Market Advisory Council

MAC Workshop

Voluntary Sustainability Claims on Seafood Products
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MARKET BENEFITS, COSTS & LIMITATIONS

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MARKET BENEFITS, COSTS & LIMITATIONS

Eco-labels of **seafood products** are certificates granted to products that have been obtained generating the **least possible impact on marine ecosystems** (Deere, 1999; Wessells et al., 2001; Gardiner and Viswanathan, 2004; Garza Gil and Vázquez Rodriguez, 2007).

BENEFITS OF ECO-LABELLING

- Allow consumers to easily identify eco or green (friendly environmental) products in the market, reducing information asymmetries and transaction costs (e.g., less costs for searching these products).
- It is a marketing tool for product (vertical) differentiation and customer segmentation what allows to achieve an economic benefit or higher price (*price premium*).
- Environmental certification provides a positive signal to external stakeholders what can improves the corporate image of firms, increasing their reputation (McDonalds and MSC) and, consequently, firms' sales and revenues.
- In some cases, it serves as a market entry barrier for current and potential competitors (e.g., in store spaces, imports…) what allows to maintain or increase firms' market shares.
- In other cases, it allows entry into new profitable markets (e.g., HORECA channels, developed countries…), increasing firms' sales and revenues.

DISADVANTAGES OF ECO-LABELLING

- Environmental certifications have administrative or management costs (before, during, and after the first audit). These costs can be very high for small firms or producers.
- An environmental certification requires a high organizational effort for firms or partners in the project for its implementation (e.g., controls, inspections…).

EMPIRICAL ANALYSIS

CASE 1

Product Eco and Quality Labelling and Certification in the European Fish and Seafood Industry: An Exploratory Analysis (SUCCESS, H2020 European Project)

- European companies whose main activity was the production, processing, or trading of seafood products were surveyed.
- A web survey was sent by e-mail or through direct contact during the first half of 2017. A low response were obtained: 34 companies from 16 European countries answered the survey.
- The study analysed response differences using two variables: type of activity and size of the firms.

MARKET BENEFITS, COSTS & LIMITATIONS

Reasons for implementing product labels or certifications (%)

Main activity	N	Survey answer choices						Total
		To enter in new markets	*Customers' pressure*	*To improve firm reputation*	*To get better profit margins*	*To increase product sales*	*To get entry barriers*	
Aquaculture	12	33.3	16.7	41.7	8.3	0.0	0.0	100
Fishing	2	0.0	0.0	50.0	0.0	0.0	50.0	100
Processing	4	0.0	75.0	0.0	0.0	25.0	0.0	100
Trading	4	0.0	25.0	25.0	0.0	50.0	0.0	100
Total	**22**	**18.2**	**27.3**	**31.8**	**4.5**	**13.6**	**4.5**	**100**

Main activity	N	Survey answer choices						Total
		To enter in new markets	Customers' pressure	To improve firm reputation	To get better profit margins	To increase product sales	To get entry barriers	
Large	6	33.3	16.7	33.3	0.0	16.7	0.0	100
Medium	4	0.0	50.0	50.0	0.0	0.0	0.0	100
Small	9	2.2	22.2	22.2	11.1	11.1	11.1	100
Micro	3	0.0	33.3	33.3	0.0	33.3	0.0	100
Total	**22**	**18.2**	**27.3**	**31.8**	**4.5**	**13.6**	**4.5**	**100**

Problems to implement product labels and certifications (%)

Main activity	N	Survey answer choices							Total
		Certification costs	*Administrative work*	*Little information on certification*	*To get a certification company*	*What label to choose*	*Product traceability*	*Other reasons*	
Aquaculture	12	28.0	32.0	12.0	4.0	24.0	0.0	0.0	100
Fishing	2	33.3	33.3	0.0	0.0	0.0	0.0	33.3	100
Processing	4	30.0	30.0	10.0	10.0	10.0	10.0	0.0	100
Trading	4	33.3	66.7	0.0	0.0	0.0	0.0	0.0	100
Total	**22**	**29.5**	**36.4**	**9.1**	**4.5**	**15.9**	**2.3**	**2.3**	**100**

Firm size	N	Survey answer choices							Total
		Certification costs	Administrative work	Little information on certification	To get a certification company	What label to choose	Product traceability	Other reasons	
Large	6	30.0	40.0	0.0	0.0	20.0	0.0	10.0	100
Medium	4	33.3	22.2	11.1	11.1	22.2	0.0	0.0	100
Small	9	30.0	35.0	15.0	5.0	15.0	0.0	0.0	100
Micro	3	20.0	60.0	0.0	0.0	0.0	20.0	0.0	100
Total	**22**	**29.5**	**36.4**	**9.1**	**4.5**	**15.9**	**2.3**	**2.3**	**100**

Main reasons why firms have not decided yet to implement product labels or certifications (%)

Main activity	N	Survey answer choices				Total
		Certification costs	*Administrative work*	*It's not necessary for the firm*	*We don't have information*	
Aquaculture	7	0.0	28.6	14.3	57.1	100
Fishing	4	0.0	25.0	25.0	50.0	100
Processing	0	-	-	-	-	-
Trading	1	100.0	0.0	0.0	0.0	100
Total	**12**	**8.3**	**25.0**	**16.7**	**50.0**	**100**

Firm size	N	Survey answer choices				Total
		Certification costs	*Administrative work*	*It's not necessary for the firm*	*We don't have information*	
Large	0	-	-	-	-	-
Medium	1	0.0	100.0	0.0	0.0	100
Small	4	0.0	25.0	25.0	50.0	100
Micro	7	14.3	14.3	14.3	57.1	100
Total	**12**	**8.3**	**25.0**	**16.7**	**50.0**	**100**

Product label or certification effect on firms' revenues and profit margins

(Five points Likert scale)

Main activity	N	Increase in revenues		Increase in profitability	
		Mean	*SD*	*Mean*	*SD*
Aquaculture	12	3.00	0.95	2.83	1.12
Fishing	2	3.00	1.41	3.50	0.71
Processing	4	3.00	0.82	2.25	0.96
Trading	4	2.25	1.50	2.25	1.50
Total	**22**	**2.86**	**1.04**	**2.68**	**1.13**

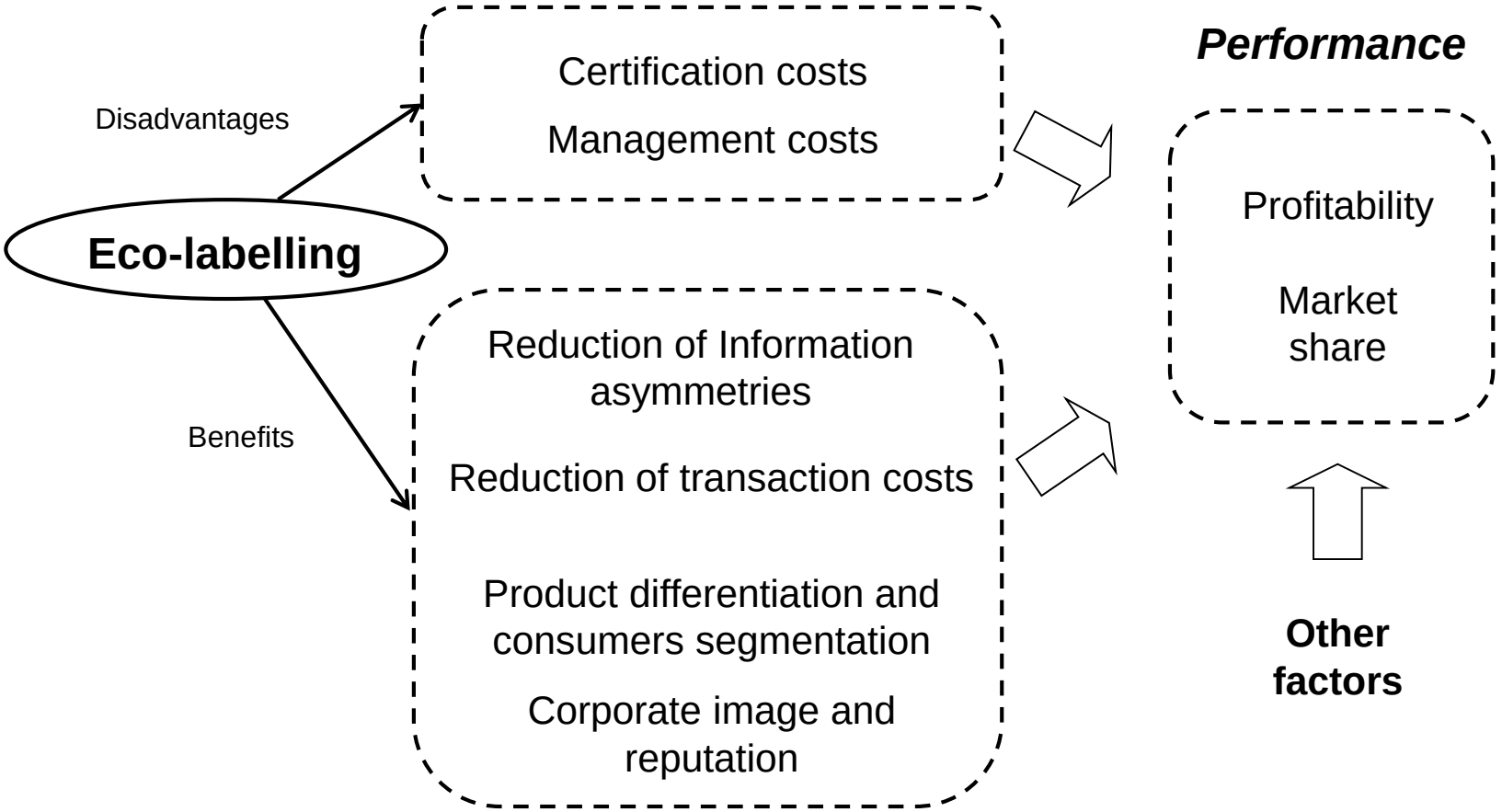
Firm size	N	Increase in revenues		Increase in profitability	
		Mean	*SD*	*Mean*	*SD*
Large	6	3.17	0.75	2.83	0.98
Medium	4	3.25	0.96	3.25	1.26
Small	9	2.89	1.17	2.78	1.09
Micro	3	1.67	0.58	1.33	0.58
Total	**22**	**2.86**	**1.04**	**2.68**	**1.13**

EMPIRICAL ANALYSIS

CASE 2

MARKET BENEFITS, COSTS & LIMITATIONS

Relationship between eco-labelling and firms' performance



MARKET BENEFITS, COSTS & LIMITATIONS

Effect of eco-labelling on firms' performance

Data and variables	A sample of Spanish companies from the seafood industry with and without the MSC certification were identified in the business database SABI. For all companies were also taken data of some economic variables about firm's size (total assets, turnover and employees) and performance (ROA, ROS and market share) for the period 2005-2010.
Methods of analysis	Panel data methodology was used. Panel data allows to control for variables that cannot be observed or measured such as cultural factors or difference in business practices across companies (individual heterogeneity), or variables that change over time but not across firms (i.e., national policies, federal regulations, international agreements, etc.).

Year	2005	2006	2007	2008	2009	2010
Firms with MSC	0	0	3	5	7	19
Firms without MSC	25	25	22	20	18	6
Total	25	25	25	25	25	25

Fernández Sánchez JL et al. (2012). *El eco-etiquetado de productos pesqueros en España*. Globefish Research Programme, FAO, Rome.

MARKET BENEFITS, COSTS & LIMITATIONS

Effect of eco-labelling on firms' performance

Predictor	Dependent variable		
	Return on assets (ROA)		
	OLS	FE	RE
Size	0.021***	0.018	0.023**
Eco-label	2.774***	2.207***	2.302***
Goodness-of-fit			
R2	0.091	0.091	0.090
F Snedecor	8.78***	5.48**	-
Wald chi2	-	-	14.51***
Residual-predictor correlation	0.072		
Hausman test	0.26		
B-P Lagrange multiplier test	45.52***		

*Significant at the 10% level. **significant at the 5% level. ***significant at the 1% level.

Fernández Sánchez JL et al. (2012). *El eco-etiquetado de productos pesqueros en España*. Globefish Research Programme, FAO, Rome.

MARKET BENEFITS, COSTS & LIMITATIONS

Effect of eco-labelling on firms' performance

Predictor	Dependent variable		
	Return on sales (ROS)		
	OLS	FE	RE
Size	0.020**	0.038	0.024
Eco-label	2.286**	1.858**	2.027***
Goodness-of-fit			
R2	0.032	0.028	0.031
F Snedecor	3.42**	2.89*	-
Wald chi2	-	-	6.97**
Residual-predictor correlation	-0.133		
Hausman test	0.12		
B-P Lagrange multiplier test	14.76***		

*Significant at the 10% level. **significant at the 5% level. ***significant at the 1% level.

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MARKET BENEFITS, COSTS & LIMITATIONS

Effect of eco-labelling on firms' performance

Predictor	Dependent variable		
	Market share (MS)		
	OLS	FE	RE
Size	0.048***	0.022	0.044***
Eco-label	0.114	0.201	0.141
Goodness-of-fit			
R2	0.897	0.893	0.897
F Snedecor	134.70***	1.24	-
Wald chi2	-	-	65.47***
Residual-predictor correlation	0.874		
Hausman test	11.44***		
B-P Lagrange multiplier test	143.22***		

*Significant at the 10% level. **significant at the 5% level. ***significant at the 1% level.

Fernández Sánchez JL et al. (2012). *El eco-etiquetado de productos pesqueros en España*. Globefish Research Programme, FAO, Rome.

EMPIRICAL ANALYSIS

CASE 3

PRICE PREMIUMS

- There is an ample evidence that confirms the existence of price premiums in the retail market for eco-labelled seafood products (Roheim et al., 2011; Song-Grundvåg et al., 2014, 2017; Asche et al., 2015; Asche et al., 2017; Sun et al., 2017).
- However, there is still little research demonstrating the existence, and extent, of price premiums at the producer or fishers' level.
- Small-scale or artisanal fleets need to get price premiums to compensate their higher costs from eco-certification (Roheim et al., 2011).
- Our findings corroborate the hypothesis of a price premium for MSC-certified common octopus from Asturias (Spain). The price premium is between 15.2% and 24.6%, depending on how this premium has been estimated). It agrees with the values found in other former papers: 14.5% of price premium for the Alaska salmon (Stemle et al., 2016), 11% for the MSC-certified Swedish cod (Blomquist et al., 2019), and 27.4% for the Japanese flathead flounder (Wakamatsu, 2014).

Fernández Sánchez JL, Fernández Polanco JM and Llorente García I. *Marine Policy* (forthcoming).

MARKET BENEFITS, COSTS & LIMITATIONS

MSC labelling for an artisanal fleet (MSC octopus in Asturias, Spain)

Benefits: A price premium between 1.05 and 1.11 €/kg (15%-25% over the non eco-certified octopus from Asturias).

Total project cost: €43,974.5
FLAG grant €36,342.05

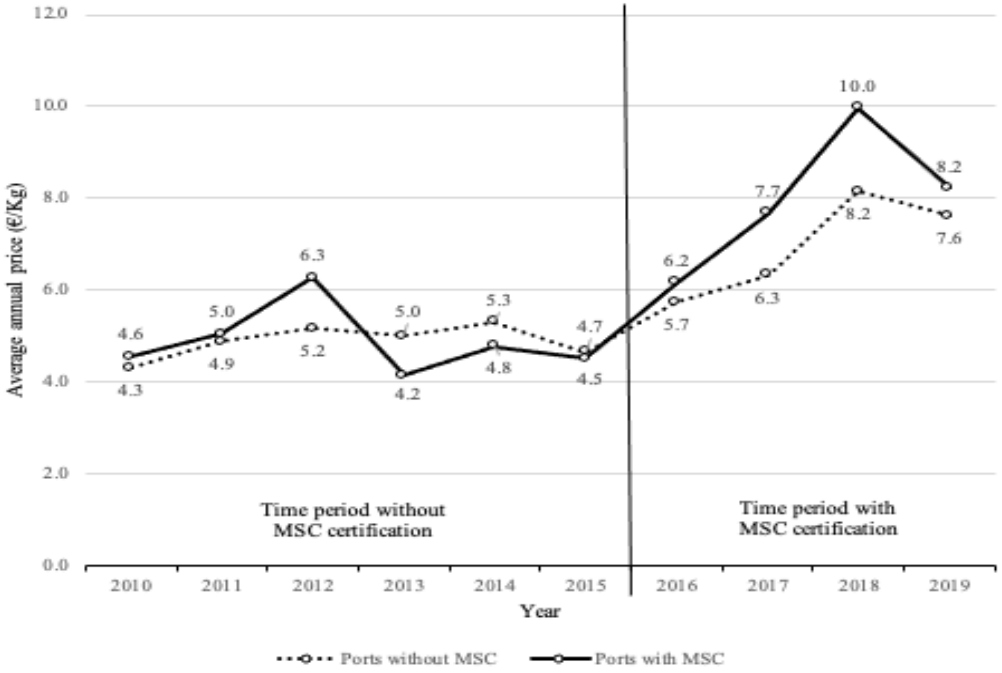
- EU contribution (EMFF): €27,255.8
- Public contribution (regional government): €9,086.25

Beneficiary contribution €7,632.45

- Lead partner (Navia-Porcía FLAG): €7,632.45

Source: Navia-Porcía FLAG/FARNET

Price evolution of common octopus from Asturias



MARKET BENEFITS, COSTS & LIMITATIONS

Octopus' average annual prices in ports of Asturias

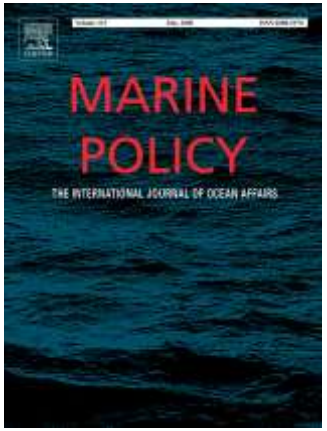
Port type	Number of ports	Before MSC certification (2010-2015)	After MSC certification (2016-2019)	Mean difference
Ports without MSC	13	4.89 €/Kg	6.93 €/Kg	2.04 €/Kg
Ports with MSC	4	4.92 €/Kg	8.01 €/Kg	3.09 €/Kg
Difference-in-difference (DiD)				1.05 €/Kg
Mann-Whitney test				2.35**

** Significant at the 5% level.

Regression results (dependent variable: $PRICE_{it}$)

Independent variable	Parameter	Expected sign	Coefficient	Robust std. error
CONSTANT	β_0	+	4.50***	0.22
$QUANTITY_{it}$	β_1	–	–0.26***	0.08
MSC_{it}	β_2	+	1.11***	0.27
Port fixed-effects			Yes	
Time fixed-effects			Yes	
Observations			155	
Number of ports			17	
R^2 (overall)			0.47	
F test			160.19***	

*** Significant at the 1% level.



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Thank you for your attention!

Any questions?