

Agricultural commodity markets and new forms of institutional governance

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Supply chain arrangements: new perspectives from European agri-food economies

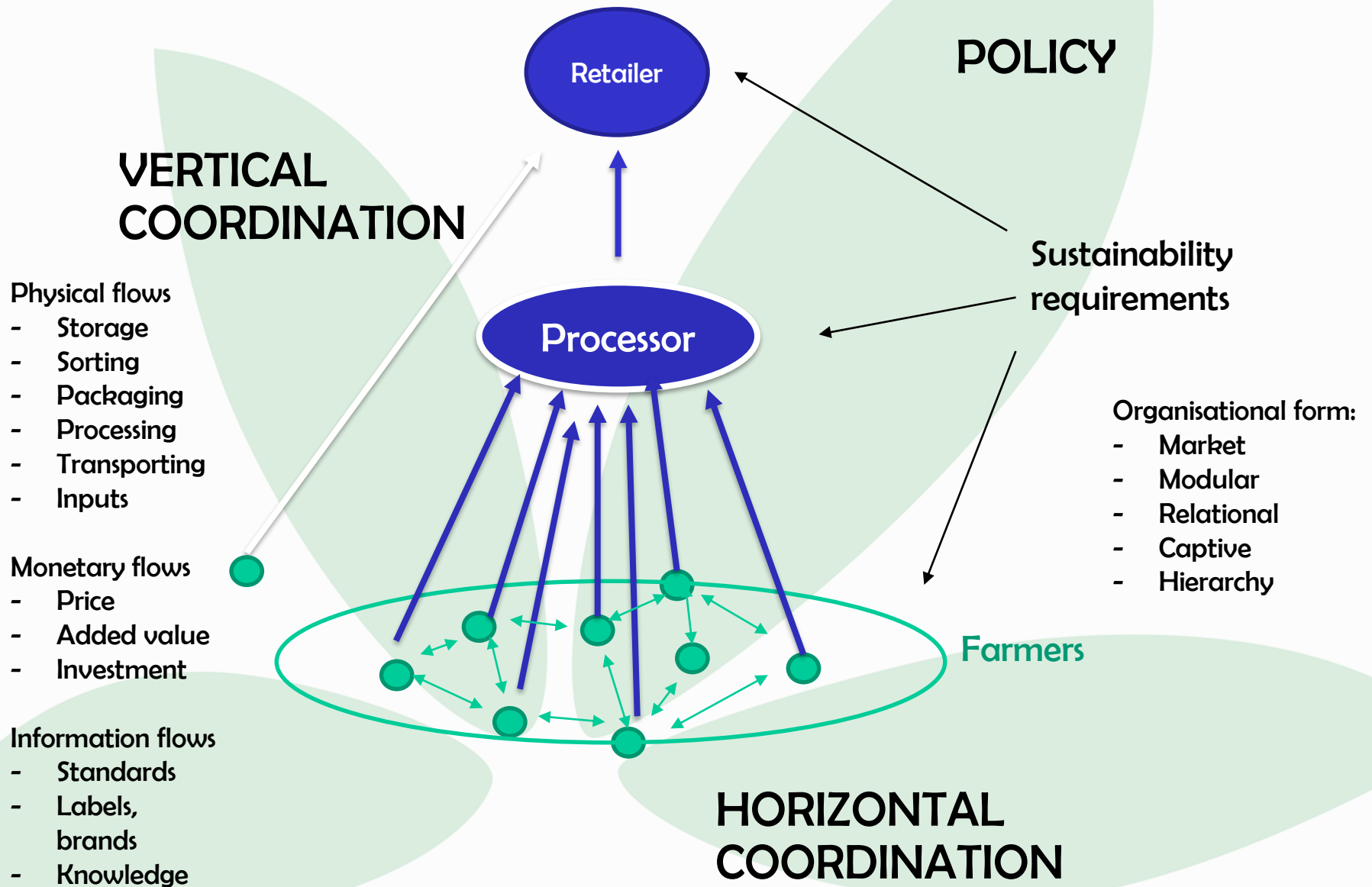
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Market-orientated ag. policy

- Milk Package, 2012: need for a ‘contractual economy’ (Derville and Allaire, 2014)
- Agricultural Markets Taskforce (2016):
 - Ag policy now more market-orientated
 - Farmers more exposed to market instability
 - Information asymmetry
 - Market-orientated policy instruments
 - Access to finance
- CAP reform post-2020 (Matthews, 2018) & Post-Brexit Ag. policy (Defra, 2018): manage risk & volatility
- Examine institutional arrangements (esp. contracts)



Institutional arrangements





Arable (wheat, sugar beet, cereal & rapeseed)



Aquaculture (RAS, carp, marine aquaculture & mussels)



Dairy (liquid milk & feta)



Fisheries (includes inshore fisheries & small pelagic fish)



Fruit (apples, pears & raspberries)



Meat (beef)



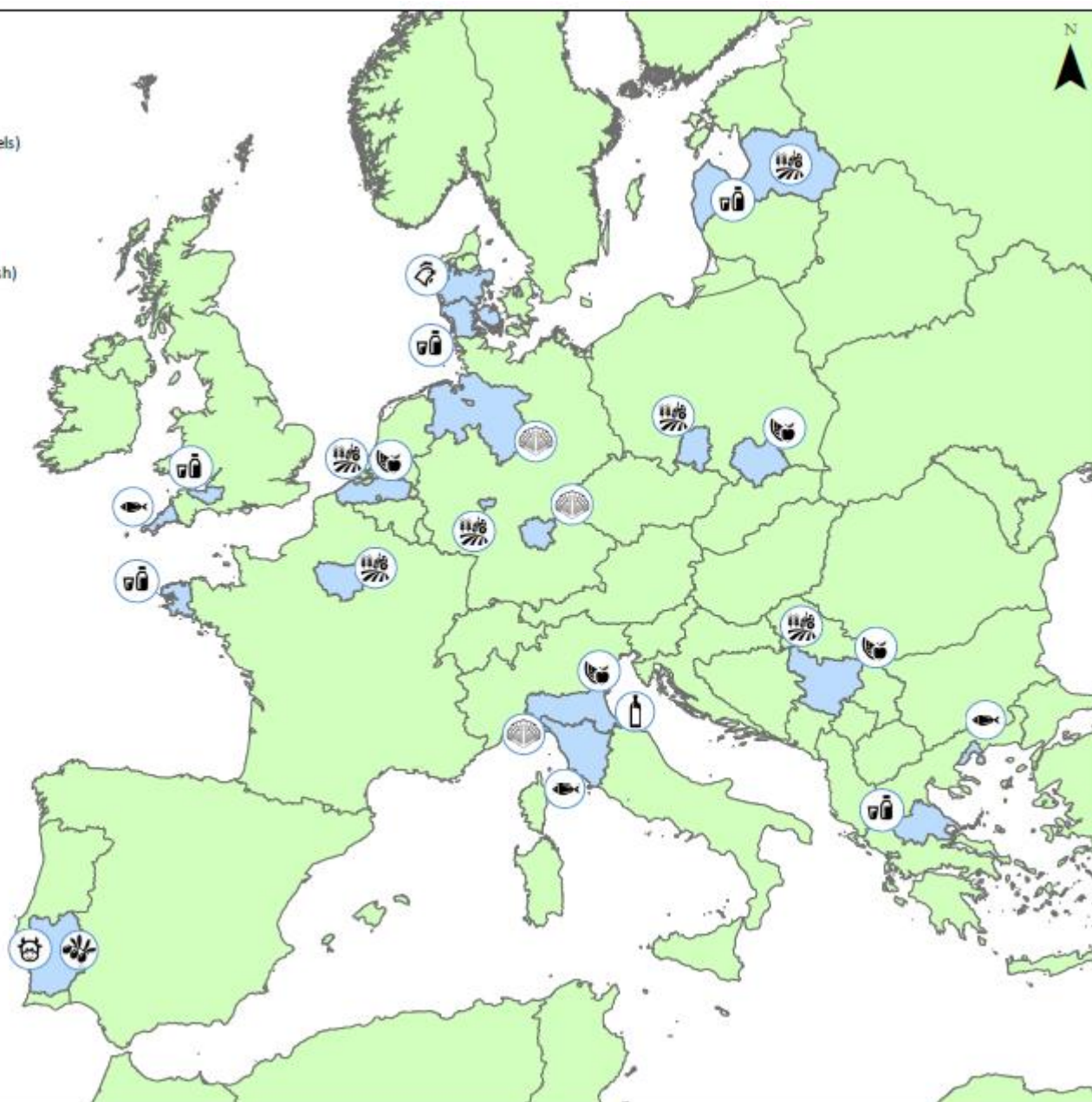
Meat (chicken)



Other (olives)

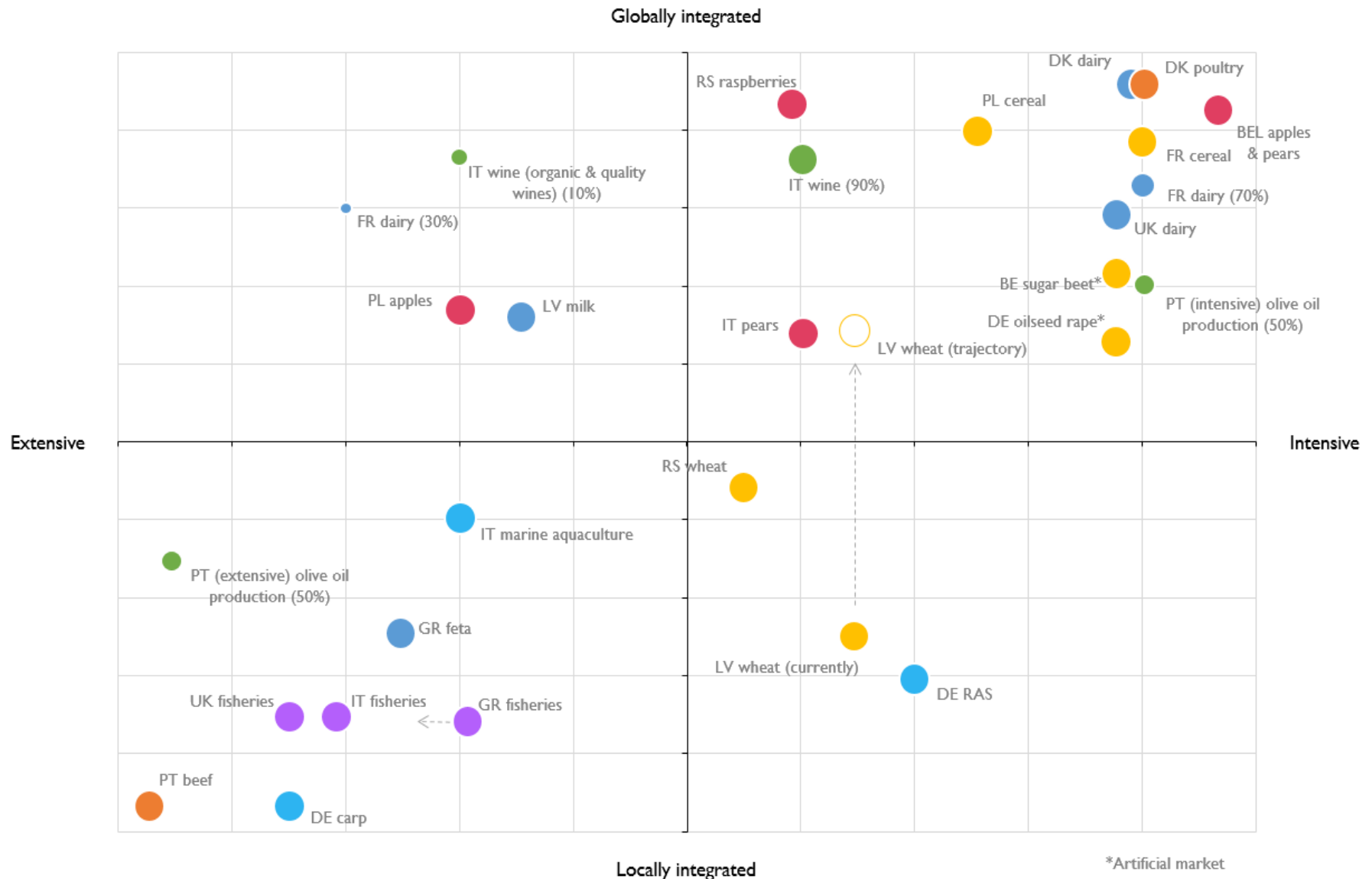


Other (wine)



0 125 250 500 750 1,000 Kilometers

Case studies: intensive/extensive production and level of global integration



Main sales channel and market-type

Individual sales	<p>Arable crops: wheat, Serbia</p> <p>Dairy: France, the UK, Latvia</p> <p>Meat: poultry, Denmark</p> <p>Fruit: apples and pears, Belgium; raspberries, Serbia</p> <p>Intensive olive oil, Portugal</p>	<p>Small-scale fisheries: the UK, Italy and Greece</p> <p>Dairy: Feta, Greece</p> <p>Aquaculture: traditional carp farming, plus some RAS, Germany; mussels and marine aquaculture, Italy</p> <p>Wine, Italy</p>
Collective sales	<p>Arable crops: wheat France, Latvia and Poland; rapeseed, Germany; sugar beet, Belgium</p> <p>Dairy: Denmark, France, the UK</p> <p>Fruit: pears, Italy; apples, Poland; apples and pears, Belgium</p>	<p>Aquaculture: RAS, Germany</p> <p>Montado beef, Portugal</p> <p>Extensive olive oil, Portugal</p>
	Commodity market	Segmented market

Three commodity markets

- Wheat (PL, RSB, LV)
- Cereals (FR)
- Sugarbeet (BE)
- Oilseed rape (GE)

Arable
crops



- Milk (LV, UK, FR, DK)

Dairy



- Apples (PL)
- Pears (IT)
- Apples and pears (BE)

Fruits



Latent Class Analysis

- Clustering approach based on probability (multinomial) models commonly used for categorical data
- Identifies underlying unobserved common factors (classes) within the agriculture sales arrangements.
- Assumes that each farmers' sales arrangement belongs to only one class and that class membership is unobserved
- Estimates the probability that each sales arrangement belongs to a particular class

LCA - goodness-of-fit statistics

Collective sales arrangement

No. of classes	Parameters	Log likelihood	AIC	BIC
1	12	10055.9	21308.7	21457.3
2	12	7059.2	18313.9	18577.5
3	12	Convergence not achieved		

Individual sales arrangement

No. of classes	Parameters	Log likelihood	AIC	BIC
1	12	5938.8	15951.9	16078.7
2	12	4811.9	14881.0	15139.3
3	12	Convergence not achieved		

LCA - marginal means

		Collective sales arrangement		Individual sales arrangement	
		1	2	1	2
Exclusivity		41.1%	86.7%	15.3%	42.2%
Penalties		35.9%	10.0%	6.4%	33.5%
Automatic extension		20.3%	53.4%	1.3%	40.0%
Variable price based on cost		13.4%	3.2%	1.9%	18.5%
Variable price based on quantity or quality		63.1%	98.5%	35.9%	83.2%
Variable price based on market price		68.9%	79.5%	69.6%	70.5%
Association membership fees		37.5%	90.8%	3.7%	19.5%
Farm size					
Less than 5 ha	15.6%	3.2%	30.7%	9.9%	
Between 5 and 10	4.8%	7.0%	16.6%	2.2%	
Between 10 and 50	16.3%	39.4%	32.5%	15.0%	
Between 50 and 100	25.2%	14.8%	9.6%	17.4%	
Between 100 and 200	25.2%	15.9%	8.1%	27.5%	
More than 200	13.0%	19.7%	2.6%	28.0%	
Number of services					
None	13.1%	19.5%	57.6%	3.1%	
One	24.3%	11.8%	22.5%	20.0%	
Two	36.5%	16.7%	16.0%	43.3%	
Three	18.7%	48.2%	3.5%	24.2%	
Four	6.7%	3.3%	0.4%	6.8%	
Five	0.8%	0.5%	0.0%	2.7%	
Number of assistances					
none	57.9%	35.9%	97.4%	58.1%	
One	29.2%	49.9%	2.1%	32.3%	
Two	12.9%	14.1%	0.5%	9.6%	
Agreement costs					
None	41.7%	1.4%	56.5%	21.5%	
One	33.2%	43.1%	33.8%	41.8%	
Two	19.6%	21.8%	6.7%	29.6%	
Three	2.3%	22.6%	2.4%	6.0%	
Four	3.1%	11.2%	0.6%	1.1%	
Payment time					
After delivery	57.7%	39.5%	69.5%	39.2%	
At delivery	10.1%	0.3%	14.8%	4.5%	
During production	12.8%	0.6%	6.8%	7.9%	
Regular basis	17.3%	55.8%	2.0%	48.3%	
Before delivery	2.1%	3.7%	6.9%	0.0%	

Types of sales arrangements

Collective sales arrangement		Individual sales arrangement	
Horizontal market	Horizontal exclusive	Vertical market	Vertical stable
<ul style="list-style-type: none"> • High flexibility • Market oriented • More likely to be large farms • Bears less costs • Less services and no assistance • Payment after delivery 	<ul style="list-style-type: none"> • Exclusive buyer • Stable and extendable • Variable price based on quantity or quality • More likely to be small farms • More commitments • Bears more number of costs • More services and assistance • Regular payments during production 	<ul style="list-style-type: none"> • Flexible • Market oriented • More likely to be small farms • Bears less number of costs • Less services and no assistance • Payment after delivery 	<ul style="list-style-type: none"> • Flexible • Variable price based on quantity or quality • More likely to be large farms • Bears more number of costs • More services and assistance • Regular payments during production
<ul style="list-style-type: none"> • No penalties on quantity delivered • Variable price based on market price 			

Examples of sales arrangements

- Horizontal market

Dairy Producer Organisation (Dairy Crest Direct, UK);
Association of Belgian Horticultural Auctions (VBT)



- Horizontal exclusive

Dairy co-operatives (Arla); O-pera (Italy); wheat (Latvia)



- Vertical market

Arable or fruit spot contracts (small wheat farmers, Opolskie, Poland)

- Vertical stable

Forward contracts (arable);
Supermarket- and processor- aligned contracts (dairy, UK and France)

Distribution of classes among sectors

		Arable	Dairy	Fruits	Total	%
Collective	Horizontal market	280	147	119	546	32.14%
	Horizontal exclusive	21	164	159	344	20.25%
Individual	Vertical market	192	10	203	405	23.84%
	Vertical stable	141	203	60	404	23.78%
Total		634	524	541	1,699	100%

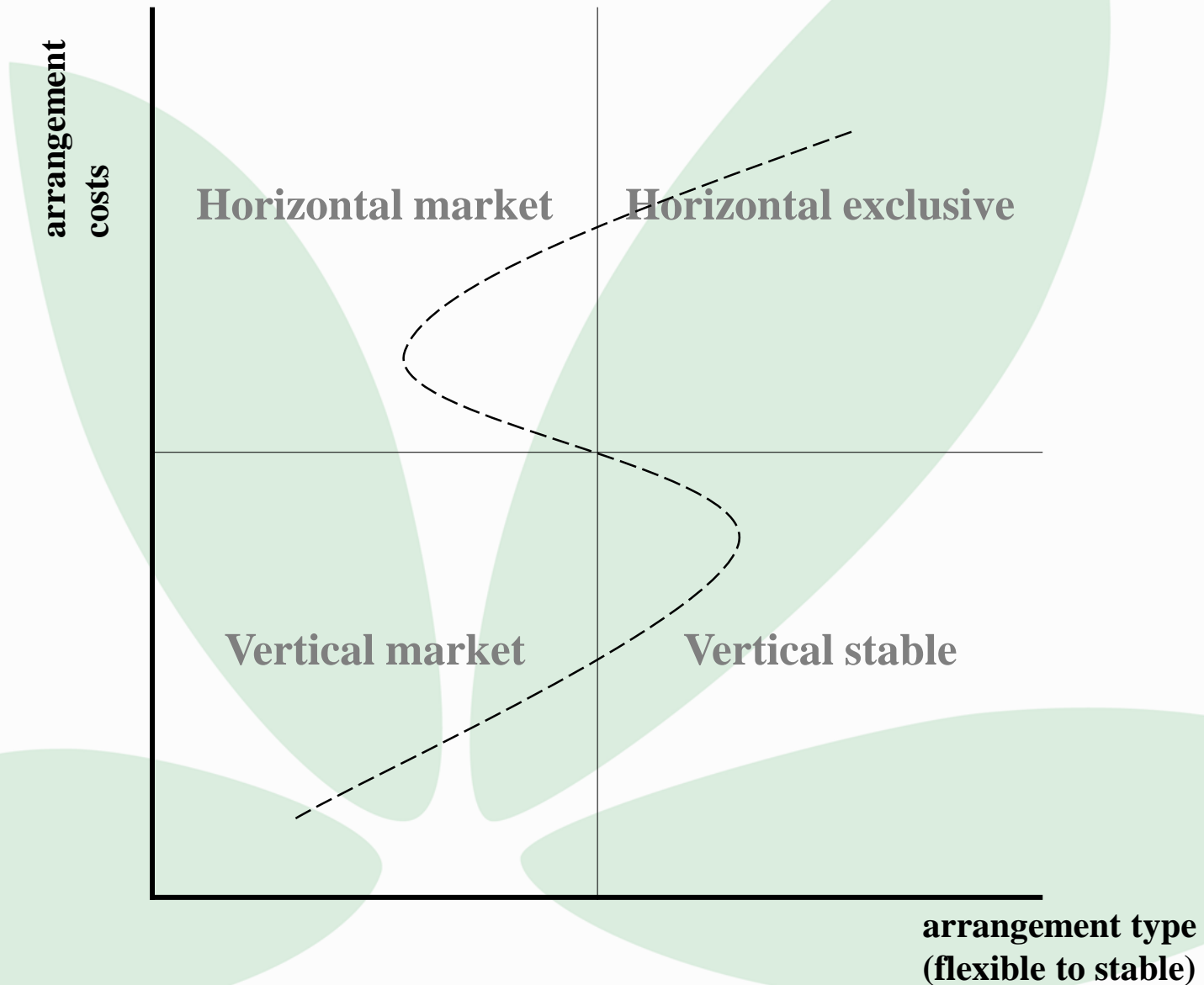
Multinomial logit – Classes perceptions

	1	2	3	4
how satisfied are you with this sale agreement?	-0.043 (0.091)	base outcome	0.066 (0.106)	0.022 (0.100)
do not have any alternative options to sell my products	-0.066 (0.061)		-0.018 (0.074)	-0.171** (0.067)
This sale agreement provides higher prices	-0.119 (0.081)		-0.035 (0.096)	0.053 (0.087)
This sale agreement provides more stable prices from year to year	-0.340*** (0.082)		-0.712*** (0.099)	-0.323*** (0.089)
This sale agreement provides more possibilities for negotiating prices	0.330*** (0.072)		0.798*** (0.087)	0.314*** (0.077)
There are delays in the payments	0.268*** (0.081)		0.476*** (0.091)	0.260*** (0.091)
The costs associated with this sale agreement are too high	-0.186** (0.077)		-0.611*** (0.096)	-0.429*** (0.089)
The production/quality standards required are too restrictive	-0.054 (0.075)		-0.038 (0.089)	-0.174** (0.084)
This sales arrangement supports environmental sustainability	-0.063 (0.082)		-0.250*** (0.094)	0.229** (0.091)
This sales arrangement supports societal sustainability	-0.088 (0.115)		-0.434*** (0.130)	-0.693*** (0.122)
This sales arrangement supports economic sustainability	0.298*** (0.104)		0.399*** (0.121)	0.409*** (0.116)
constant	1.016* (0.610)		1.666** (0.684)	1.906*** (0.658)

Types of sales arrangements

Collective sales arrangement		Individual sales arrangement	
Horizontal market	Horizontal exclusive	Vertical market	Vertical stable
<ul style="list-style-type: none"> • High flexibility • Market oriented • More likely to be large farms • Bears less number costs • Less services and no assistance • Payment after delivery 	<ul style="list-style-type: none"> • Restricted contracts • Stable and extendable • Variable price based on quantity or quality • More likely to be small farms • More commitments • Bears more number of costs • More services and assistance • Regular payments during production 	<ul style="list-style-type: none"> • Flexible • Market oriented • More likely to be small farms • Bears less number of costs • Less services and no assistance • Payment after delivery 	<ul style="list-style-type: none"> • Flexible • Variable price based on quantity or quality • More likely to be large farms • Bears more number of costs • More services and assistance • Regular payments during production
<ul style="list-style-type: none"> • No penalties on quantity delivered • Variable price based on market price 			
<ul style="list-style-type: none"> • Moderate stable prices • Relatively high amount of costs • Negotiable pricing • Second least economically sustainable 	<ul style="list-style-type: none"> • Most stable prices • Highest amount of costs • Least negotiable pricing • Least economically sustainable 	<ul style="list-style-type: none"> • Least stable prices • And the lowest amount of costs • Highly negotiable pricing • Highest economically sustainable 	<ul style="list-style-type: none"> • Moderate stable prices • But relatively low amount of costs • Negotiable pricing • Second highest economically sustainable

Sales arrangements and farmers' perceptions on costs



Conclusions

- SUFISA's results are particularly timely... On 12th March 2019 the EP voted for the new **Directive on UNFAIR TRADING PRACTICES in the agricultural and food supply chain!**
- It issued a **BLACK** list of 10 prohibited UTPs, e.g.:
 - Payments later than 30 days for perishable goods
 - Payment later than 60 days
 - Short-notice cancellations of perishable goods
 - Unilateral contract changes by the buyer
 - Payments not related to a specific transaction
 - Risk of loss and deterioration transferred to the supplier
 - Refusal of a written confirmation
 - Misuse of trade secrets by the buyer
 - Commercial retaliation by the buyer
 - Transferring the costs of examining customer complaint

Conclusions

- And a GREY list of practices that need to be unambiguously agreed in advance, such as:
 - Return of unsold products
 - Payment for stocking, display and listing
 - Payment for promotion, marketing and advertising
 - Payment of the supplier for staff of the buyer, fitting out premises
- Understanding the relationship between farmers and buyers informs the transfer of risks within the supply chain, including implications re. farmer strategies to adapt and be resilient
- The variety of supply chain arrangements reflects the diversification of agricultural products that need to be accounted for when MS implement the directive

Thank you for your attention

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