

Impacts of the Austrian Programme of Rural Development AT-RDP 07-13

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MIT UNTERSTÜTZUNG VON BUND UND EUROPÄISCHER UNION



Europäischer Landwirtschaftsfonds
für die Entwicklung des ländlichen
Raums: Hier investiert Europa in
die ländlichen Gebiete.



LE 07-13

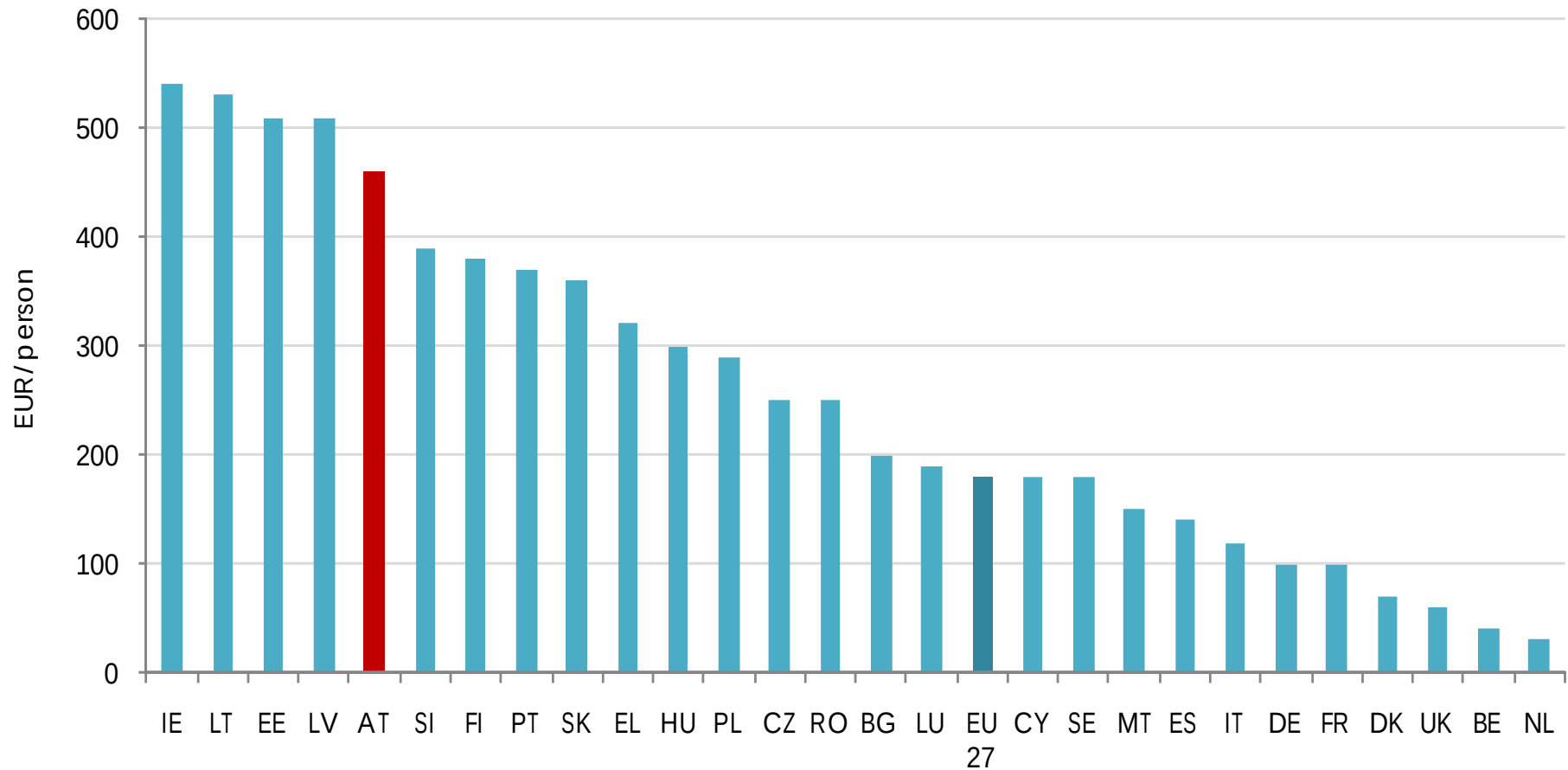
Entwicklung für den Ländlichen Raum



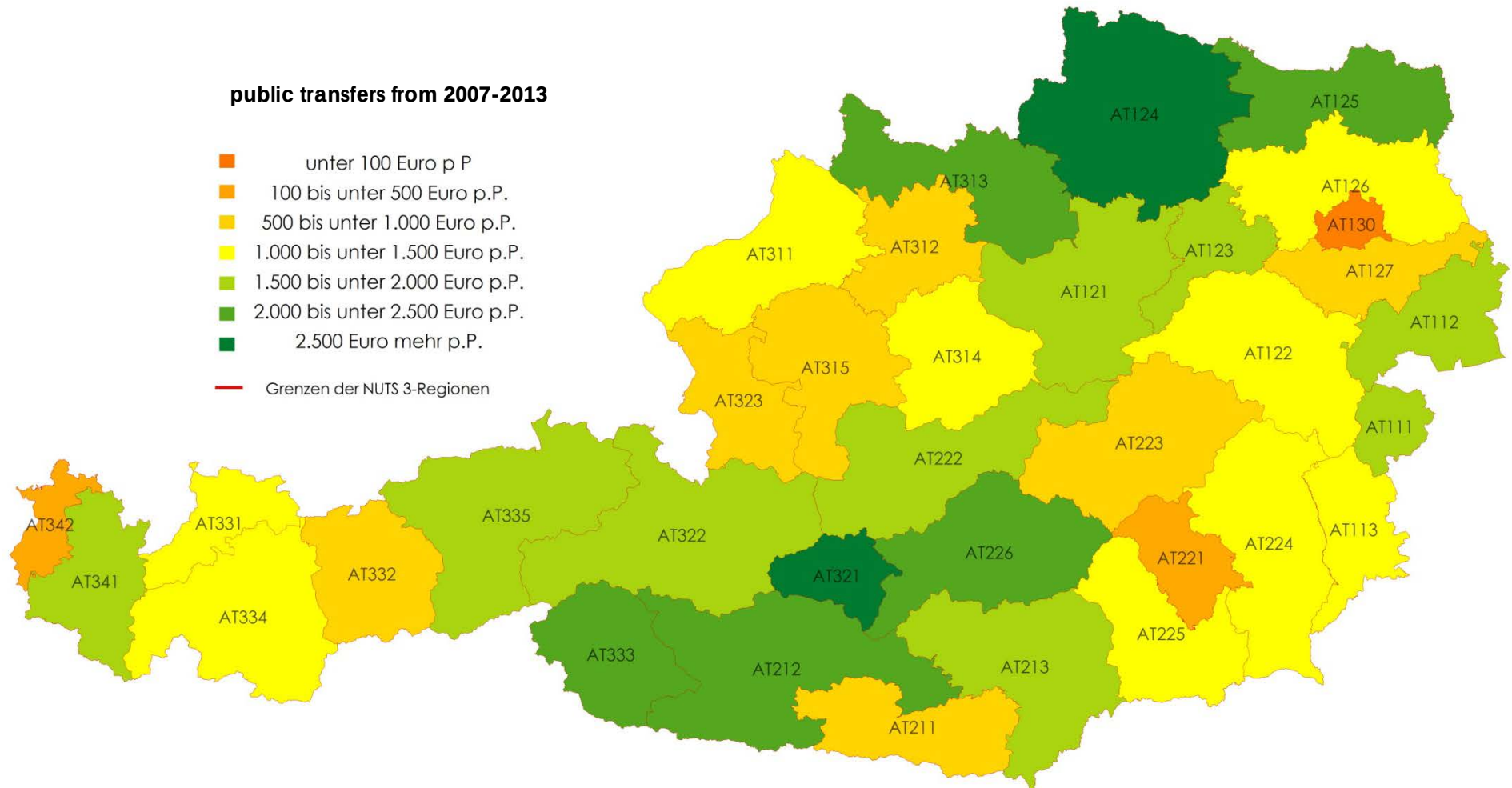
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- **the programme**
- **evaluation questions**
- **choice of methods**
- **impact analysis**
- **discussion / lessons learned**

EU-support per inhabitant 2007



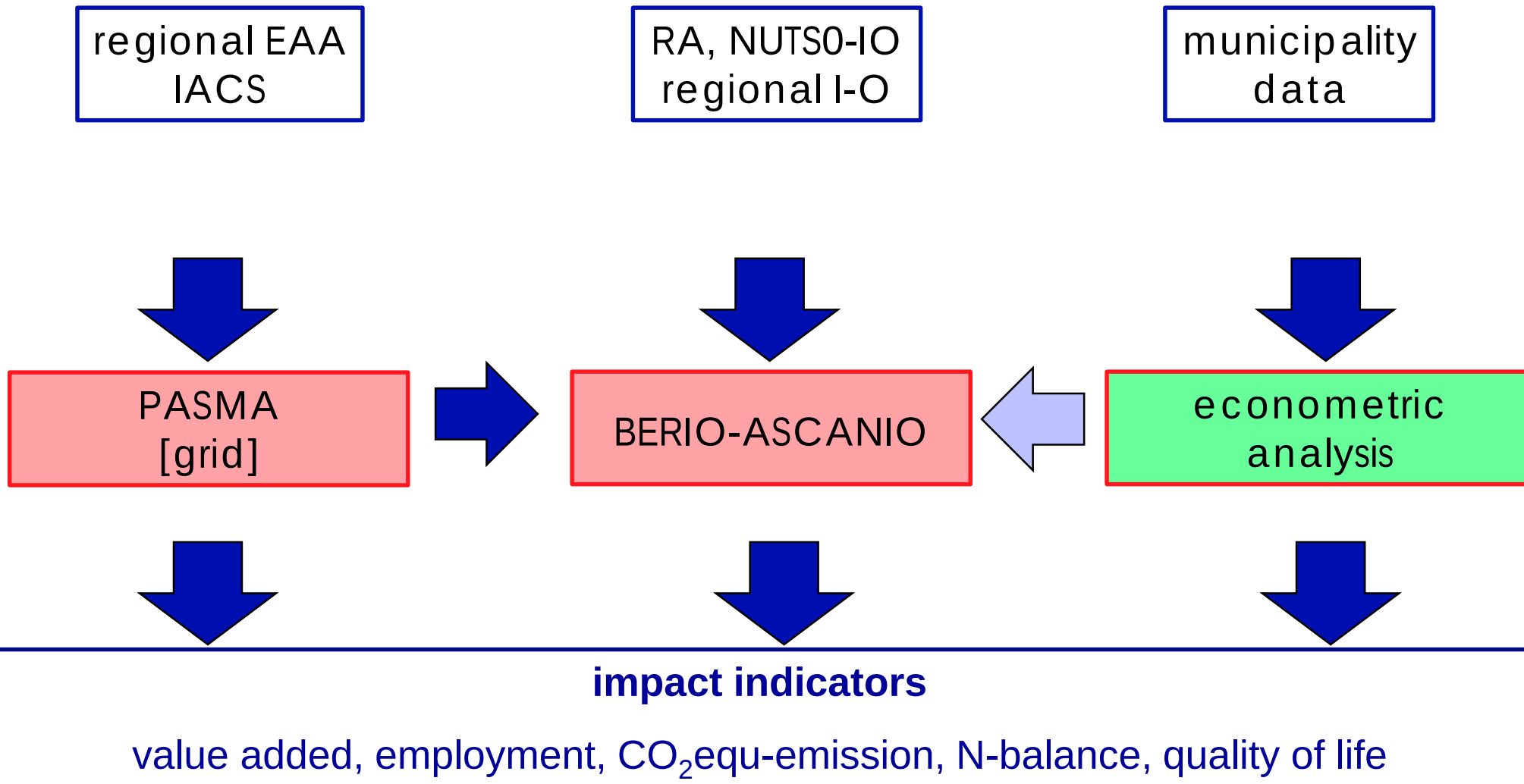
regional distribution of public support (EU, federal gvnmt, Länder) per inhabitant



to what extent has the RDP contributed to ...

- the growth of the whole rural economy
- employment creation
- protect and enhance natural resources and landscape including, biodiversity and HNV farming and forestry
- the supply of renewable energy
- improving the competitiveness of the agricultural and forestry sector
- climate change mitigation and adaptation
- improvement of water management (quality, use and quantity)
- improving the quality of life in rural areas and encouraging diversification of the rural economy

evaluation of AT-RDP counterfactual analysis: methods and approaches



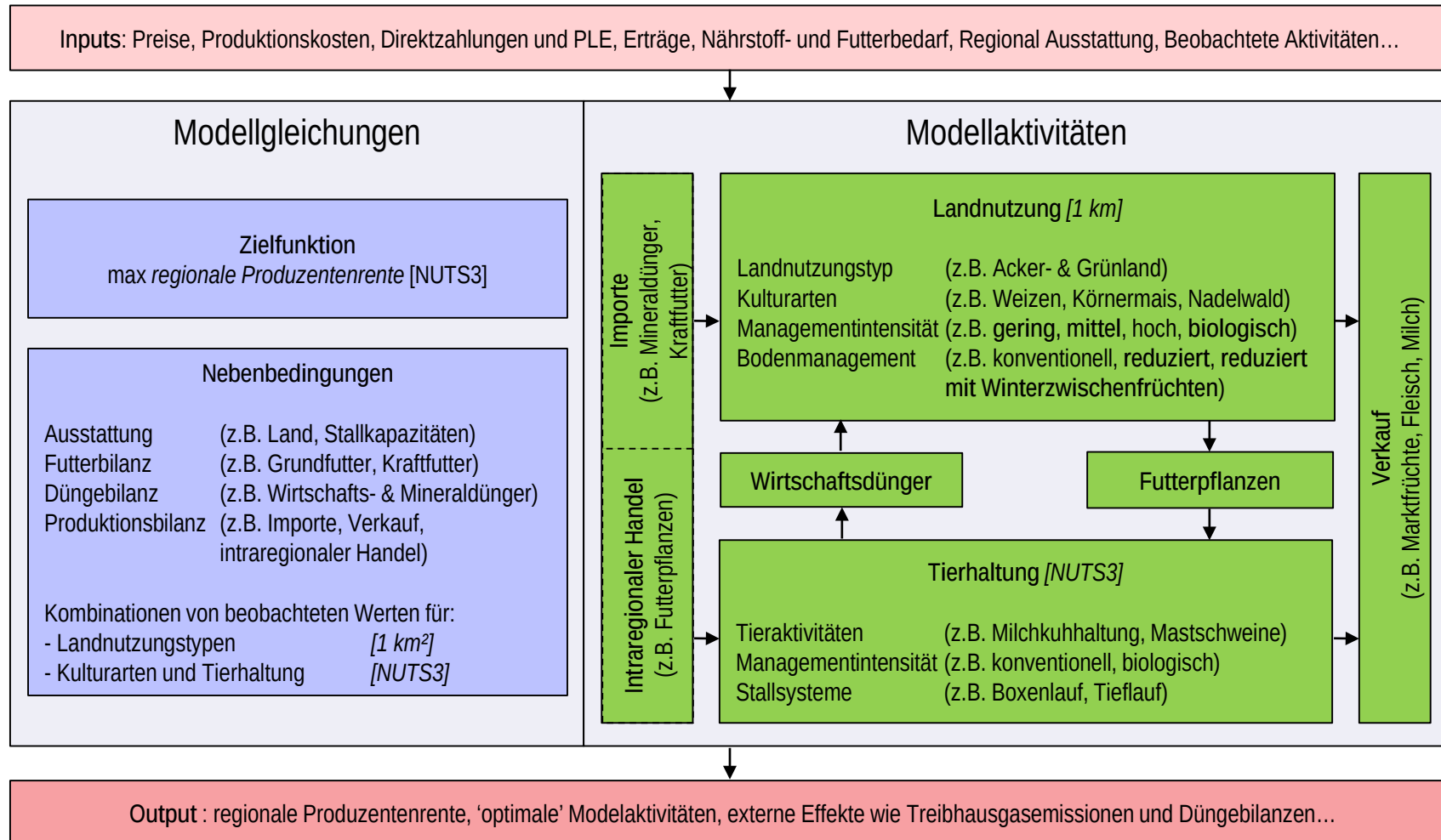
impacts on agriculture

PASMA[grid]

axis 2 0,8 bn Euro p.a.

agri-environment and compensatory payments

ex-post-evaluation PASMA[grid] representative farms at km² level



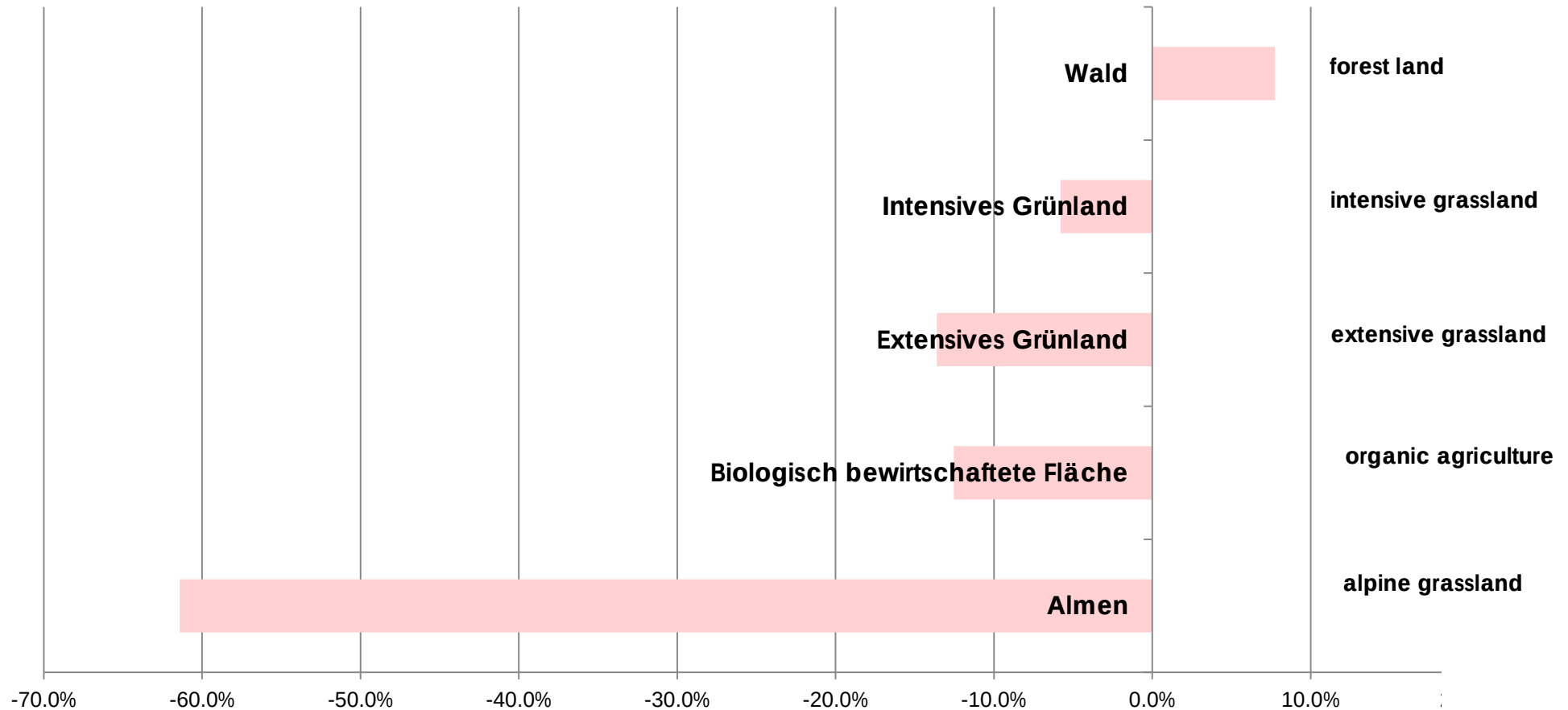
■ economic effects

- **more jobs in agriculture (+4%: 6.700 jobs, = 4.900 AWU)**
- **lower gross-value added (-5%)**
 - result is in conflict with programme goal
 - to be explained: high cost for ecological measures which are part of GVA-calculation whereas benefits are not
- **higher incomes in agriculture (+15%)**

■ environmental indicators

- **reduction of N-surplus (-16%)**
- **reduction of GHG emission (-3%)**

change of land use in case axis 2 was abolished

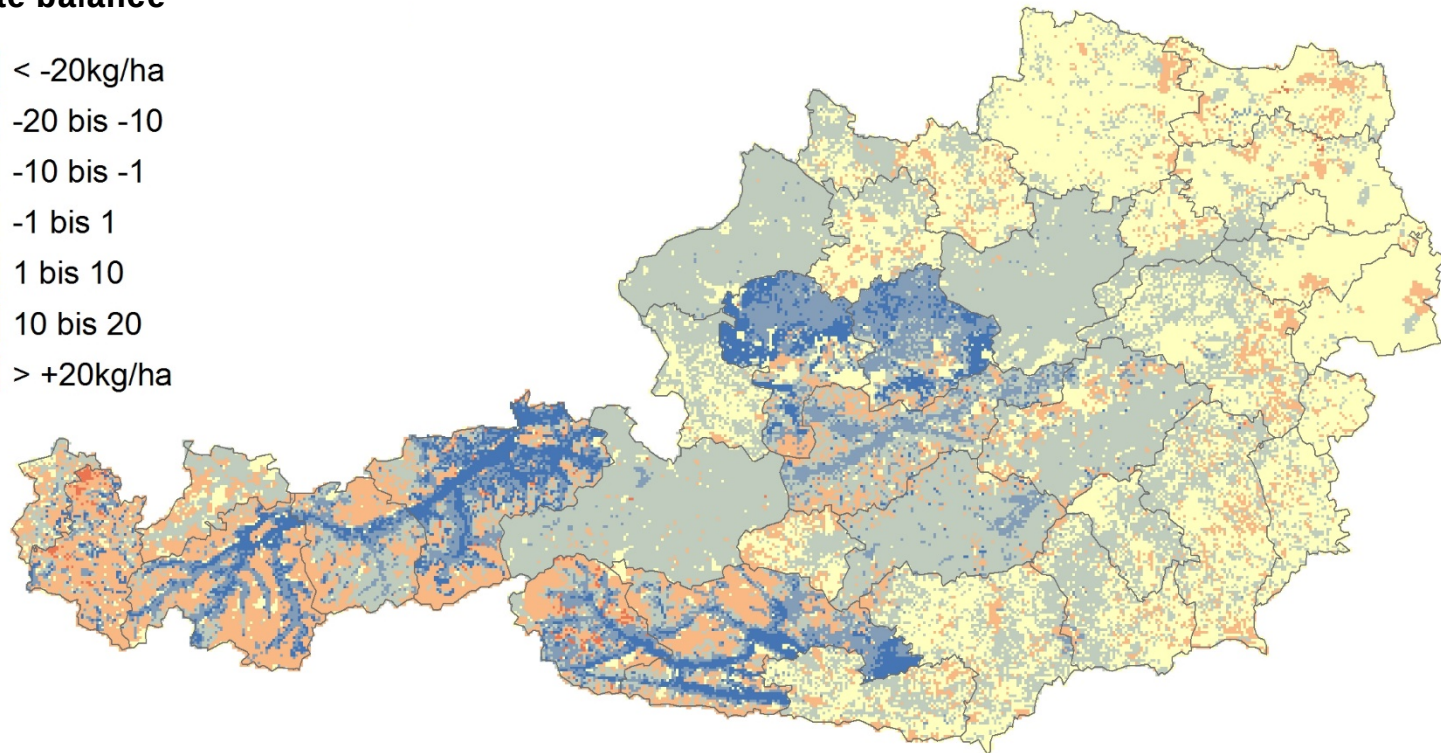


impact of axis 2 on nitrate balance based on agricultural sector model

change on levels of
nitrate balance



impact of axis 2 on nitrate balance



0 25 50 100 150 200
Kilometers

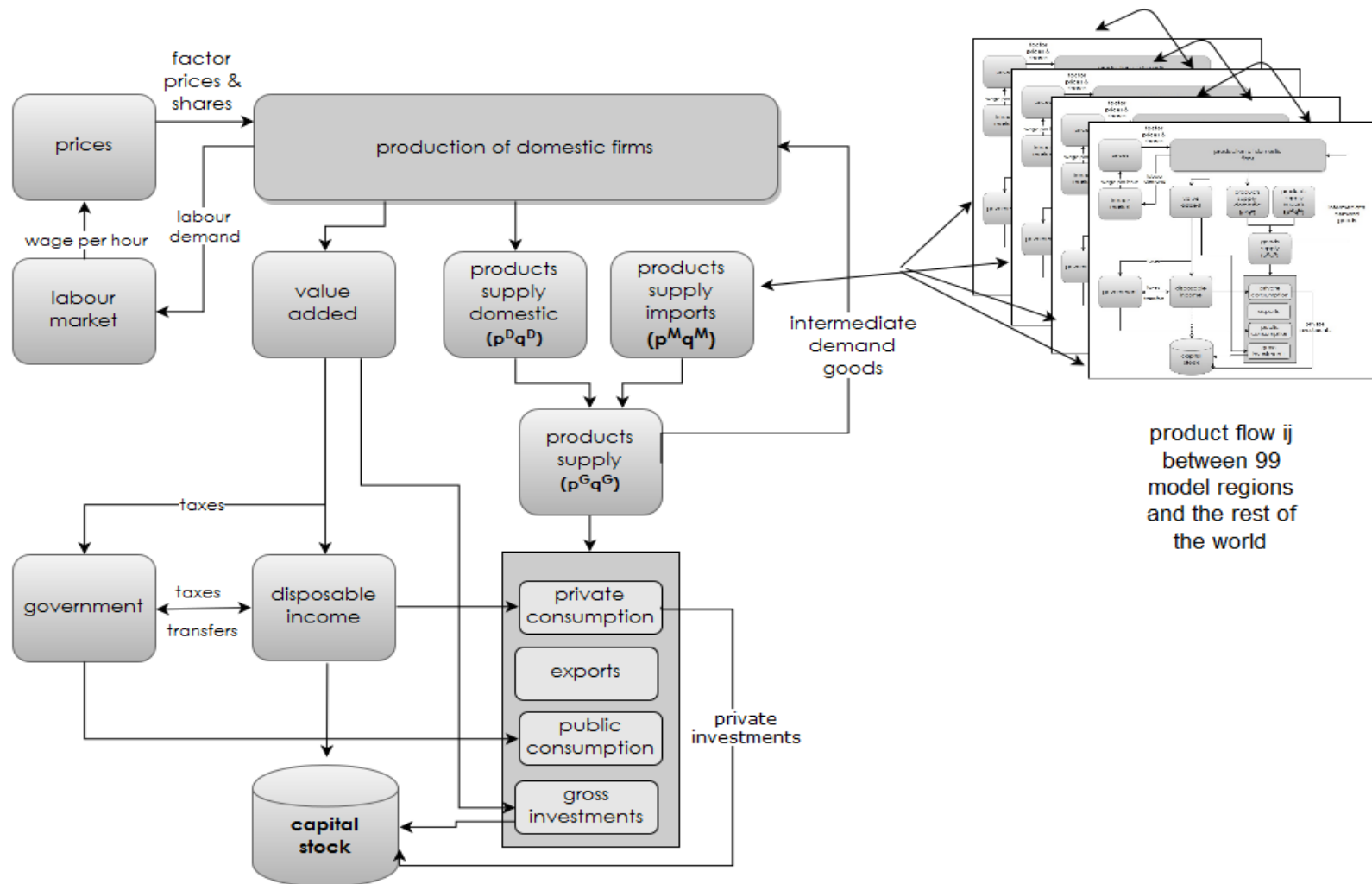
**impact on the
whole rural / regional economy**

BERIO-ASCANIO

all measures

1,1 bn Euro p.a.

I-O type model at district level



■ method

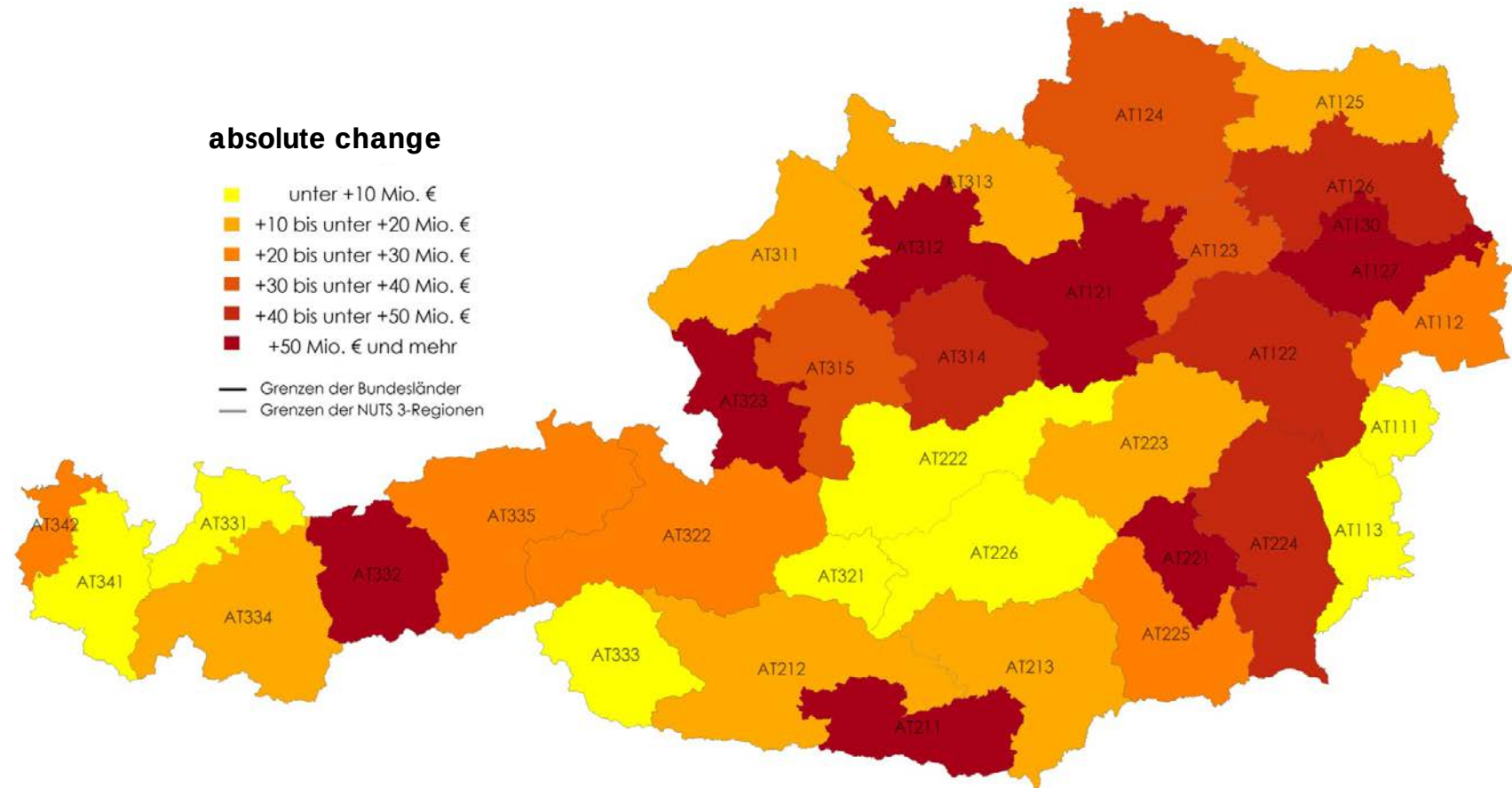
- input-output-**model**, relations between all sectors of the economy, government, households, foreign trade
- economic relations between regions (district level ~NUTS4)
- direct, indirect and induced effects

■ GVA effect: +1,6 bn Euro

■ employment effect

- in total 30,300 jobs = 25.600 FTE (incl. agriculture)

change of gross value added: +1.6 bn Euro



Q: WIFO-Berechnungen mit dem Modell ASCANIO.

■ sensitivity scenarios

(1) add private leverage (as reported in files)

programme volume increases to 1,6 instead of 1,1 bn € p.a.

(2) alternative use of public funds in Austria

programme volume 1,1 bn € p.a. and simultaneously public consumption is reduced by 0,5 bn € p.a. (proportionally)

■ results of sensitivity scenarios

(1) proportionally stronger impact of programme

GVA: +2.6 bn € and FTE: +37,900

(2) negative impact

GVA: -1.4 bn € and FTE: -14,100

**impact on indicators of quality of life
in municipalities**

econometric analysis

all measures:

1,1 bn Euro p.a.

■ method

- quality of life is hard to measure directly – survey necessary to ask individuals about their well-being
- approach: use indicators related to quality of life
- statistically (significant) *relationship* between quality of life indicator and public support and indicators of
- basis public data available for each municipality (ca. 2,200) in Austria
- econometric approach: fixed-effects (controlling for unobserved heterogeneity, when heterogeneity is constant over time)

AT RDP 07-13

public transfers (mn Euros)

axis	Jahr	2007	2008	2009	2010	2011	2012	2013	total
1: competitiveness		101.59	239.52	249.96	215.95	186.63	158.71	129.45	1,281.81
2: environment		788.89	812.66	842.97	839.89	830.93	810.12	788.03	5,713.48
3: quality of life, diversification		93.16	110.51	112.44	136.95	138.25	116.05	105.74	813.10
4: LEADER		0.00	2.04	15.19	24.95	24.05	23.01	27.46	116.69
511: technical assist.		18.44	27.46	33.45	37.13	39.45	40.21	3.37	199.51
total		1,002.07	1,192.19	1,254.02	1,254.87	1,219.31	1,148.10	1,054.04	8,124.59

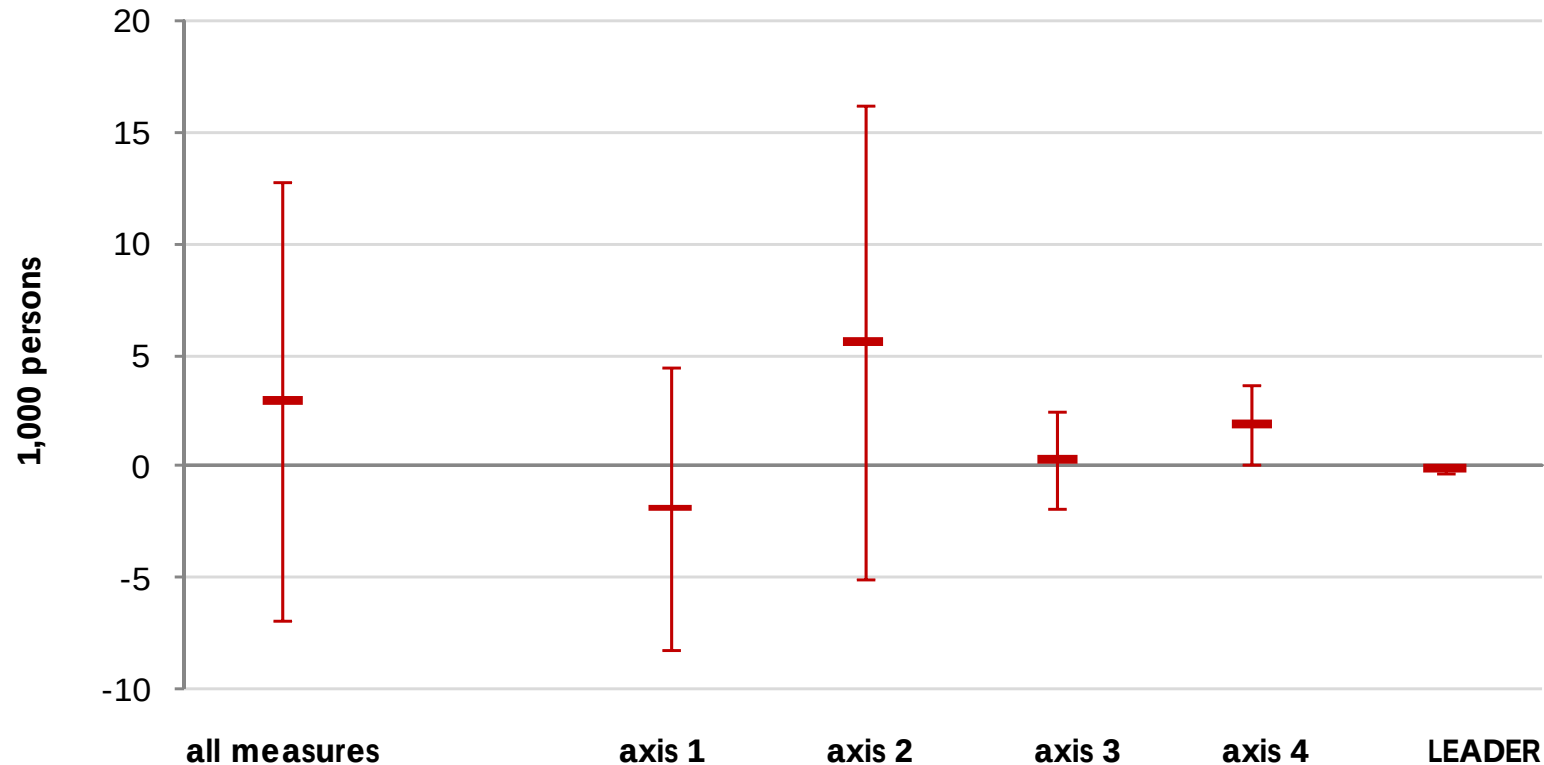
beneficiaries of AT-RDP 07-13 (transfers in Euro per capita)

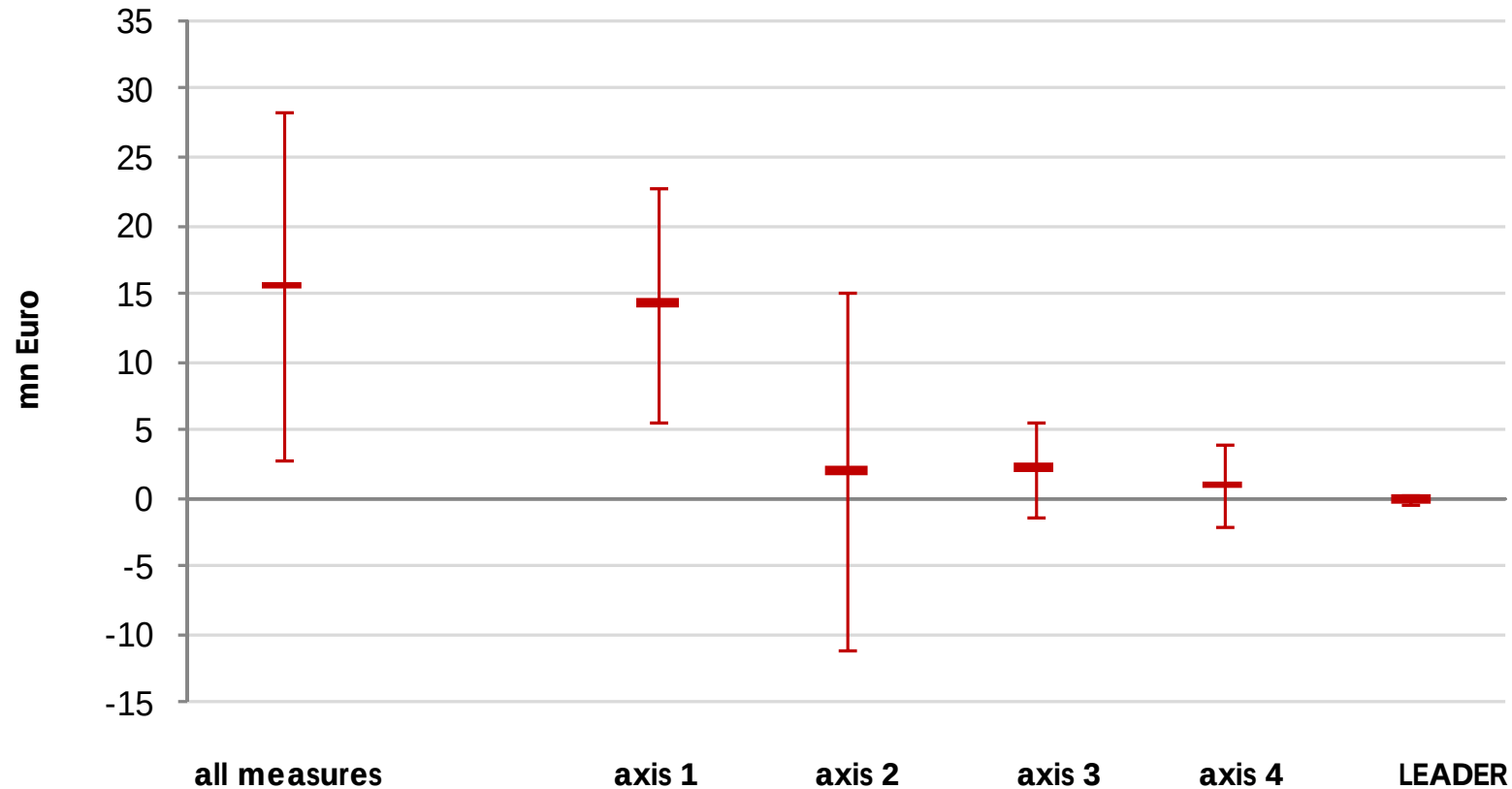
Variable	coeff.	coeff.	coeff.
unemployment rate (2001; in Prozent)	-186.35***	-248.30***	-256.80***
income (2006; in Euro per capita)	-0.13***	-0.16***	-0.22***
municipality tax (in Euro; 2005)	-1.15***	-0.64**	-0.30
income of women (2006; in % of men)	37.72***	27.99***	21.85***
population density (2006; in primary res. per ha)	22.51	49.77	64.06*
primary residence (2006)	-0.07***	-0.06***	-0.06***
area (in ha)	0.08***	0.05***	0.02**
altitude (average; in m)	2.21***	3.55***	3.85***
motorway (length in m)	-0.05***	-0.03	0.00
railway (length in m)	-0.05***	-0.05***	-0.03***
express road (Länge in m)	-0.06*	-0.09***	-0.05
Intercept	1,029.58*	1,980.36***	1,593.05**
Regional-Dummys	no	land (8)	district (94)

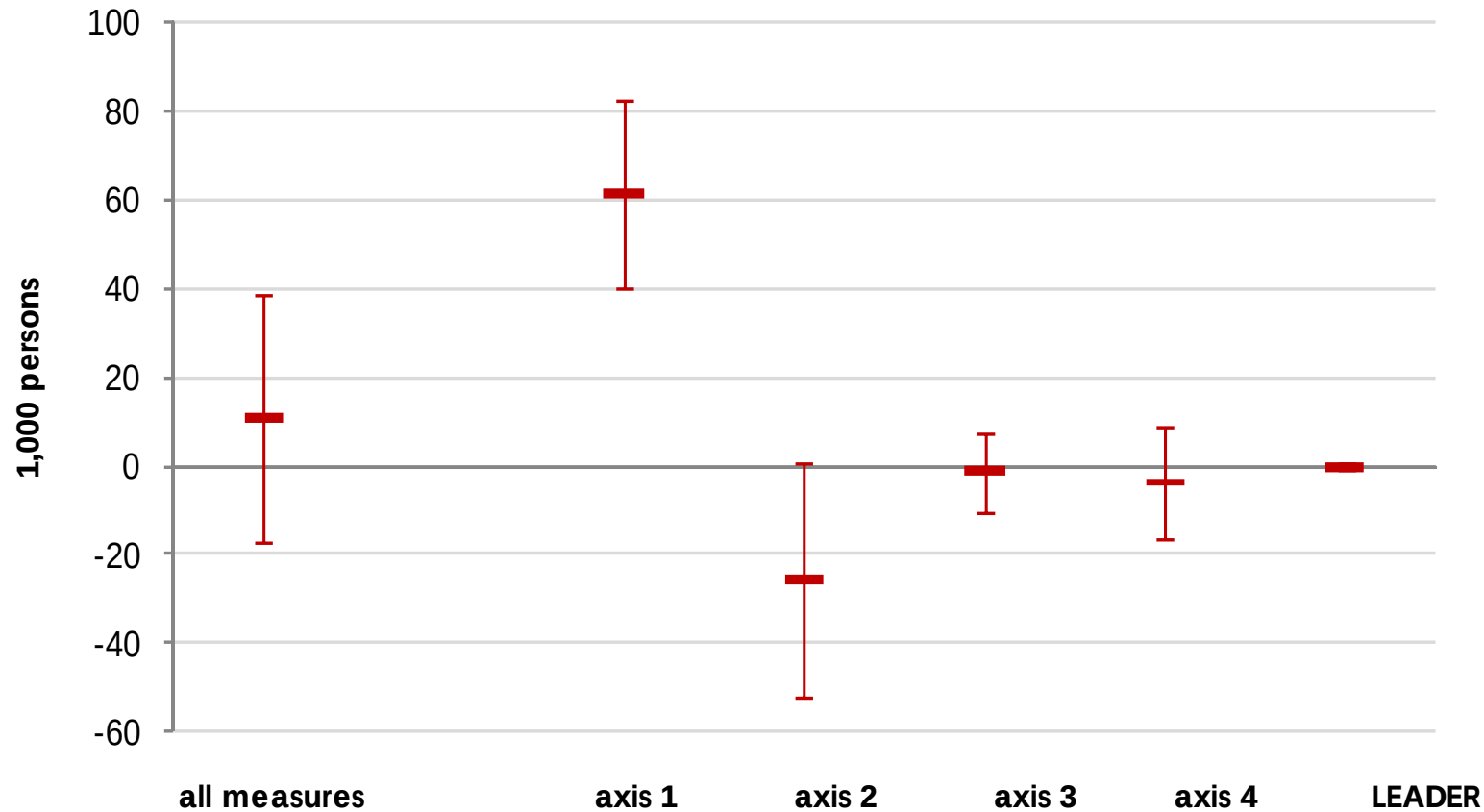
beneficiaries of AT-RDP 07-13 (transfers in Euro per capita)

variable	coeff.	coeff.	coeff.
urban land use	-22.00***	-17.88**	-18.28**
industrial areas, traffic areas	76.13***	54.03***	20.27
mining regions, construction sites	-0.43	13.23	-26.74
artificial regions	-46.87	-54.67	-78.01**
arable land	22.67***	24.96***	18.14***
permanent crops, orchards, vineyards	36.63***	31.90***	14.70**
grassland	25.28***	35.16***	31.85***
heterogeneous agricultural land	3.57	11.61***	13.06***
mining regions, construction sites	3.75	22.83***	29.11***
regional dummies	no	province (8)	district (94)

AT-RDP 07-13: relationship between transfers and population growth







■ results of evaluation:

- the program has significant effects over many target dimensions
- not only recipients benefit but many other groups in the rural economy (most money goes to farmers)
- econometric results are in general consistent with model results; RDP is stimulating positive structural change outside agriculture

■ limitations

- non market goods and important non economic variables have not been measured
- social costs of public funds are generally no concern in EU programme evaluations but should be

■ computational models

- multi-model approach allows to evaluate a broad range of measures / indicators
- even very detailed models rest on crucial assumptions

■ econometric analysis

- limitations: non market goods and important non economic variables have not been measured
- **causality**: would require (slightly) different programme implementation, additional monitoring data; other model

■ benefits of multi-method approach

- computational models: well suited for ex-ante mid-term and ex-post
- econometric models: usefull to corroborate / challenge results of computational models
- micro data for effects on firms / inhabitants would be more helpful

multi-method and multi-model approach in evaluation

■ weaknesses

- more data and resource intensive
- researchers and clients must be convinced that there is not "THE" method but that each approach has (dis-)advantages
- inconsistent results raise more questions than can be answered

■ strengths

- same question can be answered from more than one angle
- when data and approach is well integrated: complementary aspects can be identified
- validity of the results can be evaluated
- idiosyncratic limitations of methods can be overcome
- necessary precondition to improve the current state of knowledge

thank you for your attention!

