



Agri-Chains & Sustainable Development
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Sustainability assessment in local and global food chains

A comparative study in the French wine industry

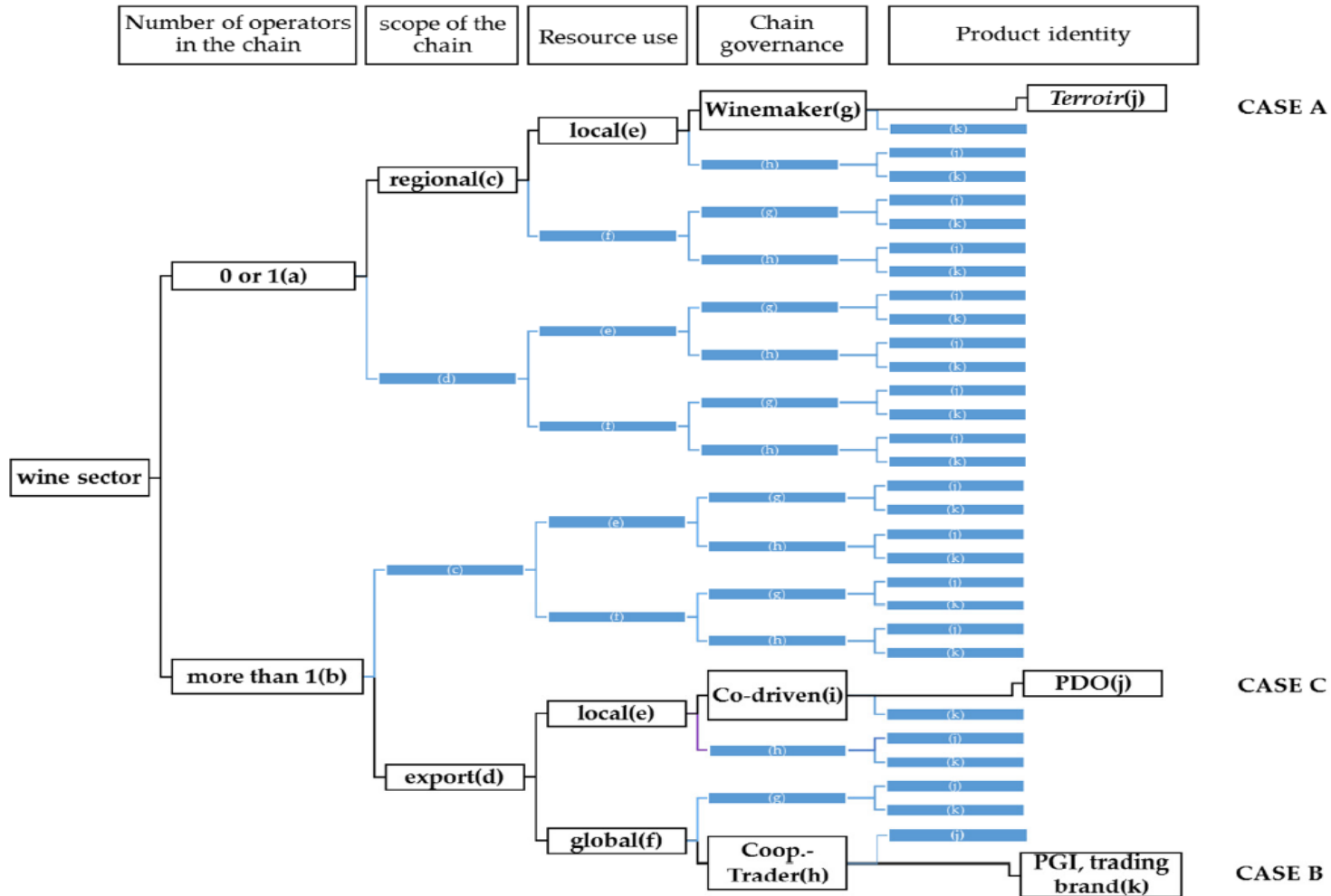
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Introduction

- ❑ “Local” and “global” chains often opposed ; both idealized or criticized
- ❑ A growing issue, in public policies, and among consumers: are local chains more sustainable than global ones?
- ❑ Fuzzy definitions: a necessity to clarify
- ❑ A huge battery of possible indicators (SAFA...), whose assessment raises a lot of questions
- ❑ The FP7 Project Glamur: scientific, methodological and empirical issues ; in France, focus on two chains, in and from one region : wine and tomato, in and from South-East of France

Step 1: framing of what is a “local” vs. a “global” wine chain

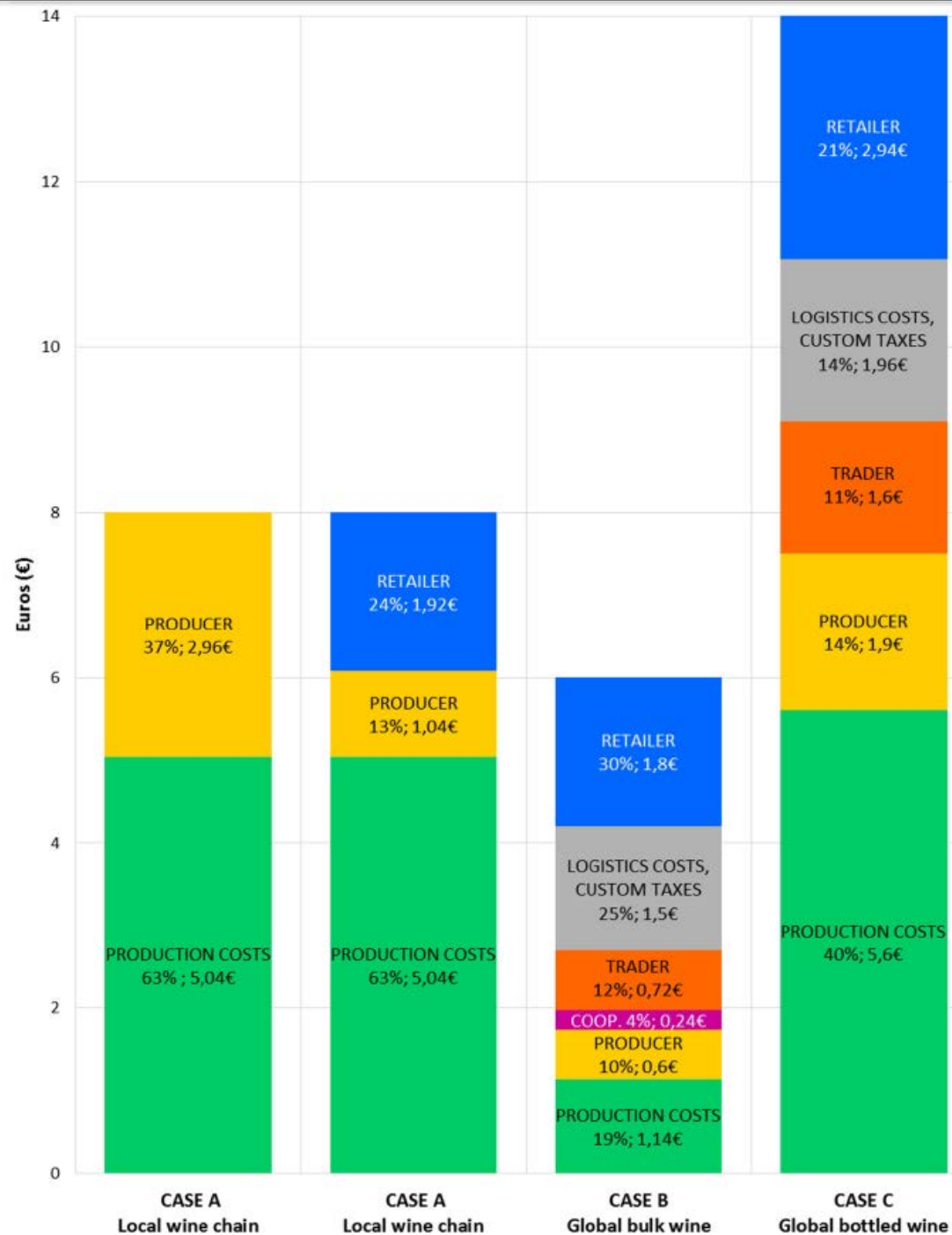


Step 2: selection and explanation of relevant indicators for wine chains

DIMENSION	ATTRIBUTE	INDICATOR	Explanation
Economic	CREATION AND DISTRIBUTION OF ADDED VALUE	Gross Income	Total revenue earned by the farmers.
		<u>Sensitivity</u> to subsidies	Amount of direct subsidies collected for production(including equipment) along the chain key actors: producers and cooperative
		distribution of added value along the chain	Share of commercial margin obtained by the actors at each stage of the food chain.
		Contribution to employment	Number of jobs in equivalent full time at each production stage.
Economic, Social	GOVERNANCE	<u>Decision making mechanisms</u>	mechanism of decision within the supply chain : (1) price decision making, (2) contract negotiation
		Fraud management	Level of control in the whole chain
		<u>Market</u> management	<u>Difficulty</u> to enter the chain, according to actors. Commercial management. Resilience of the supply chain
		<u>Farmers cooperation</u>	Qualitative indicator to measure the level of connection between farmers
Social	INFORMATION COMMUNICATION	Availability of information	Presence and availability of information without taking into account the label of the product.
Environmental	BIODIVERSITY	Cultivars diversity	Diversity of vine varieties and others crops systems in the farm. Identification of "good agricultural practices" for the maintenance and protection of biodiversity
		Species conservation	Participation in a voluntary scheme for protection of specific threatened species
Environmental	POLLUTION	GHG from transportation	Identification of critical point for GHG emissions within the chain.
		GHG from production	Presence and efficiency of mitigation practices for GHG reduction in the farm.
		Water Pollution Prevention	Practices for pollution prevention at each level of the chain (where a risk of pollution is identified)
		Environmental practices	Sums the practices implemented to reduce pollution on air, water and soil
Environmental	RESSOURCE USE	Water Use Practices	Sources of water used for production transformation of grape. Implementation of water treatment.
		Energy Use practices	Sources and quantity of energy used by farms and firms.
		Material Use practices	Qualitative indicator to identify the different sources of waste along the chain linked with actors practices. Checks the presence of each type of waste or wasting practice.
Health	FOOD SAFETY	Food safety standards	Type of food safety standards applied to ensure food safety
		Artificial additive	Quantity of ascorbic acid, sulphite or others additive molecule added to the wine
Social	TERRITORIALITY	Social cohesion and Conviviality	Socio-cultural relations and externalities linked with food chains, contributing to create social cohesion
		Association of product with territory	Active association linking the product to the territory, such as an appellation of origin. Frequency and type of meeting with local actors and consumers.

Step 3: assessment

Breakdown of consumer price of bottle of still red wine ; commercial margin per actor



Step 3: assessment

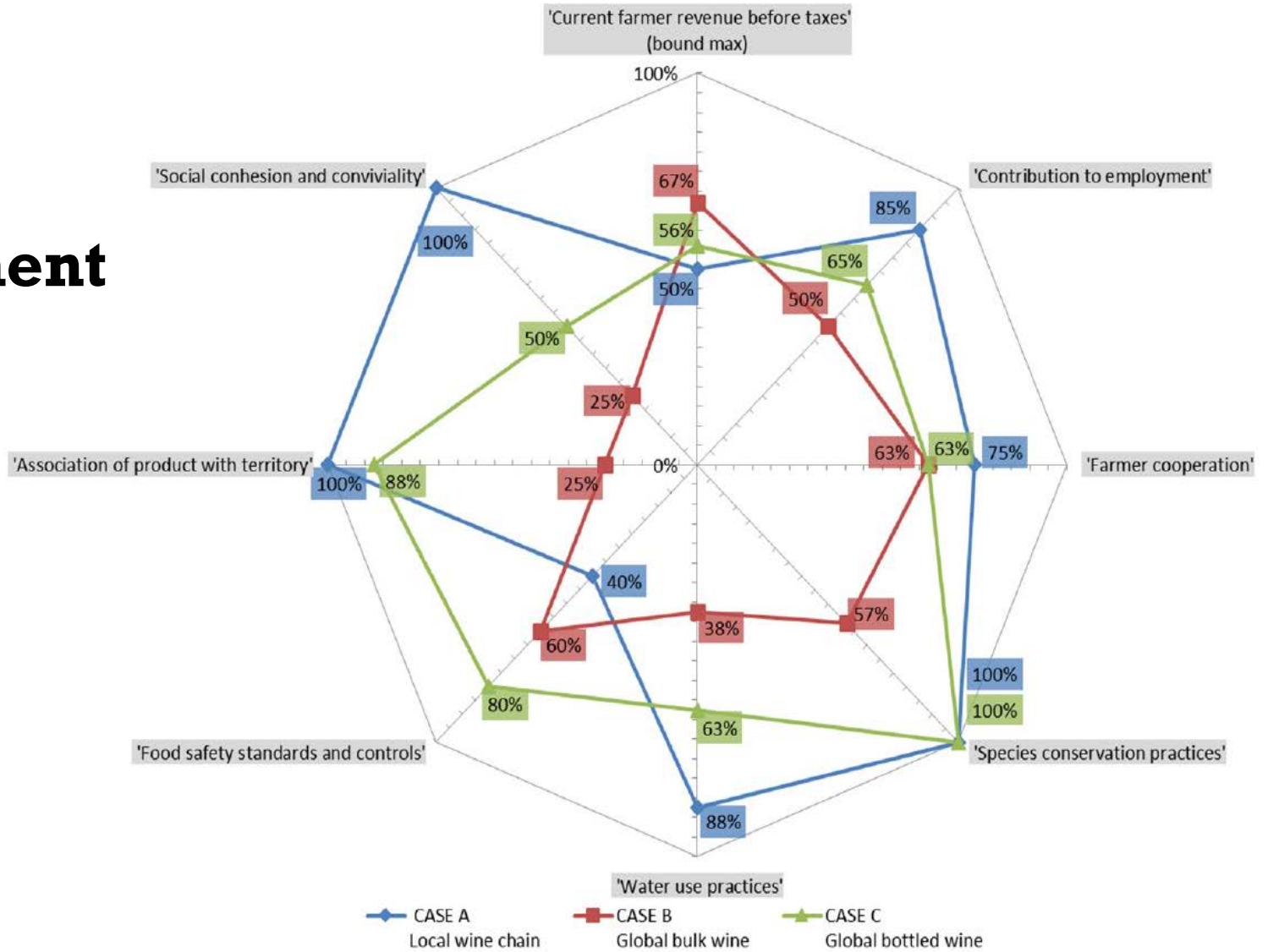


Figure 6. Radar plot of three wine chain performances.

Added value of the work

- ❑ Selection and translation of qualitative indicators in quantitative data, by scoring good/bad practices regarding the effect, from primary and secondary data, and with experts
 - ex. Cooperation between farmers: i) participation in formal farmers' network; ii) mutual help between farmers
 - ex. Species conservation practices: i) diversity of varieties (*direct contribution*); ii) uncultivated diversity; iii) integrated pest control (*indirect contribution, as a favoring practice*)

- ❑ Participatory assessment of results and of benchmarks, to approach performances, in a given context (wine, South of France)
 - Researchers as participants
 - Contextualized and consequentialist assessment

- ❑ New knowledge about wine chains' sustainability: specific good/less good results in each chain; exploration of interactions between indicators (farmer cooperation/territoriality)

Lines of discussion

- ❑ Some effects are more due to the production mode (PDO, organic) than to the type of chain, and most of the impacts have been assessed at the farm level
- ❑ Archetypal types of chains; more complex in practice, esp. in wine
- ❑ From mix strategies (or 'coexistence') among producers to practical recommendations for sustainability
- ❑ Where do practices come from?
Towards a better understanding and assessment of the nature and the impact of practices' 'embeddedness'