COMPETITIVENESS OF THE FISH PROCESSING SECTOR IN LATVIA

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Abstract: In the development of Latvia's economy, the fish processing sector has played an important role, historically and traditionally, because of its ability to produce competitive products for the world market. The aim of this research is to evaluate the competitiveness of the fish processing sector in Latvia. Methodology involving the Model of Factors Influencing Competitiveness of the Fisheries Sector Cluster and the Index of Fish Processing Sector Competitiveness are developed as part of the research. The study also identifies the spheres influencing competitiveness, as well as the possibilities of further development. The methodology created in the study can be used to evaluate competitiveness of the fish processing sector in any country. It may also assist institutions involved in developing Fisheries' policy to work more successfully and improve the common policy in the Fisheries sector.

JEL Classification Numbers: O11, O21, Q01; **DOI**: http://dx.doi.org/10.12955/cbup.v5.900

UDC Classification: 338.2

Keywords: competitiveness, index, fish processing, model.

Introduction

Latvia has a border length of 1836 km and a coastline of 494 km, which is 0.7% of the total EU coastline of 66 000 km (European Commission, 2014). The territorial waters of the Baltic Sea, up to 12 nautical miles from the coast, as well as the economic area, and the continental shelf of 28 000 km^2 fall under state jurisdiction (Agriculture Ministry, 2014). The internal waters comprise 2 543 km^2 or about 4.1 % of the country's land mass (Agriculture Ministry, 2013). These waters include 12 500 rivers with a total length of 37 400 km. As well, there are 2 256 lakes with a total area of approximately 0.1 M ha and 800 artificial water bodies (Agriculture Ministry, 2014). Environmental pollution and inimical spawning conditions, as well as intensive fishing and other factors, have been detrimental to fish stocks. As a result, catch quotas and fish numbers in the Baltic Sea have diminished, and this has adversely affected the operation of fishery and fish processing companies in Latvia, but at the same time, increased the role of the aquaculture sector in the acquisition of alternative fish resources (Finance Ministry, 2003). The future of the fish processing sector in Latvia depends on the development of the fisheries and aquaculture sector.

In 2015, the Latvian fish processing sector involved 112 economically active companies with 4190 employees. These companies specialized in producing sterilized and unsterilized canned fish, smoked and salted fish, refrigerated and frozen fish, as well as mixed fish products. Raw materials in the production of canned fish and other fish products comprise fish caught mostly in the Latvian territorial waters of the Baltic Sea and the Gulf of Riga. These fish are primarily sprat and Baltic pilchard. Processing companies also use oceanic fish: herring, mackerel, sardine, sardinella, and tuna-fish to diversify their product assortment. In recent years, to produce canned fish, these processing companies have started to use freshwater species, such as pike, catfish, carp, and salmon bred locally in aquaculture, as well as salmon imported from foreign countries. The volume of canned fish and other fish products sold in 2014 reached 83.43 thousand tons, with a total market value of EUR 155.71 million. From 2005 to 2014 the volume of sold products reduced by −30.52% and to a great extent was related to a worsening market and an embargo introduced by Russia. The most popular product in the fish processing sector is the canned fish 'Riga sprats', which due to their specific taste peculiarities, ensured by a traditional smoking method using alder wood, has been a beloved consumer dainty for more than 100 years. Fish processing companies produce canned fish and other high-quality fish products and follow market tendencies and consumer demand. In general, in 2015, fish products and canned fish were exported to more than 60 countries (the main markets being Lithuania, Morocco, Russia, Belarus, and Ukraine). A portion of the exports went to the markets of the Commonwealth of Independent States (CIS), thus subjecting the fish processing companies to additional administrative risks, which had not existed in the common European market.

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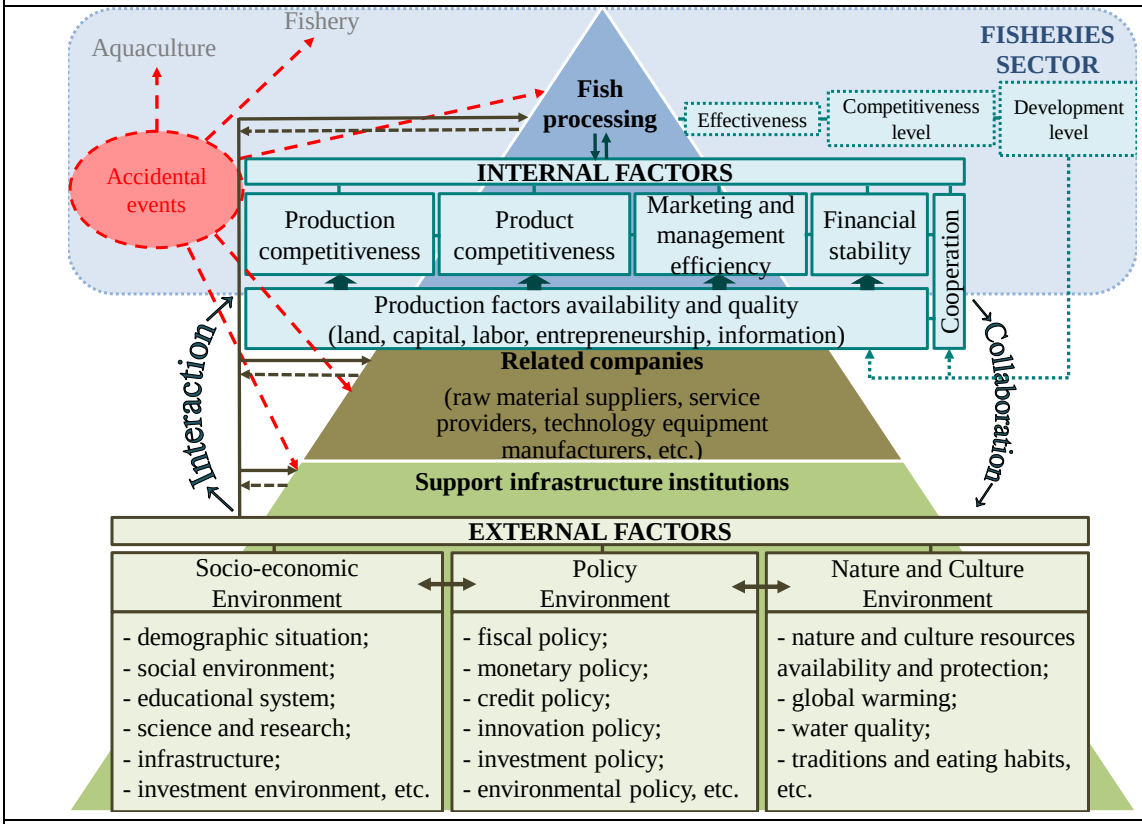
The Common Fisheries Policy of the European Union (EU) strives to ensure ecologically sustainable fisheries over a long-term and fisheries management that corresponds to the objective of ensuring benefits in economic, social, and employment spheres, to facilitate the availability of food (European Parliament and Council, 2013). The Common Fisheries Policy should foster increased productivity, a fair standard of living for the people employed in the fisheries sector and stable markets, and it should ensure the availability of resources and that product reach consumers at reasonable prices (European Parliament and Council, 2014). Using the support opportunities provided by the EU funding instruments and participating in the formation of the Common Fisheries Policy of the EU have enabled broad opportunities of enhancing competitiveness to promote the Latvian fish processing sector. Facilitation of competitiveness has become a major objective of the development strategy of companies, branches, and countries (Skapars & Sumilo, 2006). Evaluation of competitiveness provides an opportunity to judge impartially and allows a better understanding of the need for structural reforms and choice of priorities.This research aims to evaluate the competitiveness of the fish processing sector in Latvia. To achieve this aim, the study focused on the following objectives: 1) develop the methodology for the competitiveness of the fish processing sector; 2) evaluate the competitiveness of the fish processing sector in Latvia, identifying the spheres ensuring competitiveness. The novelty of the research is that it develops a methodology for evaluating competitiveness in the fish processing sector and thus potentially aids institutions involved in developing the fisheries policy to work more successfully and improve the common policy in the fisheries sector.

Data and Methodology

The qualitative and quantitative research methods used in the study included general scientific, statistical, mathematical, and sociological research methods. Microsoft Excel (2017) was used in the processing and analysis of the study results.

Figure 1: Model of the Factors Influencing Competitiveness of the Fisheries Sector Cluster



Source: Author

Figure 1 shows the Model of the Factors Influencing Competitiveness of the Fisheries Sector Cluster was developed to identify various influencing factors. These were internal and external social, economic, political, natural, and cultural environmental factors (including random events) and the

ability to adapt or modify these. As well, the model showed the mutual interaction and collaboration between factors and the involvement of affiliated companies and supporting infrastructure institutions.

A Fish Processing Sector Competitiveness Index was developed to evaluate the competitiveness of the Latvian fish processing sector at the level of microeconomics. The development of the Index was based on the Model of the Factors Influencing Competitiveness of the Fisheries Sector Cluster (Figure 1). The calculation of this index involved six sub-indexes in functions of their relative proportions (Equation 1) and with normalized values of indicators of the factors influencing the competitiveness (Equation 2).

$$I_{FP} = SI_{AQPF} + SI_{PRC} + SI_{PC} + SI_{MME} + SI_{FS} + SI_{C} \quad (1)$$

where:

I_{FP} = *Fish Processing Competitiveness Index*

SI_{AQPF} = *Sub-Index of Availability and Quality of Production Factors*

SI_{PRC} = *Sub-Index of Production Competitiveness*

SI_{PC} = *Sub-Index of Product Competitiveness*

SI_{MME} = *Sub-Index of Marketing and Management Efficiency*

SI_{FP} = *Sub-Index of Financial Stability*

SI_{C} = *Sub-Index of Cooperation*

$$SI = \alpha\left(I_1^{nv} + I_2^{nv} + I_3^{nv} + ... + I_n^{nv}\right) \quad (2)$$

where:

SI = *Sub-Indexes*

α = *relative scales*

$I_1^{nv} ... I_n^{nv}$ = *indicators with the normalized values*

Overall, the study involved 22 indicators to evaluate competitiveness. These were selected from literature (Biuksane, 2016a) and involved more than 35 sub-indicators. As well, several were chosen using the main conditions for indicator selection (Biuksane & Judrupa, 2016). The indicators were normalized using minimum-maximum algorithm values of −5 to 5.

The Index of the Fish Processing Sector Competitiveness was used to assess the fish processing competitiveness, to identify the facilitating and promising spheres as well as the procrastinatory and stagnating ones influencing competitiveness. The Index was used as a basis for developing specific strategies (Table 1) for implementing an appropriate investment policy.

Table 1: The strategies to promote competitiveness

Competitiveness	Strategy type			
	Penetration strategy	**Enlargement strategy**	**Development strategy**	**Improvement strategy**
$C_{L(-0<)}; G_{P(0\leq)}$	✓	-	-	-
$C_{L(-0<)}; G_{P(>0)}$	-	✓	-	-
$C_{L(>0)}; G_{P(0\leq)}$	-	-	✓	-
$C_{L(>0)}; G_{P(>0)}$	-	-	-	✓

C_L = competitiveness level

G_P = growth pace

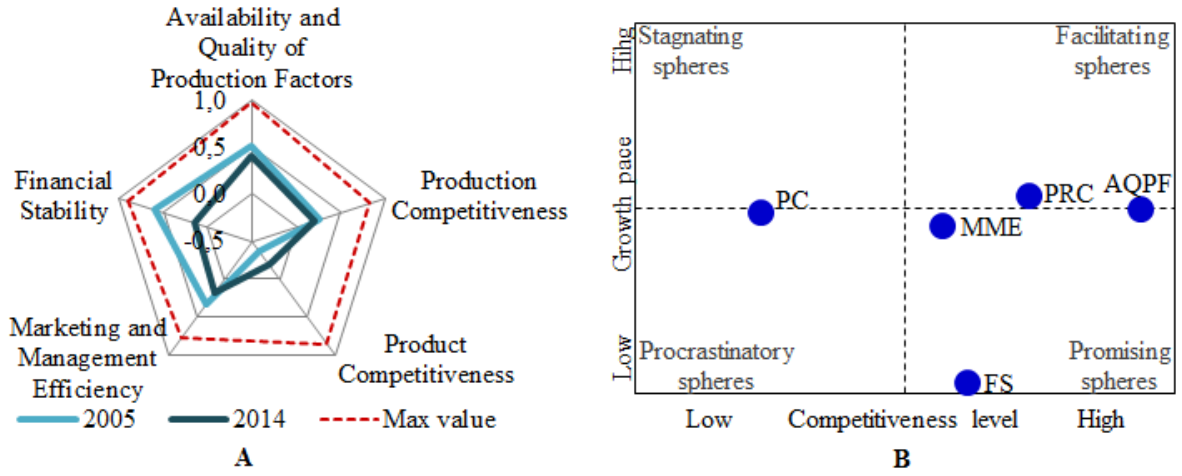
Source: Author

Table 1 shows the four promotional strategies: 1) the penetration strategy, mostly for implementing measures to strengthen the spheres involved in procrastinating competitiveness, where cooperation plays a significant role; 2) the enlargement strategy for mostly implementing measures to strengthen the spheres that stagnate competitiveness; 3) the development strategy for implementing measures to strengthen spheres that promise competitiveness; and 4) improvement strategy for implementing measures to strengthen spheres that facilitate competitiveness.

Results and Discussions

The results indicated that the competitiveness of the Latvian fish processing sector from 2005–2014 was medium-high (0.46), apart from 2010, which was after the socio-economic crisis in Latvia when the competitiveness of Latvian fish processing sector was the lowest (−0.15). Over this period, the competitiveness of the fish processing sector in Latvia decreased by −45%, from −1.36 in 2005 to 0.74 in 2014 (Figure 2).

Figure 2: The competitiveness level (A) and the ensuring spheres influencing competitiveness (B) of fish processing sector in Latvia in 2005 and 2014 (value of sub-indexes)



AQPF: Availability and Quality of Production Factors

PRC: Production Competitiveness

PC: Product Competitiveness

MME: Marketing and Management Efficiency

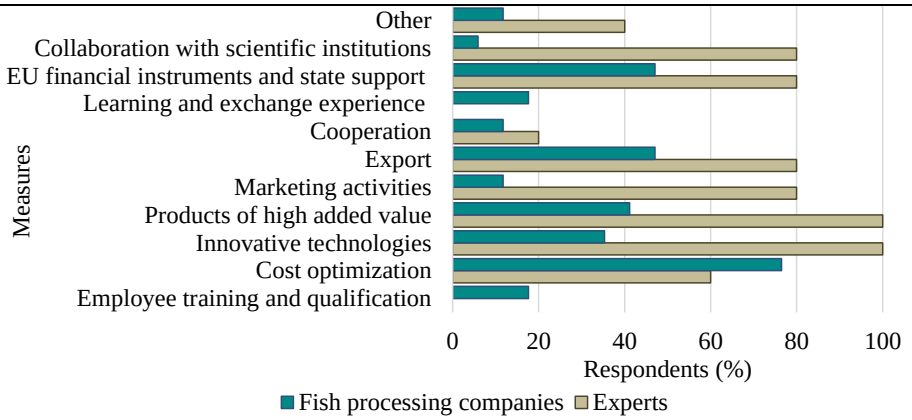
FS: Financial Stability

Source: Author

For competitiveness in the fish processing sector, the facilitating spheres comprised the availability and quality of production factors (AQPF) and the production competitiveness (PRC). The promising spheres involved the marketing and management efficiency (MME) and the financial stability (FS), while the procrastinatory spheres encompassed product competitiveness (PC) (Figure 2). In the fish processing sector don't have cooperation (producer organizations), depicted in Model (Figure 1).

The companies that operated in the fish processing sector in Latvia and the representatives of the institutions involved in the fishing sector and in developing and implementing fisheries policy believe that the growth of the sector competitiveness can be promoted by applying certain interrelated and subordinated measures (Figure 3).

Figure 3: Measures to promote the competitiveness of the Latvian fish processing sector (respondents, %)



Source: Autor

The competitiveness of the Latvian fish processing sector may be facilitated by applying innovative technologies in production and producing qualitative and innovative products with high added value as well as carrying out regular cost optimization. According to the opinion of the companies and the representatives of the institutions involved in developing and implementing policy of the fisheries sector, the competitiveness of the fish processing sector in Latvia can also be promoted by other measures.

The measures proposed by the fish processing companies and those involved in policy development to promote competitiveness of the fish processing sector in Latvia are useful. However, the author believes that the promotional measures need to be structured and implemented according to the chosen development strategy and investment policy. There are several types of strategies. However, the author believes that to facilitate the competitiveness of the fish processing sector in Latvia a strategy of corresponding approaches should be developed. The Latvian fish processing sector has a medium-high competitiveness, but has a tendency to disimprove. Consequently, to facilitate competitiveness of the sector, a development strategy is highly recommended. In the framework of the development strategy, one should primarily implement measures that strengthen the spheres of promising competitiveness in the fish processing sector, and only then strengthen the other spheres.

Conclusion

The fish processing sector has always played a significant role in the economic development of Latvia. In Latvia, the fish processing has not only a long-standing history and tradition but also the ability to produce competitive products in the world market. Using supporting opportunities provided by the EU financial instruments and participating in developing the EU Common Fisheries Policy, Latvia's fish processing sector gains a broad range of possibilities for its growth and increase in competitiveness. Competitiveness of the Latvian fish processing sector is currently evaluated as medium-high, which is ensured by the availability and quality of production, product competitiveness, marketing and management efficiency, and financial stability factors. To facilitate the competitiveness of the fish processing sector in Latvia, the author recommends implementing a development strategy. The evaluation methodology of the fish processing sector competitiveness developed in this study can be used to evaluate the competitiveness of the fish processing sector of any country. Furthermore, the methodology developed for evaluating competitiveness may assist the institutions involved in the Fisheries' policy formation to work more successfully and improve the common policy in the Fisheries sector.

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