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Leading Sector Analysis of Central Java Province

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ABSTRACT

The main objective of this study is to analyze the effect of GRDP, unemployment rate, capital expenditure and average length of schooling on the Human Development Index (IPM) of Bangkalan Regency. Observation data obtained from BPS Bangkalan Regency with time series 2010-2020. The data analysis technique used in this research is multiple linear regression analysis using the IBM SPSS version 26.0 program. The results of this study indicate that partially GRDP, unemployment rate and capital expenditure have no significant effect on HDI, but the average length of schooling has a positive and significant effect on HDI in Bangkalan Regency from 2010 to 2020. All variables have a simultaneous effect on HDI. This study also shows the importance of the role of capital expenditure, especially for the public service sector, so that it affects economic growth and provides access to small communities in the productive economic sector with the ultimate goal of improving the welfare of the local community

Keywords: GDRP, Leading Economic Sector, Location Quotient & Shift Share

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INTRODUCTION

The success of the economic development of a region can never be separated from the magnitude of the value of economic growth in the area. Good economic growth can help the regional development process run smoothly (Suresti et all., 2021). Meanwhile, inadequate development planning will have many impacts on the area. The main focus of most developing countries in development is on economic development because if economic development is stable, it will have an impact on development progress in other sectors (Nur et all., 2021). As we have seen, Indonesia adheres to a decentralized system, in which the central government hands over autonomous rights to local governments.

The transfer of autonomous rights can be interpreted as that local governments have the right to be responsible for regulating their own regional affairs so that their potential can be processed and utilized optimally (Prussi et al., 2021). This is also being done in Central Java. The manufacturing industry and natural wealth owned by Central Java Province can be used as a huge economic potential to be developed for its usefulness.

In addition, the existence of archaeological sites, historic sites and interesting natural conditions can be a special attraction that can be utilized in order to encourage economic growth through sectors related to regional economic potential, so as to be able to increase regional income and the welfare of the community/population (Puspita & Handayani, 2022).

The development of the Central Java region will continue to be carried out. Every year there will be policy breakthroughs from the government which are expected to grow the economy so that the welfare of the people is positively affected (Safri & Rachmadi, 2017). For this reason, it is necessary to know in advance what sectors have the potential for comparative advantage in Central Java so that there are no mistakes in policy making. Comparative advantage relates to the sector of an area whose output can be used to meet the needs of its own region, while the rest can still be used to meet the needs of other regions. The form of this analysis is a comparison between Central Java's GDRP with Indonesia's GDP, which later the results can be used as a benchmark to asses which sector has a comparative advantage in Central Java.

The identification of the comparative advantage of the economic sector in Central Java will make the policies that are made more effective and in accordance with the characteristics of the Central Java region (Wahed, 2020). Later, this will make output in Central Java increase due to an optimal natural resource management system.

LITERATURE REVIEW

a. Economic Development

Economic development is a continuous process which is not only focused on increasing economic growth (Rachman, 2017). Economic development must also include matters relating to the social welfare of the community. In contrast to the theory of economic growth which is widely adapted from the conditions of advanced Western countries, the concept of economic development is based more on the condition of countries that are still lagging behind or have just been released from the shackles of other countries power (Dekiawan & Asmarawati, 2017). The adaptation of these conditions makes the concept of economic development prioritize aspects of improving the economy which is also

balanced with increasing community welfare, reducing poverty and unemployment, increasing productivity, and distributing welfare for the entire community (Putri et all., 2021).

The success or failure of a region's economic development depends not only on the system or policy chosen for the success or failure of economic development, but also on the actual situation and characteristics of the region (Katti, et all, 2022). Ownership of abundant natural resources and the ability of qualified human resources to process them will encourage an increase in productivity which in turn will lead to a reduction in poverty and unemployment rates in the region (Rukmana, Aviasti & Amaranti, 2019).

b. Base and Non-Base Sector

In a region, the basic sector can be interpreted as having an orientation to export goods and services produced (Lyon et al., 2022). A sector that is included in the basic category means that the related sector has been able to support the need for goods and services within its own territory and in other areas, both located around and far from the territory of the owner of the base sector. Within its territory, the basic sector has a role as the main driver in the economy (Rofiuddin, 2019).

The base sector has a very important role, so any changes in the base sector will cause a multiplier effect in the regional economy. In addition to the base sector, there are also non-base sectors, namely sectors that produce goods and services, but the results can only be used to meet internal needs within their own territory. In this case, the market share owned by the non-base sector is local or only able to serve market needs in their own area.

c. Location Quotient Analysis

According to Syaputra (2020), Location Quotient is an analytical tool that is used to determine the magnitude of the role of the industrial sector in a region to the magnitude of the role of the industrial sector at the wider regional level. The results of calculating the LQ value can be used in determining the leading sectors of the region (Wahed & Sishadiyati, 2019). In its calculation, Location Quotient analysis uses the following formula:

$$LQ = \frac{Lij/Lj}{Nip/Np}$$

Information:
Lij = GDRP of sector i in province a
Lj = Total GDRP in province a year j
Nip = GDP of sector i in province a
Np = Total GDP year j

The value of the LQ value has its own meaning depending on its value. LQ analysis divides the meaning of its interpretation into 3 groups, namely:

The LQ value > 1 means that the area under study has advantages and potential to be developed and utilized to support economic improvement in the region so that it can be

said to be a basic sector. In addition, an LQ of more than 1 also indicates that the level of sector specialization in the region is greater than the level of specialization of the same sector at the national level. The value of LQ = 1 means that the area under study has a sector with the same level of specialization with the same level of specialization as a wider area and can be said to be a non-base sector.

LQ value < 1 means that the area is a non-base sector because the level of sector specialization in the area studied is smaller than the specialization of the same sector in a wider area. Based on this classification, it can be concluded that if the LQ value increases or is more than one, then the influence of the level of specialization of the sector owned will be even greater.

d. Shift Share Analysis

Shift Share is an analytical tool that aims to provide an overview of the comparison of the performance development of sectors in a region to the development of the same sector in the wider regional economy (Banjarnahor et al., 2021). In its application, shift share analysis uses the following formula:

$$\boldsymbol{Dij = Nij + Mij + Cij}$$

Information:

Dij = Growth of sector i in province a

Nij = Effect of component of national growth of sector I in Province a

Mij = Effect component of the industrial mix of sector i in province a

Cij = Effect component of sectoral sector i in location in province a

The calculation results from the shift share will be used as material to analyze the presence or absence of changes in economic activity in an area. The use of this analysis can assist in knowing the development of a sector in a region against other sectors so that it can also be seen how fast or slow developments occur in the region.

RESEARCH METHODS

The study uses descriptive quantitative methods to describe social phenomena through data calculations to determine the superior economic sector and identify economic sectors that have the potential to be drivers of development in Central Java Province. The analytical tools used in this study were Location Quotient (LQ) analysis and Shift Share processed in Excel 2010 (Wahed, 2020). This study uses time series data, the 2010 series of constant price-based GDP data for 2017-2021 and the 2010 series of Central Java's regional GDP-based constant price data. All data in this study were obtained from the Central Bureau of Statistics of Indonesia and the Central Bureau of Statistics of Central Java.

RESULTS AND DISCUSSION

a. Location Quotient Analysis

A quality of Location Quotient analysis was used to determine the level of sectoral specialization by considering the comparative advantages of these sectors.

Based on Table 1, the results of the LQ calculation show that there are five economic sectors that can be categorized as the base sector in Central Java Province as

indicated by the LQ > 1 coefficient value. By sorting the average LQ coefficient value from the highest to the lowest, it can be seen that the LQ coefficient value for the processing industry sector is at the highest level, followed by educational services, accommodation and catering, wholesale and retail, and automobile and motorcycle maintenance and the lowest in the construction sector. These sectors play a very important role in supporting the economic development of Central Java Province and tend to be able to support the needs of regions outside Central Java.

The economic sector that has an average LQ value of < 1 is said to be a non-base sector, so it still requires better support and efforts from the government and the private sector in order to develop this sector to become a leading sector for the economy of Central Java Province.

For the economic sectors included in the basic sector category in the area of Central Java Province are 1) Processing Industry with value average LQ 1,56; 2) Wholesale and Retail, and Automobile and Motorcycle Maintenance with value average LQ 1,07; 3) Accommodation and Catering with value average LQ 1,07; 4) Education Services with value average LQ 1,19; and 5) Other Services with value average LQ 0,89. Meanwhile, there are 12 economic sectors that fall into the non-base sector category in Central Java Province, namely: 1) Agriculture Forestry and Fisheries average LQ 0,98; 2) Mining and Quarrying average LQ 0,28; 3) Electricity and Gas average LQ 0,11; 4) Water Supply average LQ 0,82; 5) Construction average LQ 1,00; 6) Transportation and Warehousing average LQ 0,73; 7) Information and Communication average LQ 0,92; 8) Financial Services average LQ 0,63; 9) Real Estate average LQ 0,62; 10) Business Services average LQ 0,20; 11) Government Management, National Defense and Compulsory Social Security average LQ 0,73; and 12) Health Services and Social Activities average LQ 0,71.

b. Shift Share Analysis

Analysis shift share aims to determine the performance of the regional economy, changes in structure, and identification of leading sectors compared to the national economy. Changes in regional economic output relative to the national economy are affected by four factors, namely regional economic growth (Nij), industry mix (Mij), and competitive advantage (Cij).

Based on Table 2, the results Shift Share in Central Java Province for a period of 5 years (2017-2021) show that the sectors experiencing real economic growth in Central Java Province are agriculture, forestry, and fisheries, mining and quarrying, processing industry, electricity and gas, construction sector, wholesale and retail, and automobile and motorcycle maintenance, the sector of providing accommodation and catering, information and communication, financial services, real estate, business service, the government management, national defense, and compulsory social security, and the educational services. The highest real growth occurred in the processing industry sector of 44,881,883.23 million rupiah. The water supply sector, the health services and social activities, and other service sectors experienced negative real growth.

Changes in real economic growth in Central Java are influenced by several factors, one of which is the effect of GDP growth in the National Economic Sector (Nij). The highest score was in manufacturing at 36.869.149,16 million rupiah, and the lowest was in water supply at 75.012,03 million rupiah.

The value of the industrial mix (Mij) which shows a change with a positive value means that the growth rate of economic sectors in Central Java Province has increased. If seen from the table, the sectors that experienced an increase in the industrial mix were the agriculture, forestry and fisheries, mining and quarrying sector, processing industry, construction sector, wholesale and retail, and automobile and motorcycle maintenance, transportation and warehousing, accommodation and catering, and government management, national defense, and compulsory social security sector. The highest industrial mix value was obtained by the processing sector of 10,247,750.86 million rupiah.

In the competitive advantage component (Cij), it can be seen that the sectors that have competitive advantages are mining and quarrying, electricity and gas, construction sector, wholesale and retail, and automobile and motorcycle maintenance, accommodation and catering, information and communication, business service, and educational services. The highest value of competitive advantage was achieved by the information and communication sector of 6,279,023,768 million rupiah. The sectors that do not have a competitive advantage are the agriculture, forestry, and fisheries, processing industry, water supply, transportation and warehousing, financial services, real estate, government management, national defense, and compulsory social security sector, health service and social activities, and other service sector.

For the economic sector with the fast growth category is 1) Mining and Quarrying with value Competitive Advantage Component (Cij) 4.615; 2) Construction with value Competitive Advantage Component (Cij) 14.572; 3) Wholesale and Retail, and Automobile with value Competitive Advantage Component (Cij) 21.753; 4) Transportation and Warehousing with value Competitive Advantage Component (Cij) 1.679. while the economic sector with slow growth category is 1) Agriculture, Forestry and Fisheries; 2) Processing Industry; 3) Electricity and Gas; 4) Water Supply; 5) Accommodation and Catering; 6) Information and Communication; 7) Financial Services; 8) Real Estate; 9) Business Services; 10) Government Management; 11) Education Services; 12) Health Services and Social Activities; and 13) Other Services.

CONCLUSIONS

The following conclusions are drawn from the results of the analysis that have been carried out:

1. Based on the Location Quotient (LQ) analysis, Central Java Province has five leading sectors, one of which has the largest LQ average value is the processing industry sector. The remaining twelve sectors of the economy still require attention from the government to be studied further regarding the

determination of which sector should be prioritized to become the next leading sector in Central Java Province.

2. It can be seen in the calculation results of Shift Share, as many as 8 economic sectors in Central Java Province which have a competitive advantage with the largest Cij value in the information and communication sector. Meanwhile, as many as 9 other sectors still need government attention in improving regional economic performance so that sectors that have competitiveness or competitive advantages can increase which will later have a positive impact on accelerating development in the Central Java Province.

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