CONTRIBUTION OF LAMPUNG COFFEE COMMODITY TO THE ECONOMIC IMPROVEMENT OF LAMPUNG PROVINCE

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ABSTRACT

This research aims to find out the competitiveness of Lampung coffee export commodities against other export products in Lampung province as well as the role of Lampung coffee export commodities to regional development seen from economic growth (PDRB) of Lampung Province. Free variables in this study include Exports, Investments and Taxes, while the bound variables in this study are PDRB Lampung. The research data was obtained from the Plantation Office (Disbun) Lampung province and BPS Lampung. The analysis tool used is Vector Error Correction *Models* (VECM). In this study also used the calculation of RCA and EPD indices to analyze the performance of Indonesian coffee exports. Based on calculations using E-Views obtained that Investment and Taxes have a significant effect on the PDRB. In addition, the significant influence of Lampung coffee exports on Investment and Taxes shows that Coffee is a regional strategic export commodity and contributes revenue to the region. The results of VECM testing show that in the long run variables will affect each other. That Lampung coffee commodities have an effect in the long term on regional economic growth and are able to boost regional investment and income.

Introduction

Coffee is the world's leading commodity and Indonesia,as evidenced by the increase in world trade production on coffee commodities by almost 61%, from an average of 94.6 million in the 1990s to 152.2 million bags on average estimated for 2012-2016. So in many countries coffee commodities have a very strategic role, such as in the United States and The United Kingdom coffee in America accounted for 1.6% of total GDP in 2015, with an economic value of US $ 225.2 billion. Similarly, in the UK it contributed 0.4% to GDP in 2015 with an economic value of US $ 12 billion. (International Coffee Orgaization, 2018).

Likewise in Indoensia One of the export commodities of plantation subsectors that play an important role is coffee. Coffee is Indonesia's leading commodity and is a source of foreign exchange, employment providers and as a source of income for farmers and other economic actors, especially in the largest coffee producing regions such as South

Sumatra, Lampung, North Sumatra, and East Java(*Densky et all, 2017).* Lampung as the contribution of Lampung Coffee area amounted to 185,000 tons per year or contributed 20% of the total productivity of Sumatra which amounted to 779,897. And it accounts for 15% of the total national production of 1,225,000 tons beyond *real export*capacity.

Ironically, although lampung coffee has a high production capacity or 80% of Lampung's production capacity of 180,000 Tons and is able to meet 25% of the world Robusta coffee needs of 582,000 Tons (USDA Annual Report 2019) as charted above. But Kopi Lampung only contributes Exports to THE PDRB (Gross Regional Domestic Product) of only 9%.

Based on the background above, it is found that the formulation of problems in this study is : What is the competitiveness of Lampung coffee export commodities against other export products in Lampung province? And what is the role of Lampung coffee export commodities to regional development variables seen from economic growth (PDRB) of Lampung Province?

Although similar research on coffee has been widely discussed in previous studies, but in looking at the contribus of Lampung coffee commodities to PDRB is considered never done. Other research only focuses on Asean Countries (Ginting & Kartiasih, 2019). And only use primary data through questionnaires (Abdul Kader, 2017).

This research will contribute theoretically to the development of science, especially to development economics. Contribution imperatively is to provide input to stakeholders and government leaders on the potential of coffee commodities in Lampung.

Literature review
Economic growth

In previous research stated that in previous research stated economic growth is not affected by total national income (Defia, 2018). In addition, the real GDP variables of ASEAN countries at a significance level of 5 percent positively affect indonesia's coffee export demand. Any increase in GDP of 1 percent would increase indonesia's coffee export demand by 0.668 percent assuming other variables are constant or in *paribus ceteris*conditions. The effect of GDP on coffee export demand is in accordance with the expected hypothesis (Ginting and Kartiasih, 2019). Coffee commodities affect the increase in national income in Saudi Arabia by 2% and are able to meet local demand of 80.07 thousand tons or equivalent to US $ 138.28 per hectare (Abdul Kader, 2017). In addition to consumers, improving the quality of coffee beans needs to be a concern as is done by Vietnam, especially in order to obtain price premiums. So as to increase national coffee exporters in order to increase GDP, international stock retention policies are needed so that prices are still determined by buyers*(buyers market)*(Drajat, 2017).

According to Kuznets, defining economic growth is "a long-term increase in a country's ability to provide more and more types of economic goods to its population. This ability grows in accordance with technological advances and the institutional and idiological adjustments it requires. This definition has 3 (three) components: *first,*the economic growth of a nation is seen from the continuous increase in the supply of goods; *second,* advanced technology is a factor in economic growth that determines the degree of growth in the ability to provide various goods to the population; *Third,* the widespread and efficient use of technology requires adjustments in the institutional and idiology fields so that innovations produced by human science can be utilized appropriately (Jhingan, 2017).

Economic growth is a process of increasing per capita output in the long term, where the emphasis is on three things, namely process, per capita and long-term output. Economic growth is a process not a picture of the economy at some point. Here we look at the dynamic aspect of an economy, which is to see how an economy develops or changes over time. pressure on change or development itself. Economic growth is also related to the increase in per capita output. In this sense the theory should include the theory of GDP growth (Gross Domestic Product) and the theory of population growth. Because only if both aspects are explained, then the development of per capita output can be explained. Then the third aspect is economic growth in a long-term perspective, which is if over a long enough period of time the output per capita shows an increasing trend (Boediono, 2015).

Solow-Swan Theory of Economic Growth

According to this theory the outline of the growth process is similar to the Harrod-Domar theory, where the assumption underlies this model is (a). The labor force (or population) is growing at a certain rate, for example P per year. (b) There is a production function Y = f (K, L) that performs for each period. (c) The tendency to save*(prospensity to save)*by society expressed as a certain proportion(s) of output (Q). Community savings S = sQ; when Q goes up S also goes up, and vice versa. (d) All public savings are invested in accordance with the assumption of the tendency to save, then from the output left a certain proportion to be saved and then invested. That way, there is an increase in capital stock (Boediono, 2015).

Factors That Affect Economic Growth

Economic growth theory can be defined as an explanation of what factors determine the increase in per capita output in the long term and an explanation of how these factors result in the growth process (Boediono, 2015). According to Jhingan (2017), there are differences in terms of economic development and economic growth. Economic development is a spontaneous and intermittent change in stationary circumstances that constantly changes and replaces the situation of the previous balance, while economic growth is a slow and steady long-term change that occurs through the increase in savings and population. Jhingan (2017), economic growth is a long-term increase in the ability of a country (region) to provide more and more economic goods to its population, this ability grows in accordance with technological advances and institutional and ideological adjustments that it requires.

Research Method

This research uses a quantitative approach using secondary data. Secondary data is data that has been collected and has become documentation. Research data was obtained from the Plantation Office (Disbun) Prov Lampung and BPS Lampung. As well as the analysis method used in this study is descriptive research using tables and graphs and using RCA and EPD index calculations to analyze the performance of Indonesian coffee exports (Tambunan, 2000). The RCA index is one of the methods used to measure excellence in one region. Here is the RCA index measurement concept.

$$RCA = \frac{Xij/Xj}{Xiw/Xw}$$

Information:
Xij = Value of commodity exports i from j country
Xj = Total export value of country
Xiw = Value of commodity exports from the world
Xw = Total world export value

Export Product Dynamics (EPD) is a measure of competitiveness about a country's market position. The EPD method consists of a matrix that places the analyzed product into four categories.

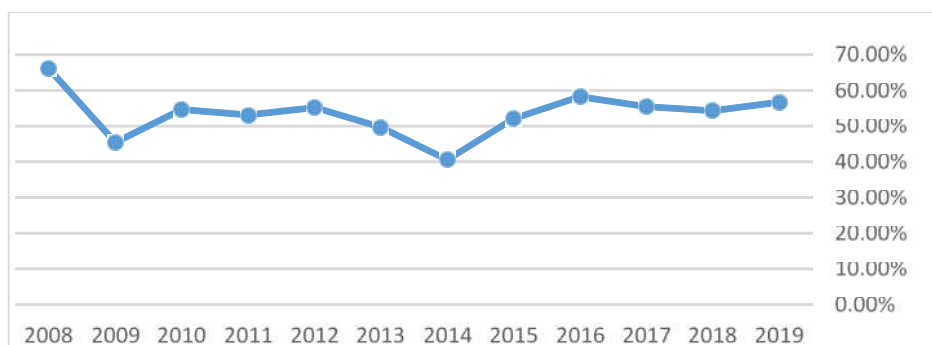Table 1. *Competitiveness Matrix from EPD Method*

Share of Country's Export in World Trade	*Share of Product in World Trade*	
	Rising (Dynamic)	*Falling (Stagnant)*
Rising (Competitive)	*Rising Star*	*Falling Star*
Falling (Non-competitive)	*Lost Opportunity*	*Retreat*

And use multiple linear regression analysis, correlation analysis, t test and F test to be processed using computer devices. By using data from 1980-2020 Diaman Variable Y is Lampung Coffee Export, and Variable X1 is PDRB, X2 is FDI and X3 is Tax. This analysis is used as a forecast analysis of the value of influences on bound veriabel (Y) that is connected to more than one variable perhaps two or three and so on the free variables X1, X2 and x3 (Hasan, 2003). Multiple linear regression models can be shown as follows:

$$Y = \hat{a}_0 + \hat{a}_1 X_1 + \hat{a}_2 X_2 + \hat{a}_n X_3 + e$$

Results and Discussions

Coffee production is closely related to the availability of the amount of coffee commodities that will be offered to the domestic market as well as foreign markets. Without exception the availability of the amount of coffee. If you look at the performance of coffee exports since 1980-2019 experienced fluctuations and an increase in export scale that was quite significant and even increased even reaching 150,559 tons. This can be proven in the following graph:
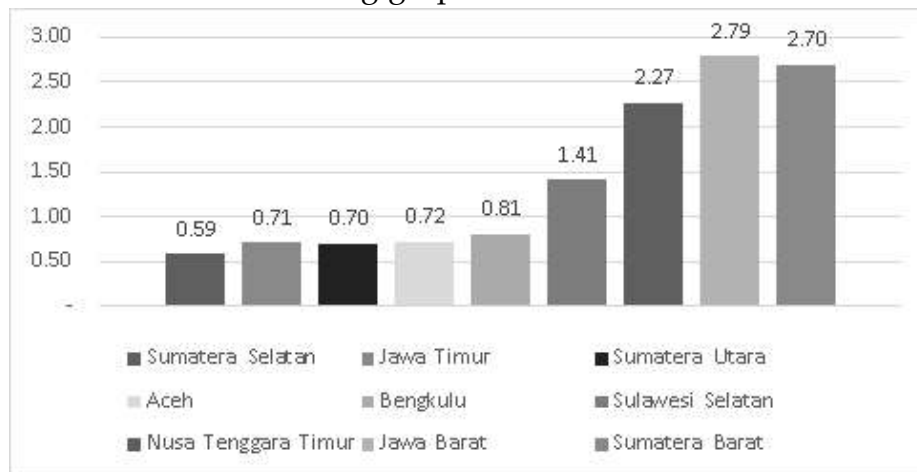

Graphic 1. Lampung Export Scale

Source:*(ASKI, 2019)*

Even if compared in 2018 there was an increase in exports up to 9% which was previously 141,173 Tons to 150,599 Tons. This shows the competitive value and superiority of Lampung coffee.
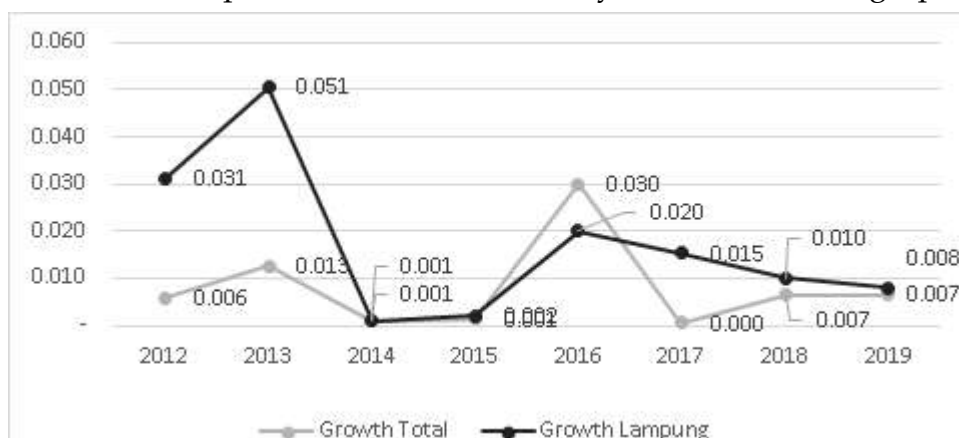
In addition, if you look at the EPD (Dinamic Product Export) index comparing coffee exports in each region with Lampung export products with >1 assessment standards means more competitive as the number compared to the subject's coffee products, it can be seen that Lampung has advantages over coffee exports from South Sumatra, East Java, North Sumatra, Aceh and Bengkulu. This shows the advantages of the number of products and the competitive value of Lampung coffee products compared to other regions.

In addition, this advantage also shows the magnitude of economic potential that can be generated from Lampung coffee commodities. With a large amount of production certainly reflects the magnitude of economic competitiveness and the large potential of regional revenues generated from lampung coffee commodities. For more details can be seen in the following graph:

Graphic 2. Export of Dinamic Products

In addition, if we look at the RCA (Revealed Comparative Advantages) index to see the coverage of lampung coffee market compared to other regional export coffee markets in aggregate. If we look at the graph below, showing that lampung coffee market share is above the scope of other regional coffee markets which is 8% while the coverage of the coffee market in aggregate in other areas only by 7% shows the ability to penetrate the Lampung coffee market better than other regions. In addition, this is a signal that the potential of lampung coffee market can be further enhanced because it has better market acceptance. For more details, you can see in the graph below:

Graphic 3. Revealed Comparative Advantages

Furthermore, after seeing the large export of Lampung coffee, then how the influence of coffee exports on economic growth in Lampung using 3 main variables, namely; Investment. GDP, and taxes. From the results of the test using simple regression it was obtained that these three variables had a significant effect on lampung coffee exports. Based on calculations using E-Views it was obtained that Investment and Taxes had a significant effect < 5% while pdrb had a significant effect <10%. This shows the economic potential of Lampung coffee that can boost the lampung economy. Evidenced by its effect on PDRB Lampung. In addition, the significant influence of Lampung coffee exports on Investment and Taxes shows that Coffee is a regional strategic export commodity and contributes revenue to the region. For more details, you can see in the following table:

Table 1. Regression E-Views

Dependent Variable: PDRB
Method: Least Squares
Date: 09/23/20 Time: 22:01
Sample: 1 40
Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXPORT	0.018635	0.061204	0.304473	0.0725
FDI	-0.949544	0.430489	-2.205732	0.0339
TAX	0.681247	0.186257	3.657556	0.0008
C	3.236136	1.214042	2.665587	0.0114
R-squared	0.656979	Mean dependent var		2.804907
Adjusted R-squared	0.628394	S.D. dependent var		0.260967
S.E. of regression	0.159084	Akaike info criterion		-0.744131
Sum squared resid	0.911076	Schwarz criterion		-0.575243
Log likelihood	18.88262	Hannan-Quinn criter.		-0.683066
F-statistic	22.98330	Durbin-Watson stat		1.657961
Prob(F-statistic)	0.000000			

It is further interesting to see how changes in structure between variables are expected whether the three variables of investment, pdrb and tax affect the future export of lampung coffee how the relationship of change between variables by using VECM (Vector Error Corection Model) we can answer these 2 things. Based on VECM testing it can be seen that there is no change in variables in the long term evidenced by the cointegration significance between variables the test value F of 0.040 is significant together. The cointegration value is PDRB by 2%, Coffee Export by 3%, Investment by 9% and tax by 7% with significance of < of 5% and 10%. This shows that the variables will affect each other in the future and there are no changes in the structure of the variable in the long run. This shows the affectedness and its implications for the influence between economic variables that are consistent. For more details can be seen in the following table:

Table 2. VECM E-Views

Vector Error Correction Estimates
Date: 09/23/20 Time: 22:37
Sample(adjusted) 5 40
Included observations: 36 after adjustments
Standard errors in( )& t-statistics in [ ]

Error Correction:	D(PDRB)	D(EXPORT)	D(FDI)	D(TAX)
CointEq1	-0.803084	-0.420484	0.364452	0.202154
	(0.02383)	(0.0356)	(0.09145)	(0.07550)
	[-2.47994]	[-1.45718]	[3.98511]	[1.15188]
C	-0.040718	0.029255	0.000688	-0.028543
	(0.04172)	(0.03718)	(0.01178)	(0.02261)
	[-0.97595]	[0.78690]	[0.05843]	[-1.26238]
R-squared	0.595382	0.375644	0.740024	0.386087
Adj. R-squared	0.356290	0.006706	0.586403	0.023320
Sum sq. Resids	0.716461	0.568889	0.057141	0.210428
S.E. equation	0.180462	0.160806	0.050964	0.097800
F-statistic	0.040178	1.018176	4.817180	1.064284
Log likelihood	19.42331	23.57481	64.94162	41.47659
Akaike AIC	-0.301295	-0.531934	-2.830090	-1.526477
Schwarz SC	0.314518	0.083879	-2.214277	-0.910664
Mean dependent	-0.021236	0.065050	0.004518	-0.021196
S.D. dependent	0.224926	0.161348	0.079246	0.098961

Determinant resid covariance (dof adj.)	1.46E-08
Determinant resid covariance	2.03E-09
Log likelihood	155.9198
Akaike information criterion	-5.328877
Schwarz criterion	-2.689679

Conclusion

Based on the above explanation, it can be concluded that coffee commodities are superior commodities both in products and markets that they have. As well as lampung coffee commodities affect regional economic growth and are able to boost regional investment and income. This if managed properly can have a long-term and sustainable and consistent impact.

Given the huge potential of Cofee Lampung, cross-sectoral cooperation is needed in order to increase the potense of lampung coffee economy in order to penetrate the wider market and support the development of innovative products in the future.

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