Population, Growth and Economic Inequality in Urban Areas Mamminasata, South Sulawesi, Indonesia

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Abstract: Decentralization, population, development and economic growth are factors to reduce economic imbalances in a region. The purpose of this study is to see the extent of economic inequalities in Urban Area Mamminasata (Makassar, Maros, Sungguminasa/Gowa, and Takalar) as well as the factors that led to it. The data obtained are then analyzed to determine the income disparity by using Williamson Index. The Williamson Index analysis is used to measure how much economic inequality is between regions. The value of the Williamson Index derived from the calculation of per capita local income and the total population of each area. The data used in this study is secondary data, which is the annual data during 2012-2016 and obtained from the agency. A criterion is a moderate, high-level gap. The size of inequality if the value of the Williamson Index closes to 0 means that in the area of imbalance small or more evenly and if the value of the Williamson Index closes to 1 then the area occurs a very large or widened inequality. From the research result of difference, criterion indicates that Sungguminasa/Gowa Regency is at the highest condition of inequality in Urban Area of Mamminasata with a value of the variation of equal to 0903. In the Mamminasata Urban Area, the lowest level of index inequality of Williamson is in the area of Makassar City with an average value of 0.383 than in Maros District with a high imbalance rate of 0.801 next Takalar District with Williamson inequality value of 0.821 and included in the category of high inequality. Given the economic growth both directly and indirectly will affect the problem of regional disparities. The difference in revenue sharing is an imbalance in economic development between different regions in a region that will also cause per capita income disparities between regions.

Keywords: Economic Growth and Inequality, Williamson's Index, Decentralization, Development Disparities

1. Introduction

An economy is said to experience growing growth if the level of economic activity is higher than what was achieved in the past [1]. Economic growth is the process of increasing per capita output over the long term. Here, the process gets emphasis because it contains dynamic elements [2]. Developed countries use the pattern of intergovernmental financial relations. Developing countries choose to escape from chaotic government traps, macroeconomic instability, and stolen avoidance in global dependence [3]–[5].

This view refers to a neo-classical economic view where development can begin only in a few dynamic sectors, capable of delivering high output ratios and in specific areas, which can have far-reaching impacts and double impacts on other industries and more extensive regions [6]. Neo-classical economists have a principle that market forces will ensure a balance in the spatial distribution of the economy and the trickle-down effect process will automatically occur when public welfare is achieved and starts from high levels such as urban areas to lower areas such as hinterland and rural regions [7], [8].

According to [9], the emergence of the decentralization discourse not merely linked to the unsuccessful centralized planning but an awareness that development is a complicated process that cannot be easily controlled and planned from the center. [10], mentions at least three main reasons for applying decentralization, namely; to create an efficient administration of government administration, to expand regional autonomy, and in some cases as a strategy to overcome political instability.

As decentralization begins, the central government delegates responsibilities for education, agriculture, industry, trade, investment and infrastructure to the district government, primarily to provide better public services mostly in the area of slow development [11], [12]. In the western world, decentralization is a useful tool for government reorganization to provide cost-effective public services in the era of "Welfare state" is an economic system that prioritizes the welfare of society above all else [13], [14]. Decentralization with the goal of economic development is not just to create modernization in a community, but more importantly to create a better life for the whole society.

In regional development, investment is vital to increase the availability of capital reserves. Foreign investment is seen as significant because it will facilitate the transfer of technology. The high level of investment in a region influenced in addition to existing policies, as well as several factors both on the supply and demand side. This is known as the OLI framework (ownership, location and internally) [15]. Economic disparity defined as a striking difference between the rich and the poor regarding income distribution, welfare distribution, community welfare background, in the rear of education, occupation, level of satisfaction and happiness [16].

Regional economic development is a process whereby local governments and all components of the community manage various existing resources and form a partnership pattern to create a new employment field and stimulate the development of economic activity within the area [17], [18]. Provides a description stating that a rapid rate of economic growth does not necessarily improve the distribution of
benefits for all residents. Rapid growth is bad for the poor because they will be shattered and marginalized by the structural changes of modern growth.

Other thinkers like [19], also sharply criticized the growth ideology. He states that the growth ideology only produces two things, namely prosperity, and poverty. Prosperous for the benefit and the poor for the marginalized. An economy is said to experience growth if the level of economic activity is higher than that achieved in the past. Economic growth is a process of increasing per capita output over the long term.

The Solow-Swan model expresses population growth, capital accumulation, technological progress and interacting output in the process of economic growth [20]. In the neo-classical model, Solow-Swan has used a more general form of a production function, which can accommodate the various possible substitutions between capital and labor [21]. The ability of the state does not guarantee an increase in economic growth but also on the ability to increase production activities determined by labor mobility and capital mobility among countries.

The urban area of Mamminasata covering Makassar City, Maros Regency, Sungguminasa/Gowa and Takalar and entirely included in South Sulawesi Province which can see in Figure 1 was formed based on the Decree of South Sulawesi Province Governor Year 2003 with the area of 246,230 Ha. The city's draft was built based on Presidential Regulation No. 56/2011 on Urban Spatial Plans of Makassar, Maros, Sungguminasas/Gowa, and Takalar.

The population growth of Mamminasata is estimated to grow from 2.25 million to 2.88 million by 2020 [22]. It provides sophisticated implications for the needs of urban infrastructure and facilities. With the flight volume of 480 times a day, making the city of Makassar as the gateway in the areas of Maros, Sungguminasas/Gowa and Takalar regencies, so that economically can provide growth and development for the surrounding area through development support. Mamminasata Urban Area is prepared to be the center of economic growth in Eastern Indonesia.

The size of interdisciplinary developmental imbalances that first discovered was the Williamson index used in his study in 1966. Statistically, this index is a characteristic coefficient of variation used to measure a difference. The term Williamson Index emerged as a tribute to Jeffrey G. Williamson who first used this technique to measure the inequality of regional development. Although this index has several disadvantages, among others sensitive to the definition of the region used in the calculation, however, the index is quite commonly used in measuring inequality of development between regions.

Economic development is one of the targets of growth[23]. Progress in the broad sense includes aspects of life both ideology, politics, social culture, defense and security and so forth[24]. Economic development is an attempt to improve the living standard of a nation that is often with real per capita income[25]. Furthermore, economic growth needs to be viewed as an increase in per capita income, as an addition is an acceptance and incidence in the economic welfare of society[26]. The pace of a country's economic development measured by using the growth rate of GDP/GNP[27].

2. Methods

In conducting this research, the type of analysis used is quantitative. Quantitative Research according to [28], is a scientific approach that views a reality that can be classified concrete, observed, the relationship of variables are causal where the research data in the form of numbers and analysis using statistics.

Sources of data in this study is an interview with resource persons in the office of the Central Bureau of Statistics of South Sulawesi. Also, using Library Research which is a way of collecting data from various documents, books, articles, and other literature that can use as a reference in this study. The data used in this study is secondary data, which is the annual data during 2012-2016 and obtained from the agencies associated with this research. Because the data used is time series data, then the population will also be a research sample [29]. The data used in this research:

- Sulawesi Province District's Gross Domestic Product (GDP) data.
- The population of South Sulawesi Province
- Growth Rate of Takalar Regency

The data obtained are then analyzed to determine the income disparity by using Williamson Index. The Williamson Index analysis is used to measure how much economic inequality is between regions. The value of the Williamson Index derived from the calculation of per capita local income and the total population of each area. If the value of the Williamson index is close to zero, then the income distribution gap level is getting smaller (more equitable). Conversely, if the value of the Williamson index goes further than zero, then the gap widened. This formula is essentially the same as the usual Coefficient of Variation (CV), in which the mean divides the standard

Figure 1: The urban area of Mamminasata (Makassar, Maros, Sungguminasa/Gowa, Takalar)
deviation. [30], introduced this Coefficient of Variance (CV) by weighing it in proportion to the population, called Coefficient of Variation (CV). The index of inequality formulated as follows:

\[ CVw = \frac{\sum_i (Y_i - \bar{Y}) \frac{f_i}{n}}{\bar{Y}} \]

CVw : Weighted Coefficient of Variation  
fi : Population in Region i  
n : Total population  
Yi : Revenue per capita in Region i  
\( \bar{Y} \) : Average per capita income for all Regions

A criterion is used to determine whether a gap exists at a low, moderate, or high-level gap. From these figures, will be characterized how successful regional development in a region, so that later evaluated in the planning of subsequent development [31]. Here the criteria:

<table>
<thead>
<tr>
<th>Level</th>
<th>Williamson's Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>&lt; 0.35</td>
</tr>
<tr>
<td>Medium</td>
<td>0.35 ≤ WI &lt; 0.5</td>
</tr>
<tr>
<td>High</td>
<td>&gt; 0.5</td>
</tr>
</tbody>
</table>

### Table 2: Gross Domestic Product (GDP) per capita Mamminasata Area Year 2012 - 2016 (million rupiahs)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Makassar</td>
<td>51,730,964.96</td>
<td>54,618,947.04</td>
<td>57,787,848.38</td>
<td>61,232,302.17</td>
<td>65,212,925.14</td>
</tr>
<tr>
<td>Maros</td>
<td>27,794,966.33</td>
<td>28,970,391.45</td>
<td>29,966,841.44</td>
<td>32,214,028.88</td>
<td>34,910,321.09</td>
</tr>
<tr>
<td>Sungguminasa/Gowa</td>
<td>12,363,270.27</td>
<td>13,029,811.98</td>
<td>14,362,545.00</td>
<td>15,190,178.56</td>
<td></td>
</tr>
<tr>
<td>Takalar</td>
<td>13,849,705.85</td>
<td>14,769,913.40</td>
<td>16,029,700.95</td>
<td>17,186,395.54</td>
<td>18,637,896.67</td>
</tr>
</tbody>
</table>

### Table 3: Total Population of Mamminasata Area Year 2012 - 2016

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Makassar</td>
<td>1,369,606.00</td>
<td>1,408,072.00</td>
<td>1,429,242.00</td>
<td>1,449,401.00</td>
<td>1,469,601.00</td>
</tr>
<tr>
<td>Maros</td>
<td>325,401.00</td>
<td>331,796.00</td>
<td>335,596.00</td>
<td>339,300.00</td>
<td>342,890.00</td>
</tr>
<tr>
<td>Sungguminasa/Gowa</td>
<td>670,465.00</td>
<td>696,096.00</td>
<td>709,386.00</td>
<td>722,702.00</td>
<td>735,493.00</td>
</tr>
<tr>
<td>Takalar</td>
<td>275,034.00</td>
<td>280,590.00</td>
<td>283,762.00</td>
<td>286,906.00</td>
<td>289,978.00</td>
</tr>
</tbody>
</table>

### Table 4: Williamson's Index (WI)

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Average value WI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makassar</td>
<td>0.382</td>
<td>0.382</td>
<td>0.384</td>
<td>0.383</td>
<td>0.382</td>
<td>0.383</td>
</tr>
<tr>
<td>Maros</td>
<td>0.803</td>
<td>0.801</td>
<td>0.802</td>
<td>0.800</td>
<td>0.798</td>
<td>0.801</td>
</tr>
<tr>
<td>Sungguminasa/Gowa</td>
<td>0.908</td>
<td>0.904</td>
<td>0.903</td>
<td>0.902</td>
<td>0.901</td>
<td>0.903</td>
</tr>
<tr>
<td>Takalar</td>
<td>0.826</td>
<td>0.824</td>
<td>0.821</td>
<td>0.819</td>
<td>0.817</td>
<td>0.821</td>
</tr>
</tbody>
</table>

In a study [30], by comparing the relationships between regional disparities with the level of economic development, using advanced and emerging economic data, found during the early stages of development, economic inequality became more extensive and development concentrated in specific areas. At a more mature stage of economic growth, it appears that the balance between regions and differences significantly reduced.

The size of inequality if the value of the Williamson Index closes to 0 means that in the area of imbalance small or more evenly and if the value of the Williamson Index closes to 1 then the area occurs a very large or widened inequality. Then in Table 1 shows the criteria of difference according to [31], and from table 4 it shows that the Sungguminasa/GowaRegency is in a state of high inequality in Urban Area Mamminasata with an average inequality value of 0.903.

### 3. Result and Discussion

Economic growth is an indicator of the development of a region. High and stable economic growth is expected to play a role in improving the ability of production factors to stimulate the development of economies on a larger scale and impact on the increase in income and welfare of the community. Economic growth of a region can be seen through the magnitude of changes in regional income statistics, or better known as a gross domestic product, within a specified period.

From the data obtained from [32], shows that the population growth rate for Makassar City in 2010-2015 is 1.93% and decreases from 2015-2016 to 1.39%. The population growth rate of Maros Regency in 2010-2015 is 1.47% and decreases from 2015-2016 to 1.06%. Furthermore, population growth rate of Sungguminasa/GowaRegency in 2010-2015 is 2.49% and reduce from 2015-2016 to 1.77%. The population growth rate of Takalar Regency in 2010-2015 is 1.48%, and in 2015-2016 it decreases to 1.07%.

In the Mamminasata Sungguminasa/GowaRegency, the lowest level of Williamson's inequality index is in the area of Makassar City with an average value of 0.383 than in Maros District with a high imbalance rate of 0.801 next Takalar District with Williamson inequality value of 0.821 and included in the category of high inequality.

Inequality in Sungguminasa/GowaRegency with a high level of variation due to various factors such as decentralization and fiscal decentralization, the implementation of economic development that if managed correctly will increase economic growth and then directly affect the increase of income distribution for the community and automatically inequality will decrease.[33], pointed out several factors that led to a difference in income distribution in developing countries: High Population Increases resulting in reduced per capita income. Inflation, in which money income increases
but not followed in proportion to the increase in the production of goods. Inequality of regional development.

Figure 2 represents Williamson's Index (WI) for the Makassar region showing that in 2012 and 2013 the value of WI is 0.382 and is included in the criteria of moderate inequality level. Then in 2014 it increased to 0.384 and in 2015 and 2016 decreased to 0.383 and 0.382. From all these results seen from the linear trend line that the tendency of Williamson's Index increases. The percentage of poverty for Makassar is the lowest compared to other regions in the South Sulawesi Province and the Mamminasata Urban Area with a rate in 2016 of 4.56% [32].

Figure 3 represents Williamson's Index (WI) for the Maros region which shows in 2012 and 2013 obtained by the value of WI by 0803 and decreased in the year 2013 to be 0801 included in the criteria of high inequality level. Then in 2014, it increases to 0802 and in 2015 and 2016 decreases to 0800 and 0.798. From all these results seen from the linear trend line that the tendency of Williamson's Index level decreased. The percentage of poverty for the Maros region is one of the highest compared to the other areas in both South Sulawesi Province, and the Mamminasata Urban Area is in the most top position of the four regions with a percentage in 2016 of 11.41% [32].

The disparity of development or gap is the difference of expansion between a region with other regions vertically and horizontally which causes variation or unevenness of development. The core problem of national economic growth lies in the high gap between parts. The existence of such inequality occurs due to economic activity that is also lame. In the city that became the center of business, all facilities and infrastructure worked well. However, in areas that are not business centers, facilities and infrastructure are not explored. It then makes economic activity so low in many areas. Economic activity is low; poverty level becomes high.

The inequality arises because although the income of the poor increases, but the rise in profit of the rich is higher. The difference in urban areas is also higher than in rural areas, as the population with expenditure below the growth in local per capita expenditures is greater. This view of Hirschman [34], is supported by the Kuznets hypothesis [35], and the results of Williamson and El-Shakhs [30], [36]. Kuznets argues that in the early stages of a region's growth there is an even more uneven distribution of income, but as the area grows its share of revenue will more evenly distribute. While the results of Williamson and El-Shakhs [30], [36], research concluded that regional inequality, when depicted about economic development, will result in a bell-shaped curve that some of its peak points achieved during the transition from the take-off stage to the maturation stage. It suggests that at the beginning of growth (as measured by per capita gross national product), the income distribution gap (as measured by the Gini index) is higher. But at some stage, the income distribution gap will decrease [18].
Decentralization related to local funding and decision-making. Several studies have shown that public services by local governments are more optimal and tend to be less costly and democratic [43]. Some parties are still debating the relationship of decentralization and economic growth, as well as improving inequality among regions. Fiscal decentralization occurs because transfers to enlarged areas, when local governments can allocate them well, regional economic growth rises and private capital flows follow [44], [45]. Economic growth in the regions encourages investment because local authorities are increasing.

The study of decentralized relations and economic growth is not consistent. Positive between decentralization and economic growth at [46], [47]. Other research conducted by [48], finds decentralization driving economic growth in India and China. Cross-country study [49], found decentralization encourages fiscal imbalances. With panel data from 46 developing and developing countries in 1970-1989 found decentralization led to low economic growth, as well as in studies [50]. For Indonesia, [51], see the negative impact of decentralization on economic growth.

[52], analyzes the impact of fiscal decentralization on regional income disparities in Colombia. This study proves that after the enactment of budgetary decentralization, economic growth has increased in each region but followed by the increasing difference of income between regions. The results [53], do not indicate a clear relationship between economic growth and income inequality. Although the hypothesis is accepted, most of it proves that the negative relationship between growth and difference in the long run only occurs in the group of industrialized countries.

An important indicator to measure is regional economic growth whether there are healthy competition and economic equity between regions compared to the previous period [54]. But other economists [55], assume that in the initial conditions the population can indeed increase economic growth but in an optimum state of population growth will not increase economic growth can even lower it. Population growth will increase welfare only when such growth rises effective demand. An increase in an active market will lead to improved well-being [56]. The benchmark of development success seen from economic growth, structure and increasing inequality of income among the population, between regions and between sectors.

To reduce the inequality that occurs several things that can do is as follows: First, development policies that prioritize relatively lagging areas without ignoring the rapidly expanding city. For districts/municipalities entering the developed regions assist in the disadvantaged areas in the form of financing community empowerment programs that can improve the quality of human resources (creating human resources), as improving the quality of human resources will have a positive impact on growth through increased absorption of ideas and innovative technology and entrepreneurship. Also, most districts that have been developed and developed quickly depend on industry sectors that require quality human resources. With this, it expected that people living in developed areas could send skills or skills possessed to people in disadvantaged areas. Secondly,

Especially in the Maros, Sungguminasa/Gowa and Takalar areas, there is a tendency for inequality to decrease but the percentage of poverty in that area is quite large. Related to that the level of spatial disparities between urban regions in Makassar and rural in Indonesia worth to be considered. The study of International NGO Forum on Indonesian Development (INFID) and Oxfam Indonesia in 2017 shows that inequality between urban and rural areas is high. The imbalance of rural and urban access to infrastructure such as electricity grids and quality roads, further widening spatial disparities. Whereas the concentration of land tenure by large corporations and wealthy individuals causes the benefits derived from land tenure rights to accumulate on those who are at the top of the pyramids at the expense of others. The Oxfam and INFID reports say that the money produced by the wealthiest people in Indonesia each year is enough to alleviate extreme poverty in the country.

This process further widened the development gap in the underdeveloped countries[37]. A profit-driven economic system causes this imbalance[37]. It is this motive that encourages the development of development centered in areas with high potential for profit, while other regions remain abandoned. [38], argues that centralized economic growth leads to a circular process that makes capital owners more profitable, and those who do not have the capital get poorer.

It is due to free market forces, which tend to widen rather than narrow regional inequality[39]. Capital transfers also tend to increase regional disparities[40]. In advanced regions, growing demand will stimulate investments which in turn will increase revenue and lead to the second round of financing and beyond[41]. The better scope of investment in development centers can create capital scarcity in the underdeveloped region.

Giving autonomy to the region is faster to spur economic growth nationally. [42] Comparing economic growth to a centralized government with decentralized governance. Both of these researchers found that more rapid and higher economic growth was apparent in devolved governments.

Decentralization is the devolution of power from the central government to local governments. In Indonesia, decentralization began with the Law on Regional Governments No 22 and 25 of 1999, amended into Law no. 32 and 33 in 2004, and may be changed again. Political decisions became a "motor" policy to dampen separatist and regional insubordination because of the New Order's centralism.
consolidation between regions and districts with the provincial government needs to do by making a clear development plan so that the implementation of development can be done in a way so that equitable progress can achieve and the imbalance of economic growth can minimize. So Regional Autonomy provides significant benefits for everyone in it. Third, building inter-regional economic connectivity with infrastructure development and balanced information facilities. This connectivity will lead to a more efficient transfer of natural resources and labor.

4. Conclusion

The problem of income inequality has long been a complicated issue in the implementation of economic development undertaken by some Regions in developing countries as well as developing countries like those in Indonesia. Inequality of income occurs due to the uneven distribution of income in some areas of a nation. It is evident from the condition of difference in this study, from four districts/municipalities entering the Mamminasata Region only urban regions in Makassar which tend to be low inequality level while the other areas are still not able to reduce the level of inequality. One of the main reasons why there is no income distribution and economic improvement in the area is the lack of regulation and policy of the local government in advancing its region as a whole.

References

of Sulawesi Selatan Province, 2017.


