

Improving Competitiveness in the Face of Weakening International Commodity Prices

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Abstract

World economic growth slowdown results in the decrease of world demand as well as the weakening of International commodity prices. This situation brings impact on economic performance of Sumatra that can be reflected by Sumatra export growth these past two years. In order to maintain Sumatra economic performance, there needs to be a shift of economic support of Sumatra to alternative products. This study is directed towards analyzing strategic commodities growth potential in becoming export oriented commodities. This study analyzes competitiveness in Sumatra as one approach to determine which strategic commodities can be developed. The result shows that Sumatra's flagship product has a considerably high competitiveness yet its trend is decreasing. Based on market positioning, flagship products of Sumatra generally belongs to achievers in adversity quadrant in which products have competitiveness in global market but has decreasing demand trend. This result signifies performance vulnerability of Sumatra export in global market. Global market dynamics for flagship products tend to be either stagnant or decreasing. This triggers identification of products that need a push and also potential products that can boost export. From the identification process, products that need the push are vegetable oil, tin, and rubber. Meanwhile potential products are processed tobacco, building equipment, and basic metal industry.

Key words: export, competitiveness, market positioning

Background

Global economic slowdown impacted on decrease of world demand. International Monetary Fund (IMF) through World Economics Outlook (WEO) has done correction on world economic growth in 2015 from 3,3% on June 2015 to 3,1% on October 2015. Global economic recovery is still hindered by China's economic growth and relatively low growth on United States' economy.

World economic growth slowdown results in the decrease of world demand as well as the weakening of International commodity prices. Third quarterly data in 2015 Data shows that all five strategic commodities such as copper, coal, palm oil, rubber, and nickel shows a decrease compared to the same period last year. The highest decrease happens on nickel that is -43,1%. Meanwhile, two other export pedestal commodities, Palm oil and rubber also suffer from price decline for -6,3% and 18,3%¹.

As a region that is a pedestal of national export commodity, price decline of main export commodity in North Sumatra affects Sumatra's economic performance. As an illustration, 70% of Indonesian coffee production is from Sumatra, 69% of palm oil is from Sumatra and 77% rubber production of Indonesia is

¹Obtained from Recent Economic Development (RED) November 2015 published by Bank Indonesia

from Sumatra. Export performance decline can be seen from declining export performance in Sumatra these past two years. Export growth in Sumatra these past two years always yield negative number. This shows that there has been a decline in Sumatran export during those years. The decline on export results in inhibition of Sumatra's economic performance. Year-on-year economic growth of Sumatra in third quarter 2015 is 3,04%, slightly higher than the previous quarter, 2,83%. Nevertheless, North Sumatra economic growth in 2015 is expected to be lower than in 2014.

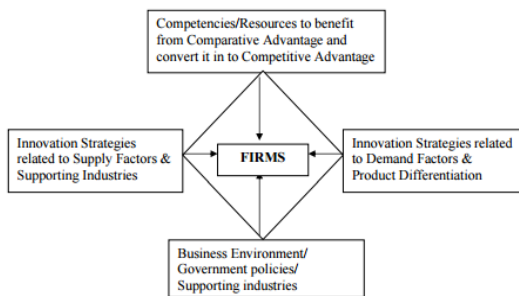
In order to keep Sumatra's economic growth, there needs to be a shift of economic support of Sumatra to alternative products. Besides increasing production value added of strategic commodities, there needs to be a search for another potential commodity development. Therefore, export performance can increase so that whole economic output increases too.

This study is directed towards analyzing strategic commodities growth potential in becoming export oriented commodities. This study analyzes competitiveness in Sumatra as one approach to determine which strategic commodities can be developed. Value added potential is also examined in this study. Most of analysis is focused on alternative commodities for rubber and palm oil. It is expected that the result of this study can be used as an input to increase Sumatra's products competitiveness.

Literature Studies

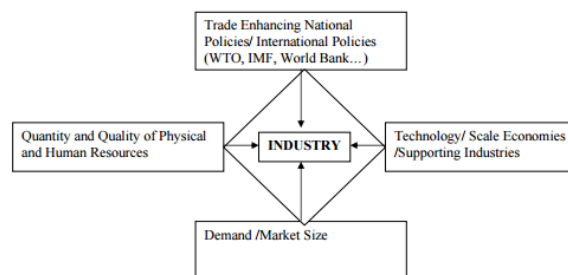
a. International Trade Theory

Comparative advantage shows absolute advantage that is owned by a country to produce a certain product. Porter (1990, in Fundeanu & Badele, 2014) divides 4 dimensions in valuing comparative advantages; factor, demand, supporting and related industries, and also strategy, competition and corporate structure in the same sector. This efficiency level will in turn reflect comparative advantage of a country (Voinescu & Moisoiu, 2015). David Ricardo's principle about comparative advantage shows that there is production factor (labor) and opportunity cost that push to specialization (Gupta, 2009). In this model we can see factor that contributes to comparative advantage such as resources, technology gap, demand pattern and national and international trade policy. Nonetheless, factor that is primary in driving commodity trade between countries is technology gap (Gupta, 2009).



Source: Gupta (2009)

Figure 1 Competitive Advantage Framework



Source: Gupta (2009)

Figure 2 Comparative Advantage Framework

Theoretically, there are consequences if two countries produce two goods with one production factor; i) if a country has comparative advantage for a good, the other country will have comparative advantage for another good ii) any country can compete internationally if it has one comparative advantage compared to other countries iii) there is no country that could lose its comparative advantage completely if other country could adapt better to technological change. iv) there is no country that can have comparative advantage in all industry (Voinescu & Moisoiu, 2015).

b. Increase of Competitiveness

There are so many perceptions about competitiveness. According to OECD, competitiveness is a country's ability to sell goods and services in global market that is followed by stability or increasing real income in the long run (OECD, 2005). Tyson (1992, p1 in Mulatu, 2015) defines competitiveness as ability to produce goods and services that meets global standards that is followed by high level of wealth that is sustainable. Competitiveness reflects the ability to penetrate and to survive in the market, to increase revenue and profitability (Filo, 2007 in Jovan & Martinovic, 2014). Therefore in general competitiveness reflects productivity that in turn will affect economic growth in the long run.

The main key to increase global competitiveness is to increase productivity and export of products with high value added (Erkan & Yildirimci, 2015). This can be done through research and product development as well as manufacture process and investment in technology. Improved performance on manufacturing process can be obtained because of intra industry spillover existence. Other factors that form competitiveness are cost structure and exchange rate (Mulatu, 2015).

Dimension that can be relied on to determine export competitiveness of a country are total export (volume and market share, level and growth), and export diversification and quality or complexity of exported goods (Farole, Reis, & Wagle, 2010). Product specialization/export market generally happens in developing countries. Developing countries tend to be unable to compete in market specialization due to trade barriers.

c. Previous Studies

Studies about export competitiveness have been done in the past. Below are several examples:

No	Title	Method	Conclusion
1	Economic Complexity and Export Competitiveness: The Case of Turkey (Erkan & Yildirimci, 2015)	Regression (least square and cross section analysis)	Turkey is a country which focuses on labor intensive goods, thus the exported goods are not goods with high value added be it technologically or scientifically. Therefore, economic complexity index for Turkey is relatively low. Using quantitative method it can be inferred that logistic

			performance can affect economic complexity index. In order to improve export performance, logistic performance needs to be improved.
2	Competitiveness of Nations in Selected SEE Countries (Jovan & Martinovic, 2014)	Factor analysis	The aim of this study is to identify factors that determine competitiveness. Those factors are business environment, health services, education and communication, international trade, complex products industry, labor market, crime education and basic education, new business, legal system, business openness, government and disposable income. All those factors can reflect competitiveness in SEE countries than the existed competitiveness index.
3	The Impact of Regional Innovative Clusters on Competitiveness (Fundeanu & Badele, 2014)	Cluster Model triplehelix, for leafclover and competitive advantage theory	Cluster can result in economic and social impact to competitiveness and innovation. Innovative cluster can yield vacancies, Labor specialization and income rise. In Romania and Oltenia, cluster development needs catalyst organization that can accommodate cooperation between companies, research institutes and public authority.
4	Macroeconomic Performance Ana International Competitiveness of The Agro-Food Sectors in The EU Countries: Implication for	1. Agro sector performance: labor share of agro sector, value added share of agro sector, output of Agro sector to total output.	There is positive relationship between agro output to national output and agro sector competitiveness. CAP in countries with low RC index

	The Future CAP (Figiel & Kufel, 2013)	2. Competitiveness: revealed comparative advantage (RCA) and revealed competitiveness index (RC) 3. Regression	should concentrate on agro sector efficiency.
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Research Method

This study uses secondary data as follows:

- a. 3-digit export-import SITC (Bank Indonesia)
- b. Sumatera PDRB from 2011 to 2014 (BPS)
- c. World export commodity from 2011 to 2014 (UN Comtrade).

Data Analysis Tools

The mapping of exported goods' competitiveness in this study uses Revealed Comparative Advantage (RCA) method and market positioning mapping. RCA is one of methods that are used to estimate comparative advantage of a product in region. The measurement is as follows:

$$RCA_i = \frac{x_i / tot_i}{x_w / tot_w} \dots\dots\dots(1)$$

where

- x_i : Export of country i for analyzed sectors.
- x_w : Total world export for analyzed sectors.
- tot_i : Total export of country i
- tot_w : World total export

Market positioning mapping shows export commodity positioning that is derivative product of main export commodity. If RCA sees competitiveness of a product based on a certain product market share to total export, market positioning mapping can give a better view because it also puts aggregate global demand into equation. Method used is based on Scoreboard calculation in Industrial Development Report 2014 that is market positioning matrix (table 1). Market positioning matrix has two axis; average of world export of commodity i on vertical axis and change or market share of commodity i country j on horizontal axis. The most potential commodity to be developed belongs to champion quadrant. Meanwhile, the least potential commodity belongs to declining sector quadrant.

Table 1 Export Goods Market Share Mapping

	Growth/World Export Market Share
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		Rising (Dynamic)	Falling (Stagnant)
Region's market share to	Rising (competitive)	Optimal "Champions"	Vulnerable "Achievers in Adversity"
International trade	Falling (non-competitive)	Weakness "underachievers"	Restructuring "declining sector"

Source: UNINDO, 2014

Estimate Results

Industry market share in Sumatra during 2005-2014 tends to be stagnant that is dominated by food and beverage industry that contributes 52% which mainly is driven by industry in North Sumatra and Riau. Based on export good characteristics, almost all provinces in Sumatra rely on goods with extractive activity. Therefore, 68% of export goods of Sumatra are natural resources; CPO, tin, and pulp. Since 2011, these natural resources based products are relatively stagnant to total export. Generally the bi three export commodities in Sumatra based on product classification can be seen on Table 2.

Table 2 Top Export Value Industries in Sumatra 2014

Resource Based Export Vegetable and Animal Oil Metals other than iron Pulp and waste paper	Medium Technology product Miscellaneous chemical product Electrical part/component General industrial match and equipment
Labour Intensive Product Manufactures of Metal NES Flat rolled product non clad Arms and ammunition	High Technology Product Electrical power machinery and part Office machinery Automatic data processing

Source: Bank Indonesia, processed

Sumatra export products with highest competitiveness based on Revealed Comparative Advantage (RCA) are vegetable oil, tin, crude rubber, derivative products of pulp and vegetable oil. Nonetheless, these commodities also have the most decreasing trend during 2011-2014 that is caused by declining global demand and declining commodity prices. Meanwhile, there are several commodities that have increasing RCA; vegetable oil derivatives, crude rubber, building equipment, tobacco refinery, and basic metal industry.

Based on market positioning, one thing that needs to be taken seriously is Sumatra flagship products only belong to achievers in adversity or even in declining sector for tin. Meanwhile products that are in champion quadrant are dominated with natural resources. Tin that belongs to declining sector quadrant indicates the needs of restructuring due to the stagnant demand in an uncompetitive market. Meanwhile vegetable oil, rubber and refinery oil that belong to achievers in adversity cluster indicates susceptibility to export performance. This is due to declining global demand despite product competitiveness. Competitiveness of vegetable oil refinery in global market is reflected through high

export growth compared to world export growth. This indicates urgency of product diversification compared to market diversification.



Figure 3 Commodity Export Market Positioning of Sumatera

Market share comparison of main competitors is done to determine export characteristics. Compared to Malaysia as main producer of world palm oil, Sumatera products is relatively better. This is reflected by Malaysian product that already belongs in declining sector. Yet, basically share of palm oil product of Malaysia increases significantly compared to Sumatera's that shows orientation on downstream products which is higher than Sumatera. This condition also happens to crude rubber commodity of Thailand that is more competitive which is reflected by high market share change compared to Sumatera and Malaysia.

Global market dynamics for flagship product that tends to be stagnant or declining pushes export performance improvement thru alternative products' development. Identification of product potential that needs to be pushed as well as potential products is based on competitiveness and that particular commodity's share to world export. Classification result shows products that still need push; vegetable oil, tin and rubber. Meanwhile potential products that can be developed are basic metal industry, tobacco refinery and building equipment. Market share fluctuations for those products indicate that global market for those products is dynamic. Therefore, businessmen are required to produce efficiently to muffle marker risk. Nevertheless, these products generally are natural resources-based so that it has little to no value added and is highly dependent on manufacturing performance of trading partners. In order to yield a better economic condition in the long run, there needs to be technological advance so that more advanced products can be produced.

Table 3 Potential Products Comparison

Classification	Commodity	RCA	RCA	Trend	World	World Share Trend
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		2011	2014		Share (2014)	(2011 → 2014)
Primary	Vegetable oil refinery	2,78	33,45	Increasing	19,15%	Increasing
Need Push	Vegetable oil	75,44	65,96	Dynamic	37,77%	Tends to increase and decreases in 2014
	Tin	59,56	45,57	Dynamic	26,09%	Tends to decrease
	Rubber	47,29	36,4	Tends to increase yet it decreases in 2012	30,08%	Tends to increase yet decreases in 2012.
Potential	Tobacco Refinery	1,76	2,3	Increasing	1,31%	Increasing
	Building Equipment	0,69	1,28	Tends to increase yet decreases in 2014.	0,73%	Tends to increase yet decreases in 2014
	Basic Metal Industry	0,05	0,32	Increasing	0,18%	Increasing

Source: Bank Indonesia and UNComtrade, processed

Conclusion and Suggestions

Sumatera's export products are dominated with natural resources based products such as CPO, tin and pulp. Since 2011, product share with natural resources basis is relatively stagnant to total export. These flagship products have relatively high competitiveness but the trend is decreasing due to decreasing demand and price. Based on the market position, Sumatera's products generally belong to achievers in adversity quadrant, where products are competitive in global market yet the demand is decreasing. This indicates susceptibility of export performance. Meanwhile products that belong to champion quadrant are mostly natural resources based. Tin as one of flagship products is even already in declining sector. Global Market dynamics for flagship products that tend to be stagnant or decreasing push identification of products that need push and potential products to develop. Identification process is done based on competitiveness and share of commodity to world export. Classification result shows that products that need push are vegetable oil, tin, and rubber. Potential products are tobacco refinery, building equipment and basic metal industry. Nevertheless, these products are natural resources-based that has little to no value added and rely heavily on manufacturing performance of trading partners. In order to produce better economic output in the long run, technology development is needed so that more advanced products can be produced.

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