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FIRM FACTORS AFFECTING PROFIT MARGINS IN THE EUROPEAN AQUACULTURE INDUSTRY: ANALYSIS OF THE PERIOD 2009-2013

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RESEARCH
AIM

Research aim

The aim of this work is to analyse how some firm-specific factors can explain differences in economic performance of firms belonging to the European aquaculture industry.

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CONCLUSIONS

Firm factors affecting profit margins in the EU aquaculture industry

- Despite the growing importance and high priority assigned by the EU policy makers to the development of aquaculture, little attention has been given to analyse the economic performance of the sector at EU level (Guillen et al., 2015).
- Identification of the sources of variation in firm performance is a recurrent theme in applied business research. Two main theoretical explanations have influenced the answer to the question of economic performance differences among firms : industrial organization (I/O) economics and the resource-based view (RBV).
- Whilst the I/O economics view theorizes that performance variation of firms should be attributed to the structural characteristics of the industrial sectors in which they operate, the other stream, RBV, explains performance differences between firms with a focus upon internal or firm-specific factors (Kamasak, 2011).

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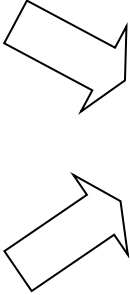
CONCLUSIONS

Industry structure
Aquaculture sector
(NACE 0321 and 0322)

Firm resources and capabilities
Size
Growth strategy
Product differentiation strategy

Firm economic performance

Variation of gross and net profit margins



The hypotheses to test in this research are as follows:

Hypothesis 1: *Aquaculture firms' economic performance is positively related with firms' size.*

Hypothesis 2: *Aquaculture firms' economic performance is related with firms' growth strategy.*

Hypothesis 3: *Aquaculture firms' economic performance is positively related with firms' product differentiation strategy.*

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Data

- European firms (EU28 + Norway) which main activity belongs to the marine and continental fish farming (NACE 0321 and 0322 respectively) were identified in the AMADEUS (total) database and annual economic data of those companies was collected for the period 2009-2013.
- The economic variables of performance analysed in this research are firms' gross and net margins (in %).
- Firm-specific factors analysed were size (measured by turnover in euros), growth strategy (specialization, vertical integration, and diversification) and product differentiation strategy. (quality and/or eco-labelling).

Method of analysis

- Bivariate analysis using non-parametric tests was employed to test differences in means among different groups of firms.

Table 1. Marine and continental aquaculture margins by firm's size (average 2009-2013)

Firm's size	Marine aquaculture			Continental aquaculture		
	N	Gross margin (%)	Net margin (%)	N	Gross margin (%)	Net margin (%)
Micro	1,072	9.29	-1.28	1,535	11.62	4.78
Small	177	10.49	3.23	78	15.89	7.77
Medium	70	18.94	12.18	13	18.49	12.89
Large	27	18.20	12.81	1	17.14	10.11
KW test		31.04***	73.52***		5.60	6.09

Source: Authors' elaboration using AMADEUS total database.

***Significance at the 1% level.

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The major number of firms in Europe are very small

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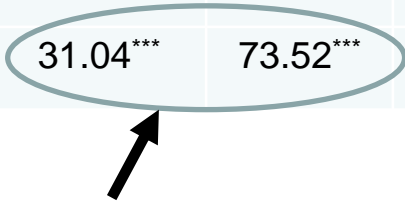
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In the case of marine aquaculture, there are significant differences in margins (positive relationship)
 Same result for the US case (Arita et al., 2012)

Table 2. Margin differences of aquaculture firms according to different growth strategies (average 2009-2013)

Growth strategy	Marine aquaculture			Continental aquaculture		
	N	Gross margin (%)	Net margin (%)	N	Gross margin (%)	Net margin (%)
Specialization (one activity)	1,985	10.56	0.89	2,106	12.19	5.56
Vertical integration	201	11.82	1.21	124	11.22	4.29
Diversification	201	12.99	6.10	636	13.27	5.32
KW test		2.12	4.31		5.24*	1.93

Source: Authors' elaboration using AMADEUS database.

*Significance at the 10% level.

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The major number of firms are specialized in one activity (production)

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On average, firms with a diversification strategy show a larger gross margin than firms with other development strategies

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Table 3. Margin differences of aquaculture firms according to eco/quality product certification (average 2009-2013)

Eco/quality product certification	Marine aquaculture			Continental aquaculture		
	N	Gross margin (%)	Net margin (%)	N	Gross margin (%)	Net margin (%)
With certification	48	17.49	9.76	17	23.49	11.36
Without certification	2,339	11.27	1.79	2,849	12.15	5.63
Difference (KW test)		7.40 ^{***}	9.12 ^{***}		6.41	4.33

Source: Authors' elaboration using AMADEUS database.

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Few European firms have quality or eco product certificates such as GlobalGAP or Friend of Sea

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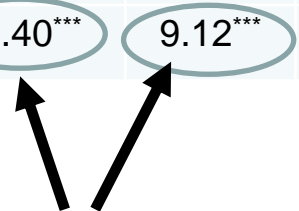
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On average, European marine aquaculture firms with quality or eco product certifications have larger profit margins than firms without these type of product certifications

The main conclusions of this research are:

- Firms' size is a variable that is positively related with economic performance (profit margins) in the case of marine aquaculture (economies of scale).
- Product certification is also positively related with firms' economic performance (profit margins) in the case of marine aquaculture.
- In the case of the firms' growth strategy there are not conclusive results even though diversification strategy presents the best economic performance (profit margins) in every case.
- Therefore, management strategies in the European aquaculture sector in order to increase firms' size and product differentiation could increase firms' profit margins.



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**THANK YOU
FOR YOUR ATTENTION**

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