Socio-economic relevance of pig & pork production for rural areas

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European Pigmeat Reflection Group
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Questions posed to the presenter

(1) What is the added value of pig farming for rural areas?

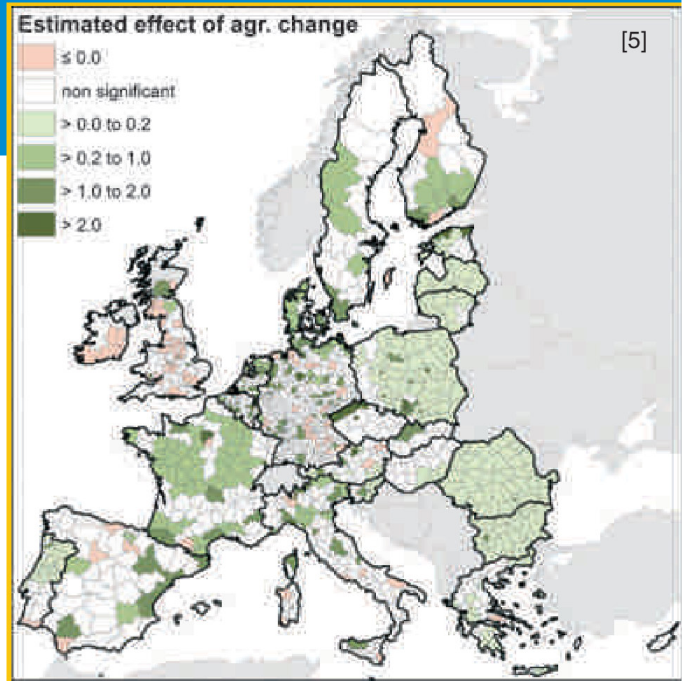
(2) Are there threats to be mitigated ?

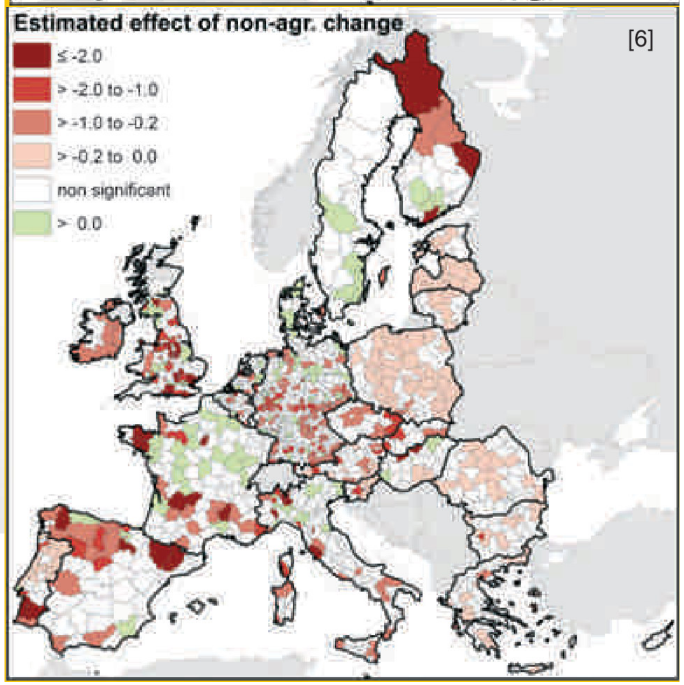
Preparational thoughts

- Agricultural growth supports labour market development in many rural European regions
- In some diversified regions, agricultural growth conflicts with growth of other industries.

- In reversed perspective, non-agricultural growth frequently comes along with agricultural decline.

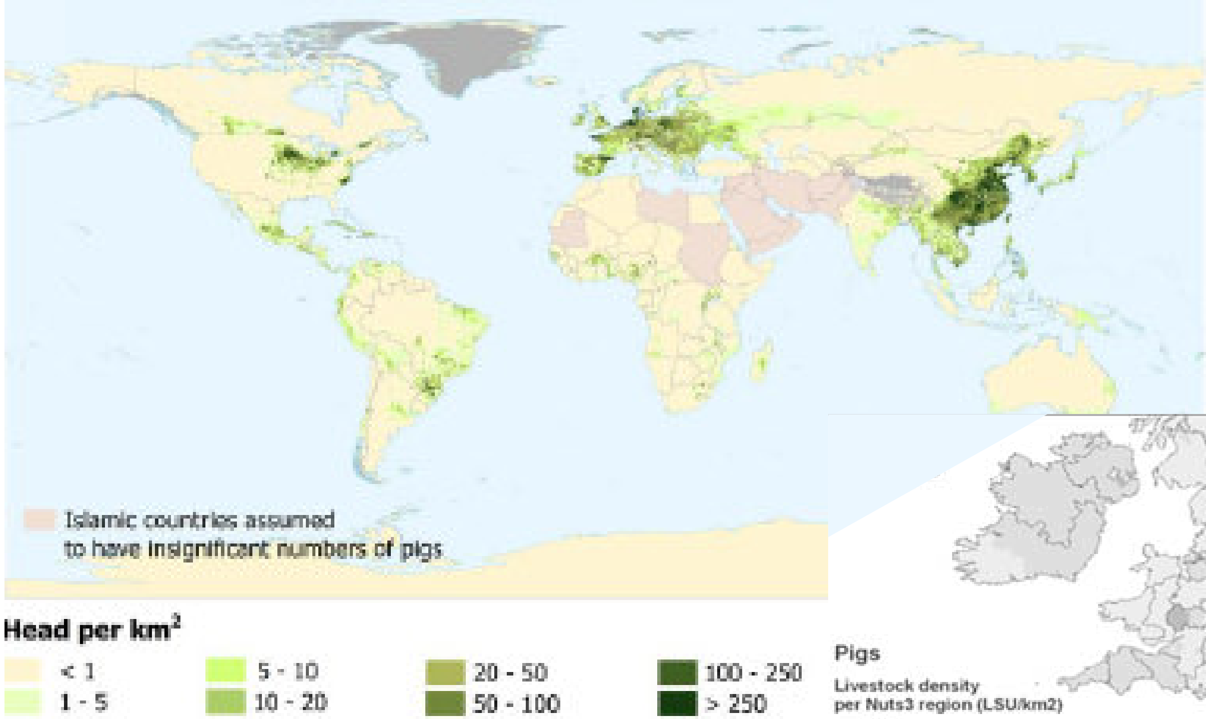
→**Non agricultural growth often requires structural change.**





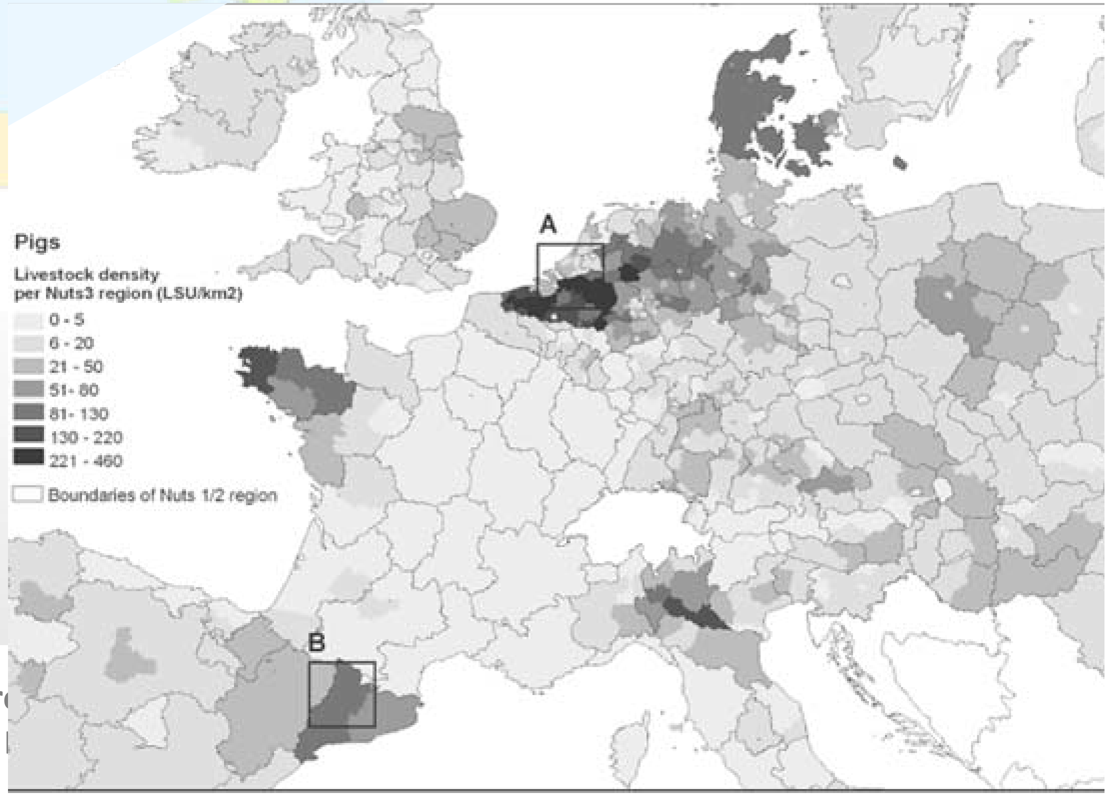
Margarian A (2012)
Employment Development Policy in European Regions: The Role of Agriculture. EuroChoices 11(3):20-21.

Concentration of pigs, globally and in Europe

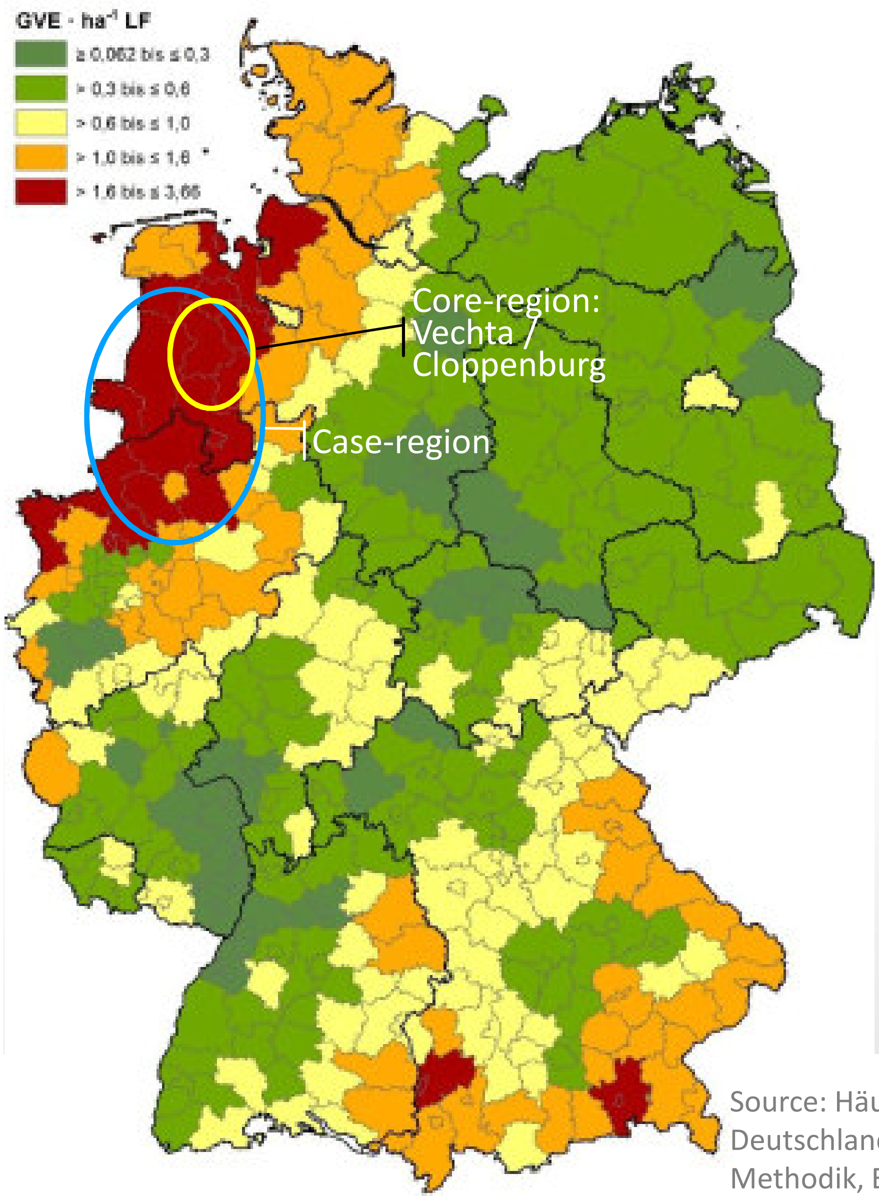


Source: Robinson TP, Wint GRW, Conchedda G, van Boeckel TP, Ercoli V, Palamara E, Cinardi G, D'Aietti L, Hay SI, Gilbert M (2014) Mapping the global distribution of livestock. PLoS One 9(5):e96084.

Source: Neumann K, Elbersen BS, Verburg PH, Staritsky I, Pérez-Soba M, Vries W de, Rienks WA (2009) Modelling the spatial distribution of livestock in Europe. Landscape Ecol 24(9):1207-1222.



Concentration in Germany (mean of 2015 to 2017)



Reasons for increasing concentration

Proximity

- to large sales markets
- to sea / waterways / ports

- of pig producers to slaughterhouses
- of slaughterhouses to pig producers

Scale driven growth!

Source: Häußermann U, Bach M, Klement L, Breuer L (2019) Stickstoff-Flächenbilanzen für Deutschland mit Regionalgliederung Bundesländer und Kreise: Jahre 1995 bis 2017. Methodik, Ergebnisse und Minderungsmaßnahmen, hg. v. Umweltbundesamt, 167 p. Texte

What is the added value of pig farming for rural areas?

Focus on specialised „pig regions“ …

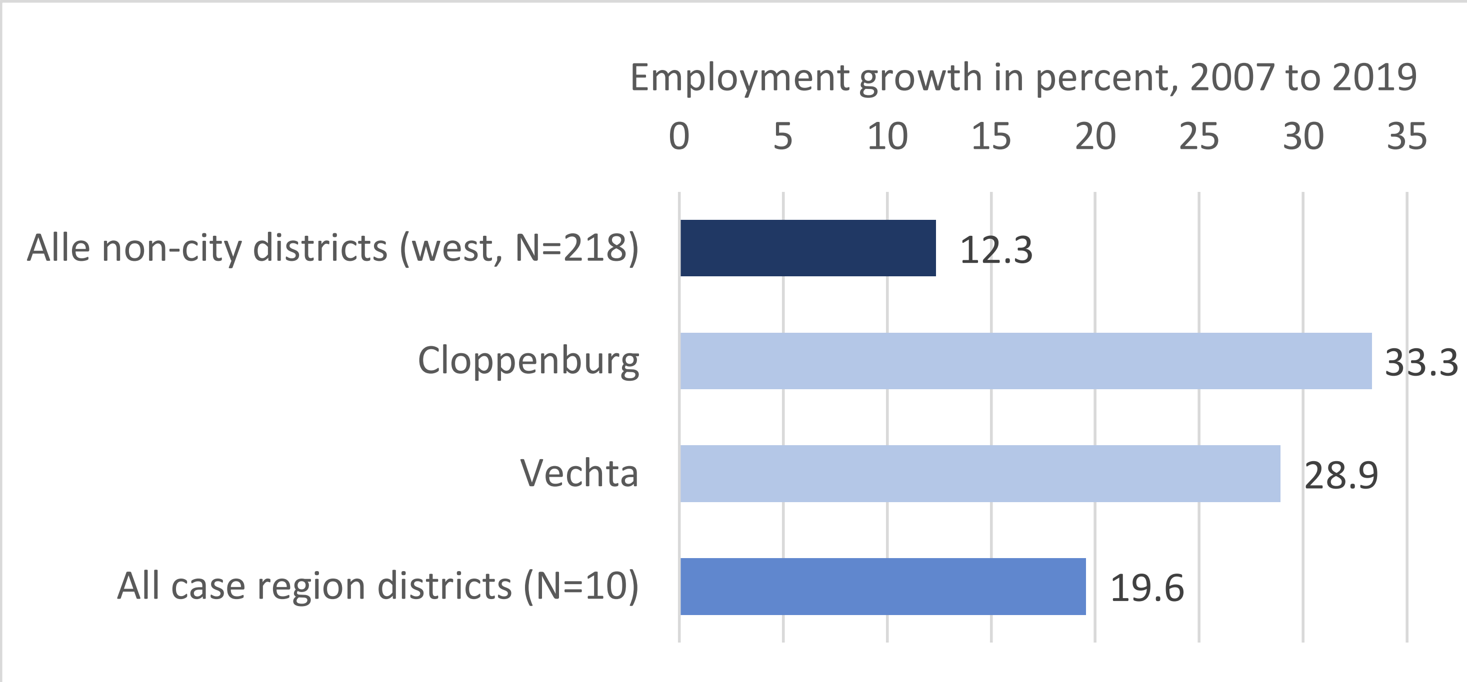
… because concentration is ongoing due to

- Economies and scale and
- agglomeration economies

→ **Pig production is only globally competitive in concentrated locations**

→ **In other locations, pig production will not contribute to growth**
(in a more than very short-term perspective)

Employment growth in percent in the case-, core- and comparison-region, 2007 bis 2019



Structural weaknesses of the case region

Low household incomes

Structural causes:

- Low productivity (GVA/Employee)
- Low employment rate of women
- Few freelancers and other self-employed

Are there threats to be mitigated?

Threats

- Local Environmental threats (specifically water)
- (Increasing?) Danger from animal diseases
- Changing consumer demands
  - Animal welfare
  - Health
  - Global environment (climate)
- Increasing international competition
- Local labour shortage due to
  - one-sided rapid growth
  - low wages

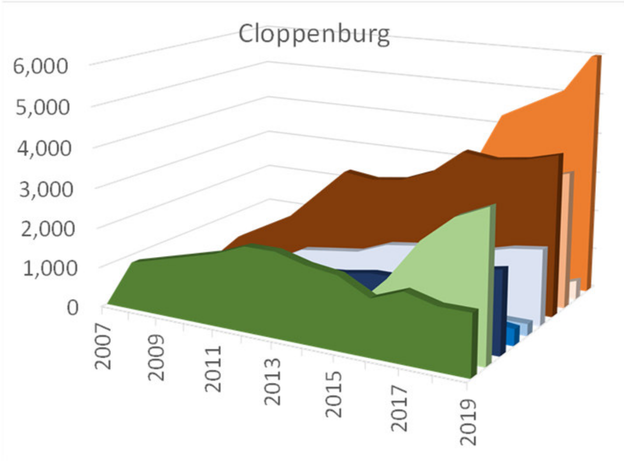
Change is urgently needed …

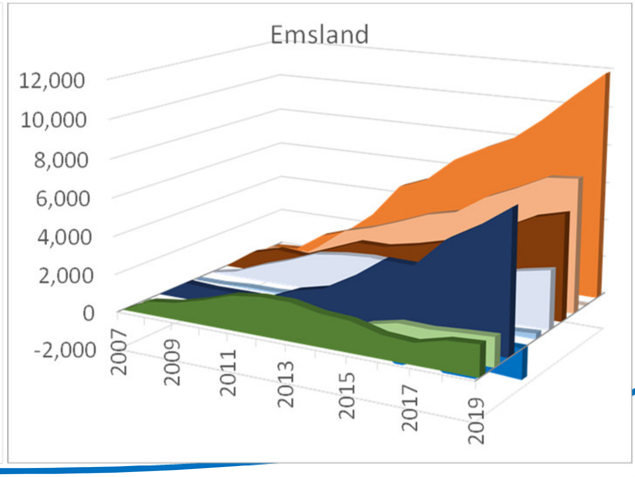
… specifically in the most competitive (concentrated) pig production locations

… even for their own ECONOMIC sake!

Change occurs permanently …

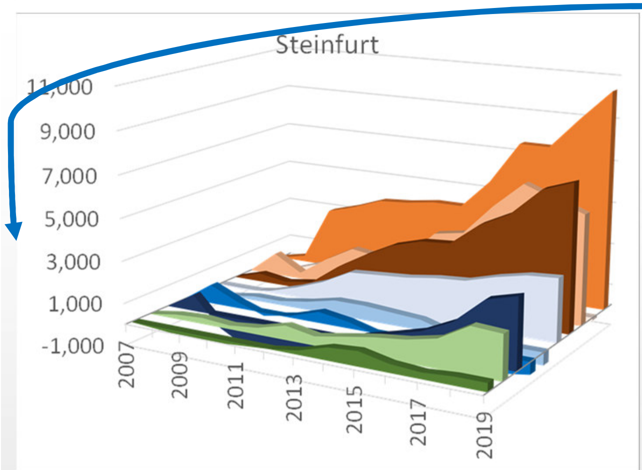
Core region

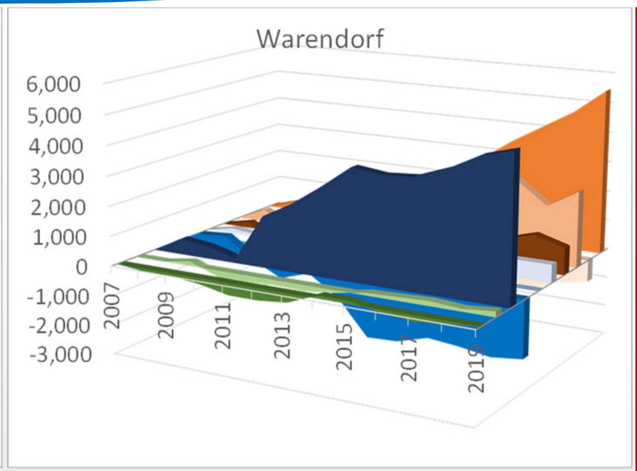


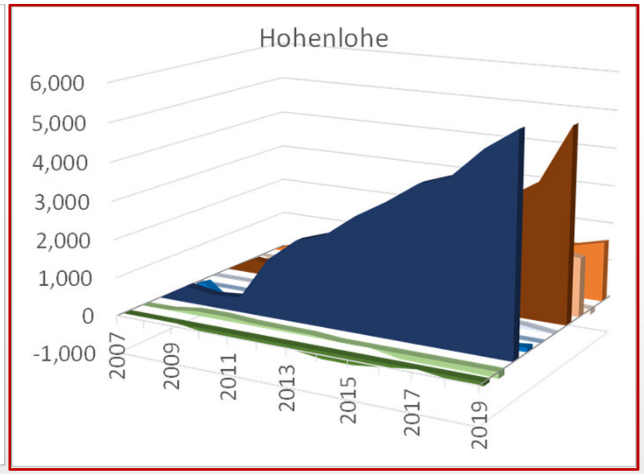


… but what would it mean for the core region?

Is there a danger of lock-in?







Fringe region **Comparison case**

■ Agrarsektor ■ Ernährungswirtschaft ■ Komplexes verarb. Gew. ■ Sonstiges verarb. Gew. ■ Sonstiges prod. Gew.

■ Bauwirtschaft ■ Private Dienstleist. ■ Unternehmensdienstleist. ■ Sonst. Geschäftsdienstl. ■ Öffentl. Dienstleist.

Synergies and trade-offs

Positive correlation …

Case districts	***Total***	Agriculture	Complex production	***Food production***	Other production
	Employment growth in …				
Cloppenburg	***33.3***	25.4	32.3	***52.9***	11.4
Vechta	***28.9***	33.3	49.3	***4.4***	21.7
Emsland	***23.3***	24.2	48.7	***34.8***	-9.8
Osnabrück	***21.5***	15.1	39.0	***10.8***	8.8
Gütersloh	***21.3***	11.1	39.1	***103.7***	-4.3
Borken	***18.8***	-1.8	22.0	***23.8***	10.4
Grafschaft Bentheim	***17.7***	8.7	58.0	***3.3***	0.3
Steinfurt	***15.1***	8.7	20.7	***35.1***	-3.0
Coesfeld	***13.5***	-5.6	22.6	***26.9***	9.2
Warendorf	***9.6***	0.0	29.7	***5.8***	-15.0

Synergies and trade-offs

… due to „catch-up“ structural change

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… which is, however, restricted by trade-offs

Simulation results
given synergies and trade-offs between sectors

What would happen if the agricultural sector was forced to decline?

		Agricultural development	Employment change in percent t0 (2019)	t24 (simulated)
All case region districts	Case regime	normal	0.0	20.8
		stays halved	-1.6	14.8
	"Normal" regime	<= halved	-1.6	15.1
Cloppenburg	Case regime	normal	0.0	56.6
		stays halved	-3.9	37.3
	"Normal" regime	<= halved	-3.9	27.8
Vechta	Case regime	normal	0.0	43.6
		stays halved	-3.2	29.7
	"Normal" regime	<= halved	-3.2	25.1

(3)
If this growth is to cause higher incomes, investments should be made to stabilise the „case regime“.
(In the „normal regime“ services gain the upper hand.)

(2)
Even with the agricultural sector halved, growth could be considerable

(1)
Given the local restrictions, this growth would not be feasible

Conclusion

(1) Where pig-production IS NOT concentrated it will not contribute to sustainable local development.

(2) Where pig production IS concentrated, it can be competitive and support economic low-wage growth.

In mature „pig clusters“

- this growth creates many environmental and economic problems and the risk of lock-ins.
- the resources that have been generated in the course of growth should be invested for transformation and stabilization of the growth *regime* (not of the „old growth-*sector*“!).
- decline of the sector can ultimately be of ecological and economic benefit for the locations

In the most promising nascent „pig clusters“

- the decline of old regions opens the opportunity for growth
- pig production can contribute to the initialization of a growth process
- but the transitory character of this situation due to capacity limits and new global competitors should be considered
- rather than focusing on the growth sector, economic diversification should be supported from the start.

Back-Up

Employment shares by industries (Percent) in case-, core- and comparison-region, 2019