Competitiveness of Indonesian fishery commodities

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Competitiveness of Indonesian fishery commodities

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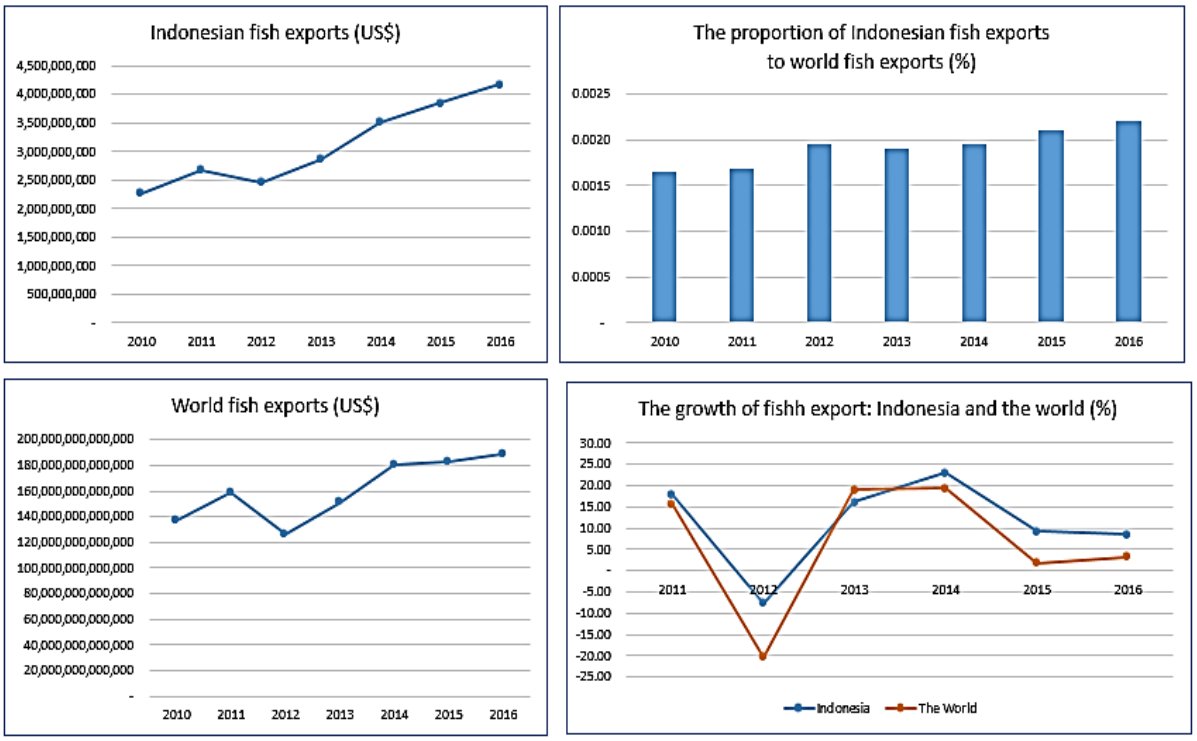
Abstract. During the administration of President Joko Widodo, an illegal fishing policy has been implemented, one of which aims to improve the welfare of fishermen and other actors of fishery business, with the competitiveness of Indonesian fisheries increase as the intermediate targets. This study aims to analyze whether the policy is effective in increasing the competitiveness of fishery commodities in Indonesia. This study employs Revealed Competitive Advantage (RCA) as an indicator of competitiveness of fishery commodities. Effectiveness of illegal fishing policy is analyzed by utilizing panel regression on pre and post policy data. This study finds that most of the RCA index of fishery commodities are greater than one, which means that its competitiveness is strong in international markets. The regression result of policy variable shows the difference of competitiveness of fishery commodity in Indonesia, pre and post the implementation of illegal fishing policy.

1. Introduction

During President Joko Widodo's leadership, the government worked hard to restore Indonesia as a maritime country. Striving hard to restore fisheries and marine life as guardians of the nation's sustainability. The mission of marine and fisheries development, formulated in three pillars, namely sovereignty, sustainability and prosperity. Sovereignty is to realize the development of sovereign marine and fisheries, in order to sustain economic independence by securing marine and fishery resources, and reflecting the personality of Indonesia as an archipelagic country. Sustainability, which is to realize sustainable marine and fisheries resource management. Prosperity, which is to realize a marine and fisheries society that is prosperous, advanced, independent, and has a personality in culture [1]. Welfare will not be realized if it ignores sovereignty and sustainability. The Indonesian Sea has around 8,500 species of fish, 555 species of seaweed and 950 species of coral reef biota. Fish resources in the Indonesian sea cover 37 percent of fish species in the world, where some of them have high economic value, such as tuna, shrimp, lobsters, reef fish, various types of ornamental fish, assault, and seaweed.

The performance of the fisheries sector in contributing to the national economy has increased from year to year. Statistics Indonesia shows the growth of the Gross Domestic Product (GDP) of the fisheries sub-sector in 2017 reached 6.75 percent, an increase of 31 percent from 2016. The GDP achievement in that period was the most progressive and was above National GDP growth (5.03 percent) [2]. Another indicator of the performance of the fisheries sub-sector is the increase in exports in several major destination countries. President Joko Widodo's government policy, especially the illegal fishing policy, has been proven to increase fisheries commodity production in Indonesia. This increase in production is expected to encourage increased competitiveness of fishery commodities in the international market.



Sources: [3], [4], processed

Figure 1. Profile of Indonesia's fisheries export performance

The performance of fisheries commodity trade shows a positive trend since 2014. The growth of Indonesian fishery product exports is higher than the growth of world fishery commodity exports in 2014. The value of fishery product exports in 2016 reached US $ 4.2 billion and increased US $ 4.51 billion in 2017 The main export destination countries for Indonesian fishery products are the United States (40.2 percent), Japan (14.9 percent), ASEAN (12.9 percent), China (9.9 percent), and Europe (7.6 percent) [3]. This study analyzes the competitiveness performance of Indonesian fishery products in the period 2010-2016. Then this study also analyzes the effectiveness of fisheries export competitiveness in the pre and post period of President Joko Widodo's leadership

2. Research Methods

The measurement of fisheries commodity competitiveness in this study used the competitiveness indicators used by Balassa [5] which were referenced by several studies such as Polymeros and Katrakilidis [6], Oktavilia [7], Kuldilok et.al. [8], Laursen [9], Firmansyah, et al. [10]. This study empirically uses the index Revealed Competitive Advantage (RCA). The comparative advantages of a country is empirically measured by mathematical calculation of the data of the national export value, which is compared to the value of world exports. The calculation of socalled Balassa Revealed Comparative Advantage, which is known as the Balassa RCA index, formulated as follows:

$$RCA_{ij} = (X_{ij}/X_{it}) / (W_j/W_t) \quad \ldots\ldots (1)$$

Where, Xij is the value of commodity exported j from the region i; Wit is the value of total exports in area i; Wj is the value of world commodity exported j; Wt is the total value of world exports. The index neutralizes the effects of the economic size of a commodity or industry of a country, so that possible to make comparisons between countries on different commodities and or different industries.

In order to analyze the competitiveness of fishery export commodities before and after President Joko Widodo's cabinet, this study applied the Ordinary least square (OLS) regression model with dummy variables as independent variables. Regression models with dummy variables as a test different from the dependent variable analyzed [11]. The data used are fisheries commodity RCA in the monthly series, period 2010 to 2016. The dummy variable used is 0 dummy for the era before President Joko Widodo and dummy 1 for the era after President Joko Widodo's leadership. The equation model for this analysis is:

$RCA_t = \beta_0 + \beta_1 Dummy_t + \varepsilon_t$ …… (2)\

3. Result and Discussion

The growth of exports of marine and fishery products is of concern to the government of the Ministry of Maritime Affairs and Fisheries. Based on BPS data processed, the value of fishery product exports for the period of January - November 2016-2017 increased by 8.12 percent. The export value in 2016 amounted to US $ 3.78 billion, increasing to US $ 4.09 billion in 2017. Indonesia's fisheries trade balance in the 5-year period from 2012-2016 increased by an average of 2.31 percent per year. In the same period, this figure was higher when compared to competing countries such as China (+0.60 percent), Vietnam (-21.39 percent), Philippines (-6.75 percent), and Thailand (-15.14 percent) [1].

In the period January - November 2016-2017 fishery commodities that experienced an increase were shrimp (0.53 percent), tuna and skipjack tuna (18.57 percent), crabs and crabs (29.46 percent), squid, cuttlefish, and octopus (16.54 percent), and seaweed (23.35 percent), and other fishery commodities (3.61 percent). Based on export destination countries for fishery commodities, the value of exports to several major destination countries also increased. Exports to the United States increased 12.82 percent, Japan (8.31 percent), ASEAN (3.42 percent), China (11.28 percent), the European Union (9.38 percent), but the value of exports to other countries dropped 1.76 percent [1][3].

This study finds that most of the RCA index of fishery commodities are greater than one, which means that its competitiveness is strong in international markets. The calculation results with the RCA index show several alternative values, namely: If the RCA index of fishery product exports is more than one (> 1), it means that the country's fishery product exports have a comparative advantage above the world average. Vice versa, if the RCA index of fishery product exports is less than one (<1), it means that the country's fishery product exports have competitiveness lower than the world average. The calculation of RCA in table 1 shows that the competitiveness of fishery products in Indonesia has a comparative advantage with the RCA index> 1

The regression result of policy variable shows the difference of competitiveness of fishery commodity in Indonesia, pre and post of implementation of illegal fishing policy.

Table 1. Revealed comparative advantages Indonesia's fisheries export

	RCA : Indonesia fisheries commodities
2010	12.25
2011	12.27
2012	10.25
2013	12.81
2014	16.51
2015	20.38
2016	21.66

The results of the study with the econometric model show government policy after the administration of President Joko Widodo had a significant effect (on the degree of error of 1 percent) on the

competitiveness of Indonesian fishery export commodities. The coefficient value that is positive in the dummy variable shows that the average RCA (competitiveness of Indonesia's fishery commodity exports) in President Joko Widodo's policy is higher than that of the RCA before the era of President Joko Widodo's policy.

Table 2. Estimation result

Dependent Variable: RCA		
Sample: 2010M01 2016M12		
Included observations: 84		
Variable	Coefficient	t-Statistic
DUMMY	8.155	16.3158*
C	12.612	44.50639*

4. Conclussion

This research shows that the competitiveness of Indonesian fishery products in the international market was quite high. In addition, this study shows that there are differences in competitiveness of fishery product exports before and after the policies of the government of Joko Widodo. Several programs to strengthen the competitiveness of Marine and Fisheries products can be done through efforts to increase value-added fishery products, increase the value of non-consumption fishery products, increase the national average per capita fish consumption, increase the export value of fishery products, and boost investment value in the field of processing and marketing of fishery products. The policy program is expected to be more competitive and competitive in the domestic and international markets.

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