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Analysis of Work Performance and Export Competitiveness in Province of Indonesia

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Abstract

The purpose of this study is to analyse the export performance of provinces in Indonesia, the effect of export and capital stock on the long-term and short-term economic growth of Indonesia and the competitiveness of provinces in exporting Indonesia's leading products. The panel data from 33 provinces in Indonesia from 2000-2016 is used in this study. The secondary data is consist of gross regional domestic product (GRDP), export value and gross fixed capital formation (GFCF). Export performance is measured using regional export performance index meanwhile, the effect of export and capital stock on long-term and short-term economic growth is analysed using cointegrated panel model and error correction model (ECM) panel. Finally, RCA dynamic is used in analysing export competitiveness. The results show that export performance of each province have various rating on the regional economies. Only 11 provinces have regional export performance index higher than while, meaning that only 33.3% of the total provinces, while the rest of the provinces have index that are less than one. This shows that only few provinces that can provide good performance of export. Based on the co-integrated test, there is a long-term relation between GRDP, export and GFCF. In both long-term and short-term, export and GFCF have positive impact on GRDP showing that the increase in export and/or GFCF will increase GRDP, which will results in economic growth. Furthermore, the results of RCA dynamic show that the export competitiveness is not always following the growth of national export segment. Indonesia's rubber and coal exports have negative growth of national export segment while export of palm oil, coffee and textile have positive growth.

Keywords: export performance, competitiveness, export led growth, cointegrate panel, ECM panel

INTRODUCTION

Foreign trade is an important aspect in every country's economy. It is relate to economic growth, international trade which is often consider as an "engine of growth" (Salvatore 1997: 423). Although the theory of economic growth does not explicitly and clearly using international trade variables as one of the main components in determining economic growth. The basic theories that have considered international trade variables are the new growth theory or endogenous. In the new growth theory has been considered the possibility of externality or increasing return to scale in production function Externalities that can be generated from import and export activites and to other countries.

According to Jung and Marshall (1985) as cited in Ramly (2013), the relationship between exports and growth are consist of four possibilities or hypotheses: export led hypothesis, internally generated export hypothesis, and growth reducing export hypothesis). The result of the study which shows the validity of Export Led Growth is based on the fact that: first, export has multiplier effect in expanding production and job opportunity. Second, the exchange rate encourages exports and imports of capital goods thus increasing domestic economic potential. Third, the volume of trade and competition in the market contest led to the emergence of economies of scale and acceleration in the advancement of production techniques (Ramly, 2013).

Table 1. GDP based on Expenditure in 2014-2016 based on constant price in 2010

GDB using	GDP component (Billion Rupiah)			Proportion			Growth Rate			Growth Resources		
	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
Household Consumption	4.651,48	488,26	5.126,50	54,30	54,39	54,35	5,16	4,96	5,00	2,80	2,70	2,72
Foreign Consumption	99,42	98,79	105,34	1,16	1,10	1,12	12,19	-0,63	6,63	0,14	-0,01	0,07
Government Consumption	736,28	775,93	774,30	8,60	8,64	8,21	1,16	5,38	-0,21	0,10	0,47	-0,02
Gross fixed Capital Formation	2.775,73	2916,60	3.041,83	32,40	32,49	32,25	4,57	5,07	4,29	1,48	1,65	1,38
Change in inventory	156,72	112,85	139,59	1,83	1,26	1,48	25,93	-27,99	23,70	0,47	-0,35	0,35
Export	2.046,30	2.005,95	1969,64	23,89	22,35	20,88	2,00	-1,97	-2,81	0,24	-0,44	-0,38
Import	1.988,54	1.872,35	1.817,55	23,21	20,86	19,27	2,19	-5,84	-2,93	0,51	-1,22	-0,56
Gross Domestic Product	8.566,27	8.976,93	9.433,03	100,00	100,00	100,00	5,06	4,88	5,02	5,06	4,88	5,02

Source: Indonesia Gross Domestic Product based on expenditure, 2012-2016, BPS

Indonesia's exports and GDP value tend to having trend increasing year by year. The table above shows that the proportion of export components also tends to be high to GDP. However, in recent years the GDP growth rate and exports declined even the growth rate of exports experienced the negative growth. There is no doubt that the recent decline in exports has contributed to the weakening of Indonesia's economic growth. This means that in the growth

rate there is a direct relationship between exports and GDP in recent years. While seen from the source of growth, household consumption and Gross Fixed Capital Formation (Pembentukan Modal Tetap Bruto) give a big contribution to the economic growth of Indonesia.

From the table above can also be seen that in addition to household consumption, Gross Fixed Capital Formation which describes the amount of investment/capital stock and exports have a high contribution to the GDP of Indonesia. Both components as described in the theory of economic growth are the driving factor in a region's economic growth.

Exports have long been the strength of the Indonesian economy. Indonesia in the Soeharto Era, known as the world's major oil producer and exporter. Indonesia entered the ranks of 11 largest oil producers in the world. However, massive oil production throughout the New Order period caused oil reserves decline sharply. Since the 1980s, Indonesia has no longer dependent on oil and gas exports, the non-oil and gas sector has dominated Indonesia's exports. This is evident from the role of non-oil / gas exports in 2015 reaching 87.65 percent (BPS). Several Indonesian non-oil/Gas export commodities can be triumphed in international markets is plantation commodities such as palm oil, rubber, coffee and cocoa. In addition, Indonesia's mining commodities can also control world market shares such as coal and natural gas.

Nowadays, Exports become one of the strengths of the regional economy, the role of exports is very important to support the economic growth of a region. Since the enactment of regional autonomy, every province has been more free in determining the sector / commodity prioritized its development. The economic base theory based its view that the economic growth rate of a region is determined by the large increase in exports from the region (Tarigan, 2003: 28).

The success of a region in international trade can also be seen from the competitiveness of its export products. Export competitiveness becomes the driving factor of region export performance . Competitiveness has become the key of a region to succeed in its participation in globalization and world free trade (Bustami and Hidayat, 2013). Not surprisingly, every province is compete to increase its superior product exports in order to continue to compete in the international market.

Various problems are faced in export development such as the composition of exported goods is not balanced because it is dominated by certain types of commodities so that export revenues are highly dependent on the export of these commodities. Export dependence on primary products is covered by risk factors and uncertainty factors are very high, because the market and prices for such export products are uncertain (Todaro, 2003: 7). For example, processed rubber commodities, in addition to facing price problems that often fluctuate also face rival rubber synthesis.

Another problem of Indonesian exports is export destination countries which are still concentrated in certain countries such as the United States, China and Japan. As a result of dependence on the countries that mentioned is very large. Any turmoil that occurs in the country will affect export performance. This

turmoil is not limited only to economic turmiol but also the non-economic that occurs in the country.

Recently Various problems export activities led to a decline in the value of Indonesian exports. Because export is one of the driving factor of the region economy, so researchers are interested to analyze the export performance of the provinces in Indonesia, analyze the effect of exports and capital stock on Indonesia's long-term and short-term economic growth and analyze the competitiveness of provincial exports of Indonesia's superior products.

LITERATURE REVIEW

Theory of Economic Growth

According to the view of classical economists, the law of diminishing returns will affect economic growth. This means that economic growth will not continue. At the beginning, if the population is small and the natural wealth is relatively excessive, the rate of return on investment made will be high. Then entrepreneurs will have more benefit. This will create new investment, and economic growth will occured. With the limited land, if the population is too much, it will decrease the level of economic activity because the productivity of each population has become negative. So the prosperity of society declined again. The economy will reach a very low level of prosperity. When this is achieved, the economy have reached stasionary state.

Harrod-Domar's theory sees economic growth in terms of demand that economic growth will occur when there is an increase in investment. According to Harrod-Domar, every economy can set aside a certain proportion of its national income if only to replace damaged capital goods. However, to grow the economy, new investments are needed in addition to the stock of capital.

The neo classical growth theory was developed by two economists: Robert Solow and Trevor Swan. Neoclassical theory argues that economic growth come from the addition and development of factors affecting aggregate supply. This growth theory also emphasizes that the development of production factors and technological progress is a determining factor in economic growth (Sukirno, 1994). Because the level of technological progress is determined exogenously the neo classical model of Solow is also called the exogenous growth model.

Endogenous growth models assume that international trade is important as a factor affecting economic growth. The international trade model is measured through export and import activities.

Regional economic growth theory commonly known as one is the theory of export bases that assume that exports are the only exogenous (independent) element in expenditure, which mean that all other expenditure elements are dependent on income. This indirectly means beyond natural increment, only an increase in exports can lead to increased regional revenues because other sectors are bound by increased regional revenues. Other sectors only increase when overall regional revenue increases.

International Trade Theory

Absolute advantage of Adam Smith's theory of trade between two countries is based on absolute advantage. According to the Theory of Comparative Advantage (in Salvatore, 1997), although a country is less efficient than (or has absolute losses to) other countries in producing both commodities, there is still a basis for trade that benefits both parties. The first country must specialize in producing and exporting commodities with less absolute losses (this is a commodity with comparative advantage) and importing commodities with greater absolute losses (these commodities have comparative losses).

Modern theory of international trade according to Hecksher and Ohlin is the proportion factor states that the difference in the opportunity cost of a country with another countries because of the difference in its production factors.

Export-led Growth Hypothesis (ELGH)

The main of export-led growth hypothesis is that the main determinant of economic growth is exports, or in other words export becomes the driving force for economic growth. According to Lorde (2011), exports encourage specialization in the production of export commodities that encourage increased levels of productivity and can lead to increased skills in the export sector and resulting the reallocation of resources from less efficient non-trade sectors to an efficient trading sector.

The starting point for investigating the Export Led Growth hypothesis stems from an AK production function:

$$Y_{it} = A_{it}$$

Where Y is the output, A is the productivity level and K is the stock of capital. i and t are region and time. Export X has a direct effect on productivity.

$$A_{it} = f(X_{it}) = X_{it}^{\alpha}$$

Substituting the fit (1) into equation (2) and using the log to obtain the equation:

$$log\, Y_{it} = \alpha log\, X_{it} + \beta\, log\, K_{it} + u_{it}$$

Competitiveness

Definition of competitiveness began to develop after Porter (1990) defines national competitiveness. Porter (as cited in Widyasanti, 2010) defines national competitiveness as: "the output of a country's ability to innovate in order to achieve, or maintain a favorable position compared to other countries in its key sectors" . Export competitiveness is the ability of a sector which, by comparison is more favorable for the development of an area than the average distribution of other regions in a larger area, because it has a higher exporting capability than the average of the same exports from other regions (Dikdik, 2007 : 12). In assessing competitiveness refers to the theories of international trade.

Previous Research

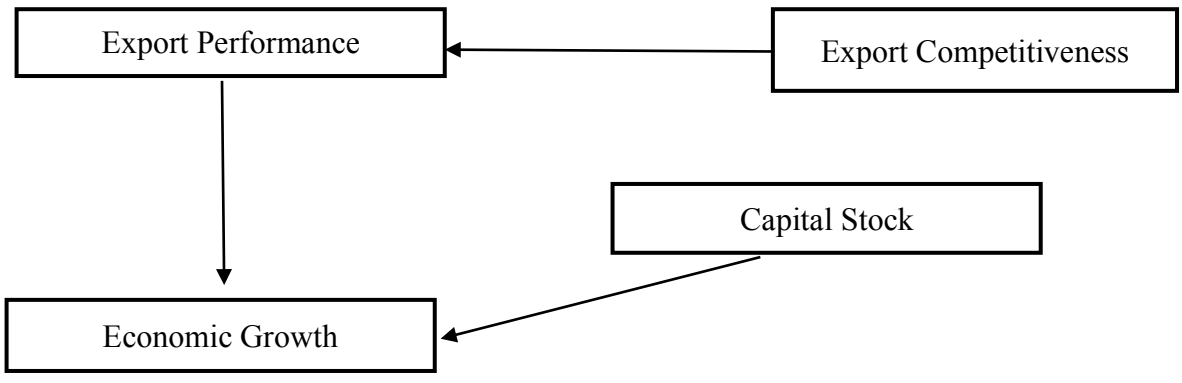
Dreger and Zhang (2013) examine the relevance of the Export Led Growth hypothesis on regional economies in China, with empirical evidence from 28 provinces. The method used is cointegration panel and error correction model. The result of this research concludes that there are relation between three variables that is GDP, export and stock of capital.

The research titled Provincial Export in export development (Export Performance Index Methodology) by Ramly (2013) aims to examine provincial export performance in Indonesia. Based on Export Performance Index Methodology calculations, provinces in Indonesia with high export performance generally include areas with high per capita income. Most of them include provinces with relatively large natural resource potential.

Safari, Menik and Aula (2016) examine the effect of exports, capital formation and government expenditure on Indonesia's economic growth in the period 1975-2014. Data analysis techniques use time series data analysis with ECM (Error Correction Model). The results showed that export and capital formation variables positively affect GDP in the long term and short term and government expenditure variable negatively affect GDP in the long term and short term, economic crisis is not significant effect on GDP change.

Widyasanti (2010) examines the competitiveness of Indonesian exports after Indonesia is involved in the ASEAN Free Trade Agreement (AFTA) and the ASEAN-China Free Trade Agreement (ACFTA). Export competitiveness is measured by several trade indicators, such as: export intensity index, market share, and dynamic RCA, for some of Indonesia's major export products. The results show that Indonesia is in good condition and has opened its own market share for some products. In the Chinese market, Indonesia managed to seize the market only for plastic and rubber products, mineral products and footwear.

Theoretical Framework



This study will see the regional / provincial export performance as measured by the Regional Export Performance Index. Then this research would like to prove whether export encourages economic growth (export led growth hypothesis), by

using the decrease of production function which include export and stock variables as independent variable, regional economic growth is represented by regional output that is provincial Regional Gross Domestic Product value. Export analysis can not be separated from the competitiveness of export products because export competitiveness will boost export performance. Therefore, this research will also describe the competitiveness of Indonesia's superior product exports regionally / province

Research Hypothesis

H_1 : Provincial export development above its regional economic capability (provincial export performance index more than 1).

H_2 : Exports and stocks of capital have a positive effect on economic growth both in the long term and short term.

H_3 : Provincial export products have the competitiveness advanteages (provincial export competitiveness index is more than 0).

METHODS

The scope of research

The scope of this study covers export performance, the relationship and influence of exports and capital stocks on economic growth and competitiveness of Indonesia's superior product exports. This study covers 33 provinces in Indonesia. For export competitiveness, Indonesia's five main commodities are palm oil, coffee, rubber, coal and textile products. Research period from 2000 to 2016.

Types and Data Sources

Data used in this research are secondary data and panel data from 33 provinces in Indonesia. Sources of secondary data used in this study came from the Central Bureau of Statistics (Badan Pusat Statistik). The data used in this research are Gross Domestic Product of Indonesia, Province Gross Regional Domestic Product, provincial and national export value, and provincial Gross Fixed Capital Formation.

Research Variables and Operational Definition

The research variables used are export, capital stock, economic growth, GDP and GRDP. The operational definition used in this research are;

1. Export Performance

Export performance is a success rate of export, in this study wanted to see export performance in relation to the regional economy.

2. Economic Growth

Economic growth is the process of increasing the production capacity of an economy which is manifested in the form of an increase in national income / Gross Domestic Product. The provincial economic growth variable in this study is represented by provincial GDP data at constant prices in 2010

3. GDP and GRDP

Gross Domestic Product (GDP) and Gross Regional Domestic Product (GRDP) is the amount of value added goods and services produced from all economic activities in a region within a particular year or period. In this study, for the calculation of export performance index of GDP and GRDP used at current prices in billions of rupiah

4. Export

Export is an activity of selling or sending goods or commodities to foreign countries in accordance with government provisions with payment or international currency ie US Dollar. In this study, the export variable is measured by the export value. The unit of export value is million US $.

5. Capital Stock

Capital stocks are defined as inventories of various types of capital goods, such as buildings, machinery, transportation, cattle and other capital goods, which contribute to the viability of a production process. In this study, the capital stock is measured using the value of the Gross Fixed Capital Formation of the province in Indonesia based on the constant price of 2010, in units of billions of rupiah.

6. Export Competitiveness

Export competitiveness is the ability of a commodity to enter foreign markets and its ability to survive in that market.

Analysis Technique

To analyze the export performance used Regional Export Performance Index (IPER). This technique can be defined as the ratio between UEP and UEkP, ie:

$$IPER = \frac{UEP}{UEkP}$$

Where UEP = size of regional exports (export value of province divided by the value of national exports) and UEkP = regional economic size (provincial GRDP / GDP). IPER is between zero and infinity. If IPER <1 then the performance or regional rating is low, in other words export development is below its regional economic capability. If IPER> 1 then the performance or regional rating is high, in other words export development above its regional economic capability.

In this study, the calculation of the competitiveness of exports using the Revealed Comparative Advantage (RCA) dynamic that refers to Edwards and Schoee (2001), calculated using the formula as follows:

$$DRCA = \frac{\Delta(\frac{X_{ik}}{\sum_k X_{ik}})}{\frac{X_{ik}}{\sum_k X_{ik}}} - \frac{\Delta(\frac{X_{wk}}{\sum_k X_{wk}})}{\frac{X_{wk}}{\sum_k X_{wk}}}$$

The first part of the right-hand side of the equation refers to the export share of the province's export product commodity to the total value of the province's exports. The second part refers to the export share of Indonesia's export commodity products to total Indonesian exports.

Table 2. Dynamic RCA Competitiveness Matrix

	Product Segment in Province		Product Segment in Indonesia	Competitiveness Position
RCA Incline	↑	>	↑	Rising Star
	↑	>	↓	Falling Star
	↓	>	↓	Lagging Retreat
RCA Decline	↓	<	↑	Lost Opportunity
	↓	<	↓	Leading Retreat
	↑	<	↑	Lagging Opportunity

Sources : Edwards & Schoer (2001)

Cointegration Panel and ECM Panel

First step is examining the panel data of unit root/stationery using a method consists of two kinds, i.e. common unit root which consist of statistical test of Levi, Lin and Chu dan Breitung also individual unit root which consist of statistical test of Pesaran and Shin and PP Fisher Test.

Cointegration is a long-term relationship between variables although individually not stationary but the linear combination between that variable become stationary. There is a different method in examining panel data cointegration. The method which can be used for doing the cointegration test is growth from

cointegration test in data time series, like Pedroni and Koo's method (which used basic test of Engle-Granger cointegration) and combined individual test (Fisher/Johansen). The Requirements of cointegration examining is all variables should be stationary on the same *difference*. After getting the result from cointegration test, then analyze the FMOLS's panel (*Fully Modified Ordinary Least Square*) for getting the effect of long term between dependent variabel and independent variable. There is a common model of FMOLS's panel (Pedroni, 2000):

$$y_{it} = \alpha_i + \beta_i X_{it} + \mu_{it}, \qquad with \;\; X_{it} = X_{it-1} + \varepsilon_{it}$$

ECM (*Error Correction Model*) is a model which is used for analyze short-term relationship. If the variable has a long-term relationship (there is a cointegration), so the assumption in short-term is variable has no equilibrium relationship. If there is a new balance in long-term so in short-term need an adjustment on certain time (*lag*) so the variable can return to equilibrium in process towards the long-term balance.

Common model of ECM panel can be drawn by the equation below:

$$\Delta Y_{it} = \beta_0 + \beta_1 \Delta X_{1it} + \beta_2 \Delta X_{2it} + \beta_3 ECT_{it-1} + \varepsilon_{it}$$

Where Δ is difference, Y is dependent variable, X is independent variable, β is a slope from independent variable, ECT is an error corrrection or salvage lag 1 from the initial equation, ε is an error or salvage and i and t is individu and time.

FINDINGS

The Export Performance Of Provinces In Indonesia

The highest average of IPER reach 3.6419 which belongs to South Kalimantan and the lowest is 0.0357 which belongs to Nusa Tenggara Timur. The rating of 3.6419 shows that the export performance of provinces reach 3.6419 times higher than the ability of regional economy. In the other words, every 1 percent of regional economic shares to the national will create 3.6419 percent of regional exports. Rating 0.0357 means every 1 percent of regional economic shares only create 0.0357 percent exports or 96.43 percent below the capacity of its regional economy.

Table 3. IPER Value and Each Provinces Rank Period 2010-2016

Province	Average 2010-2016	Rank	Province	Average 2010-2016	Rank

Kalsel	3.6419	1	Sumbar	0.7091	17
Kepri	3.6115	2	Sumsel	0.6870	18
Papbar	3.0614	3	Jatim	0.6705	19
Kaltim	2.8890	4	Sultara	0.5109	20
Babel	2.4116	5	Kalbar	0.4921	21
Riau	1.8460	6	Bengkulu	0.4053	22
Banten	1.4415	7	Jateng	0.3952	23
Jambi	1.4263	8	DKI Jakarta	0.3925	24
Jabar	1.1684	9	Maluku	0.3910	25
Papua	1.1579	10	Sulsel	0.3781	26
Sumut	1.0792	11	Sulteng	0.3750	27
Lampung	0.9480	12	Aceh	0.3425	28
Kalteng	0.8094	13	Bali	0.2299	29
Malut	0.7685	14	Yogya	0.1974	30
NTB	0.7465	15	Gorontalo	0.0371	31
Sulut	0.7434	16	NTT	0.0357	32

Provinces which can reach IPER >1 only 11 provinces or 33.3 percent from all provinces, and the rest 66,7 percent below one (IPER<1). In other words only a few of province which can shows the best performance in export development. It's very concerned given almost most of the provinces through economic policy which oriented to the export promotion.

Provinces which have IPER > 1 commonly is a region with high income per capita rate, natural resources potential which relatively large and processing industry that keep growth. But the small number of IPER doesn't mean bad to the economy of a region, it can be that region doesn't rely on its economy at primary and secondary sector which export-oriented, but on tertiary sector like services at Bali and DKI Jakarta.

The Long-Term and Short-Term Effect of Export and GFCF to the GRDP

The result of stationary test of GRDP, export and GFCF variable shows there is a *unit root* in real rate of 1% or means the data not stationary at level. Based on that, it took a follow up of all variables stationary test on the level of *first difference* (ΔLnPDRB, ΔLnEKSPOR dan ΔLnPMTB).

Table 4. The Results of Unit Root Test on Panel Data

Variable	Diff	Method[2]	Statistic P-Value Test				Result
			LLC test	Breitung	IPS test	PP fisher	
LnPDRB	0	1	1,0000	0,9982	1,0000	1,0000	I(1)
LnPDRB	0	2	0,0000	0,2289	0,0000	0,0000	
d(LnPDRB)	1	1	0,0000		0,0000	0,0000	
d(LnPDRB)	1	2	0,0000		0,0000	0,0000	
LnEKSPOR	0	1	0,0000	0,2285	0,0469	0,8134	I(1)
LnEKSPOR	0	2	0,0264	0,0000	0.8353	0,4144	
d(LnEKSPOR)	1	1	0,0000		0,0000	0,0000	
d(LnEKSPOR)	1	2	0,0000		0,0000	0,0000	
LnPMTB	0	1	0,2278	0,7556	1,0000	0,7014	I(1)
LnPMTB	0	2	0,0000		0,0009	0,0045	
d(LnPMTB)	1	1	0,0000	0,0000	0,0000	0,0000	
d(LnPMTB)	1	2	0,0000		0,0000	0,0000	

The result of data stationary test on *first difference* level shows that all variables related to the research has no *unit root,* in the other words all stationary variables with real level test of 1%.

As a follow up from stationary test above, so the related variables need a cointegration test to see whether or not the long-term relationship between that variables. The result of Pedroni cointegration test shows that on real level of 1%, Three out of seven statistical test said refuse zero hypotheses (there is no cointegration) means the variables used in research will be cointegrated each other. The result of cointegration test is concluded that all variables in this research will be cointegrated each other supported by the result of Koo cointegration test which is significantly on real level of 1%.

Table 5. The Result of Pedroni Cointegration Test

Statistical Test	Unweighted	Weighted
Panel υ-stat	16.36 (0.0000)	15.49 (0.0000)
Panel ρ-stati	3.07 (0.9989)	3.34 (0.9996)
Panel t-stat	0.91 (0.8192)	0.78 (0.7815)
Panel ADF-stat	-2.33 (0.0099)	-3.09 (0.0010)
Group ρ-stat	5.31 (1.0000)	

Group t-stat	-0.06 (0.4753)
Group ADF-stat	-3.23 (0.0006)

Table 6. The Result of Kao Cointegration Test

Variables	ADF	
	T-statistic	Prob
LnGRDP, LnEXPORT, LnGFCF	-4.643985	0.0000

From the result of processing data with FMOLS got the equation of long-term regression as follows:

$$\mathbf{Ln}\boldsymbol{GRDP}_{it} = \mathbf{0,089\ Ln}\ \boldsymbol{EXPORT}_{it} + \mathbf{0,566\ ln}\ \boldsymbol{GFCF}_{it} + \boldsymbol{\varepsilon}_{it}$$

The explanatory variables such as export and GFCF has a long-term positive effect to GRDP by each probability of 0.0024 and 0.0000. Both of that variables significant on real level of 1%. Coefficient of long-term export is 0.089, it means in long-term the changes of one percent export will cause the GRDP change of 0.089 percent. The coefficient of GFCF is 0.566 means the changes of 1 percent GFCF will cause the GRDP change of 0.566 percent.

Export is one of determinant of economic growth in a region which can give *multiplier effect* in long-term. When occurs the export demand addition so the production in country will increase which absolutely adding the output in that region. The increasing of production will effect to the addition of labor or work time so it will increase the workers's income. Beside that, the increasing of export will promote other sectors growth like input and services production.

The additional investment will make private sector doing expansion like adding output or capital goods and also can add the labor absorption. As well as capital formation by the government especially infrastructure development can smooth the distribution of goods and people, and also connect the region that were formerly isolated so can promote the economiy in a region.

While the equation of short-term model showed by:

$$\Delta\boldsymbol{LnGRDP}_{it} = \mathbf{0.0466} + \mathbf{0.0098}\ \Delta\mathbf{Ln}\ \boldsymbol{EXPORT}_{it} + \mathbf{0.0651}\ \Delta\mathbf{Ln}\ \boldsymbol{GFCF}_{it} - \mathbf{0.0699}\ \boldsymbol{ECT}_{it-1}$$

In short-term, the export and GFCF variables also have a positive effect to the GRDP with each probability of 0.0000 and 0.0020, significant on real level of 1%. While the ECT variable will give negative effect with probability of 0.0000.

The value of ECT regression coefficient with negative symbol and significant shows speed of adjustment of GRDP to long-term balance.

The export regression coefficient value of 0.0098 shows if the changes of export increased by 1 percent, it will increase the change of GRDP by 0.0098 percent. The effect of export in short-term is smaller than long-term because in short-term, *multiplier effect* of export doen't last maximally. As well as GFCF variable, the increasing of GFCF changes is 1 percent will increase the changes of GRDP by 0.0651 percent. The effect of GRDP in short-term is smaller than long-term because an increasing of GFCF will not directly adding an output in region especially if additional capital in physical form.

Table 7. The Result of Parameter Estimation for every Provinces on Long-Term Effect Using FMOLS

Province	LnEKSPOR	LnPMTB	Province	LnEKSPOR	LnPMTB
Aceh	-0,0187	-0,1892	**Bali**	-0.0266	0.5555**
Sumut	0,0063	0,7092**	**NTB**	0.0219	0.5913**
Sumbar	0,0436*	0,9275**	**NTT**	0.0324**	0.5276**
Riau	-0.0386	0.4817**	**Kalbar**	0.0208**	0.8628**
Jambi	0.0004	0.9491**	**Kalteng**	-0.0190**	0.9660**
Sumsel	-0.0448**	0.8987**	**Kalsel**	-0.0433	0.6440**
Bengkulu	-0.0036	0.6465**	**Kaltim**	-0.0220	0.8535**
Lampung	0.0291	0.8690**	**Sulut**	-0.0278	0.9093**
Babel	-0.0077	0.8174**	**Sulteng**	0.0108*	0.7502**
Kepri	0.2360**	0.4052**	**Sulsel**	0.0123	0.6339**
Jakarta	-0.1687**	1.1749**	**Sultara**	-0.0339**	0.7995**
Jabar	-0.0006	0.8671**	**Gorontalo**	0.0175	0.6575**
Jateng	-0.0193	0.7796**	**Maluku**	0.0008	0.5200**
Yogya	0.0079	0.8341**	**Malut**	-0.0201**	0.4687**
Jatim	0.0103	1.0027**	**Papbar**	0.0463	0.9640**
Banten	0.0885	1.1589**	**Papua**	-0.0480	0.2760**

*and ** Show that the related variable affect to the balance sheet variable

The result of analysis in this research corresponds to the theory which is used i.e. the theory of classic, modern economic growth, new growth theory/endogenous and economy base theory. This result also shows hypotheses of *Export Led Growth* which said that one of the main determinant from economic growth is export.

The Export Competitiveness of Provinces

The export competitiveness value of provinces by using RCA showed by the substraction between the provinces export shares growth and the national export shares growth. A dynamics RCA dynamics is positive means export of provinces for that comodities have competitiveness.

For rubber comodities, the value of Indonesian rubber export has been decreasing in several years because plummeted price of rubber in international market so most of the rubber export in each provinces in Indonesia decrease. But, based on criteria of Dynamic RCA, there is still 5 provinces which feel the increasing of rubber export so it's including in *Falling Star* position i.e. the commodity of rubber in that provinces still have excellence competitiveness which increase although Indonesia export to that product tend to decrease.

Export of Indonesia Palm oil tend to decrease but if compared with years 2010, Export of Palm oil 2016 still increase so the growth of Indonesia palm oil export shares is positive. From 23 provinces which export commodities of palm oils and its fraction, there are nine provinces which located in *Lost Opportunity* position which is the level of export competitiveness palm oil product is decreasing when export to that product is increasing.

World demand to Indonesia coffee product tend to always increasing symbolized by the growth of coffee export shares which is positive. But, the competitiveness of province that contribute the coffee export for Indonesia more there in *Lost Opportunity* position. Provinces which located in that position is the largest coffee exporter like Lampung and East Java.

Table 8. The Export Shares Growth of Indonesia Major Commodities Year 2016 to 2010

Province	Rubber	Palm Oil	Coffe	Coal	Textile Product
Aceh	229,772		24,475		0,856
Sumut	-0,484	-0,032	0,651		-0,368
Sumbar	-0,451	0,259	2,173	-1000	0,299
Riau	-0,578	0,187	-0,925	-0,984	-0,994
Jambi	-0,617	-0,834	-0,642	-0,650	0,296
Sumsel	-0,065	-0,142	-0,369	3,795	4,973
Bengkulu	-0.590	1,280		0,220	
Lampung	-0,134	0,328	-0.075	-0.048	0.048
Babel	-0,395	0,223			
Kepri	-0,502	0,981	-0,957		-0,160
Jakarta	-0,541	2,909	33,761	-1,000	-0,513

Jabar	-0,039	-0,102	1,818	-1,000	0,20
Jateng	-0,563	0,356	-0,613	-1,000	0,51
Yogya	-0,965				0,116
Jatim	-0,284	1,753	-0,073	-1,000	-0,104
Banten	1,073	1.327.289,401	1,828		-0,280
Bali	1,838		0,065		-0,092
NTB	-1,000				1.520
NTT	2.701		0,997		2.649
Kalbar	0,251	2.624	-1000		8.672
Kalteng	-0,478	-0,363		0,310	
Kalsel	-0,525	1,162		-0,332	1,134
Kaltim	-0,288	0,312	-1,000	0,261	0,521
Kaltara					
Sulut		0,267			-0,512
Sulteng		-1,000			
Sulsel	0,810	-1,000	1,039		10,656
Sultara					
Gorontalo					13,112
Sulbar		-0,049			
Maluku					
Malut					
Papbar					-1,000
Papua		-0,994	20.860		197,392
Indonesia	-0,340	0,165	0,590	-0,225	0,152

The export of coal nowadays is decreasing because the demand and price which tend to decrease so the growth of coal export share is negative. Based on calculation of Dynamic RCA, the provinces that has a largest coal export like East Kalimantan, Central Kalimantan and South Sumatera still have competitiveness (RCA positive) i.e. in *Falling Star* position.

The result of products from textile industry are a major commodities of provinces located in Java Land. Textile product from Indonesia more in demand in international market so the value of Indonesia textile product export tend to increase and growth of export shares also positive.

CONCLUSION

The performance of provinces export to the regional economy of its rating varies. A provinces that are able to achieve IPER greater than 1 only 11 provinces or 33.3 percent from all provinces, th rest 66.7 percent less than 1. In the other word only a small part from provinces that can show good performance in exports development.

According to the result of cointegration test there is long-term relationship between GRDP variable, exports, and GFCF. In long-term and short-term, exports and GFCF have a positive effect to the GRDP. It means the increase of exports and GFCF will increase GRDP in other words will occur economic growth.

The result of competitiveness analysis with RCA Dynamic shows export competitiveness by provinces not always follow the growth of national export shares. For rubber and coal commodities despite the decline of export shares, but there are provinces which still have a competitiveness to those commodities by positive RCA Dynamic value. Otherwise, palm oil, coffee, and textile although the export shares increase but still there are provinces exporter which don't have a competitiveness (Negative RCA Dynamic).

Suggestion

The provinces with low export performance especially with low export value should begin to develop the potentials in their area especially which can be export-oriented because the exports enhancement will give Multiplier effect to the other economy activities so can increase the welfare of their population.

For provinces that still rely on exports of agricultural and mining products, it need diversification and specialization of export products that is supported by government policies in the development of export-based industrial zones especially outside Java Island. The industry of textile, footwear, and jewelry are the commodities on the rise demand so it can become development priority. Moreover, the promotion of exports need to be increased so that Indonesian exports don't depend on certain countries.

The government policy in increasing capital formation/investment both by private and government should continue to be activated. The government has issued a number of policies that support investment policy and large and equally infrastructure development. The government should also create a stable political and secure conditions to attract investor trust to Indonesia. Furthermore, the government should try to reduce the possibility of authority abuse or corruption especially in infrastructure development.

Need further research development by adding the amount of variable and time. A deep regional analysis can be done for the next research. Besides that, the commodities addition to competitiveness analysis so more illustrates the competitiveness of export commodities Indonesia.

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