

Research Article

Analysis of The Level of Income Inequality in East Java Province for The Period 2009 - 2023

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Abstract: This study analyzes the level of economic development disparity among regions in East Java Province during the period 2009–2023 using the Klassen Typology approach. The study aims to map the classification of regions based on economic growth rates and per capita GRDP to identify spatial disparities among the 38 districts/cities in the province. The analysis results indicate significant inequality, with regions such as Surabaya, Sidoarjo, and Gresik consistently categorized as advanced and rapidly growing areas (Quadrant I), while regions such as Sampang, Pamekasan, and Bondowoso fall into the underdeveloped category (Quadrant IV). This phenomenon shows that the economic spillover effect from growth centers to surrounding regions remains suboptimal and suggests the need for spatially-based policy interventions. This study provides important implications for formulating more inclusive regional development policies and recommends further quantitative analysis to identify the determinants of inequality in greater depth.

Keywords: Regional Inequality; Economic Growth; Klassen Typology; Regional Development

1. Introduction

Economic growth is an approach that combines aspects of economic improvement with environmental preservation and social balance. This approach emphasizes that economic development is not enough to focus on increasing GDP figures, but must also pay attention to its impact on the sustainability of natural resources, community welfare, and overall environmental quality (Sugianto et al., 2024). In practice, economic growth not only acts as a goal, but also as a measuring tool in observing the development of community welfare (Sukono, 2019; Woestho, 2021). High, stable, and equitable economic growth is considered a form of successful national and regional development. However, reality shows that growth is not always in line with equity. When only some regions experience progress, inter-regional inequality becomes a challenge that needs to be addressed seriously.

During the period 2009 to 2023, Indonesia's economy generally showed a positive trend despite being disrupted by the COVID-19 pandemic. Specifically for East Java Province, economic growth has also performed quite well. However, this aggregate success hides the fact that not all regions within the province are enjoying the benefits of growth equally. Data shows that there is a clear gap between regions, both in terms of economic growth rates and per capita income levels. Based on data from the Central Bureau of Statistics of East Java Province (2024), more than half (58%) of the districts/cities in East Java have GRDP growth below the provincial average. This imbalance is an indication that the results of development are not spread evenly across the region.

Received: March 30th, 2025

Revised: April 15th, 2025

Accepted: April 30th, 2025

Published: May 02th, 2025

Curr. Ver.: May 02th, 2025



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As a province with an area of 47,803.49 km² and divided into 38 districts/cities, East Java has very diverse geographical and socioeconomic characteristics. Areas with high economic potential, adequate infrastructure, and proximity to growth centers tend to grow more rapidly. In contrast, regions located in peripheral or remote areas, such as the Madura and Horseshoe regions, face constraints in developing their economic capacity. This shows that differences in natural resources, geographic location, and the quality of economic management can create significant inequality.

One of the analytical approaches used in this study to understand these disparities is the Klassen Typology. This typology classifies regions into four quadrants based on two main indicators, namely economic growth rate and GRDP per capita. Quadrant I includes regions that are developed and growing fast, Quadrant II consists of regions that are developed but growth is depressed, Quadrant III contains regions that are growing fast but income is still low, and Quadrant IV is regions that are relatively lagging behind in both aspects. Using this approach, it is possible to identify which regions require greater policy intervention and which regions can act as regional growth centers.

The economic theories underlying this approach include several important concepts. The growth pole theory by Perroux explains that economic development does not spread evenly, but is centered in certain areas which then have an effect on the surrounding areas. This theory was further developed by Boudeville (in Fathurrahmi, 2016) who stated that industrial clusters in urban areas encourage economic activity in wider areas. In the context of East Java, areas such as Surabaya, Sidoarjo and Gresik are clear examples of growth centers that create inequality with areas in Madura and the southwest of the province.

On the other hand, the theory of interregional economic inequality introduced by Simon Kuznets (1955) through the inverted-U hypothesis, states that inequality increases in the early stages of development and decreases as development matures. Despite the popularity of this theory, the reality in East Java shows that inequality tends to persist even after two decades of regional autonomy. According to the Williamson Index, inequality in East Java during 2009-2023 was in the high category, ranging from 0.951 to 0.984 (BPS East Java, 2024). This indicates that income inequality has not improved significantly during the observation period, and equitable development has not been achieved optimally.

The importance of disparity studies is also emphasized by Myrdal through the concept of circular cumulative causation. He argued that inequality occurs due to a mutually reinforcing cause-and-effect relationship between economic, social, and political factors. Regions that already have advantages tend to continue to grow, while regions that are left behind will fall further behind unless there is strong policy intervention (Smith & Jones, 2015). In the context of East Java Province, this phenomenon is very visible in areas such as Surabaya and Sidoarjo that continue to grow and absorb investment, while districts such as Sampang and Pamekasan experience stagnation and underdevelopment.

In its implementation, the Klassen Typology uses two main indicators. The first is economic growth as measured by changes in GRDP at constant prices, and the second is GRDP per capita. Districts/cities are then mapped into four quadrants based on the provincial average value. The average economic growth rate of East Java Province in the 2009-2023 period was recorded at 4.93%, while GRDP per capita in 2023 reached Rp. 44,423,300. Regions that have higher than average economic performance in both indicators are categorized as growth centers (Quadrant I).

The classification results show that regions such as Bojonegoro, Gresik, Sidoarjo and Surabaya City consistently fall into Quadrant I. These regions are characterized by more developed infrastructure, access to markets and high economic activity in both the industrial and service sectors. These areas are characterized by more developed infrastructure, access to markets, and high economic activity in both the industrial and service sectors. Meanwhile, districts such as Sampang, Bangkalan, Bondowoso and Sumenep fall into Quadrant IV, reflecting structural challenges in catching up in terms of economic growth and income.

This research not only maps the position of each district/city, but also explains how the classification can be utilized in the formulation of development policies. Quadrant I areas need to be maintained and encouraged as the driving force of the provincial economy. While Quadrant IV areas require intensive policy interventions, such as improving basic infrastructure, strengthening human resources, and fiscal support from the provincial and central governments.

2. Research Methods

Utilizing the Klassen Typology approach, this study presents a relevant inequality map to be used as a basis for setting future development directions. In the midst of the government's efforts to achieve inclusive and sustainable development, data-driven and spatial analysis such as this is very important. Moreover, high income and growth inequality can trigger various social problems, such as rising poverty, unemployment, and gaps in public services.

This research also has a high practical urgency. In order to welcome the post-pandemic development agenda and face global pressures such as economic uncertainty and climate change, regional development policies should not be one-size-fits-all. The results of the Klassen Typology classification can be used by local governments as a basis for preparing the Regional Medium-Term Development Plan (RPJMD) and prioritizing the allocation of the Regional Budget (APBD).

Development inequality among regions in East Java Province is a real challenge that requires serious attention from all parties. By utilizing the Klassen Typology method, this study seeks to provide a deeper understanding of economic growth patterns at the district/city level. It is hoped that the results of this analysis can encourage local and central governments to design policies that are more equitable, inclusive, and data-based in order to realize equitable welfare throughout East Java.

3. Results And Discussion

Result

The analysis of inter-regional economic development disparities in East Java Province is becoming increasingly relevant given the province's significant contribution to the national Gross Domestic Product (GDP), but on the other hand it also shows considerable economic disparities. To identify these development inequalities, the analysis in this study uses the Klassen Typology approach. This approach was chosen because it is able to provide a spatial picture of the position of each region based on two main indicators, namely economic growth and per capita income.

Klassen's typology divides regions into four categories or quadrants, namely: (1) developed and fast-growing regions (Quadrant I), (2) developed but depressed regions

(Quadrant II), (3) fast-growing regions (Quadrant III), and (4) relatively underdeveloped regions (Quadrant IV). In the context of East Java Province, the results of the analysis show significant variations among the 38 districts and cities over the observation period 2009-2023.

Regions such as Surabaya City, Sidoarjo Regency, Bojonegoro Regency, Gresik Regency, and Batu City are consistently in Quadrant I. These regions show superior economic performance as they have economic growth and GDP per capita above the provincial average. These regions show superior economic performance because they have economic growth and GRDP per capita above the provincial average. The dominance of this region is inseparable from factors such as proximity to economic centers, access to infrastructure, and the dominance of modern industrial and service sectors. This is in accordance with the growth center theory (Perroux, 1950) which states that economic growth will be concentrated in certain areas with structural advantages, and from these points growth spreads to surrounding areas through the process of economic diffusion.

Quadrant II is filled by regions such as Banyuwangi Regency, Tuban Regency, and Probolinggo City. These regions have high per capita income but relatively low economic growth. This phenomenon can be attributed to the theory of stagnant sector productivity (Baumol's cost disease), where regions that previously enjoyed high growth experience a slowdown due to dependence on sectors that are no longer dynamically developing. In the context of East Java, many of these regions are based on commodity economies or extractive industries that have begun to experience declining contributions to growth.

In contrast, Quadrant III is populated by regions that have high economic growth but low GRDP per capita. An example of this is Kediri City, which despite recording quite rapid economic growth, has not been able to significantly raise the average income of its people. This is in line with the economic dualism theory of Lewis (1954), which states that in the early stages of development, the modern sector develops but has not fully absorbed the surplus labor of the traditional sector, so that growth has not been evenly felt by all levels of society.

Quadrant IV includes regions that have economic growth and GRDP per capita below the provincial average, such as Sampang Regency, Pamekasan Regency, Bondowoso Regency, and Nganjuk Regency. These regions face complex structural challenges, including low investment, poor infrastructure quality, and limitations in resource management. According to Myrdal's (1957) concept of circular cumulative causation, such regions tend to be left behind because they lack attractiveness for investment and skilled labor, so their backwardness is further reinforced by social and economic conditions that do not support change.

Discussion

The Klassen Typology classification results show a striking map of economic development inequality in East Java Province. The data shows that economic growth and per capita income are still highly concentrated in certain regions. Surabaya City, as the administrative and economic center, is consistently at the top, with GRDP per capita reaching more than Rp157 million in 2023, far above the provincial average of only Rp44.4 million. In contrast, Kabupaten Pamekasan only recorded a per capita GRDP of around IDR14.4 million, which is one of the lowest in East Java (BPS East Java Province, 2024).

This inequality illustrates the failure of the spillover effect that ideally arises from developed regions to underdeveloped regions. According to Boudeville (in Fathurrahmi, 2016), the existence of growth centers should have an economic impact on the surrounding

areas through increased demand, labor migration, and market and infrastructure development. However, in the case of East Java, this effect does not seem to have worked optimally. Instead, what has happened is the dominance of backwash effects, which is the flow of resources from underdeveloped regions to growth centers, as described by Myrdal (1957).

This condition is exacerbated by the implementation of regional autonomy, which should be a solution to adjust development policies according to regional characteristics. Unfortunately, after more than two decades of autonomy, there are still many regions that have not been able to improve their performance. This can be caused by inequality in fiscal capacity, weak regional institutions, and uneven quality of human resources (White & Green, 2021). In many cases, the districts in Quadrant IV also have high Williamson Index values (>0.9), indicating sharp inter-regional income inequality (Sjafrizal, 2012).

In the context of Kuznets' (1955) growth theory, the Klassen Typology results in East Java do not seem to show a perfect inverted U-shape. Inequality does not decrease as the province's aggregate economic growth increases, meaning that growth tends to be exclusive rather than inclusive, and is mostly enjoyed by developed regions. As noted by Viana and Setiawan (2020), proving the Kuznets hypothesis at the regional level requires tests that take into account structural variables, such as government spending, investment, and inter-regional linkages.

In addition, inequality also has an important social dimension. When a region lags behind in terms of economic growth and income, people's access to education, health services, and employment opportunities will also lag behind. This will reinforce the vicious cycle of poverty and underdevelopment. Therefore, the Klassen Typology classification is not only useful as an academic tool, but also has practical significance in public policy formulation.

The results of this classification provide strategic direction for the East Java Provincial Government in formulating more inclusive regional development policies. Regions in Quadrant I, such as Surabaya, Gresik and Sidoarjo, can be focused as new economic growth centers and encouraged to expand their economic effects to surrounding areas. Strengthening inter-regional connectivity through the development of transportation and digital infrastructure is essential to create better regional economic integration.

Meanwhile, regions in Quadrant IV require more specific and intensive interventions. Affirmative policies such as increasing the allocation of the Special Allocation Fund (DAK), providing investment incentives for local leading sectors, and developing basic infrastructure need to be prioritized. Empowering local communities through improving the quality of education and job training is also very important so that they can be more actively involved in economic activities. In addition, it is important for the government to conduct regular evaluations of the effectiveness of such spatially-based development policies. Without constant monitoring and improvement, inequality risks deepening and undermining social stability. The provincial government also needs to encourage cross-regional collaboration, both through inter-municipal cooperation and public-private partnerships that focus on regional economic development.

Although the Klassen Typology provides a comprehensive picture of the development position between regions, the analysis is still descriptive. It does not directly explain the causal factors of these conditions. Therefore, further quantitative approaches such as panel regression or spatial econometrics can be used to assess the influence of structural variables such as household consumption, minimum wage, government spending, and regional exports

on inequality. However, as this study only focuses on classification, these discussions are not included in the main discussion.

The analysis also relies on two main indicators-economic growth and GRDP per capita-which, although very important, do not fully represent the complexity of regional development. Therefore, for future research, it is recommended to add social dimensions such as the human development index (HDI), unemployment rate, or access to basic services as complements in measuring development disparities between regions.

4. Conclusion

An analysis of the interregional development gap in East Java Province using the Klassen Typology approach shows that the economic growth experienced by the province during the period 2009 to 2023 did not occur evenly across regions. The classification of 38 districts/cities in East Java shows significant spatial inequality, with most of the areas with high growth and per capita income concentrated in the central and eastern regions, particularly around Surabaya City, Sidoarjo Regency, Gresik Regency and Bojonegoro Regency.

Meanwhile, other regions such as Sampang, Bangkalan, Pamekasan and Bondowoso tend to lag behind, with economic growth and GRDP per capita levels below the provincial average. The classification of regions into the four quadrants of the Klassen Typology makes clear the dominance of certain growth centers and the lack of optimal spread effects to surrounding areas. This finding reinforces the argument presented by Myrdal (1957) on circular cumulative causation, that without strong intervention, inequality between regions tends to increase due to the dominance of developed regions over underdeveloped regions.

This imbalance implies that development strategies in East Java must be designed by considering the characteristics of each region. Quadrant I regions can function as levers for regional economic growth, while still encouraging development partnerships with surrounding regions. Meanwhile, Quadrant IV regions require special attention through affirmative policies that include improving infrastructure, strengthening regional fiscal capacity, developing local economic potential, and improving the quality of human resources.

The East Java Provincial Government together with district/city governments must develop a spatially-based development strategy supported by comprehensive data and analysis. The Klassen typology can be used as a tool to determine development priorities and the direction of policy interventions, especially in the preparation of medium-term development plans and the allocation of inter-regional transfer funds.

Methodologically, although the Klassen Typology provides a concise and intuitive picture of regional conditions, this approach is descriptive and does not directly explain causal factors. Therefore, for further studies, it is recommended to use quantitative approaches that can empirically examine the determinants of regional inequality, such as panel regression, spatial models, or regional input-output analysis.

By understanding the structure of inter-regional inequality in more detail, East Java Province is expected to formulate development policies that not only pursue growth, but also ensure equitable distribution of development results. Fair and inclusive development is the main prerequisite for achieving long-term prosperity for all people in every corner of the region.

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