability** and data exchange of FADN with other databases: still limited; data exchange still happens only at the last stage
- **Data sharing** happens, but **weak**

Key recommendations:

- **„Once only“:** same information can be collected only once from the respondents, but to be used many times
- **„Digital by default“** for respondents

Cost effectiveness

„Resources in the Slovenian FADN are used effectively.“

(Adapted 10th principle of European Statistics Code of Practice, 2011)

Selected indicators:

- Processes of data collection, processing and dissemination are optimized with the help of information and communications technology. ✓
- Proactive efforts are made to improve the usability of the data. ✓

Current state:

- **Slovenian FADN relatively cost effective** (previous studies), but **too little benefits** from the data for both, respondents and key data users
- **Improvements in last years** (both indicators): **software** „FADN evidenca“, proactive and frequently coordinated activities of ministry and advisory service (e.g. regarding the increasing the usability/use of FADN data)

Key recommendation:

- **„Digital by default“** for data entry and dissemination of results
- **Review necessity of paying fee to farms** („pure“ FADN sample farms) to participate in FADN

Conclusions

- **Main challenges of Slovenian FADN system:**
 - Path dependent scope and scatteredness of the resources, especially human
 - Key users and their data needs not explicitly defined
 - Accessibility and clarity too weak for (key) users
 - FADN results too late for decision making
- **Some improvement with current staff at ministry:** co-operation in the network, planning and bigger proactivity at other quality components (not only timeliness and punctuality)
- **Based on first stage results it is not possible to argue anymore, that quality management of FADN data for Slovenia is limited only to fulfilling EC obligations**
- ***National consensus of key stakeholders - catalyst for significant improvement of quality of FADN data for Slovenia!***

Key mid-term recommendations – first stage of study

- **Forming national consensus** about key users, their key data needs and uses
- **Increase specialization of staff** engaged in FADN; **reorganization** of tasks and institutions
- **„Digital by default“**: electronic and online ways to enter & control, process and disseminate the data, further automatization
- Strengthen and improve quality of **dissemination of FADN results** and **FADN related education** (esp. for advisers); ‚simplification and personalization‘ (feedback for farmers: easy, quick, efficient, personalized)
- **„Once only“**: increase level of database interoperability and data exchange, shorten/eliminate the administrative procedures
- ***More efficient use of the existing resources and infrastructure in the Slovenian FADN network!***

Limitations and recommendations for further research

- **Key limitation of interviews:** small, unrepresentative sample – problem of generalizing findings
- **Questionnaire:** to be upgraded
- **Nevertheless, results say a lot:** interviewees from all parts of Slovenian FADN network, especially valuable was the insight into thinking of FADN coordinators
- **Second stage of the project – plan to analyze following quality components:**
 - accessibility and clarity (economic counseling to farms)
 - accuracy and reliability, sound methodology and appropriate statistical procedures (cross-checking of FADN data with other databases, model) and
 - relevance (support to policy making, identify data needs of advisers and farms)

Thank you for your attention!

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