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UNIVERSITÀ DEGLI STUDI DI PARMA



## Innovation and marketing strategies for PDO products: the case of “Parmigiano Reggiano” as an ingredient

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# The aim

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- ▶ The aim is to examine one type of innovation, the use of placed-based products as ingredients and a strategy to re-launch those products having a mature market.
- ▶ The research aims to focus on possible consequences on the market and identify medium - long term critical aspects.



# Outline

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- ▶ The context of the research
- ▶ The theoretical framework: product life cycle and information asymmetry
- ▶ The case study: the PDO Parmigiano Reggiano cheese as ingredient in processed cheese (triangles and slices)
- ▶ Final remarks



# The context of the research

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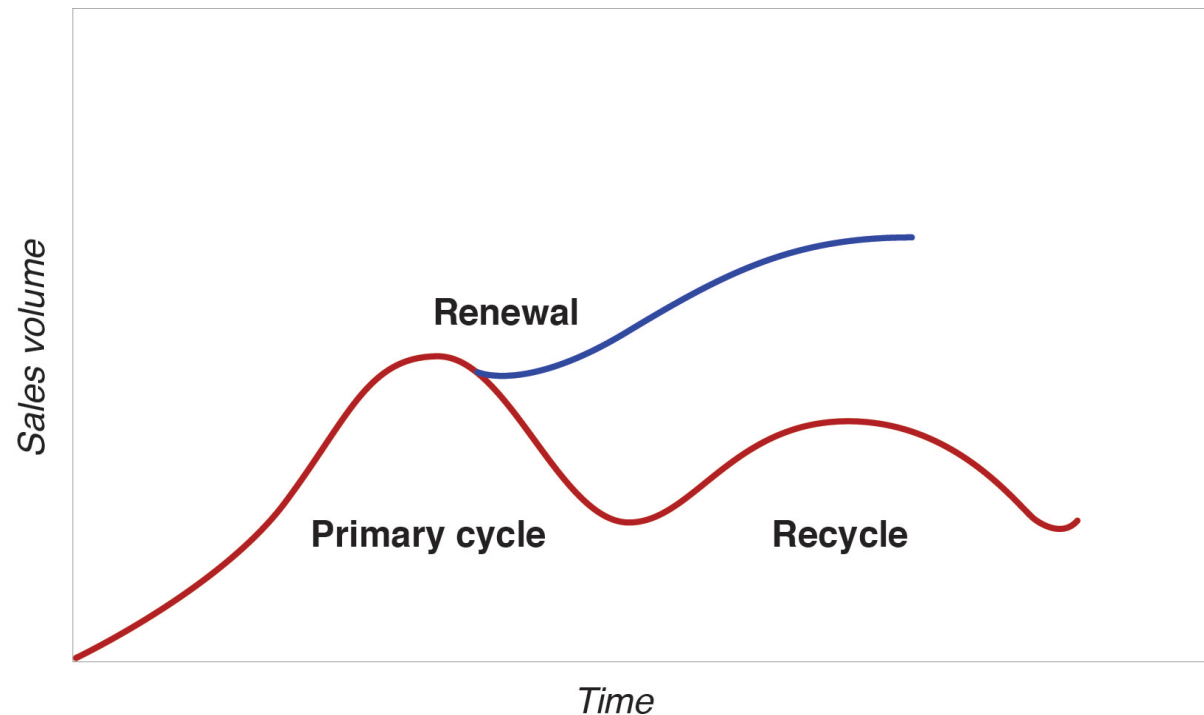
- ▶ Typical products and sustainable development of rural areas
- ▶ Typical products and their positioning in the framework of the new patterns of food consumption
- ▶ Consumer needs change depending on consumption contexts
- ▶ What are efficient marketing strategies for typical products?
- ▶ There's no a single strategy.



# The theoretical framework: the product life cycle

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## Life cycle of an agri-food product



Source: Kotler and Scott, 1998

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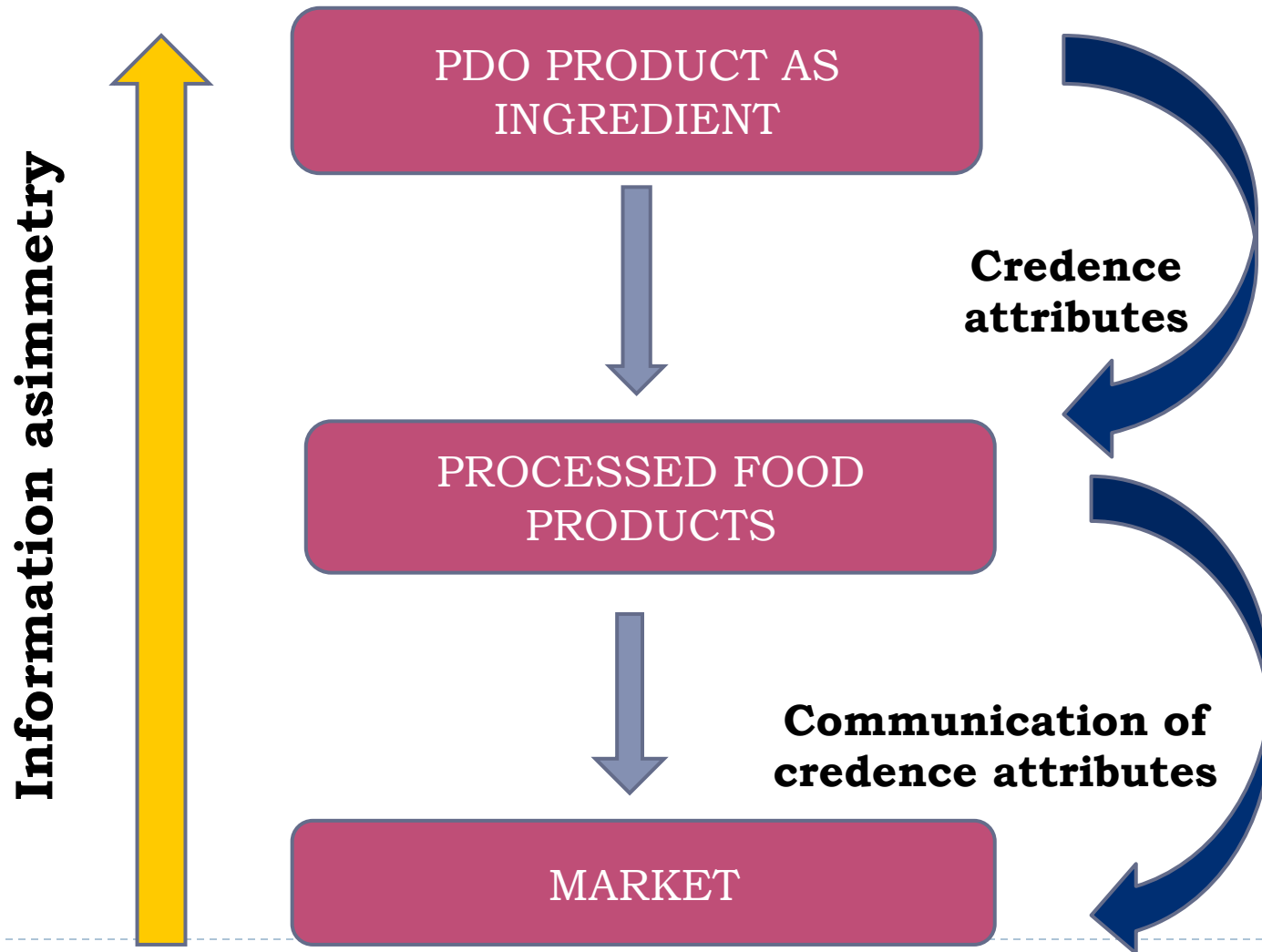
# The theoretical framework: the information asymmetry

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- ▶ Information asymmetry exists on a market where not all agents have the necessary information available to make an optimum allocation of resources (Akerlof, 1970; Klein and Leffler, 1981, Shapiro, 1983, Stiglitz 1987) and this leads to lack of information which works to consumers' disadvantage when they are not able to verify credence attributes (Darby and Kami, 1973; Anania and Nisticò, 2004).



# Relationship between information asymmetry and “PDO product as ingredient” strategy





# A case study from the dairy sector: PDO Parmigiano Reggiano cheese

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In Italy, Parmigiano Reggiano cheese is an example of a PDO product in the commercial stage of maturity.

On the demand side:

- changes in diet in Italy;
  - the degree of penetration of Parmigiano-Reggiano is very high in the domestic market ;
  - the frequency of consumption is also high;
  - economic crisis;
  - price difference with its main competitor, Grana Padano cheese.
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# A case study from the dairy sector: PDO Parmigiano Reggiano cheese

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On the supply side:

- ▶ The Consortium attempted to rationalize supply in a supply regulation plan approved by the Ministry for Agriculture;
- ▶ the promotion of the export of the product;
- ▶ introducing innovations into their product.



# Some examples of innovation for PDO Parmigiano Reggiano cheese



- ▶ vacuum packing of pieces of cheese for longer periods of storage, and singly packaged portions for snacking, were introduced as far back as the 1980s.
- ▶ In the 1990s grated cheese was launched in response to requirements for time saving.



# Some examples of innovation for PDO Parmigiano Reggiano cheese: co-branding initiatives

- ▶ more recently, the strategy of co-branding is meeting new types of demand.



# Some examples of innovation for PDO Parmigiano Reggiano cheese: co-branding initiatives and processed cheese (slices and triangles)



# The survey: data collection

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Nine processed cheese products (triangles and slices) on the end market, of which three contain PDO Parmigiano Reggiano as an ingredient. For these three, we examined consumer advertising for explicit claims of a direct link between final product characteristics and PDO ingredient characteristics.

“*Parmareggini...* are a completely new type of processed cheese, enabled by the outstanding natural and genuine qualities of Parmigiano-Reggiano.” ([www.parmareggio.it](http://www.parmareggio.it) )

“...*Parmigiano-Reggiano*, with its special nutritional qualities, is the only cheese ingredient...” ([www.ferrarini.it](http://www.ferrarini.it))

“All the authentic goodness of our *Parmigiano-Reggiano*, the only cheese ingredient, can be found in our soft slices...” ([www.ferrarini.it](http://www.ferrarini.it))

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# The survey: data collection

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- ▶ “Naturalness”, “genuineness”, “goodness” and “nutritional quality” of Parmigiano-Reggiano are claimed to be transferred from the PDO ingredient to the processed cheese.
- ▶ These qualities were codified into observable product characteristics.
- ▶ This research focused on “nutritional quality”: “quantity of energy supplied” and “**combination of nutritional elements**”.



# The research question

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“Does the presence of the PDO Parmigiano-Reggiano ingredient enrich the “nutritional elements” of the end product enough to justify consumer advertising claims?”





# Percentage composition of protein, carbohydrates and fats of the processed cheese triangles and slices

	protein %	carbohydrates %	fats %
PARMAREGGINI	14	5	15
NESTLE' MIO	11.4	5.5	13.1
FERRARINI	14.0	4.3	16.0
GRANAROLO	11.5	6.5	18.5
BEL PAESE	12	4	17
COOP (Inalpi)	14.7	4.4	18
LEERDAMMER	12	3	17
GALBANI	14	4.6	16.5
GIGLIO	10	4	21

Source: Product labelling

## Ingredients shown on the labels

BRAND	INGREDIENTS
Parmareggi o	Parmigiano Reggiano PDO 25%, water, whey, milk protein, emulsifier: sodium citrate, acidity regulator: citric acid, thickening agent: carrageenan.
Ferrarini	Milk, Parmigiano Reggiano PDO 30% (milk, salt, rennet) cream, milk protein, emulsifier E331, acidity regulator E330.
Nestlè MIO	Parmigiano Reggiano PDO 19,6% (milk, salt, rennet), pasteurized fresh whole milk, water, whey concentrate, cream, butter, milk protein, emulsifiers sodium citrate and potassium citrate, acidity regulator: citric acid.
Belpaese	Cheeses (milk, salt, rennet), water, whey concentrate and / or powder, butter (cream and / or whey), milk protein, emulsifiers: sodium polyphosphates, sodium citrate.
Galbani	Cheeses, water, whey concentrate and / or powder, butter, milk protein di latte, emulsifiers: sodium polyphosphates, sodium citrate.
Granarolo	Cheese, water, whey powder, butter, milk protein, emulsifier: sodium citrate; acidity regulator: citric acid; stabilizing agent: carrageenan.
Coop (Inalpi)	Milk (40%), cheese, cream, milk protein, emulsifiers (E331), acidity regulator: citric acid.
Leerdamm er	Leerdammer cheese 100%, water, cream, emulsifiers E452, E339.

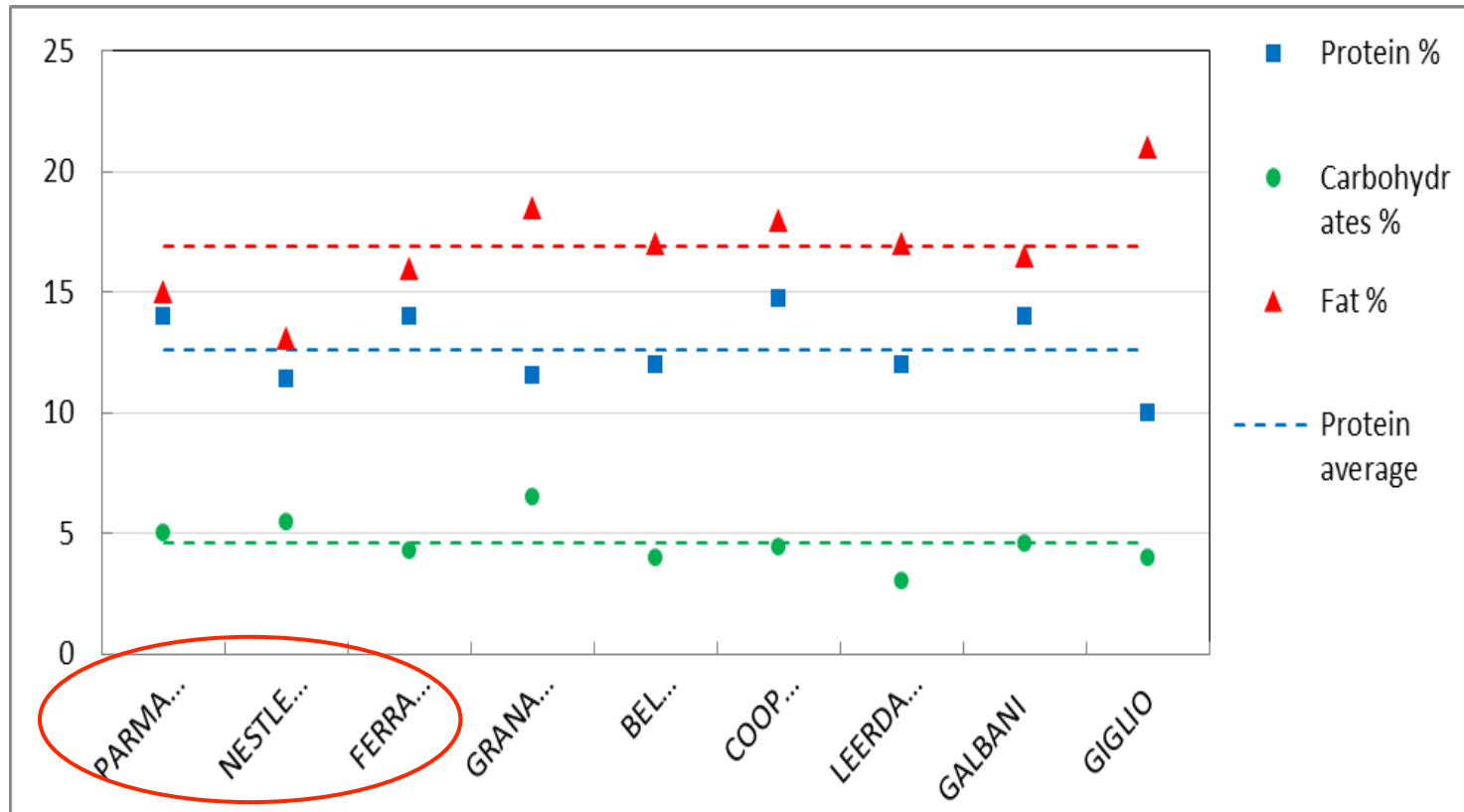
# The survey: data analysis

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the “combination of nutritional elements” was evaluated and compared by measuring the protein, carbohydrate and fat contents.



# Distribution around average value of variables (protein, carbohydrates, fats)



Source: Authors' elaboration

# T Student values

	<b>Protein %</b>	<b>Carbohydrates %</b>	<b>Fats%</b>
<b>Groups A and B*</b>			
<i>average</i>	12.6	4.6	16.90
<i>Standard deviation</i>	1.60	1.00	2.23
<b>Group A</b>			
<i>average</i>	13.1	4.9	14.70
<i>dv_std</i>	1.5	0.6	1.50
<b>Group B</b>			
<i>average</i>	12.4	4.4	18.00
<i>dv_std</i>	1.7	1.2	1.60
T Student	<b>0.305</b>	<b>0.282</b>	<b>1.352</b>

Source: Authors' elaboration

\* Group A = sample containing PDO ingredient ; Group B = sample not containing PDO ingredient

# The survey: data analysis

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- ▶ Some more considerations can be made on the 'functional' components of the PDO ingredient. The proteins contained in high quantities (33%) in Parmigiano Reggiano are known to be of excellent biological quality.
- ▶ The digestible nature, is given by the long ripening period when the main constituents are transformed. The proteolytic enzymes breaks the long casein chains up into peptides. The casein is thus much easily digestible.
- ▶ But, peptides are sensitive to anything that alters protein structure, including heat, acidity and enzyme reactions.
- ▶ Using cheeses rich in peptides in heat-treated end products may compromise or 'flatten' the functional properties of the PDO ingredient (Lund, 2003).



# The results

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- ▶ We found that the nutritional elements of the PDO are compromised by the melting process and it's not correct to claim that it is completely transferred to the end product.
- ▶ The PDO product is thus subject to radical innovation because the processing alters some of the very properties of its typical nature.



# The results

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- ▶ Where products are heavily processed, some characteristics of the PDO ingredient may not survive in the end product but if consumer advertising uses the reputation of such characteristics, there is a discrepancy between communication and physical features of the product, which are credence attributes.
- ▶ The theory of information asymmetry holds that consumers in the future will have access to alternative sources of information, which will help them to find about credence attributes and become newly aware of certain facts.



# The results

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- ▶ There will then be **adverse selection** whereby consumers will stop buying the product and the manufacturer will lose market share, and there will be negative effects on brand reputation.
- ▶ PDO producers will also be negatively affected, they too will lose market share and their reputation will be harmed.
- ▶ There will also be debate on PDO legislation which permits PDO products to be used as ingredients without effectively protecting the consumer from information asymmetry.
- ▶ Consortium, which encourages and permits the strategy, could also be negatively affected.





# Final remarks

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- ▶ In order to protect the consumer as well as the PDO producer, it would be advisable for legislation to regulate in more detail innovation involving products bearing origin certificates, particularly their use as ingredient.



# Thank you for your attention

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