



AGRIGRID

SSPE-CT-2006-044403

Workshop 2

Review of payment calculations in rural development measures in the EU

WP 7

Case study analysis of existing and proposed grids

Frank Offermann, Judith Hecht, Heike Kuhnert

FAL

Prague, 17 July 2007



WP7 - Objectives

- To analyse selected existing approaches to highlight impacts of standard costs and more differentiated approaches on calculated premium levels
- To derive recommendations for differentiated approaches in new grids

Start month 4; Milestone 7.1 month 12 (midterm workshop)

- To test the proposed grids of WP 2-6
- To provide examples for the application of the new grids for the software tool and its user guide



Approach

- Review of administrations' experiences (WP1)
- Review of literature
- Empirical analysis based on distribution of influencing factors across farms
- Case study calculations of typical farm constellations (LADSS)



Literature review I

Important key-issues:

- extent and impact of income effects of flat-rate allowances (overcompensation/windfall profits)
- possibilities of differentiation
- comparisons of performances (efficiency / effectiveness) of different approaches (e.g. flat-rate vs. differentiated payments vs. tenders (auctions))
- extent and impact of administrative costs of different approaches



Literature review II

- **Interim-evaluation of compensatory allowances in less-favoured areas 2000 - 2002 Germany** by *Ulf Bernhards, Helmut Doll, Christoph Klockenbring, Reiner Plankl, Katja Rudow, Folkhard Isermeyer 2003.*
- **Interim-evaluation of compensatory allowances in less-favoured areas 2000 - 2002 Bavaria** by *Ulf Bernhards, Helmut Doll, Christoph Klockenbring, Reiner Plankl, Katja Rudow, Folkhard Isermeyer 2003.*

Key-issues discussed:

- extent and impact of income effects of flat-rate allowances (overcompensation/windfall profits)



Literature review III

- **Implementation effects of agri-environmental programs pursuant to directive EEC 2078/92 on competition of agriculture under specific considerations of forage production in federal states of Germany** *by Bernhard Osterburg 1999*

Key-issues discussed:

- extent and impact of income effects of flat-rate allowances (overcompensation/windfall profits)

- **Problems of windfall profits of agri-environmental and extensification measures -Statements for the Ministry of Agriculture-** *by Folkhard Isermeyer, Hiltrud Nieberg 1996*

Key-issues discussed:

- extent and impact of income effects of flat-rate allowances (overcompensation/windfall profits)



Literature review IV

- **Support of organic farming in Germany - Development and outlook-** *by Hiltrud Nieberg, Renate Strohm-Lömpke 2002*

Key-issues discussed:

- possibilities of differentiation
- comparisons of performances (efficiency / effectiveness) of different approaches

- **Optimal differentiation of agri-environmental contracts** *by Thilo Glebe 2006*

Key-issues discussed:

- possibilities of differentiation
- comparisons of performances (efficiency / effectiveness) of different approaches



Literature review V

- **Agri-environmental measures in Germany -Their evolution in practise and new approaches to strengthen efficiency-** *by Bernhard Osterburg, Tania Runge 2006*

Key-issues discussed:

- possibilities of differentiation
- comparisons of performances (efficiency / effectiveness) of different approaches

- **Target-oriented rewarding of species-rich grassland with tenders –Scientific baselines and implementation of pilot projects in Northeim, Germany-** *by Elke Bertke, Anne Richter 2006*

Key-issues discussed:

- possibilities of differentiation
- comparisons of performances (efficiency / effectiveness) of different approaches



Literature review VI

- **Auctions for conservation contracts: a review of the theoretical and empirical literature** by *Uwe Latacz-Lohmann, Steven Schilizzi 2005*

Key-issues discussed:

- possibilities of differentiation
- comparisons of performances (efficiency / effectiveness) of different approaches
- case-studies (Conservation Program (USA); Bush Tender Pilots (Australia); Auction for Landscape Recovery (Australia); Eco Tender (Australia); Challenge Funding Program (Scotland); Grassland Conservation Pilot Tender (Germany))



Literature review VII

Following tasks:

- guidelines and English summaries of German literature reviews send to partners by beginning of August
- English summaries of literature reviews of partner countries send to FAL by end of **?September?**



WP7- Theoretical and empirical analysis

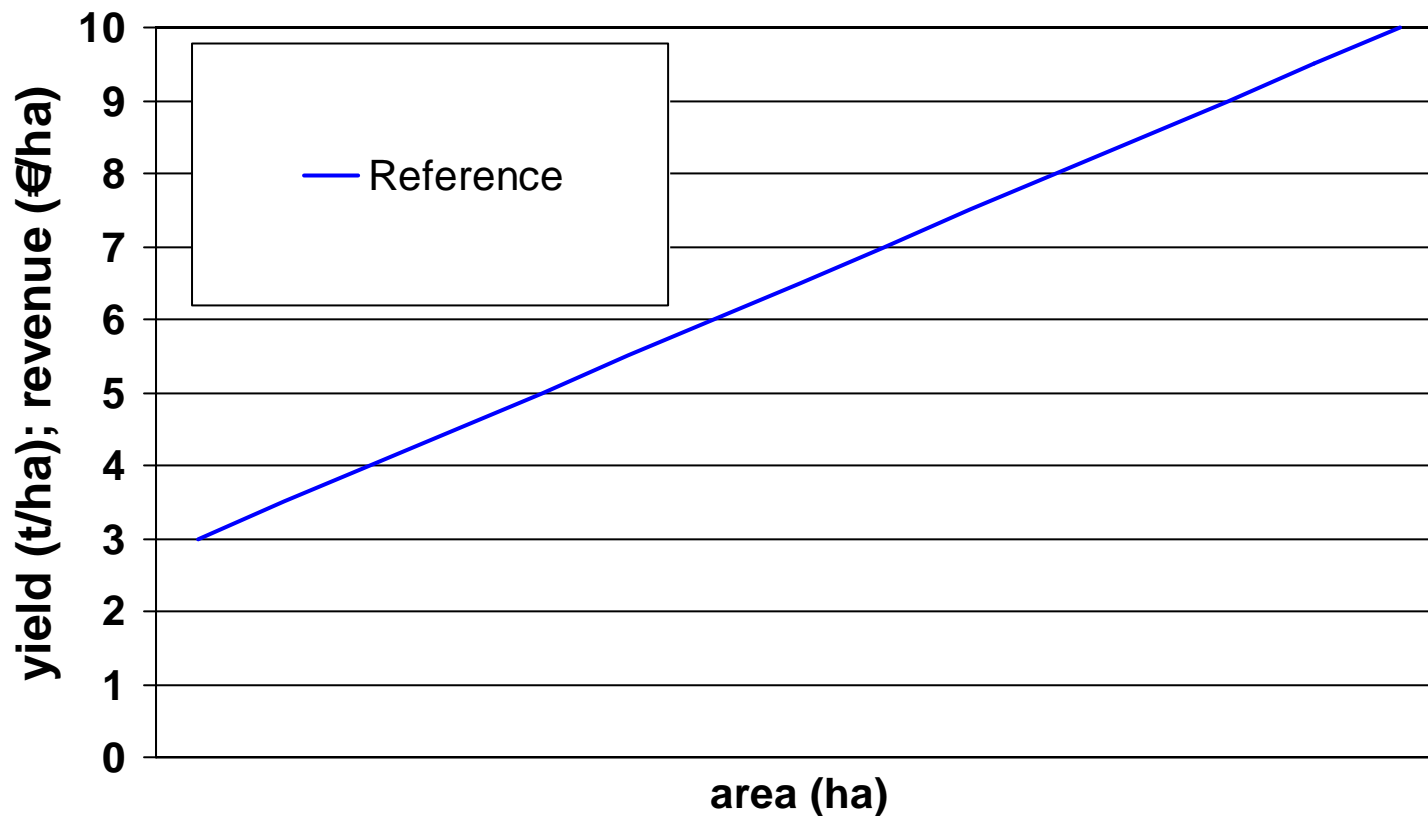
- Literature review basis of further work
- Present and discuss approach for empirical analysis

Objective: comparison of simple standard cost approach with differentiated standard cost approaches with respect to their impact on payment levels, budgets, overcompensation and transaction costs

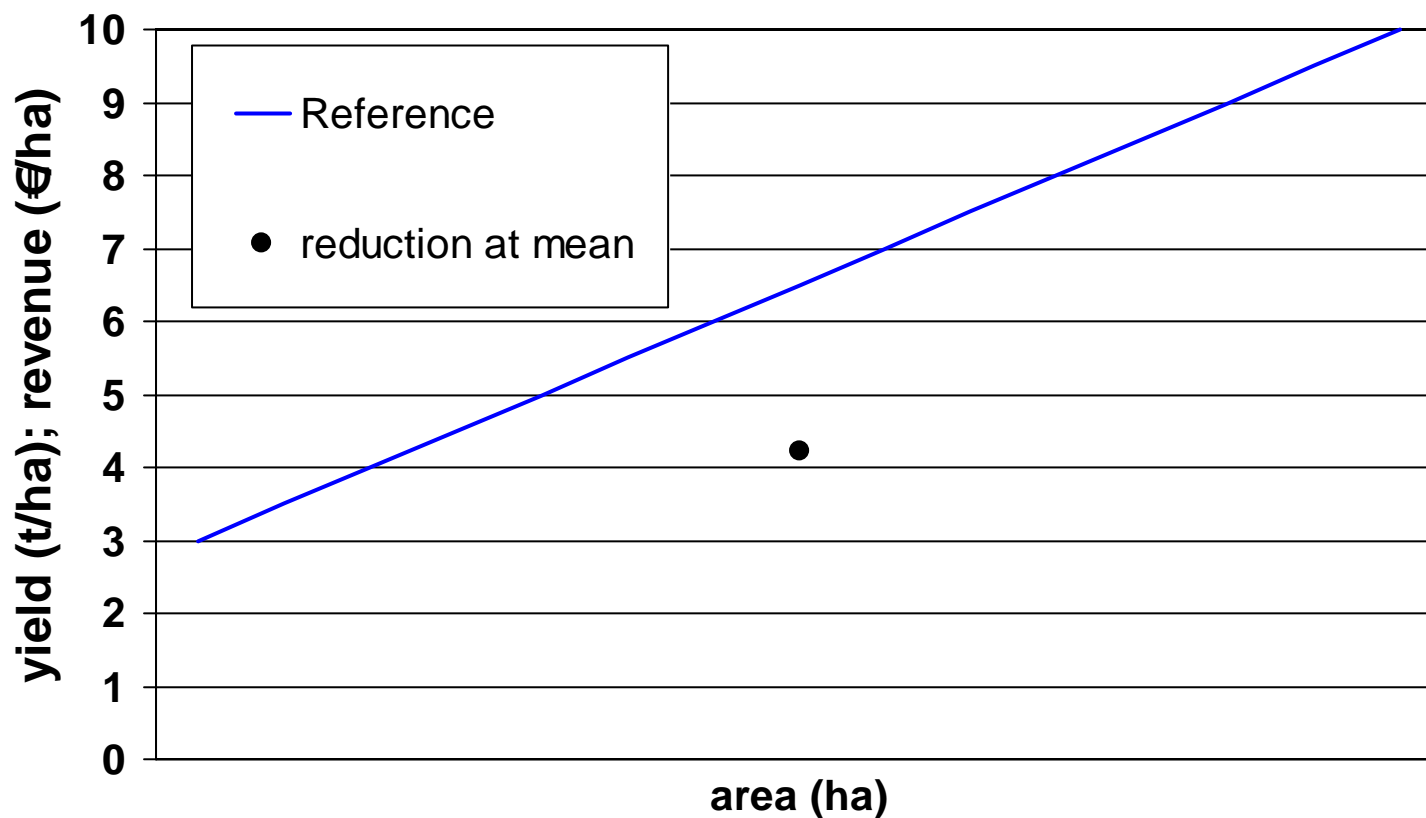
- a) regional differentiation
- b) farm individual differentiation
- (c) tenders)



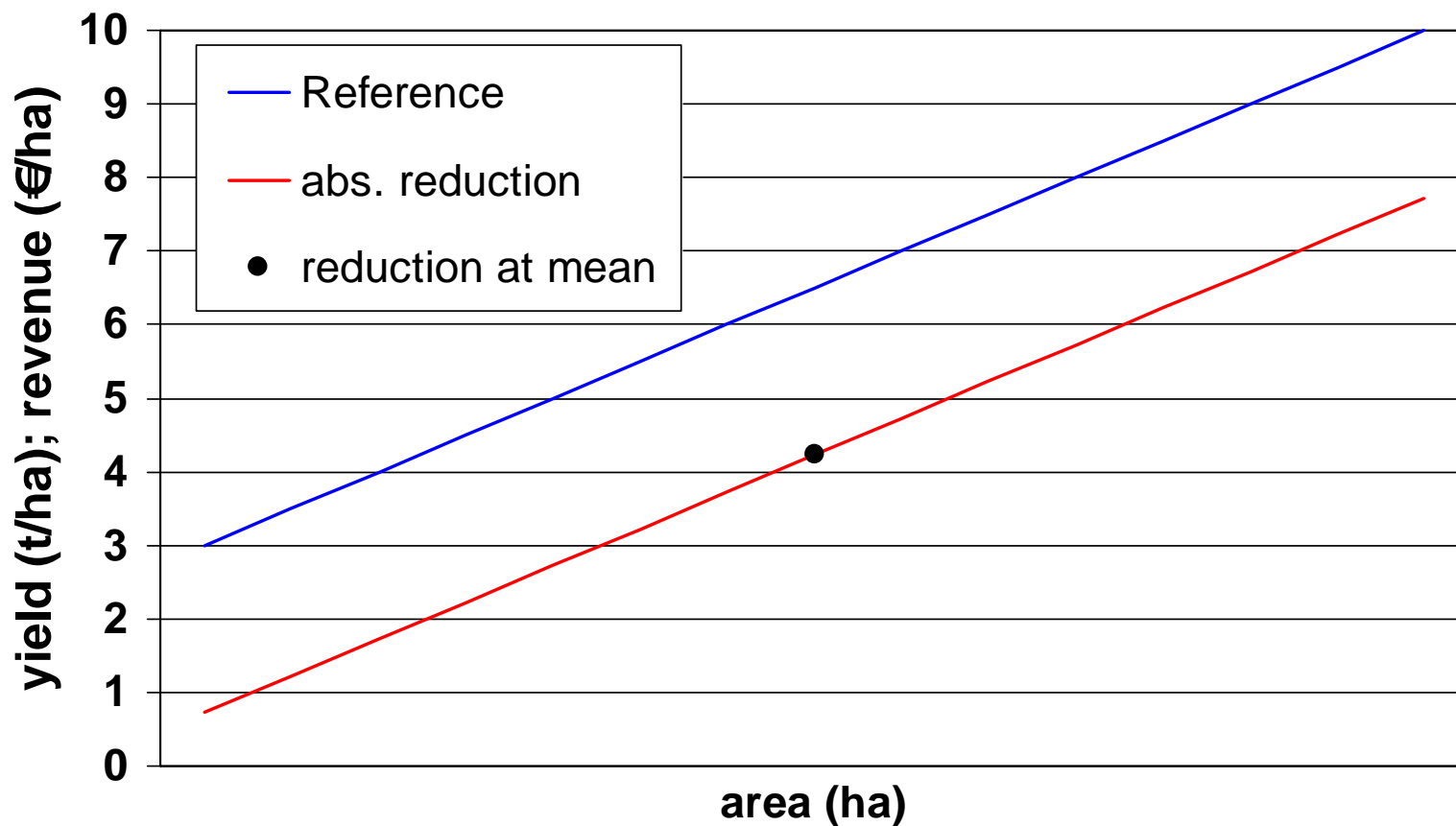
Performance of 'simple' standard cost approaches



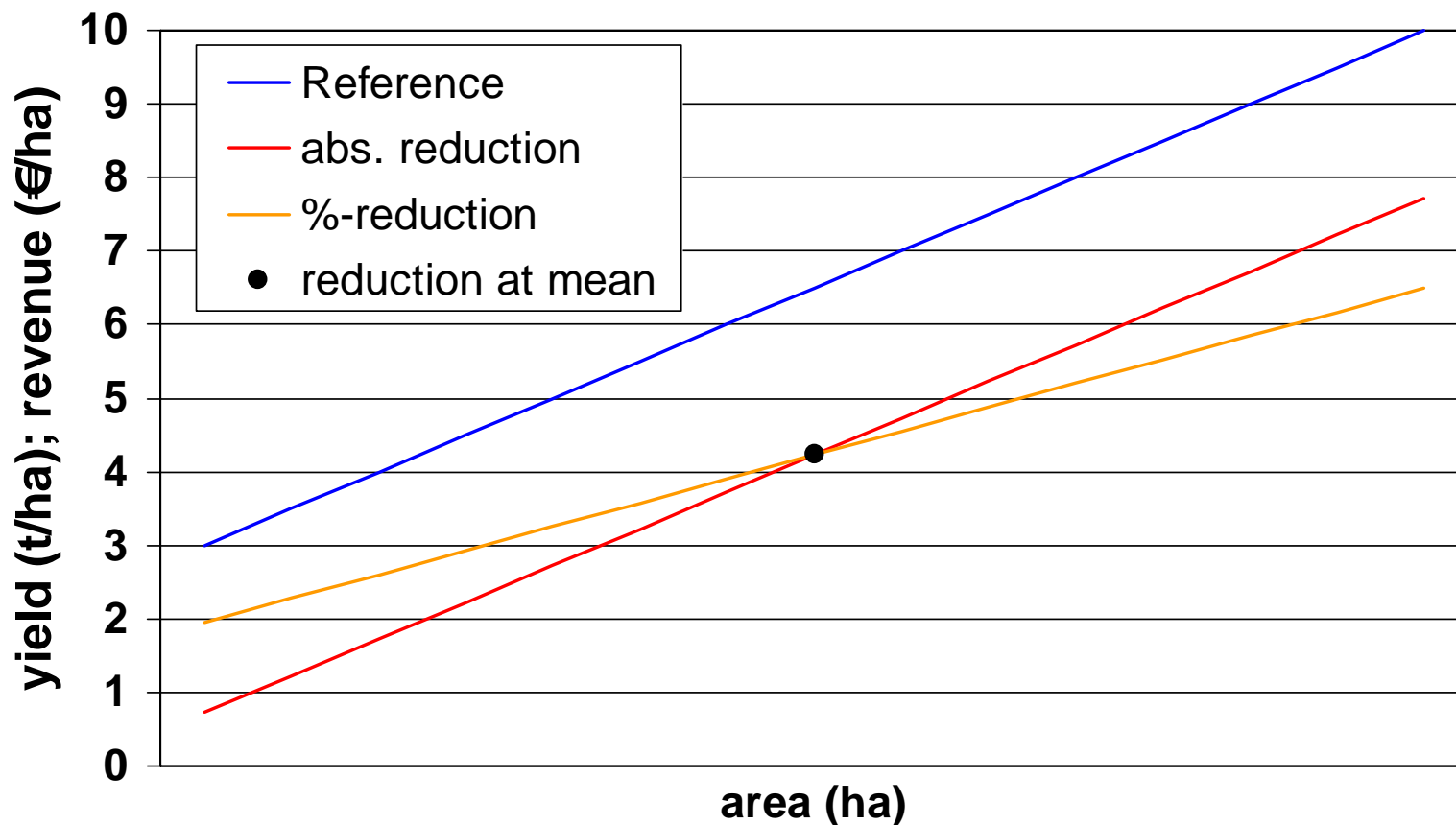
Performance of 'simple' standard cost approaches



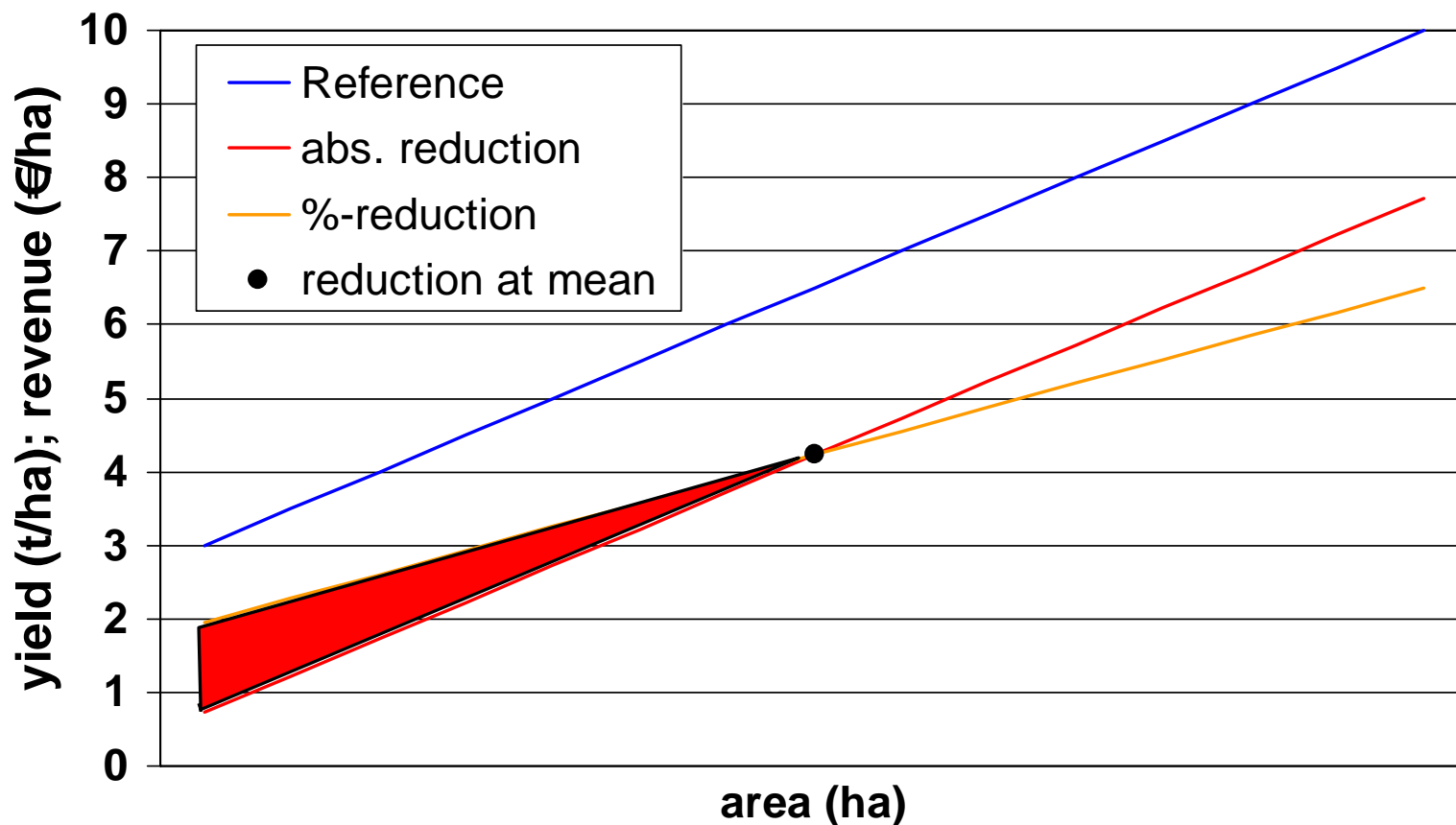
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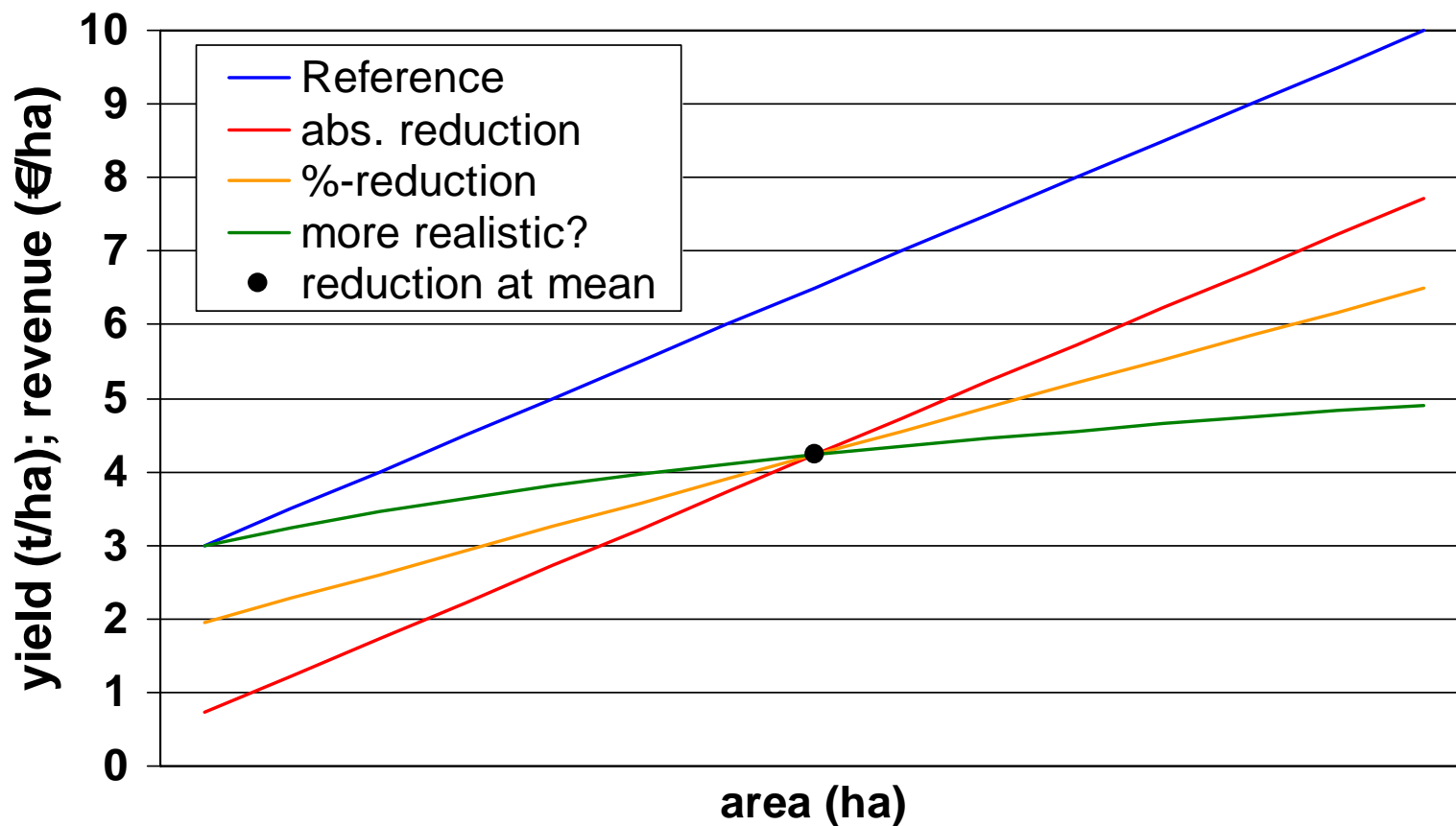
Performance of 'simple' standard cost approaches



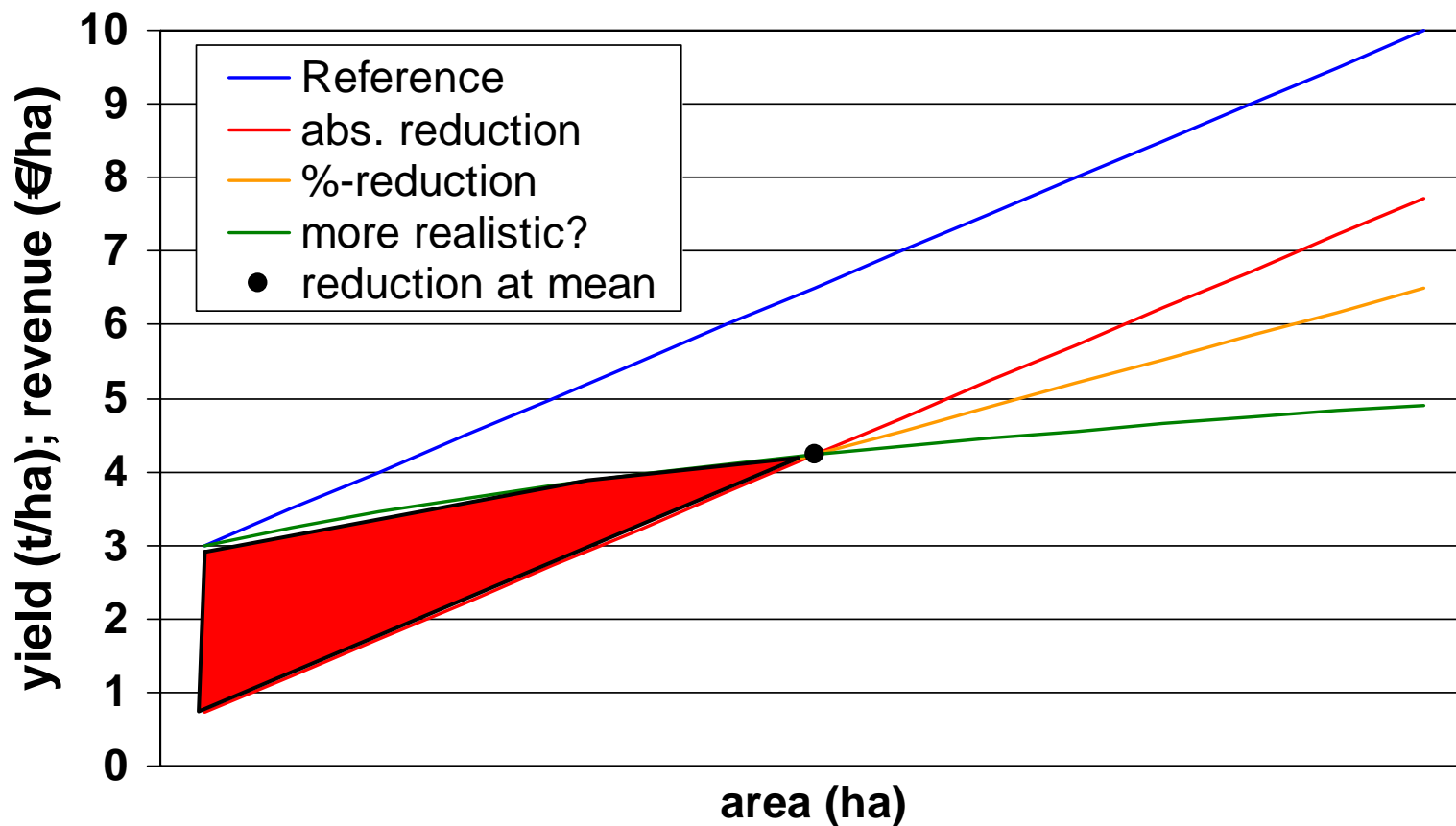
Performance of 'simple' standard cost approaches



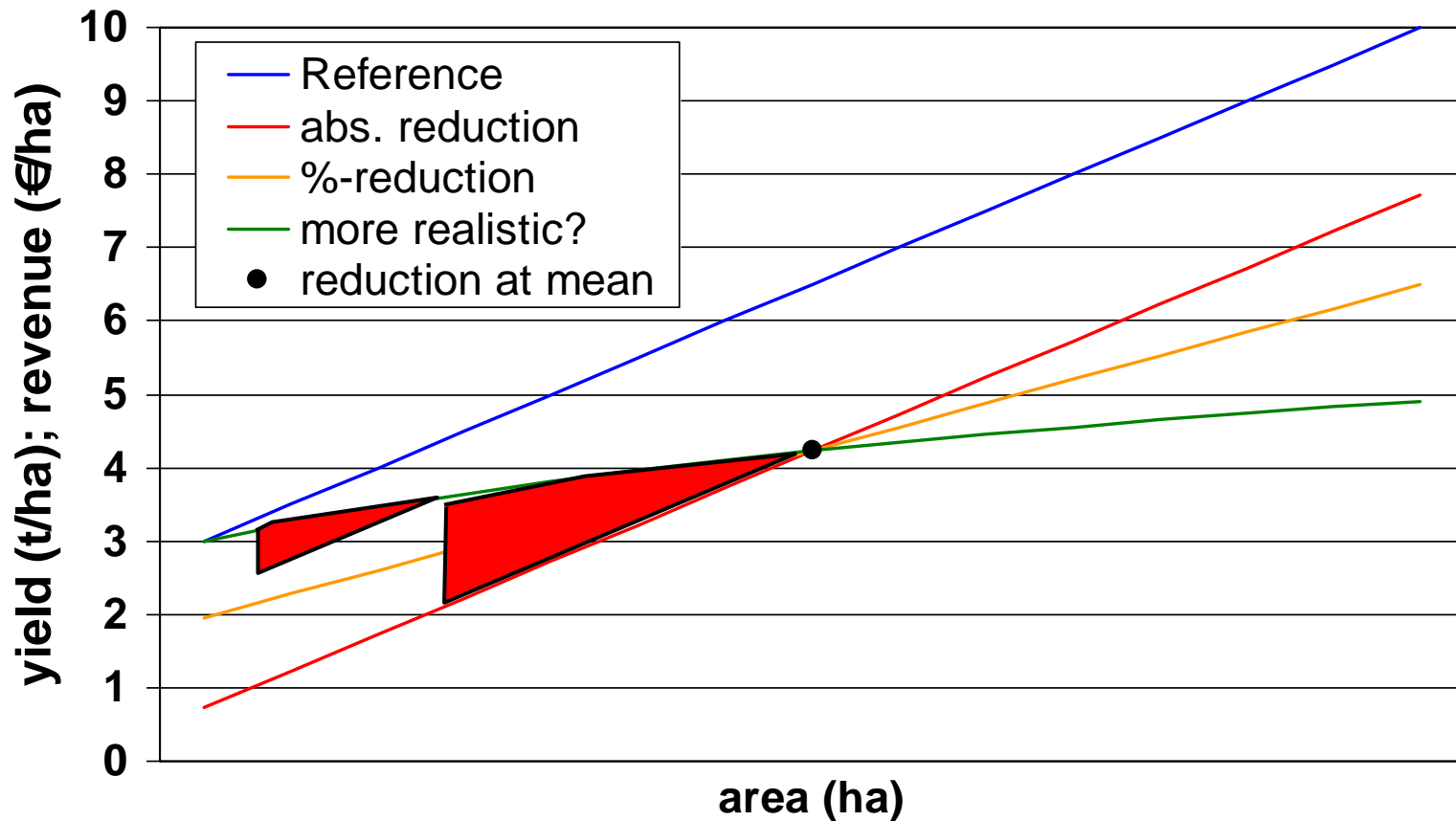
Performance of 'simple' standard cost approaches



Performance of 'simple' standard cost approaches



Performance of differentiated approaches



Empirical illustration

Data base:

German FADN, 5 years (2001-2005)

Focus: Bavaria; wheat yields; average of 5 years

- only identical farms (i.e. present in sample in all 5 years)
- only farms which have grown wheat in each of the 5 years
- no organic or in-conversion farms

-> 925 sample farms

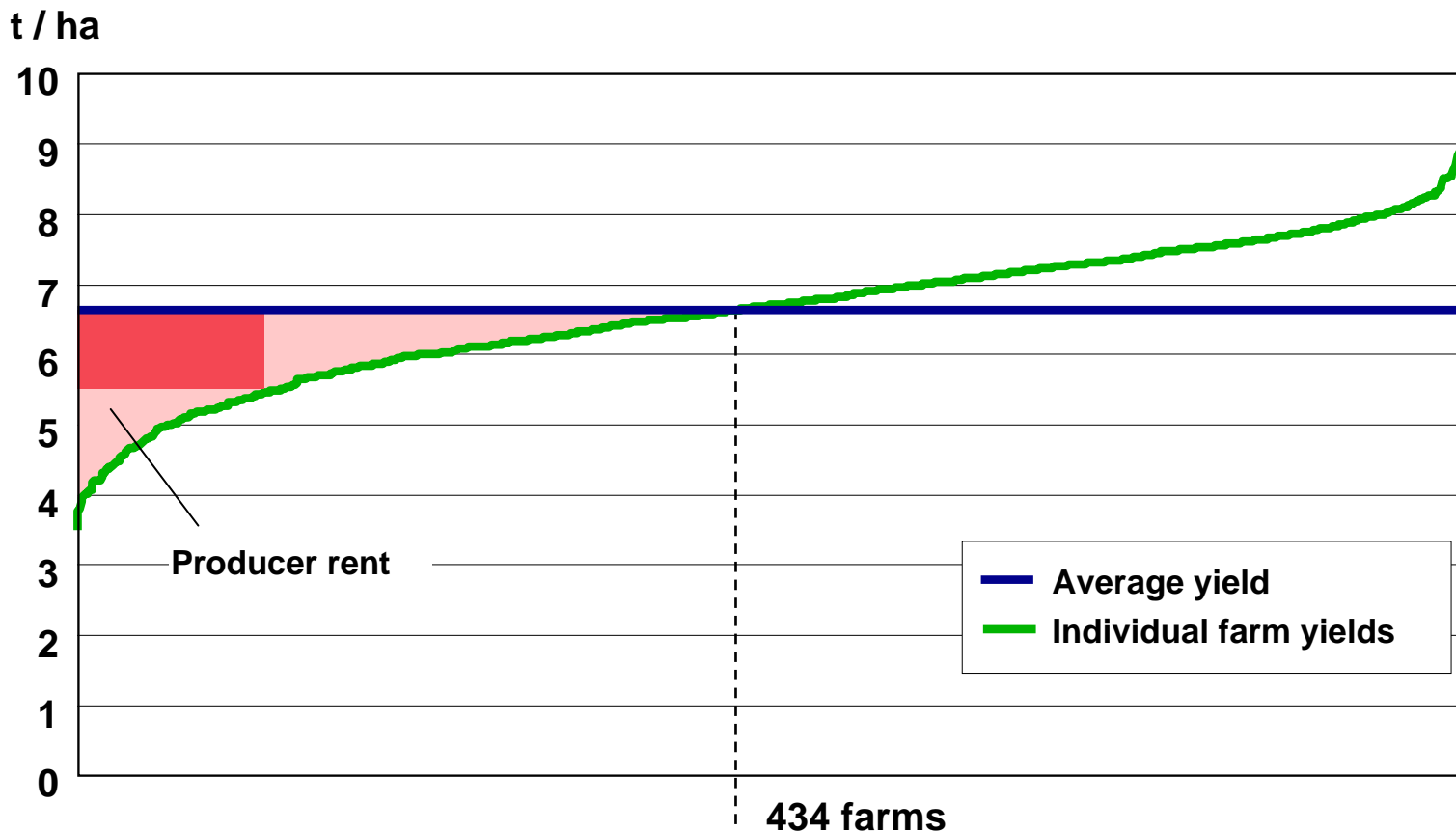
a) regional differentiation of standard cost approach (SCA)

b) farm individual differentiation SCA

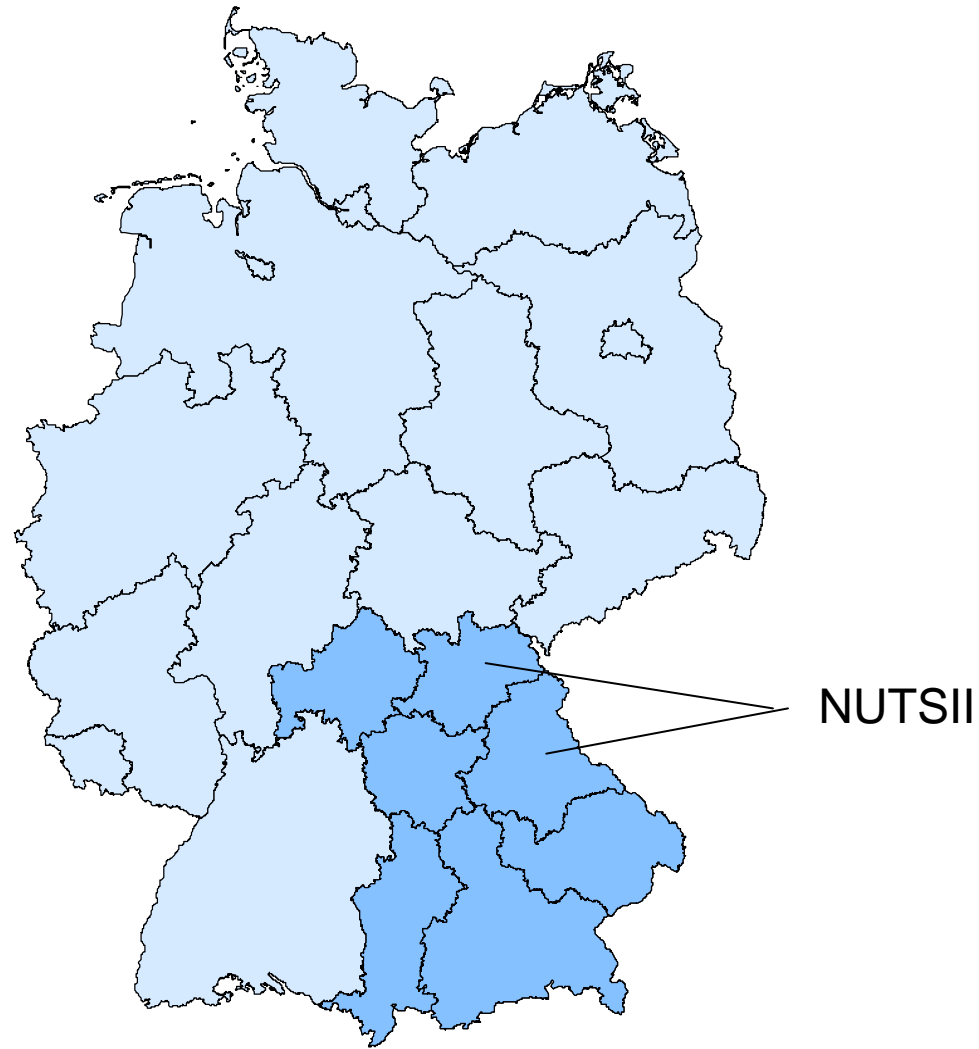


Simple standard cost approach

Distribution of wheat yields



Bavaria

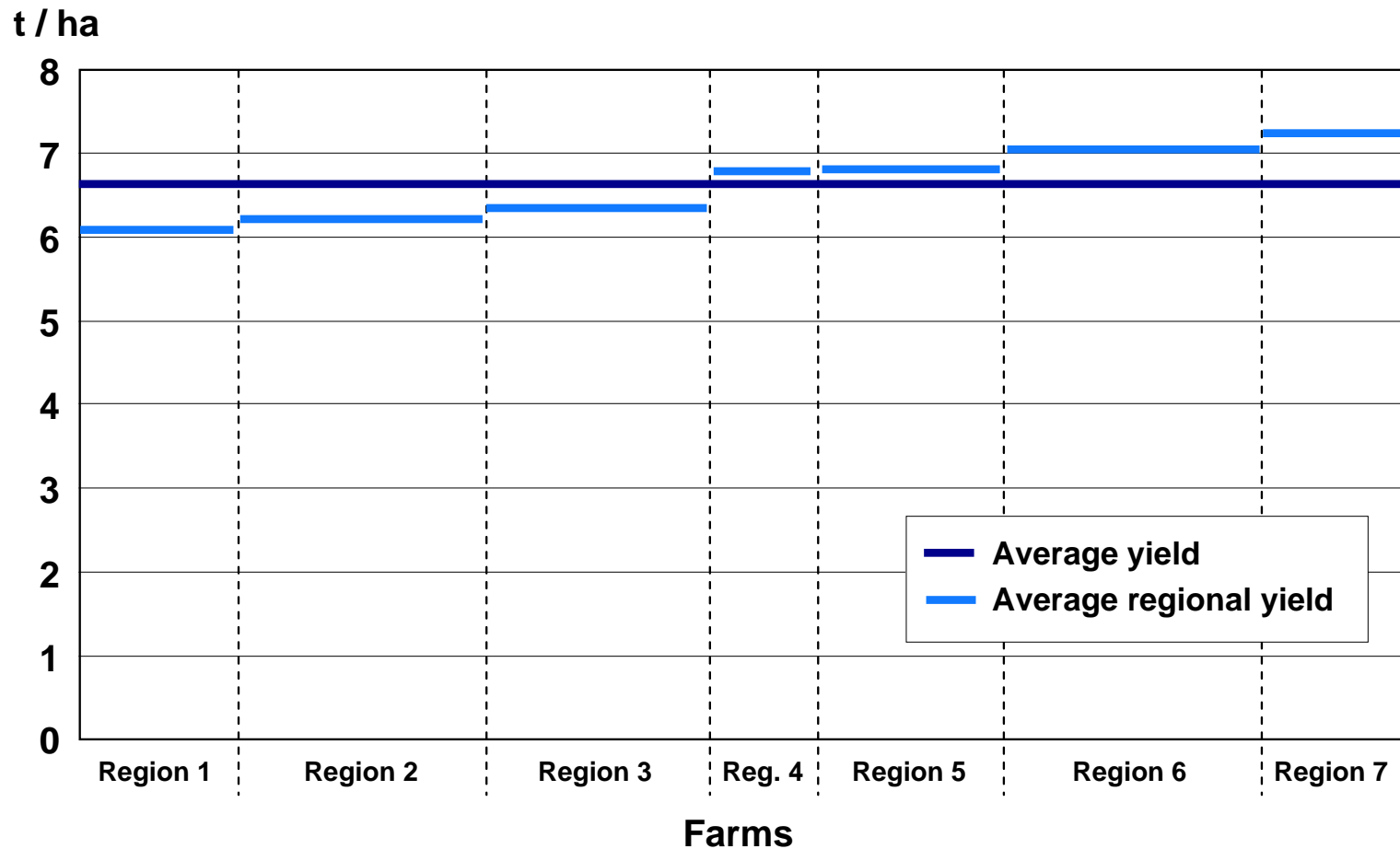


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Regional differentiation



Farm individual differentiation

Needed: a farm individual characteristic which serves as a proxy for costs of participation

Indicator must be

- easily (i.e. a low costs) observable
- correlated with costs of participation (Here: with wheat yields)

Here: Indicator **LVZ**

LVZ: indicator for yield potential (based on soil index + some corrections for location, climate etc)

Advantages LVZ:

- easily available for each farm (basis of tax system)
- accepted indicator (has been used in some regions as basis for differentiation of LFA payments)

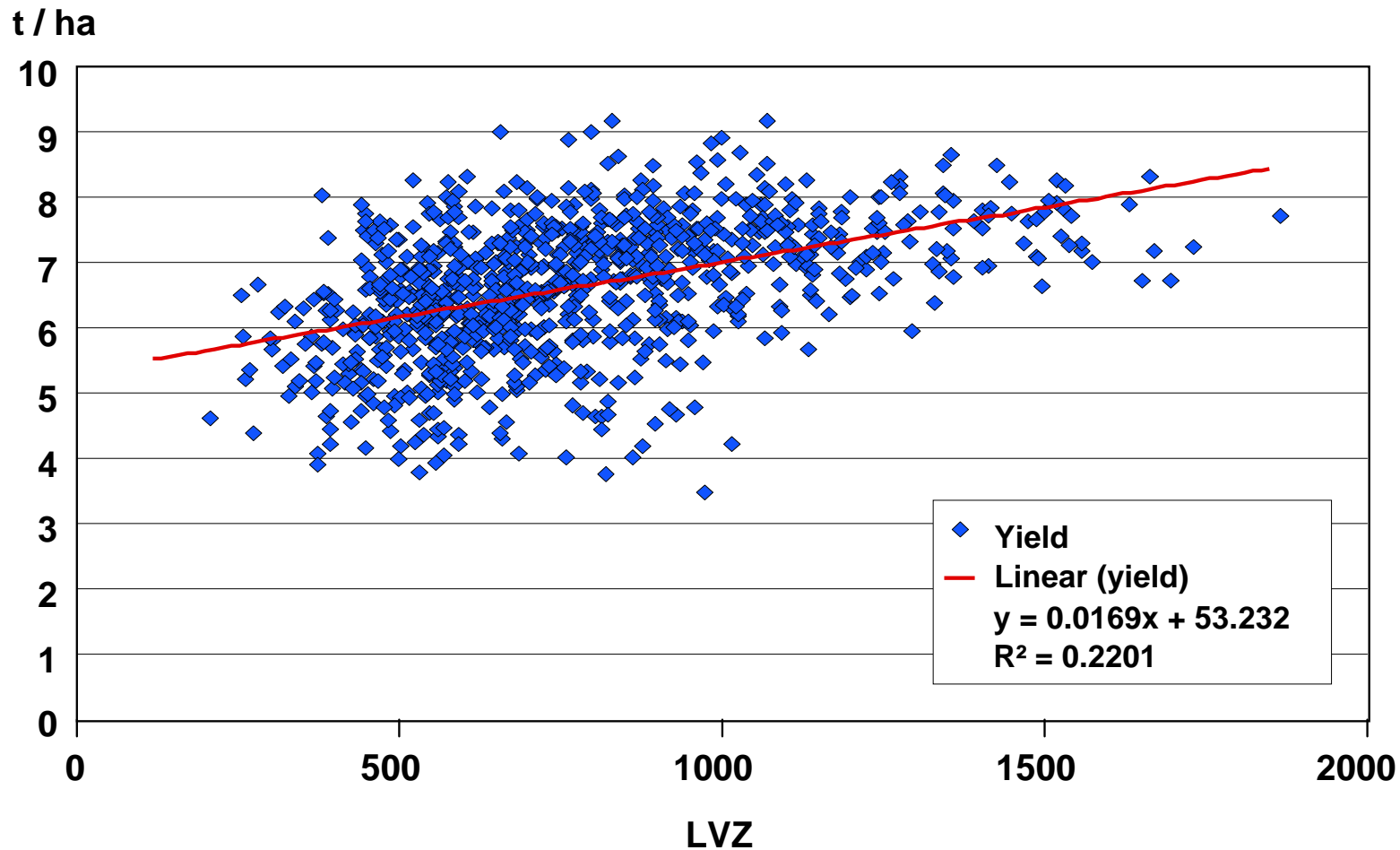
Drawbacks:

- LVZ is based on estimations from the 1930s – however technical progress, new crop variants and climate change have reduced correlation of LVZ and yields
- Yield levels are also influenced by farm manager abilities and economic considerations (maximum is not equal to optimum)



Correlation LVZ – wheat yields

Correlation coefficient (LVZ - wheat yield) = 0.46



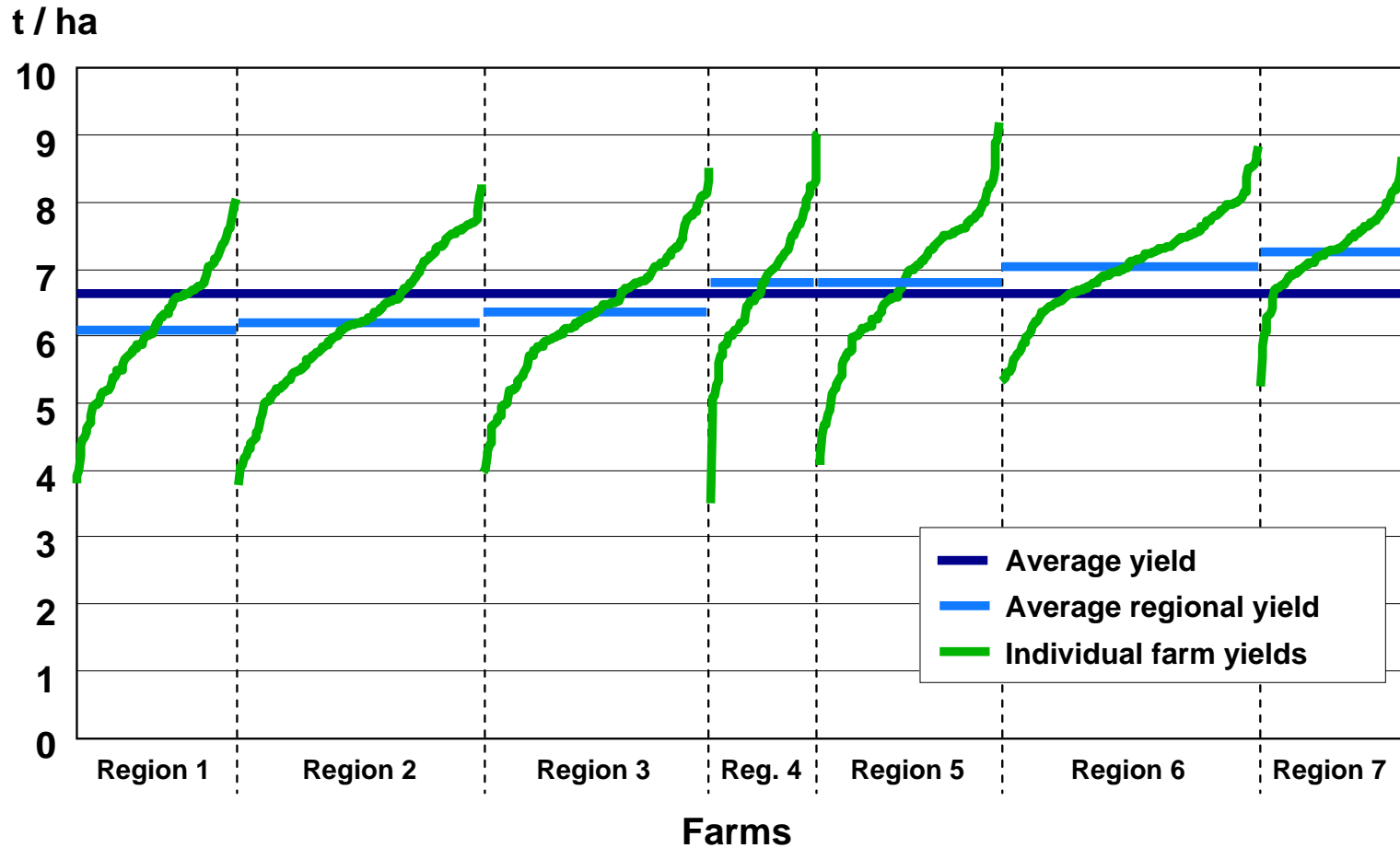
Results – differentiation of payments

Comparison based on same number of contracts for all approaches !

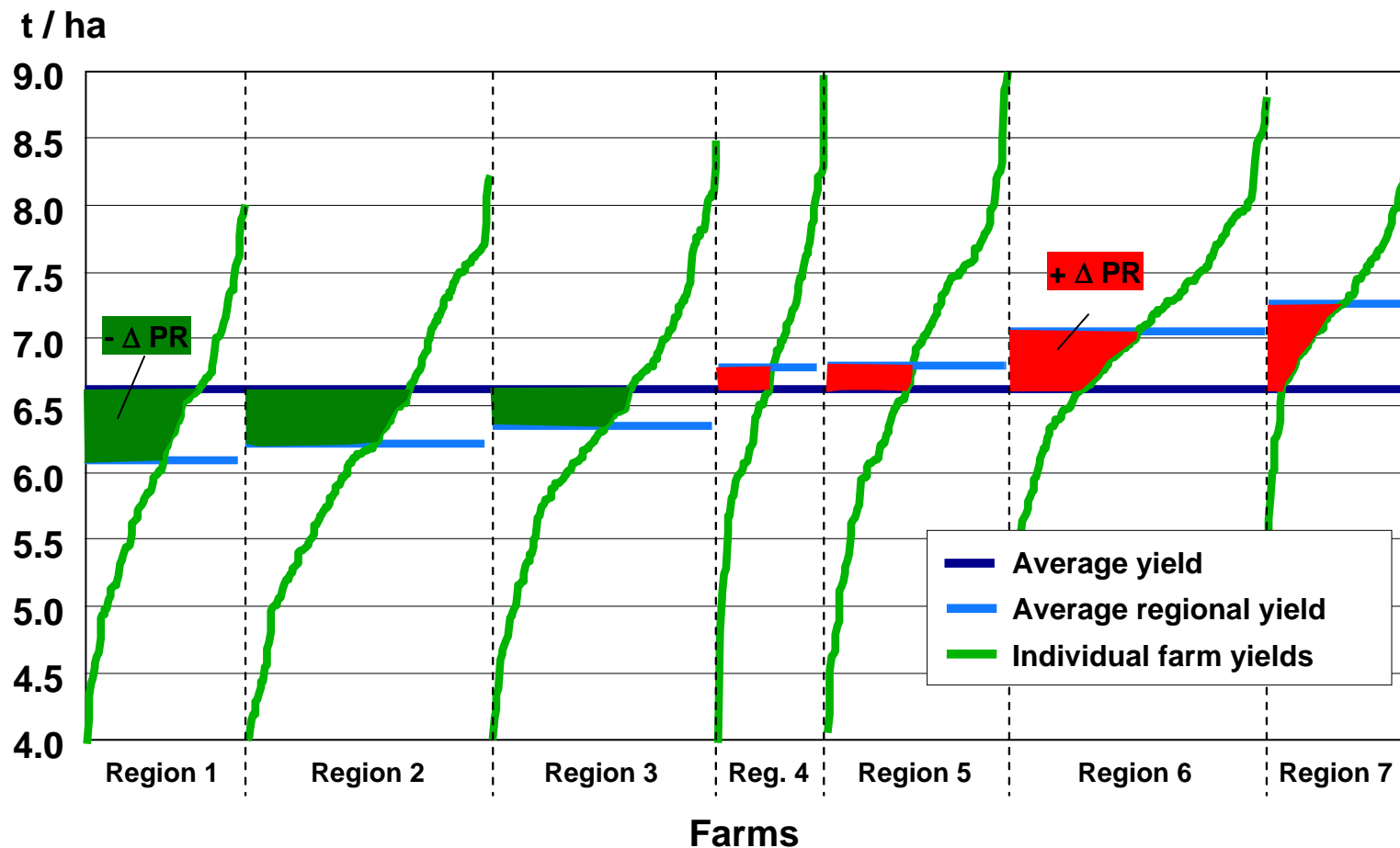
Same number of contracts	PR	% change	Budget	% change
Simple standard cost	3722		28755	
Regional differentiation	3184	-14%	28584	-0.6%
District based differentiation	2808	-25%	28698	-0.2%
Individual differentiation	3161	-15%	28667	-0.3%



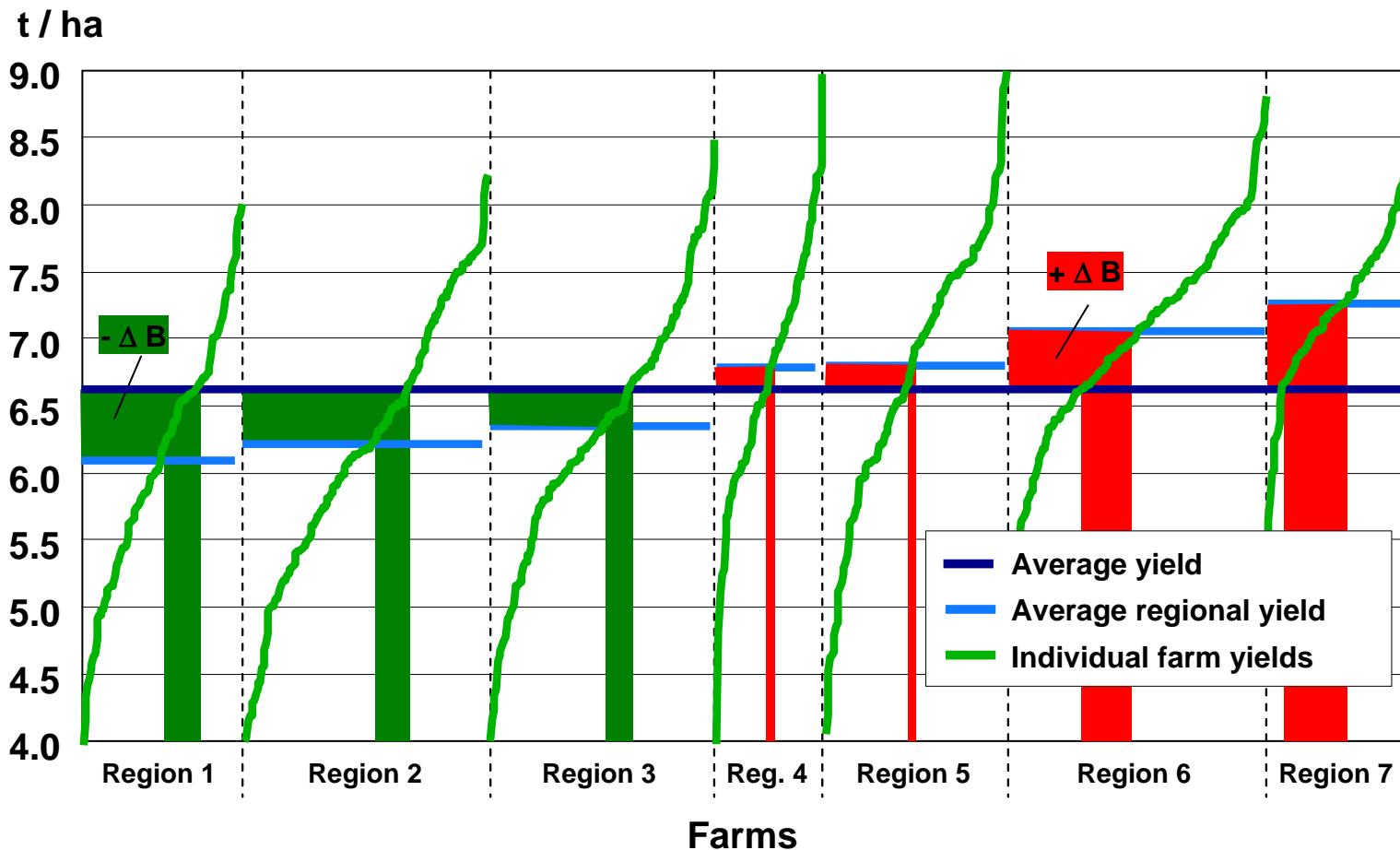
Regional variances



Change of producer rents with regional differentiation



Change of budget with regional differentiation

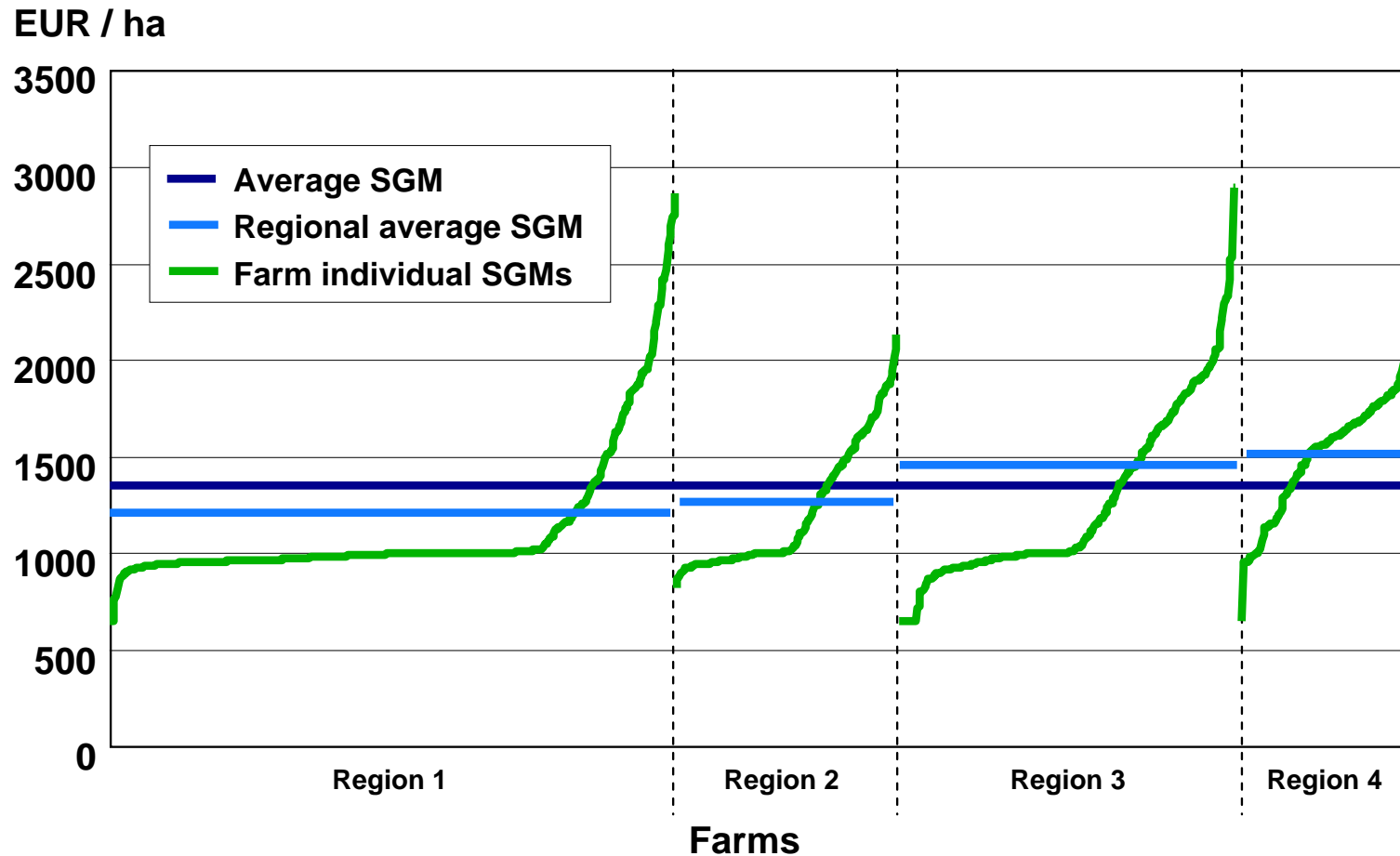


Results – differentiation of payments

Same number of contracts	PR	% change	Budget	% change
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Regional differentiation	3184	-14%	28584	-0.6%
District based differentiation	2808	-25%	28698	-0.2%
Individual differentiation	3161	-15%	28667	-0.3%
Same total yield reduction				
Regional differentiation	3146	-15%	28139	-2.1%
Individual differentiation	3116	-16%	28178	-2.0%



Lower Saxony, SGM of crop rotations



Lower Saxony, SGM of crop rotations

Results – differentiation of payments

	PR	% change	Budget	% change
Simple standard cost	274036		1030902	
Regional differentiation	220981	-19%	981223	-5%



First conclusions

Potential benefit of differentiated approaches is the higher

- the higher the variance of costs in the universe of farms
- the higher the share of participating farms
- the higher the discriminatory nature of differentiation
 - the higher the differences between subregions and the lower the variance within subregions
 - the stronger the correlation between farm individual costs and indicator
- the higher the share of farms with pure windfall profits
- the stronger a positive correlation between costs and environmental benefits



First conclusions

WP7 -> empirically based guideline to differentiated approaches

- for which measures does differentiation seem promising ?
- which indicators are more, which are less suitable for use for differentiated approaches?
- what level of regional differentiation promises the best cost-benefit ratios



Next steps

Together with partners:

- Identify measures to be analysed
- Identify indicators to be used (question of data availability)
- Identify data bases to be used (e.g., national FADNs in IT, CZ)

Potential problems:

- Data availability (e.g. fodder yields)
- Selection of reference farms (may be difficult/impossible if participation in measures is already widespread (e.g., grassland extensification))
- FADN-based analysis limited to simple measures / single selected influencing factors -> supplementary analysis with LADSS

