

The Role of the Basic Sector in Reducing Economic Inequality in the Greater Malang Area

Sishadiyati¹, Mohammad Wahed², Noer Aida Triandini³

Universitas Pembangunan Nasional Veteran, Indonesia

E-mail: sishadiyati.ep@upnjatim.ac.id

ABSTRACT

The Greater Malang Region, which consists of Malang Regency, Malang City, and Batu City, has great natural resource potential, but still faces challenges in achieving economic consistency. Economic inequality in this region is a concern, especially in the context of the role of basic economic sectors. This study aims to identify the basic economic sectors that play a role in reducing economic inequality in the Greater Malang region and analyze their contribution to the regional economic structure. This study uses a quantitative descriptive approach with Time Series analysis of GRDP in Greater Malang. The analytical tools used include Location Quotient (LQ) Analysis to identify basic and non-basic sectors, and Williamson Index (IW) Analysis to measure the level of economic inequality. The analysis shows that: 1) Malang Regency has basic sectors such as agriculture, industry, and trade; 2) Malang City is dominated by services and education sectors; 3) Batu City has strong agriculture and tourism sectors. Economic inequality in Greater Malang shows a fluctuating trend with an increasing IW value, indicating non-optimization in the development of potential economic sectors. These findings indicate the need to strengthen basic sectors to support more equitable economic growth. While potential exists, more targeted development is needed to reduce inequality and improve community welfare. This study concludes that the basic economic sectors play a key role in reducing economic inequality in Malang Raya. However, the development of these sectors still needs to be optimized to achieve better results in people's economic welfare.

Keywords: Basic Sector, Disparity, Location Quotient, Williamson Index

Introduction

The quality of regional planning is often measured through the results of successful regional development planning (Brugmann, 2021). One of the efforts in development planning is to identify and map regional characteristics based on existing potentials and problems. The purpose of this planning is to manage resources effectively, so that each region can develop its own characteristics that will ultimately encourage better development growth. Regional development is

expected to improve the economic standard of the community, especially if accompanied by significant regional economic growth (Leigh, 2024).

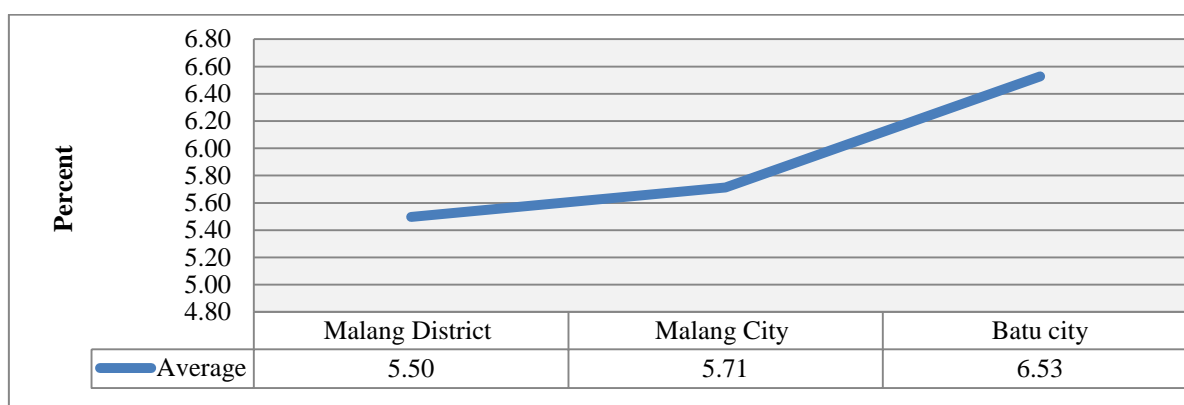
Regional economic development is a continuous process that is carried out consciously to create better conditions for the community simultaneously. One of the drivers of equitable development is through economic development which can be measured through economic growth indicators. According to (Suharmi, 2018), the success of economic development can be explained through the real impact of the policies implemented, although some regions still experience challenges in obtaining adequate public facilities.

Various previous studies have shown that differences in resource potential, both natural and human resources, affect the ability of each region to develop its economy. For example, Mauliddiyah (2014) revealed that some regions rich in natural resources often lack human resources, while other regions may have abundant human resources but lack natural resources (Mauliddiyah, 2014).

In addition, while the leading sector theory provides a framework for understanding regional economic dynamics, it is important to look at previous studies that identified leading sectors in different regions and analyzed the differences in outcomes and impacts. For example, research by Hasan & Aziz (2018) on export base theory shows that not all regions need to rely on heavy industry to grow. This highlights the importance of capitalizing on the comparative advantages that exist in each region (Hasan & Aziz, 2018).

One form of effort that can be done to encourage the rate of economic growth is through economic transformation considering the regional economic structure that still needs to be strengthened (Putri, 2018). It is known that the current export structure is still dominated by primary commodities and also products based on natural resources, but this is very vulnerable to fluctuations in commodity prices in the global market. Most of the raw materials for domestic production activities, which also include export activities, are still very dependent on imports (Distefano et al., 2024). So, this is a challenge because with the increase in economic growth, the increase in imports will also be driven and will have an impact on the increase in the current account deficit. Therefore, the development of economic growth has implications for strengthening the structure of the goods and services balance, both on the export and import sides, with the hope that the economy will be able to grow sustainably (Haryanto, 2021)

On the other hand, (Arsyad, 2014) it is stated that one of the efforts used to calculate/measure regional economic growth is by utilizing Gross Regional Domestic Product data or abbreviated as GRDP. Gross Regional Domestic Product or GRDP is a way to measure how successful the development process of a region/area is. The level of economic growth achieved and also the role of each economic sector that fosters the economy in the region can be known through Gross Regional Domestic Product (GRDP) data (Saleh et al., 2020). In East Java, for example, in the Malang Raya Area consisting of Malang Regency, Malang City and Batu City is a highland area so it is known to have very diverse natural resource potential. Currently, the economy in the Malang Raya Area is increasing.

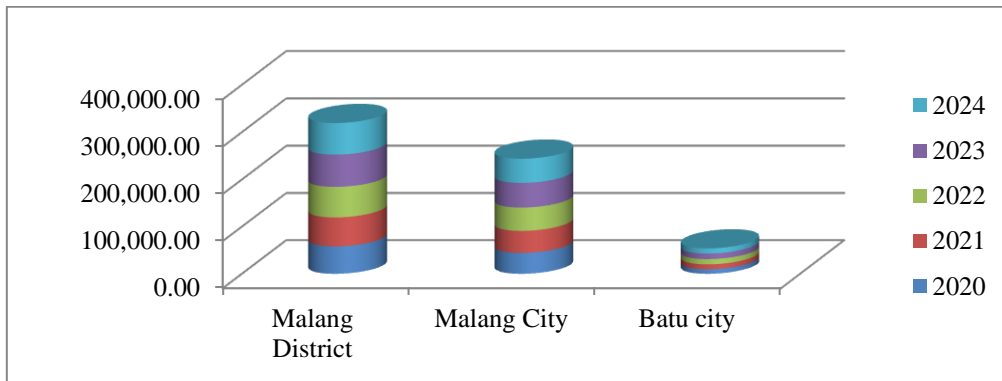


Graph 1. Average GRDP Growth Rate Greater Malang Area 2020-2024

Source: BPS East Java processed, 2024

Based on the graph, the highest average GRDP rate is owned by Batu City at 6.53 percent, the second highest average GRDP rate is owned by Malang City at 5.71 percent, and the smallest GRDP growth rate is owned by Malang Regency at 5.5 percent. During the three-year period, the GRDP rate value in each Regency/City in the Malang Raya Area has varying values. During that period, the highest GRDP rate in the Malang Raya Area was occupied by Batu City and Malang City, geographically the two areas are close to each other and are also tourist centers of the Malang Raya Area.

This indicates that the difference in GRDP is indeed due to the differences in potential possessed by each region, however, if we look at the large difference in GRDP between Batu City and Malang Regency over the past three years, it indicates that there are still differences in income distribution or that income distribution between Regencies/Cities in the Malang Raya Area is not evenly distributed, as these three regions are known as highland areas.



Graph 2. GRDP of Malang Raya Area (Billion) 2020-2024

Source: BPS East Java processed, 2024

However, growth indicators are sometimes still known to cause polemics and also some differences of opinion or conflict because growth indicators have a very broad perspective and of course it is very possible to add many other indicators to it. Of course, with the contraction of the economic growth rate in 2020, it has resulted in a high unemployment rate because the supply of available jobs has decreased, so this has resulted in a sluggish economy and also resulted in weak purchasing power.

Research Method

This research was conducted with a quantitative descriptive approach using Time Series PDRB data in the Malang Raya Area which is divided into Malang Regency, Malang City and Batu City. Meanwhile, the analysis tools used in this study are LQ Analysis and Williamson Index Analysis (IW). Where LQ Analysis is used to find the base sector and non-base sector, while Williamson Index Analysis is used to determine the level of economic inequality (disparity) in a region.

a. Location Quotient Analysis

LQ analysis is a method used or utilized to assess a sectoral performance of PDRB by looking at which sectors are categorized as base sectors and which are not base sectors. LQ is used to measure the level of specialization of the sector that is the leading sector of a region. LQ analysis can also be used to increase productivity in a region/area with the formulation of the equation, namely (Wahed, 2020):

$$LQ_i = \frac{(v_i/v_{tot})}{(V_i/V_{tot})}$$

Information:

LQ_i : Location Quotient coefficient value

v_i : Sector i income in Regency or City in Malang Raya Area

v_{tot} : Total income in the Regency or City in the Malang Raya Area

V_i : Sector income in East Java Province

V_{tot} : Total income in East Java Province

With the criteria, namely LQ value > 1 is included in the basic sector category; LQ value ≤ 1 is included in the non-basic sector category.

b. Williamson Index Analysis

analysis is an analysis tool that is usually carried out with the aim of seeing conditions of disparity or income inequality that occur between regions by using secondary data on GRDP per capita and population. (Hidayah & Tallo, 2020)

Williamson Index Formula :

$$IW = \frac{\sqrt{\sum(Y_i - \bar{y})^2 \left(\frac{f_i}{n}\right)}}{\bar{y}}$$

information:

IW : Williamson Index coefficient value

Y_i : GRDP per capita of Regency/City in Malang Raya Area

\bar{y} : GRDP per capita in East Java Province

f_i : Number of residents of districts/cities in the Malang Raya area

n : Population in East Java Province

With the criteria, namely (Arsyad, 2014): in the calculation of the Williamson Index (IW), namely: 1) a value of 0.0-0.2 on a low scale ; 2) a value of 0.21-0.35 on a high scale moderate; and 3) value > 0.35 is high.

Results and Discussion

The location chosen for the research object in this study is the highland area located in the East Java Province, namely the Malang Raya Area which consists of three (3) district or city areas, namely Malang Regency, Malang City and Batu City. In this study, the data used for the implementation of the research is the PDRB Time Series data with the data used being data within a period of five years or data from 2015 to 2020 published by the Central Statistics Agency or abbreviated as BPS in East Java Province, BPS in Malang Regency, BPS in Malang City and BPS in Batu City.

a. Results of Basic and Non-Basic Sector Analysis in the Malang Raya Area

To find out the level of specialization of potential sectors that are the mainstay in the Malang Raya area through the analysis stages used in the LQ method. The way this analysis works is by comparing the production of sub-sectors in smaller areas with sub-sectors in larger areas. The calculation produces the following results:

Table 1. Results of Location Quotient Analysis in Malang Regency

Economic Sector	Year				
	2020	2021	2022	2023	2024
Agriculture	1.44	1.44	1.44	1.44	1.42
Mining	0.37	0.36	0.36	0.36	0.35
Processing industry	1.03	1.03	1.03	1.04	1.06
Procurement	0.30	0.31	0.33	0.34	0.35
Procurement	1.03	1.04	1.06	1.04	1.03
Construction	1.31	1.31	1.32	1.32	1.29
Trading	1.05	1.06	1.06	1.05	1.03
Transportation	0.38	0.39	0.40	0.40	0.41
Provision of Accommodation	0.63	0.63	0.64	0.64	0.65
Information and Communication	0.88	0.88	0.89	0.89	0.87
Financial Services	0.62	0.62	0.62	0.62	0.62
Real Estate	0.84	0.86	0.87	0.88	0.88
Corporate Services	0.49	0.49	0.49	0.49	0.49
Government Administration	0.81	0.81	0.81	0.81	0.80
Educational Services	0.92	0.92	0.93	0.92	0.91
Health Services	0.89	0.89	0.89	0.89	0.89
Other services	1.43	1.44	1.45	1.45	1.45

Source: BPS East Java processed, 2024

Based on the results of the LQ analysis calculations, it shows that the general economic conditions in Malang Regency are known that the sectors that are included in the basic and non-basic sector categories have not changed much. It is known that in Malang Regency, of the seventeen existing economic sectors, there are six sectors that meet the criteria as basic sectors (leading sectors), which means that the six sectors have a fairly prominent role in Malang Regency. The six economic sectors are: 1) Agriculture, Forestry, and Fisheries Sector, which average LQ analysis calculation results for the last 5 years from 2016 to 2020 are known to be 1.43; 2) Manufacturing Industry Sector, which is known to have an average LQ analysis calculation result for the last 5 years of 1.04; 3) Procurement Sector with an average LQ calculation result of 1.04; 4) Construction Sector with an average LQ calculation result of 1.31; 5) Wholesale and Retail Trade Sector, Car and Motorcycle Repair with an average LQ calculation result of 1.05; 6) Other Service Sector with an average LQ calculation result of 1.45.

Meanwhile, the rest or eleven other economic sectors are non-basic sectors, meaning that the sectors play a less important role in the economy in Malang Regency and are less suitable for use as the main sector in Malang Regency. Sectors that are classified as non-basic sectors in Malang Regency

include: 1) Mining and Quarrying Sector, this sector from 2016 to 2020 has an average LQ calculation result of 0.36; 2) Electricity and Gas Procurement Sector with an average LQ calculation result of 0.34; 3) Transportation and Warehousing Sector with an average LQ calculation result of 0.4; 4) Accommodation and Food and Beverage Provision Sector with an average LQ calculation result of 0.64; 5) Information and Communication Sector with an average LQ result of 0.88; 6) Financial Services and Insurance Sector with an average LQ result of 0.62; 7) Real Estate Sector with an average LQ calculation result of 0.88; 8) Corporate Services Sector with an average LQ calculation result of 0.49; 9) Government Administration, Defense and Mandatory Social Security Sector with an average LQ result of 0.8; 10) Education Services Sector with an average LQ result of 0.92 and the last is; 11) Health Services and Social Activities Sector with an average LQ calculation result of 0.89.

Table 2. Results of Location Quotient Analysis in Malang City

Economic Sector	Year				
	2020	2021	2022	2023	2024
Agriculture	0.02	0.02	0.02	0.02	0.02
Mining	0.02	0.01	0.01	0.01	0.01
Processing industry	0.81	0.79	0.77	0.76	0.77
Procurement	0.12	0.12	0.13	0.14	0.14
Procurement	2.12	2.13	2.16	2.20	2.14
Construction	1.40	1.40	1.39	1.42	1.45
Trading	1.71	1.69	1.69	1.67	1.65
Transportation	0.87	0.89	0.88	0.91	0.89
Provision of Accommodation	0.86	0.86	0.85	0.85	0.83
Information and Communication	0.87	0.88	0.87	0.85	0.87
Financial Services	1.03	1.03	1.02	1.01	1.03
Real Estate	0.88	0.88	0.88	0.89	0.87
Corporate Services	0.97	0.96	0.97	0.96	1.04
Government Administration	0.64	0.64	0.64	0.62	0.62
Educational Services	2.93	3.02	3.02	2.97	2.94
Health Services	3.95	4.03	4.00	4.07	4.09
Other services	2.16	2.15	2.12	2.10	2.10

Source: BPS East Java processed, 2024

From the results of the LQ analysis calculation in Malang City, it can be seen that the basic and non-basic sectors have not changed much. During the last 5 years (2016-2020) in Malang City, out of the seventeen economic sectors mentioned, only seven sectors meet the requirements as basic sectors, meaning that the seven sectors have a potential role in Malang City.

The seven economic sectors include: 1) Water Supply, Waste Management, Waste and Recycling, which average LQ analysis calculation results are known to be 2.27; 2) Construction Sector, which average LQ analysis calculation results for the last 5 years are known to be 1.42; 3) Wholesale and Retail Trade Sector, Car and Motorcycle Repair with an average LQ calculation result of 1.67; 4) Financial Services and Insurance Sector with an average LQ result of 1.02; 5) Education Services Sector with an average LQ calculation result of 2.98; 6) Education Services Sector, which average LQ calculation of 4.06; 7) Education Services Sector, the average LQ calculation result of which is 2.11.

On the other hand, the other five economic sectors are non-basic sectors, meaning that these sectors play a less important role in the economy in Malang City or these sectors are still unable to meet their production in Malang City. Sectors that are classified as non-basic sectors in Malang City include: 1) Agriculture, Forestry, and Fisheries Sector has an average LQ calculation result of 0.02; 2) Mining and Excavation Sector with an average LQ calculation result of 0.01; 3) Manufacturing Industry Sector with an average LQ calculation result of 0.77; 4) Electricity and Gas Procurement Sector with an average LQ result of 0.14; 5) Transportation and Warehousing Sector with an average LQ calculation result of 0.89; 6) Accommodation and Food and Beverage Provision Sector with an average LQ calculation result of 0.85; 7) Information and Communication Sector with an average LQ result of 0.87; 8) Real Estate Sector with an average LQ result of 0.88; 9) Corporate Services Sector with an average LQ calculation result of 0.99; 10) Government Administration, Defense and Mandatory Social Security Sector with the highest average LQ calculation result of 0.63.

Table 3. Results of Location Quotient Analysis in Batu City

Economic Sector	Year				
	2020	2021	2022	2023	2024
Agriculture	1.26	1.25	1.29	1.29	1.36
Mining	0.03	0.03	0.03	0.03	0.03
Processing industry	0.15	0.15	0.15	0.15	0.16
Procurement	0.16	0.17	0.18	0.18	0.20
Procurement	1.98	1.92	1.93	1.90	1.96
Construction	1.20	1.21	1.23	1.26	1.27
Trading	1.06	1.06	1.06	1.05	1.08
Transportation	0.47	0.47	0.47	0.48	0.55
Provision of Accommodation	2.01	2.00	1.97	1.94	1.74
Information and Communication	1.35	1.31	1.29	1.26	1.31
Financial Services	1.40	1.41	1.37	1.35	1.40
Real Estate	1.68	1.73	1.71	1.70	1.75
Corporate Services	0.63	0.62	0.59	0.57	0.60

Economic Sector	Year				
	2020	2021	2022	2023	2024
Government Administration	1.09	1.11	1.09	1.08	1.10
Educational Services	1.45	1.46	1.45	1.43	1.47
Health Services	1.23	1.21	1.16	1.13	1.18
Other services	11.51	11.71	11.97	12.16	12.37

Source: BPS East Java processed, 2024

The results of the LQ analysis calculation in Batu City show that the basic and non-basic sectors do not experience significant fluctuations. In Batu City for the past 5 years from 2016 to 2020, of the seventeen existing economic sectors, there are twelve sectors that are included in the basic sector or leading sector category, which means that these sectors have a fairly prominent role in Batu City.

The twelve economic sectors include: 1) Agriculture, Forestry, and Fisheries Sector with an average LQ analysis calculation result of 1.32; 2) Water Supply, Waste Management, Waste and Recycling Sector with an average LQ analysis calculation result for the last 5 years of 1.93; 3) Construction Sector with an average LQ calculation result of 1.25; 4) Wholesale and Retail Trade, Car and Motorcycle Repair with an average LQ calculation result of 1.06; 5) Provision of Accommodation and Food and Beverage with an average LQ calculation result of 1.89; 6) Information and Communication with an average LQ calculation result of 1.28; 7) Financial Services and Insurance with an average LQ calculation result of 1.37; 8) Real Estate with an average LQ calculation result of 1.72; 9) Government Administration, Defense and Mandatory Social Security Sector with an average LQ result of 1.09; 10) Education Services Sector with an average LQ result of 1.45 and the last is; 11) Health Services and Social Activities Sector with an average LQ calculation result of 1.16; 12) Other Services Sector with the highest average LQ calculation result of 12.17, which means that this sector is the most dominant sector in Batu City in the last 5 years (2020-2024).

Meanwhile, the other five economic sectors are non-basic sectors, meaning that these sectors play a less important role in the economy in Batu City or these sectors are still unable to meet their production in Batu City. The sectors that are classified as non-basic sectors in Batu City include: 1) the mining and excavation sector where this sector is calculated from 2020 to 2024 to have an average LQ result of 0.03; 2) the manufacturing industry sector with an average LQ value of 0.15; 3) the electricity and gas procurement sector with an average LQ calculation of 0.19; 4) the transportation and warehousing sector with an average LQ result of 0.5 and the last is; 5) the corporate services sector with an average LQ calculation of 0.59.

b. Results of Economic Disparity Analysis in the Greater Malang Area

For the level of economic inequality (disparity) that occurs in the Malang Raya Area through the analysis stages used in the LQ method. Furthermore, the analysis stages of the role of the basic sector on the level of inequality in general in the Malang Raya Area are carried out through the Williamson Index value presented in table 4:

Table 4. Results of Williamson Index Analysis 2020-2024

No.	Year	Williamson Index
1	2020	0.120865174
2	2022	0.121449737
3	2022	0.121866888
4	2013	0.122357420
5	2024	0.125058885
Average		0.122319621

Source: BPS East Java processed, 2024

Based on the calculation table above, it shows that during the five-year period, namely from 2020 to 2024, the results of the IW analysis have increased in the last few years. In 2020, the initial IW analysis results were 0.120865174 . Then in 2021 it increased to 0.121449737. Then it rose again in 2022 to 0.121866888 . And in 2023 the IW analysis results became 0.122357420 . And finally in 2024 it became 0.125058885. Meanwhile, the average results of the IW analysis calculations over the last five years in the Malang Raya area were 0.122319621, which is included in the low inequality category.

When viewed from the latest IW inequality criteria in the Malang Raya Area in the last five years, the inequality criteria for the highland areas in East Java Province are included in the low inequality category because the average IW figure is at 0-0.20. This value which tends to increase indicates the gap between districts in the Malang Raya Area of East Java Province, meaning that development in the area has not been successful in overcoming income disparities in its region.

Conclusion

In order to analyze role sector Featured at the Malang Raya area level as form effort reduce level disparity economy in the Greater Malang Area, then can concluded a number of findings research , namely : 1) determination Malang Regency's base sector is there a number of base sector, namely : sector agriculture , industry , procurement , construction, trade services others ; 2) the Malang City area has base sector , namely : sector procurement, construction , trade , services finance , services education , services health, services others ; 3)

Batu City area has a number of basic sectors , namely : agriculture, industry, procurement, construction, trade, provision, information , services finance, real estate, administration government, services education, services health and services others ; and 4) conditions current disparity The economy in the Malang Raya area shows a fluctuating trend with increasing trend during period study with average value of IW value is sufficient big. This is to signify that Not yet optimal role and development potential sector economy featured in the Malang Raya area support activity economy public.

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