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PISA AGRICULTURAL ECONOMICS
Food and rural studies for sustainability

UNIVERSITÀ DI PISA

Competitiveness and sustainability of rural areas through non-farming sector

Gianluca Brunori

Relevant projects

GLAMUR

salsa
small farms
small food businesses and
sustainable food security

MOVING
MOuntain Valorization through
INterconnectedness and Green growth

PAGE

What do I mean with non-farming sector?

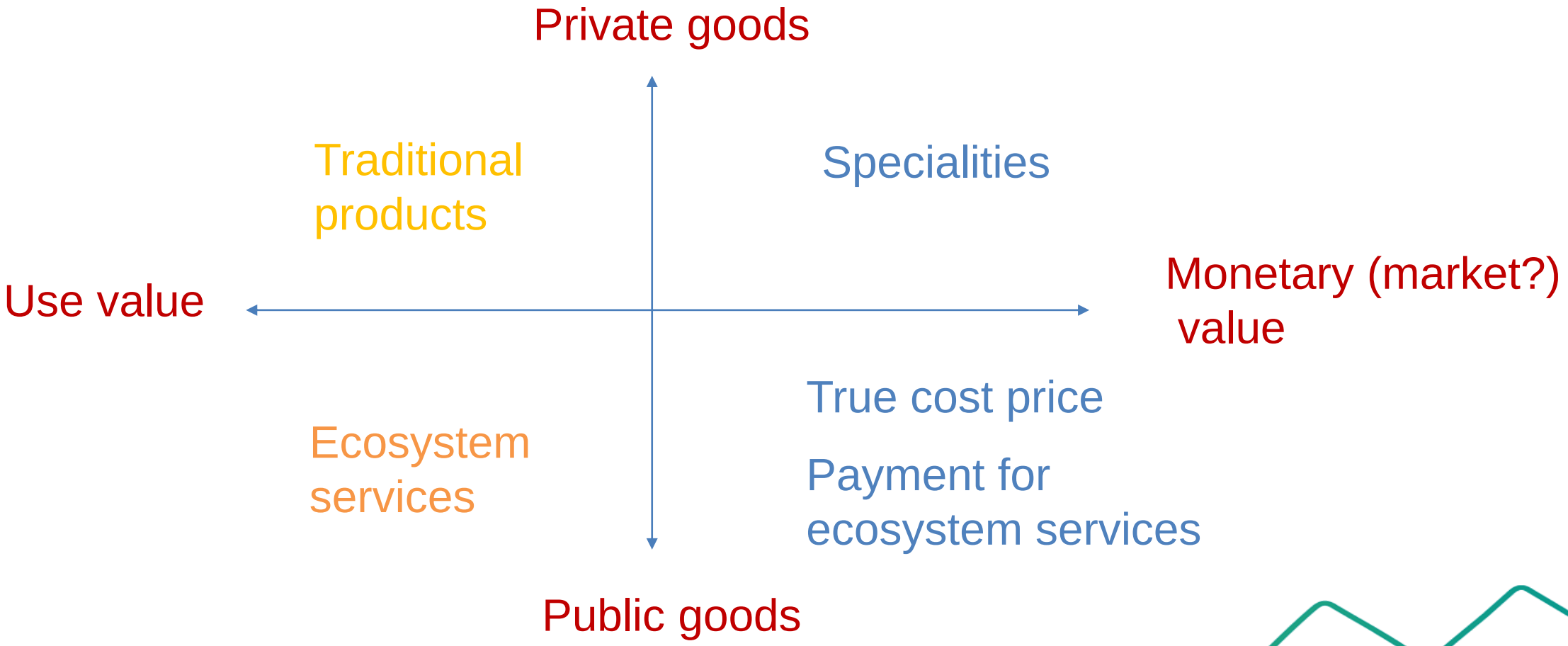
- Food (processing, distribution, retailing)
- Timber and pulp
- Other bioproducts
- Tourism
- Services

All non-farm activities that have a primary resource base

How to assess value?

Evaluation to consider also the public goods produced

MOVING
MOuntain Valorization through INterconnectedness and Green growth



Value creation

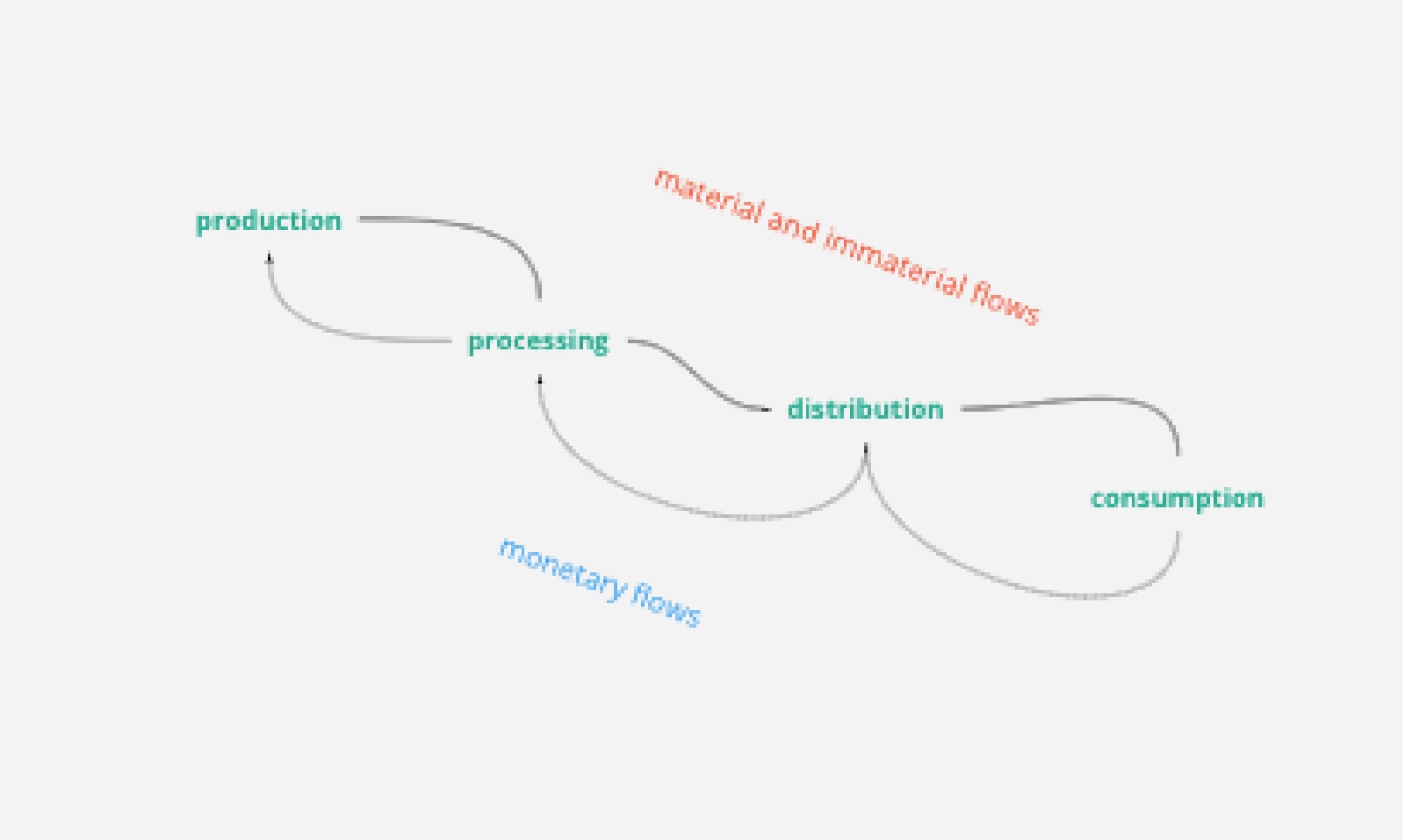
Activities that turn resources into value

Activities that transform value

GLAMUR sustainability matrix
(evaluation criteria and potential indicators)

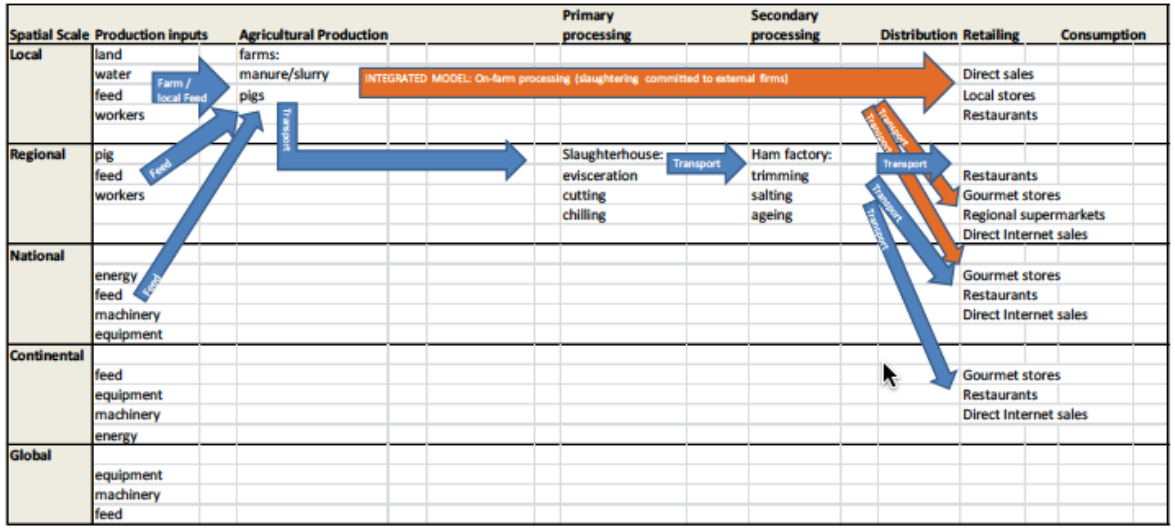
Economic	Social	Environmental	Health
1. Affordability 2. Creation and distribution of added value 3. Economic development 4. Efficiency 5. Profitability 6. Resilience	7. Food security 8. Consumer behaviour 9. Territoriality 10. Connection 11. Labour relations	12. Resource use 13. Pollution 14. Biodiversity 15. Technological innovation 16. Food waste	17. Nutrition 18. Food safety 19. Traceability
20. Animal welfare 21. Responsibility 22. Fair trade 23. Information and communication 24. Governance			
Ethical			

Value is created in value chains



Example: Cinta senese

Example
Cinta senese vs generic ham in the Netherlands: spatial configuration



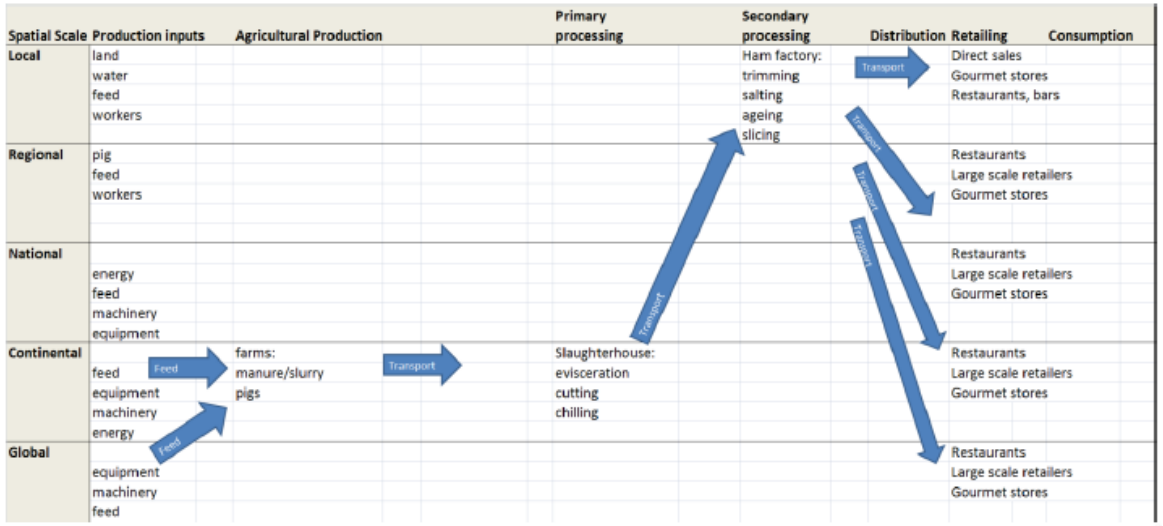
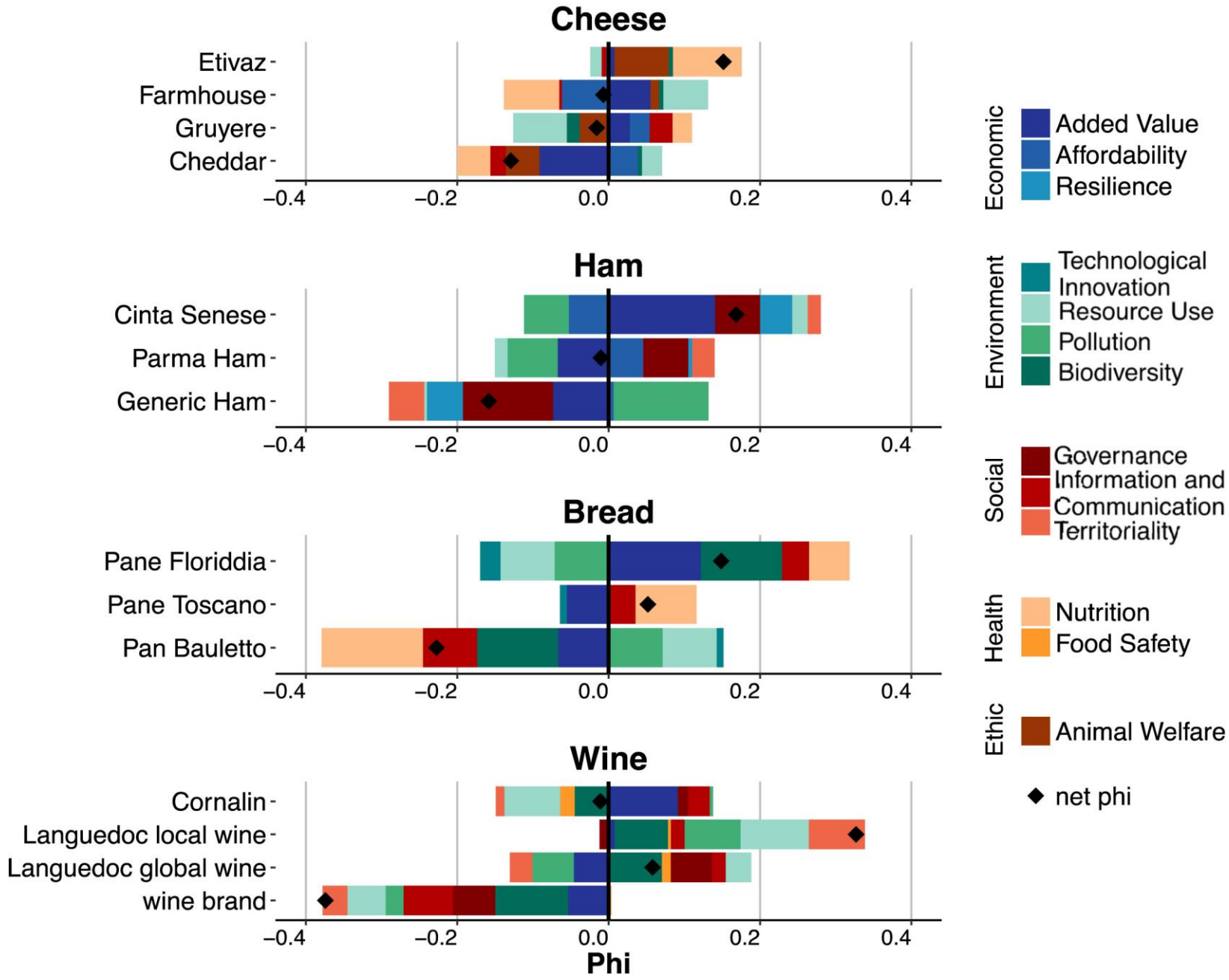


Table 3.2 Soy dependencies of Dutch food produce(Source: LEI, 2010)

Product	Kg Soy per 100 kg sold animal product
Milk	11
Veal	128
Beef	175
Pork meat	263
Eggs	307
Poultry	575

	No. hams	Price /kg pig	Price ham	Added value
cinta senese	200	3,71	39,8	1,67
parma ham	80,000	3,58	7,66	0,42
generic ham	300,000	2,34	4,03	0,28



Schmitt, E., Galli, F., Menozzi, D., Maye, D., Touzard, J. M., Marescotti, A., ... & Brunori, G. (2017). Comparing the sustainability of local and global food products in Europe. *Journal of Cleaner Production*, *165*, 346-359.

Who benefits from value creation?

	Cinta Senese		Dutch generic ham	
	Rural	Non rural	Rural	Non rural
Farming	+++		++	
Non-farming	+++	+	+	+++
Consumers/ citizens	+	+++	+	++

Lessons learned from the research (with relevance for evaluation)

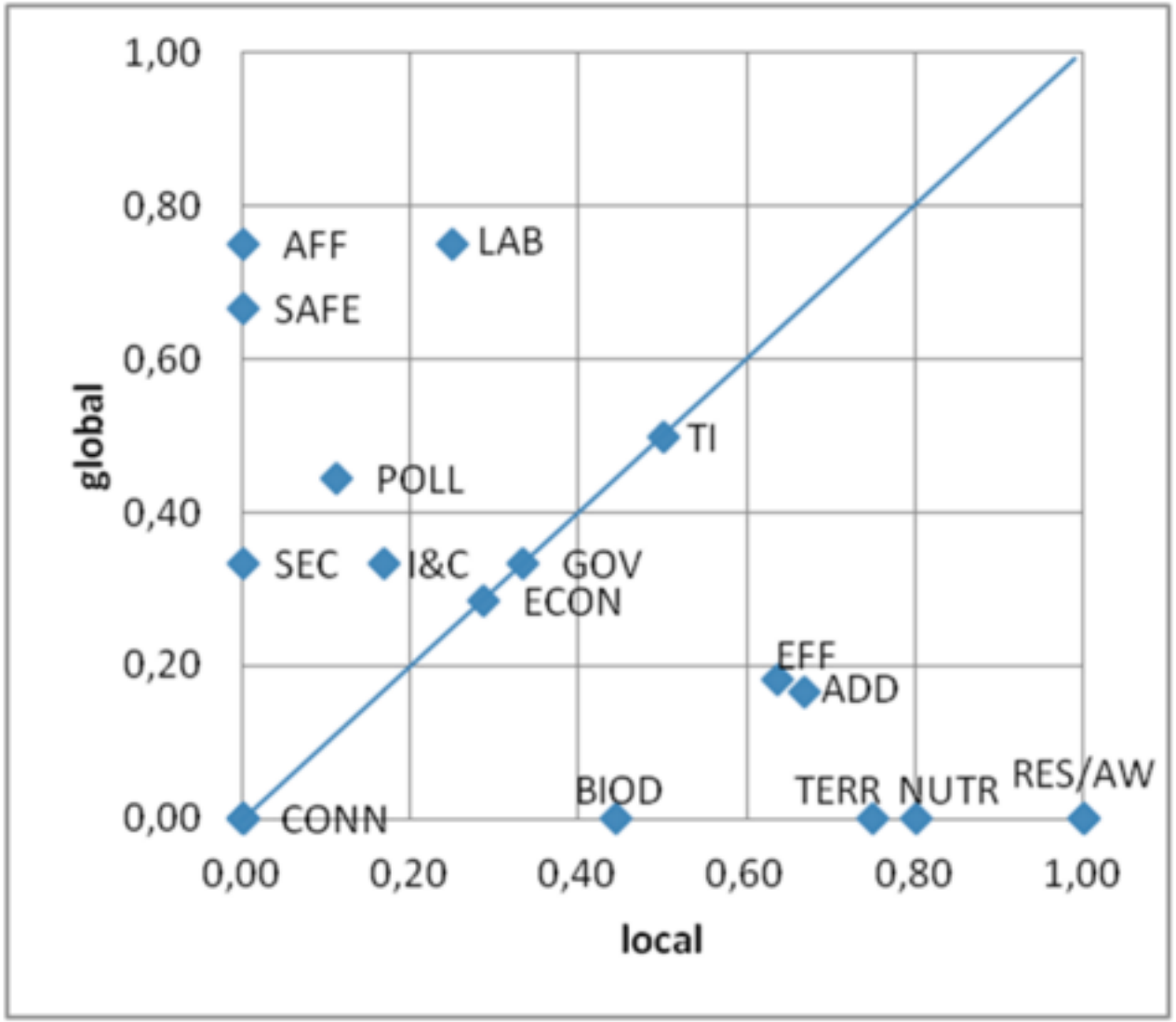
Lesson learned

- Support to local business with local primary resource base keeps value created within the region
- Short food supply chains give visibility to local differences
- Food can help tourism to differentiate / tourism provides an outlet for food production
- Cooperation between farming and non-farming can foster innovation and improve reputation of the rural area

Indicators for evaluation

- Number of local business units linked to local primary production
- Relevance of food supply chains in the area (structure, turnover, added value, sustainability performance)
- Number of rural tourist business units in the area / number of agri-tourisms / number of tourists
- Media coverage of the region and of its products
- Intensity of flows between tourist business and local food production

Local and global performance

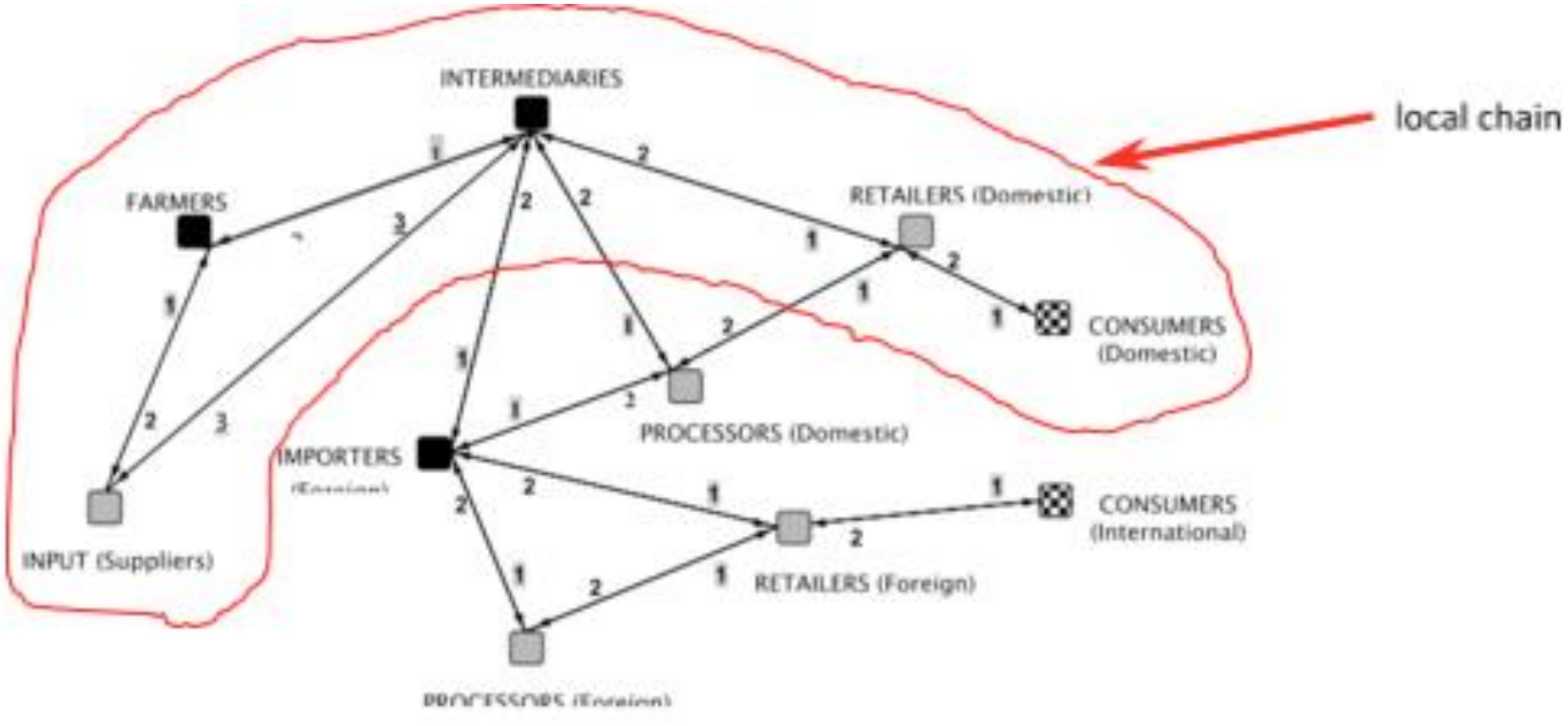


Attributes

Creation and distribution of added value (ADD)
Affordability (AFF)
Biodiversity (BIOD)
Contribution to economic development (ECON)
Efficiency and Resource Use (EFF)
Pollution (POLL)
Resilience (RESI)
Food safety (SAFE)
Governance (GOV)
Labour relations (LABOUR)
Information and Communication (I&C)
Technological innovation (TI)
Nutrition (NUTR)
Animal welfare (AW)
Territoriality (TERR)
Connection (CONN)
Food security (SEC)

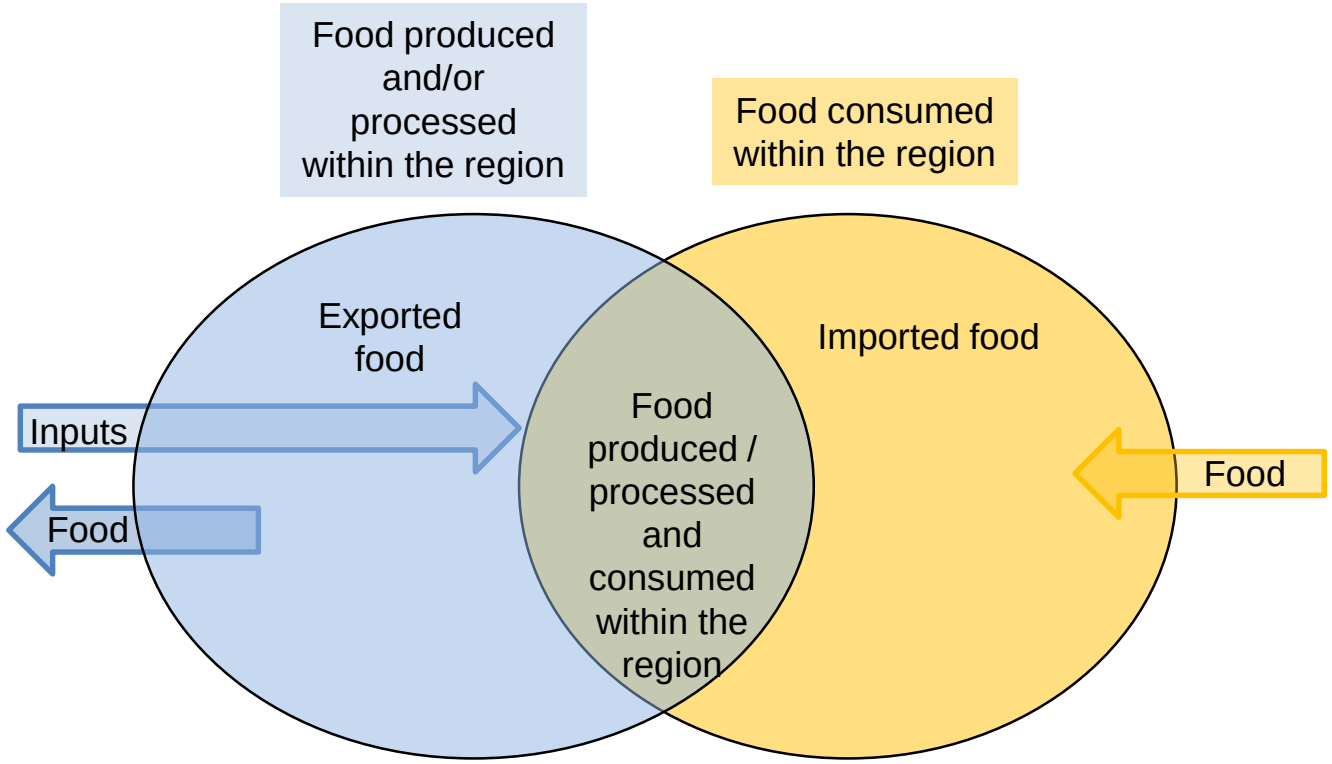
Brunori, G., Galli, F., Barjolle, D., Van Broekhuizen, R., Colombo, L., Giampietro, M., ... & De Roest, K. (2016). Are local food chains more sustainable than global food chains? Considerations for assessment. *Sustainability*, *8*(5), 449.

…but local and global are connected
as shown in the following example (from Serbia)



From value chains to territorial food systems

You have to assess the contribution to value creation in relation to the characteristics of the system you are analysing…



Methods

- Network mapping
- Analysis of the relational patterns and of the flows
- Participatory sustainability assessment
- Multicriteria analysis
- Life cycle analysis

Final considerations

- Understanding the links between the farm and non farm sector is important
- Assessing processes of establishing links (these projects are about relational patterns)
- When considering both quantitative and qualitative assessment, the former has weaknesses and thus you need to combine the two
- Include assessment based on participatory processes (qualitative)
- For the evaluation of policies more broadly, take into account also innovation (not only technological, but also social, economic, etc.) – broader view

Thank you!

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Dipartimento di Scienze Agrarie,
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