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The Impact of Southern Cross Road Construction on Economic Sub-Sector Development in Lumajang Regency

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Abstract The availability of the Southern Cross Road (SCR) infrastructure has facilitated the accessibility in local economic development activities. This study, aims to analyze the changing role and contribution to the Agriculture, Processing Industry and Tourism sub-sectors in Lumajang Regency after the Construction of the Southern Cross Road Infrastructure (SCR). The analytical method used to determine the changing role of the three sub-sectors is Shift-share analysis. The results of the Shift-share analysis provide an overview of the shift and the good role of the agricultural, industrial and tourism sub-sectors. SCR infrastructure development provides specialization and competitive advantage to the three sub-sectors. The contribution of the three sectors has an impact on the magnitude of the income multiplier.

Keywords Local Economy, Infrastructure Development, Agriculture Sector, Industrial Sector, Tourism Sector

1. Introduction

The role of investment in infrastructure development has a very large role in changing economic growth (Wahyu, 2017: 124). The availability of infrastructure can have an influence on increasing people's access to resources thereby increasing access to productivity which ultimately drives economic growth (Simanjuntak, 2017: 6). The Ministry of Public Works (2016: 14) explains that infrastructure and physical facilities, having a very strong relationship with social welfare and environmental quality as well as the economic growth process of a region.

Regions with adequate infrastructure have a greater advantage in attracting investment into their regions, so that these regions will develop faster than areas that have inadequate infrastructure. This is due to the opening up of regional isolation so that access to various factors of production is possible to open up opportunities for the movement of the regional economy, (Haskins, CB 2002: 113).

This study explains the solution to overcome the problem of distribution from disadvantaged areas to more advanced regions with the construction of the Southern Cross Road (SCR) infrastructure. The pathway aims to create optimal transportation services, in order to achieve development success, especially in the southern suburbs of Java. The objective of operational construction of the southern crossroad infrastructure must be supported by several elements, one of which is the need for a road transportation network system that connects the region which is the center of economic activity (the central region) with its supporting area (hinterland).

Some of the regions that carry out SCR development are potential peripheral areas but have access that is quite difficult to be able to distribute. Areas that are considered potential are Banyuwangi, Jember, Lumajang, Malang, Trenggalek, Tulungagung, Pacitan. In this study refers to the Lumajang Regency.

The development of the Southern cross-road infrastructure has led to an increase in other public facilities and infrastructure. Therefore in the Southern part of Lumajang Regency, the economic development of local communities has increased. The promising prospect of the existence of Southern cross-road infrastructure directly also has an impact on the socio-economic aspects of the community, including the increasing local community economic development activities, especially in the agriculture and forestry sectors. This aspect has triggered changes in the pattern of new economic activities undertaken by the community by utilizing the ease of accessibility between the periphery which is the center of economic resources and the area of economic growth. Community activities are the economic pulse of the local community in the southern crossing road construction area of Lumajang Regency.

2. Data Analysis Method

In its implementation, this study uses a quantitative descriptive approach that includes primary data, analysis and

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interpretation of data from the results obtained. The aim is to make a description, systematic, factual and accurate description of the facts under investigation. The analytical tool used in this study is as follows:

a) Descriptive Analysis Method: provides a descriptive description of field data by interpreting primary data into tabulations.
b) Shift-share analysis method: allows researchers to be able to identify the advantages of the sub-sector under study and find out changes in sector shifts in the regional and local economies.

In the Shift-share analysis, economic change is determined by three components as follows:

a) National economic growth
b) Industrial mix
c) *Regional share*

The effect of the industrial mix is called proportional shift or composition mix. Proportional shift analysis is done by comparing a sector as part of the regional economy with that sector as part of the national economy. This component shows whether economic activity in the sector is growing faster or slower than national economic activity growth.

The effect of the industrial mix will be positive if the growth of a sector's regional variables is greater than the growth of the total sector's regional variables at the national level. Conversely, the industry mix will be negative if the growth of regional variables in a sector is smaller than the growth of these variables at the national level. The positive or negative value will indicate the level of specialization of a sector, which is growing faster or slower on the national economy. Thus, an area that has more sectors that are growing faster nationally will have a positive industrial mix effect. Vice versa, an area that has more sectors that grow slower nationally will have a negative influence on the industry mix.

3. Results and Discussion

In several perspectives infrastructure has different meanings, as economists view infrastructure as a capital resource contained in consumption and production activities. Theoretically according to Akatsuka and Yoshida (1992) infrastructure can be considered as social overhead capital which includes characteristics including being able to increase production capacity indirectly, having essential functions and being provided by public entities.

As the case in developing countries infrastructure provision policies are experiencing inequality, which is still far behind compared to developed countries. Government policies by addressing distribution problems in order to increase the productivity of disadvantaged areas, namely the construction of the Southern Cross Road infrastructure (SCR). Considering that the area is included as a potential area that can have a direct impact on increasing PAD that will affect regional economic performance and can alleviate the problem of structural poverty (Joyo and Hermanto, 2006).

One form of policy that can be encouraging economic activities both in the agricultural sector, the industrial sector and the tourism sector is the construction of the Southern cross lane infrastructure in 2017. Where with the existence of the policy is able to encourage the sectors owned can be maximally utilized to increase the acquisition of Lumajang Regency's GRDP. According toWangs, Hulten (2003: 97) the impact of an increase in the stock of infrastructure capital will increase efficiency driven by the presence of externalities that cause spillover effects.

Shift Share Esteban Marquillas analysis results show that the agricultural sector, the plantation sub-sector, the manufacturing industry sector and the tourism sector, including sectors that have a fairly high specialization and competitive advantage. If a region specializes in certain sectors, it can be said that the region has a competitive advantage gained from sector specialization (Soepono, 1993). Following in table 1 we can find out the position of specialization and competitive advantage of the agricultural sector, processing industry and tourism in Lumajang Regency.

Based on the results of the analysis shows that the agricultural sector, the tourism sector and the plantation sub-sector have specialties and competitive advantages. Whereas the processing industry does not have a competitive advantage. The Manufacturing Industry Sector in Lumajang Regency is a sector that specializes but does not have a competitive advantage. The specialization shows how much influence the sector has on the economy. As for the Manufacturing Industry sector, the value of negative competitive advantage means to compete with other economic sectors is very small.

Table 1. Specialization and Competitive Advantage in Lumajang Regency

Business field	(Eij-E'ij)	(rij-rin)	Specialization	Competitive advantage
A. Agriculture	2,578,260	0.0576	Available	Available
B. Mining and Quarrying	740,781	0.1220	Available	Available
C. Processing Industry	1,689,576	-0.0237	Available	Not available
D. Electricity, Gas and Clean Water	6,912	0.0222	Available	Available
E. Building	442,616	0.0099	Available	Available
F. Trading, Hotels & Restaurants	1,106,267	0.0291	Available	Available
G. Transportation and Communication	346,883	0.0147	Available	Available
H. Finance, Rentals & Services, Companies	224,054	0.0290	Available	Available
I. Services	512,511	-0,0146	Available	Available

This condition is due to the lack of infrastructure facilities that support the movement of the processing industry sector, as can be exemplified by the inadequate maintenance of road infrastructure which has hampered the distribution process of raw materials for the processing industry. Based on regional economic analysis, the ability of a competitiveness of economic activity in one region against other regional economic activities is called competitive advantage (Savitri, 2008). Although the manufacturing industry sector is one of the sectors that contributed greatly to the acquisition of Lumajang Regency's GRDP, the manufacturing industry sector has not been able to compete with the same sector in other regions and has not been able to market its products outside the region.

With the existence of a policy regarding the construction of the Southern cross lane infrastructure in 2017 it is expected to be able to increase the specialization and competitive advantage of the sectors in the region. From the results of the Shift Share analysis shows that both the agricultural sector, the plantation sub-sector, the tourism sector and the manufacturing industry sector have specialties and competitive advantages. This shows that the sectors that contribute greatly to the acquisition of Lumajang Regency's GRDP in addition to being specialized, these sectors are also able to compete with the same sector in other regions and are able to market their products outside their regions.

Table 2. Sector Revenue and Contribution Multipliers In Lumajang Regency

Sector / Sub-sector	Multiplier
Agriculture	3.91
Plantation	24.74
Processing industry	6.14
Tourism	9.43

The size of the potential of each economic sector can be seen through the allocation effect, so that both specialization and competitive advantage can be known. As for seeing how the contribution of a sector in the economy of Lumajang Regency, especially areas in the Southern Cross Road can be seen through the revenue multiplier. In Table 2 the income multipliers owned by Lumajang Regency are relatively stable. the sectors and sub-sectors that have the highest multiplier value are the Plantation sub-sector of 24.74 and the lowest in the Agriculture sector was 3.91. This shows, if you make an investment of one thousand rupiahs, you will get a multiplier of 3.91 in the Agriculture sector and 24.74 in the Plantation sub-sector. If you invest in these sectors, you will get an additional income equal to the multiplier value.

4. Conclusions

The conclusions obtained from this research including:

1. After the construction of the Southern cross lane infrastructure these sectors have specialization and competitive advantage, which prior to the development of infrastructure processing industry sector did not have a competitive advantage.
2. Sectors that contribute greatly to the acquisition of Lumajang Regency's GRDP have specialization, and they are able to compete with the same sector in other regions and market their products outside regions.
3. The Lumajang Regency income multiplier for the last three years for the agricultural sector amounted to 3,913306, the plantation sub-sector by 24.74305, the manufacturing industry sector by 6.143066 and the tourism sector by 9.43022. This shows that if you invest in these sectors, you will get an additional income equal to the multiplier value.

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