

A Methodological Approach For Identifying Complex Farm Structures in German Agriculture

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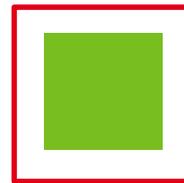
Introduction

- **Vast variety of farm structures in Germany due to:**
 - Diversification activities
 - Differences between Western and Eastern Germany
- **Reliable data needed for meaningful policy analyses**
 - FSS coverage unit: agricultural holding + minor diversification activities
 - FADN covers almost only income from agricultural activities
- **Consequence:**
 - Pronounced underestimation of size of agricultural businesses and incomes of agricultural families / households
- **Objectives of the study:**
 - Identification of complex farm structures and the families behind them
 - Estimation of the impact of complex farm structures on farm family income

Concepts and definitions

- **Current statistical coverage**
unit: agricultural holding ≈ simple farm business
- **Study subject: complex farm structures** - all relevant structures that statistics can't cover
- **Agriculture-related holdings:** OGAs according the definition of the European Commission including:
 - Renewable energy production
 - Agrotourism
 - Contractual work
 - Processing end retailing farm products

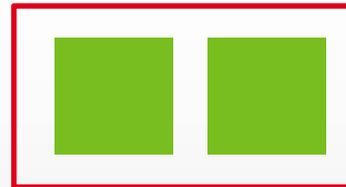
simple farm business =
agricultural holding



complex farm business



complex farm business /
multi-farm business



Legend:



agricultural holding
= legal unit



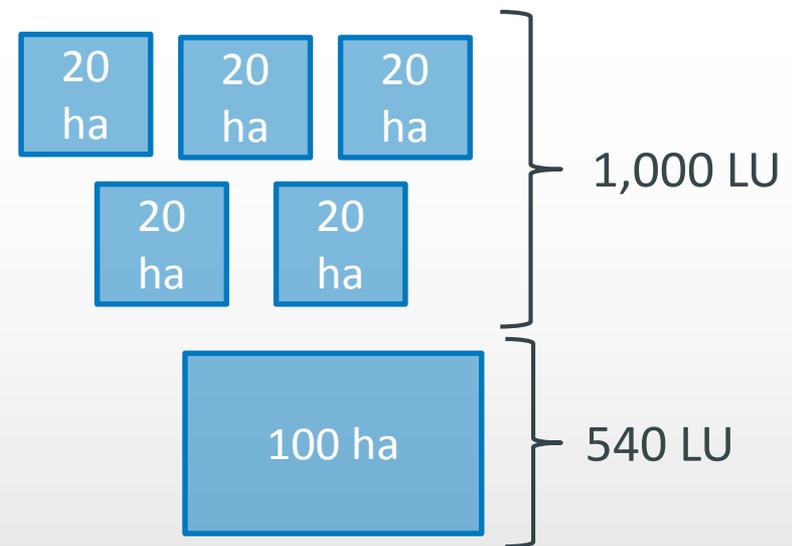
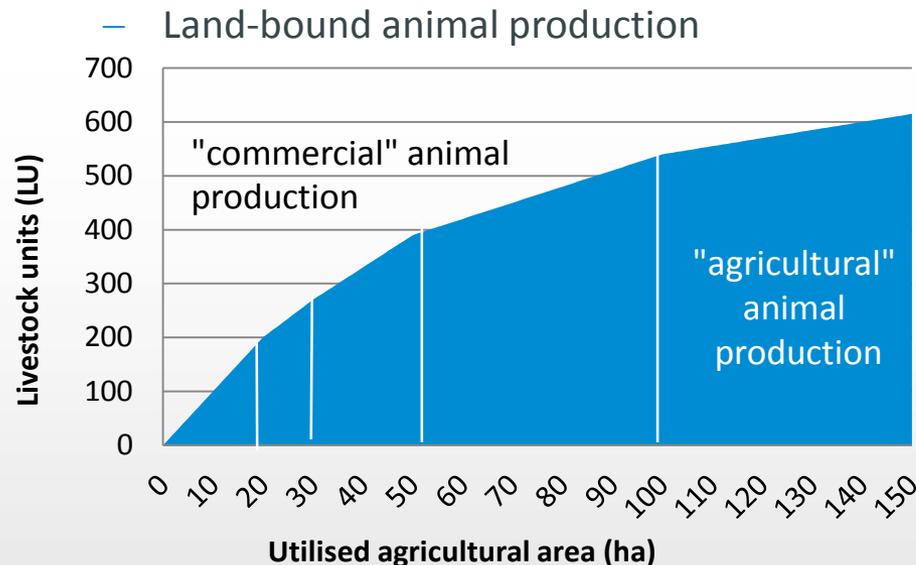
agriculture-related
holding = legal unit



farm business

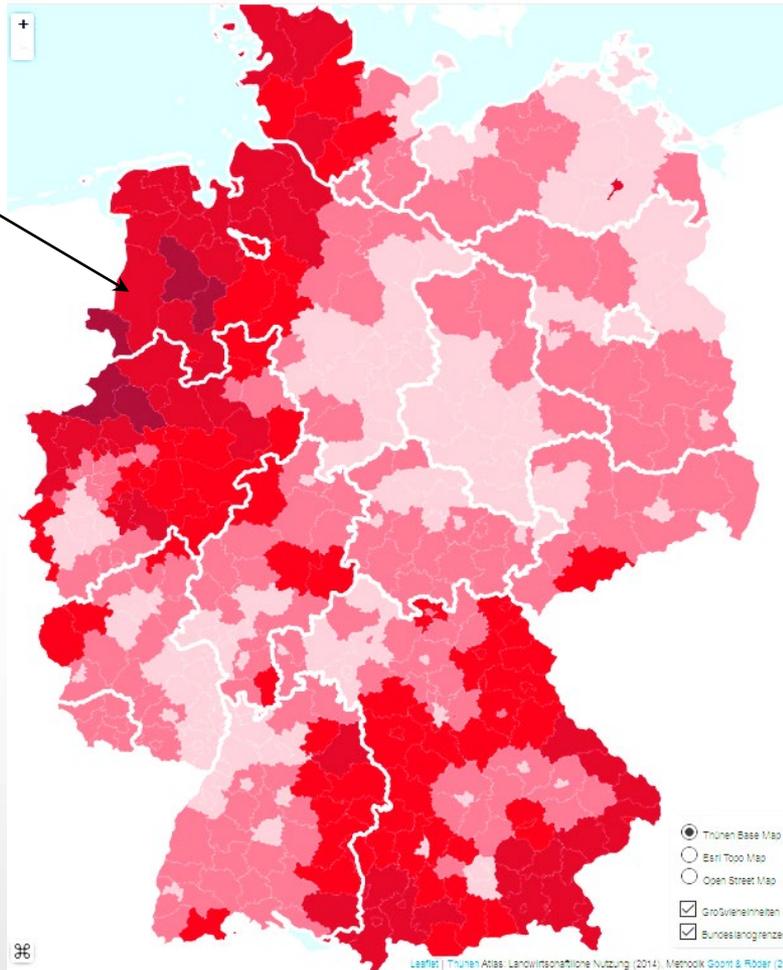
Complex farm structures in Germany

- Reasons for farm structure complexity:
 - Diversification activities
 - Liability reduction
 - Optimizing subsidies / tax payments
 - Farm succession planning
- But also some „national specialities“:



Study region

District
Emsland



- **Adjustment strategies against becoming a „commercial“ holding:**
 - Partitioning the holding → mostly within the family
 - Animal production cooperation → via establishing a new holding
- **District Emsland:**
 - 2,942 agricultural holdings (FSS 2016)
 - Average holding size: ca. 56 ha
 - Poor soil quality
 - 80% of holdings have livestock
 - Stocking density: 2.3 LU / ha (FSS 2016)

Materials and methods: the Bisnode dataset

Information needed for covering complex farm structures:

Agricultural holdings:

- ~~Size / production factors~~
- ~~Turnover / SO / income~~

Agriculture-related holdings:

- Type of activity
- ~~Turnover / income~~

Agricultural families / households:

- Individuals
- Location
- Family relations
- Shares / positions in holdings

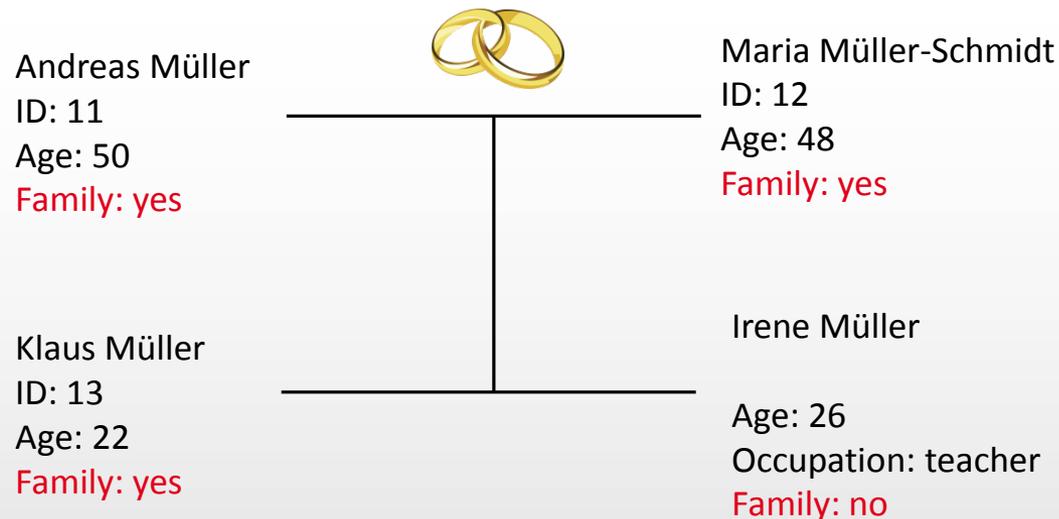
Data: the *Bisnode* dataset:

- Overall holding population (Dec. 2018): 1,900,000
- Agricultural holding population: ca. 50,000 (275,392 in FSS 2016)
- Information sources: consolidating publicly available information
- Names and addresses are not anonymised
- Algorithm-based complex structure and family identification
- Without combination with other data sources allows **qualitative** results
- 901 agricultural holdings in District Emsland (ca. 31% of the total population)

Materials and methods: assumptions

Assumptions:

1. Holdings which are spatially close to each other and are operated by the same individuals or individuals with the same last name are parts of a single farm business
2. Individuals with the same last name and engaged in the same or spatially close holdings represent a farm family
3. The entrepreneurial activities of the individuals involved in farming have a positive impact on the income of the family behind the agricultural holding(s)



Materials and methods: from holding to business

Shareholders:

Andreas Müller
ID: 11
100%

Shareholders:

Andreas Müller
ID: 11
50%

Shareholders:

Andreas Müller
ID: 11
50%

Shareholders:

Andreas Müller
ID: 11
2%

Maria Müller-Schmidt
ID: 12
50%

Klaus Müller
ID: 13
50%

And 100 other
individuals

farm business

Andreas Müller's
hog finishing

Maria and
Andreas Müllers'
pig breeding

Müllers' biogas
plant

Community wind
farm

Address:
Dorfstraße 1
12345 Vechta

Address:
Dorfstraße 1
12345 Vechta

Address:
Dorfstraße 2
12345 Vechta

Address:
Bahnhofstraße 10
12345 Vechta

**Share in holding:
100%**

**Share in holding:
100%**

**Share in holding:
100%**

**Farmstead /
dwelling unit**

**Share in holding:
2%**

Findings and their validation

Simple vs. complex farm businesses

FSS: 2,942

Bisnode: 901

N agriculture-related holdings	N agricultural holdings	
	1	> 1
0	623	41
> 0	111	36

118 of 188 are family-based

Diversification activities

Multi-farm businesses

Number of holdings within the business	Number of cases
2	69
3	4
4	3
5	1
Total (businesses)	77
Total (holdings)	167

Activity	Number of holdings within the farmstead	Number of holdings outside the farmstead
Biogas production	40	33
Photovoltaic system	9	16
Renewable energy production (not specified)	12	10
Windfarm	4	37
Agricultural contracting	5	0
Retailing	9	8
Property management	7	3
Agriculture (in other districts)	0	18
Other	17	12
Total	103	137

Conclusions and discussion

Conclusions:

- Bisnode data allows systematic insights into the forms of complex structures
- Results depend on definitions (e. g. of a share in a holding) → a closer look is necessary
- Quantification of key variables (UAA, Livestocks, Turnover) would provide additional findings
- Validation of the results is always necessary
- Nationally specific farm structures → challenge for the EU-wide FSS methodology

Limitations of the approach:

- Underestimation of the prevalence of complex farm structures
- Assumptions may lead to incorrect assignments

Thank you for your attention!

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