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Relation between Economic Growth and Distribution of Income per Capita and Human Development Index Among Five Major Islands and Provinces in Sulawesi Island, Indonesia

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Abstract

This study aims to analyze interrelated between economic growth, income distribution, Gini ratio, income per capita, and poverty and unemployment rate at six provinces in Sulawesi Island and five major Islands in Indonesia. Interrelation of these variables analyzed using Simon Kuznets's theory. According to Kuznets beginning of development, high economic growth will be followed highly income disparity. Series of data from report of Indonesian Statistical Bureau from 1996-2012 and other official data of provincial government were used. This study classified four types of quadrant, namely: quadrant I explains the island in Indonesia and provinces in Sulawesi island that has high economic growth as well as high income disparity; quadrant II illustrated the island and provinces that has low economic growth and high income disparity; quadrant III show the island and provinces that has low economic growth and low income disparity; and quadrant IV explain the island and provinces in Sulawesi that has high economic growth and low income disparity. The study result indicate only two islands categorized as high economic growth, one is pro-poor and the other island is less pro-poor. The development in Sulawesi result high economic growth in three provinces, however only one province can be categorized as pro-poor and pro-job.

Key-words: Economic Growth, Income Disparity, Gini Ratio, Human Development Index.

JEL Classification: O1

1. Introduction

In the beginning the scientist defines economic development as a process to increase income per capita of the community. The next stage, scientists began to make economic and social welfare income distribution as a factor determining the success of economic development. masyarakat sebagai faktor yang menentukan keberhasilan pembangunan ekonomi. According to neo-classic thought, three main factors affected economic growth which are; firstly, model that prioritizes accumulation of physical capital and technology, secondly, model that emphasizes on human capital through education and thirdly, model that accentuate on human capital through learning experiences (Lucas, 1988; 2002). This thought view economic growth as a machine that change input (human resource, natural resource and financial capital) to output: quantity of input and technology determine the output. When output increase at fast rate due to the high input or better technology. On the contrary, low output due to insufficient input or technology. Solow (1957) present increase in physical input has minimal impact in output, therefore Ricardian theory particularly focus on the non-physical aspect in explaining the economic growth, increase in technology and human resource in the form of skills and knowledge (Galor 2005).

In other words, the increase in per capita as the out-put of economic development is not solely for the pursuit of GDP growth, but how to improve social welfare in a more just and equitable. This the most common critics of several economist in the last decade (Bergh, 2007; Stiglitz, JE, Sen, A & Fitoussi, J-P, 2010; Clifford, et.al 1995; McDonough , et.al. 2006). Theory of Karl Mark (Cohen, 1982) explains that economic growth in the early stages of development will increase the demand for labor. With the increased demand for labor, then an increase in the wage rate of labor affects the subsequent increase in risk capital of labor resulting in a decline in the demand for labor. That places the problem of unemployment and income inequality. In short, economic growth tends to reduce poverty and inequality of income distribution in the initial stages of development, then the next step would be vice versa (Cohen, 1982; Callinicos, 2004). Meanwhile, Kuznets (1955) stated that economic growth in poor countries initially tended to cause high levels of poverty and inequality of income distribution. However, when the welfare of poor countries increase, the problem of poverty and unequal distribution of income will decline. While the classical economists, suggests that economic growth will always tend to reduce poverty and income inequality although still in the early stages of growth. Empirical evidence of the view based on observations in several countries such as Taiwan, Hong Kong, Singapore, China (Stiglitz, 1996). Neo-classical economist is very optimistic that the economic growth in practice tends to reduce income inequality and poverty (Galbraith 2007; Dasgupta, S., et.al. 2002; Deacon and Norman 2006). On the contrary, neo Marxists are pessimistic about economic growth, stated that the economic growth will always lead to widening gaps between the rich and the poor. This is due to the accumulation of capital and technological progress tends to increase the concentration of resources and control of capital by the capital possessors or "elite" of society; and the ordinary people will remain in poverty.

Sulawesi regional economic development is an integral part of the implementation of national economic development. Development in the island of Sulawesi has contributed to the national economic growth, therefore, the major challenge is how to achieve high economic growth and succeed in reducing income inequality. Although the Gini ratio of several provinces on the island of Sulawesi still at a relatively low, but its development tends to continue to increase each year. During the reform order (1998-2012) Gini ratio has reached of 0.35. When compared with the Gini ratio in the last 30 years (1969-1996) Suharto regime, recorded at 0.34. While the national average of Gini ratio of 0.37 in reforms order. Poverty inherited from Sukarno regime in the early leadership of Suharto regime in 1969 was 60%, became 17% at the end of the Suharto's era in 1996, with an average economic growth rate during the same period of 6.8. The average level of poverty in the reform era (1999-2012) of 15.5%, with the rate of economic growth in the same period has an average of 4.6%.

These data explains that between the period 1969 to 1996 (Suharto's regime) average of 6.8% economic growth in Indonesia with Gini index of 0.34. While the reform era (1999-2012), the average growth rate of 4.6% with a Gini ratio of 0.37. These data illustrate that in the period of the Soeharto regime Gini ratio and economic growth were better than the reform era in Indonesia. In the Soeharto's

era, although economic growth is much higher compared to the reform era, but in the era of the Suharto, the level of income inequality is more restrained, when compared with the reform era.

Some factors that cause the increase in income inequality among others: (i) the concentration of economic activity in certain areas, (ii) natural resources are controlled by a small group of people (usually capitalist investor), (iii) the influence of structural factors that occur in the economy, such as: (a) information and technology that is asymmetrical, (b) access to technology, credit and production inputs are not balanced between the poor and entrepreneurs (c) the concentration of capital ownership occurs in small groups of people (businessman), (d) the existence of inequality in the ownership of resources and factors of production, (e) market imperfections and repressive tax system. General criteria to measure income inequality usually are the World Bank criteria, namely the highest inequality when 40 % of the population with the lowest income distribution received less than 12 % of national income. Medium inequalities are where 40 % of the population with the lowest incomes received 12-17 % of national income. Inequalities low when 40 % of the population with the lowest incomes receive more than 17 % of all national income.

Does economic growth in the main islands of Indonesia particularly in the island of Sulawesi contribute to improve the welfare of society or conversely contribute to increase disparity and income inequality? Therefore, this study aims to look at the pattern of economic growth linkages and the level of income inequality on the island of Sulawesi.

2. Methodology

In this study, analysis used is descriptive qualitative analysis thus this type of research is a descriptive study. The variables analyzed in this study are economic growth and income inequality. Definitions and parameters of these two variables are as follows: (i) economic growth Economic growth is the rate of increase in the value of GDP in each year occurred in 5 major islands and 6 provinces on the island of Sulawesi (province of South Sulawesi, Southeast Sulawesi, North Sulawesi, Central Sulawesi, West Sulawesi, and Gorontalo). The parameters used to measure the rate of economic growth is the %age, (ii) Income gap is the difference in the proportion of income among social groups in six regional economies on the island of Sulawesi. The parameters used to measure the level of income inequality is the Gini index.

Data used in this study is secondary data which include: (i) National GDP data in constant prices from 2006 to 2012, (ii) GDP data of six provinces on island of Sulawesi in constant prices from 2006 to 2012, (iii) Data distribution of national income from 1970 - 2012, (iv) income distribution data of six provinces on the island of Sulawesi from 2006 - 2012.

The Gini coefficient would bring a measure of aggregate inequality and its value lies between 0 (perfect equality) to 1 (perfect inequality). Gini coefficient of a particular region experiencing high inequality ranged from 0.50 to 0.70; medium inequality were ranged between 0.36 to 0.49, and low inequality ranged from 0.20 to 0.35.

To find typology of relationship of level economic growth and the level of income inequality, is done by looking at the pattern of the relationship between the rate of economic growth with the level of income inequality within several period. Because this is a descriptive study, thus data analysis tools used is analytical tools of quadrant typology table. Rate of average used as the basis to determine whether the rate in the quadrant table fall into high or low category. Classifies as high when the rate is higher than the average otherwise the rate is classifies as low.

3. Result and Discussion

Provinces in the islands of Sumatra have the smallest average rate of Gini index during the Soeharto's regime for the period 1976-1996 is only 0.21, and at the time of the reform era in 1999 to 2012, average Gini index rises to 0.31. The average rate of economic growth in Sumatra region during the period 2006-2012 is 5 %, with the average of poverty rate in the same period by 14 %, and the average unemployment rate in the last seven years was recorded 6.8 %.(Table 1).

Borneo Island has the second lowest average of Gini index. In 1976-1996, the average of Gini index of 0.28, and increase to 0.32 in the period 1999-2012. Average economic growth of the island of

Borneo in 2006-2012 was 4.8 %, with an average poverty rate of 8.6 %, unemployment rate of 6.4%. In 1976-1996, the average Gini index of Java-Bali equal to 0.28 similar with Borneo Island, but the average rate of Gini index of Java-Bali increase in the period 2006-2012, to 0.35, higher than the average Gini index of Borneo. Economic growth of Java-Bali in 2006-2012 was 5.95 %, with 11.87 % the poverty rate and the unemployment rate of 8.11 %. Consequences of economic growth in Java-Bali causing average of Gini index Java-Bali is higher than the island of Borneo. High income inequality of people in Java is also indicated by the higher average percentage of the poverty and unemployment rate in the island of Java and Bali, when compared with the island of Borneo. (Table 1).

Sulawesi Island has an average ratio of Gini index of the smallest in the period 1976-1996, which is 0.19. However, increase of Gini index were the highest in the year 1999-2012 of 0.35. Something similar occurred in the provinces of Nusa Tenggara, Maluku and Papua (NT-M-P). In 1976-1996, the provinces on the island of NT-M-P had average Gini index of 0.20, and the ratio increased to 0.35 in the period 1999-2012. While the average economic growth in 2006-2012 on the island of Sulawesi is 7.56 %, the poverty rate and the unemployment rate respectively 16.81% and 6.5%. In the island of NT-M-P in the same period had an average economic growth of 4.1% with poverty rate of 26.5% and unemployment rate of 6.1%.(Table 1).

Table 1 portrays the macroeconomic indicator between major islands in Indonesia. In this table illustration Indonesia is classified into five major islands' Sumatera, Java-Bali, Borneo, Sulawesi, Nusa Tenggara-Moluccas-Papua (NT-M-P). Sumatera island has ten provinces, Java-Bali has seven provinces, Borneo island has four provinces, Sulawesi island has six provinces and NT-M-P has six provinces.

Table-1. Average of macroeconomic indicators among major island in Indonesia.

No	Island	AVERAGE							
		EG (%)	GR	RP (%)	DR P (%)	UE (%)	DR UE (%)	HDI	IR HDI
1	Sumatra	5	0,31	14	0,74	6,8	0,66	70,39	0,60
2	Java-Bali	5,9	0,35	11,87	0,50	8,11	0,60	70,34	0,48
3	Borneo	4,38	0,32	8,61	0,62	6,48	0,71	68,98	0,47
4	Sulawesi	7,56	0,35	16,81	1,02	6,50	0,86	68,48	0,72
5	NT-M-P	4,12	0,35	26,51	1,67	6,18	0,53	64,93	0,58

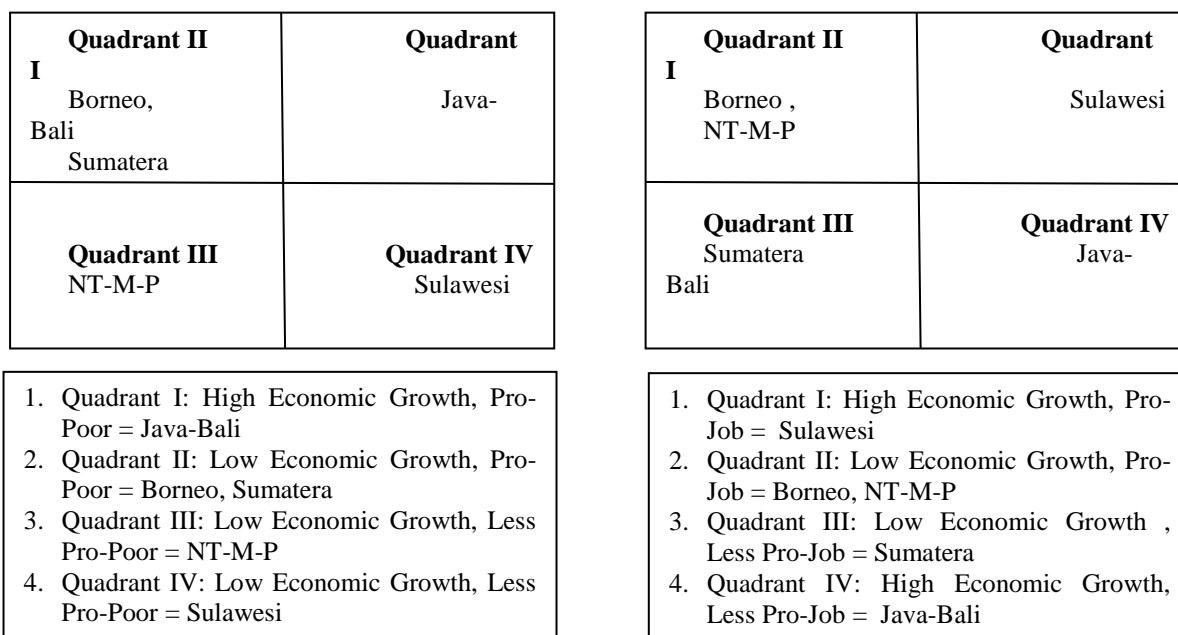
Note: Economic growth (EG) 2006-2012, Gini Ratio (GR) 1999-2012, rate of poverty (RP) 2006 - 2012, decline rate of poverty (DR P), unemployment rate (UE), decline rate of unemployment (DR UE), human development index (HDI) 1996-2012, increase rate of human development index (IR HDI)

Source: Processed data from Report of Statistical Bureau of Indonesia from 1996-2012

The development of the provinces on the island of Sulawesi show a positive trend, it can be proven with data such as the average economic growth of 7.56%, the poverty rate of 16.8%, and unemployment rate of 6.5%. When compared to NT-M-P islands, Sulawesi had similar average ratio of the Gini index of 0.35, but the poverty rate in the NT-M-P is much larger, ie 26.5% compared to only 16.8% in Sulawesi.

Interrelation pattern of level of economic growth and income disparity among five major Islands in Indonesia, illustrated in figure 1 below;

Figure-1.Socio-economic Performance Comparison among five major Islands in Indonesia



Quadrant II I Borneo, NT-M-P	Quadrant Sulawesi
Quadrant III Borneo, Bali NT-M-P,	Quadrant IV Java-

1. Quadrant I: High Economic Growth, High Accelerated Decline Rate of Poverty and Unemployment = Sulawesi
 2. Quadrant II: Low Economic Growth, High Accelerated Decline Rate of Poverty and Unemployment = Borneo, NT-M-P (Nusa Tenggara – Molucca- Papua
 3. Quadrant III: Low Economic Growth, Low Accelerated Decline Rate of Poverty and Unemployment = Borneo, NT-M-P, Sumatera
 4. Quadrant IV: High Economic Growth, Low Accelerated Decline Rate of Poverty and Unemployment = Java-Bali

Sulawesi and Java-Bali have high economic growth but poverty rate in Sulawesi are higher. In this context, development in Sulawesi is not pro-poor but pro-job. This fact is contrast when compared to the development in Java-Bali where the economic growth is high and pro-poor. In reality, development in Sulawesi demonstrates strong effort and high acceleration to reduce the rate of unemployment and poverty when compared to the development in the island of Java-Bali.

4. Sulawesi Island

Development of Indonesia during Soeharto’s regime (1967-1998) focused in Western Indonesia, particularly in Java. Although, officially the Soeharto’s government ensured fair and equitable policies, the fact that economic infrastructure mostly concentrated in Western part of Indonesia. Consequently most investors chose to invest their capital only in Western Indonesia.

Since the fall of Soeharto's Regime, economic development policy started to considered the importance of decentralization. Centralistic economic policy slowly being replaced by the decentralist policy. This open new opportunity for provincial and district governments to innovate in order to increase welfare of their people.

Provinces in Sulawesi Island are highly innovative in increase the economic growth and rate of human development index (HDI) and decline the rate of unemployment and poverty. Average rate of economic growth in period of 2006-2012 in Sulawesi is 7,5 % with the average decline rate of unemployment in the same period of 0.86% and average rate of poverty level decline to 1,02%, and the average rate of increase in Human Development Index in 1996-2006 is 0.72. (Table 1).

In the period of 2006-2012 average rate of economic growth of provinces in Sumatera island is 6.1%, average rate of decline in poverty level and unemployment rate of 0,74% and 0,66% respectively, and the average rate of increase in HDI is 0,60. While provinces in Java-Bali which were the economic development icon during Soeharto's regime, experienced stagnation even decline during the period of 2006-2012. The average rate of economic growth in Java-Bali in 2006-2012 is 5,9%, the average decline rate of poverty and unemployment respectively 0,62% and 0,60%, the average rate of increase in HDI is 0,48.

Borneo island have abundant natural resources (mining, timber and palm oil plantations) in the period 2006-2012 the average economic growth is only 4.88 % , with an average rate of decline of poverty and unemployment , respectively ; 0.62 % and 0.71 % , and the average rate of increase in the human development index of 0.47 . Provinces in Eastern Indonesia such as Nusa Tenggara, Maluku and Papua (NT-M-P) have even more natural resources (mining, fisheries, livestock and marine) unfortunately they have not shown significant changes in development . In the period 2006-2012 average economic growth of only 4.1 % , the average rate of decline of poverty and unemployment , respectively ; 1.67 % and 0.53 % , and the average rate improvement of human development index of 0.58 .(Table 1)

Table 2 exhibit the efforts and innovation of stakeholder at the provinces in Sulawesi Islands. Each province aims to reduce the rate of unemployment and poverty and discover ways to increase the index of human development.

Table- 2. Average of macroeconomic indicators of 6 provinces in Sulawesi Island.

No	Province	AVERAGE								
		EG (%)	IGR	RP (%)	DR P (%)	UE (%)	DR UE (%)	HDI	IR HDI	
1	West Sulawesi	9,1	0,32	16	1,02	3,9	0,64	67,93	1,14	
2	Central Sulawesi	8,2	0,34	19,5	0,98	5,6	1,09	67,46	0,52	
3	Southeast Sulawesi	7,8	0,35	18,66	1,2	5,22	0,89	66,87	0,43	
4	North Sulawesi	7,57	0,33	9,68	0,24	10,7	1,06	72,74	0,47	
5	Gorontalo	7,57	0,37	24,31	1,69	5,55	0,47	68,16	1,12	
6	South Sulawesi	7,15	0,37	12,63	0,74	8,57	0,99	67,75	0,61	

Note: Economic growth (EG) 2006-2012, Gini Ratio (GR) 1999-2012, rate of poverty (RP) 2006 - 2012, decline rate of poverty (DR P), unemployment rate (UE), decline rate of unemployment (DR UE), human development index (HDI) 1996-2012, increase rate of human development index (IR HDI)

Source: Processed data from Report of Statistical Bureau of Indonesia from 1996-2012

Six provinces in Sulawesi island, namely South Sulawesi, North Sulawesi, Eastern Sulawesi, West Sulawesi, Central Sulawesi and Gorontalo. Rank of economic growth in the period of 2006 – 2012 placed West Sulawesi with the highest average of economic growth of 9.1% with an average Gini ratio of 0.32 in the period 1996-2012. In 2006-2012, the average percentage of poverty rate in

the province of West Sulawesi is 16%, with an average rate of decline in the poverty rate by 1.02%. The average rate of unemployment in West Sulawesi is 3.9% with an average rate reduction of 0.64%. The average human development index achieved by West Sulawesi province in 1996-2012 is 67.93, with an average rate increase of 1.14. The second rank is province of Central Sulawesi with an average economic growth of 8.2%, while the average Gini ratio of 0.34 in the period 1999-2012. Central Sulawesi province in 2006-2012 had an average poverty rate as much as 19.5%, with an average rate of poverty reduction as much as 0.98%. In this period, the average of unemployment rate in Central Sulawesi is 5.60%, with an average rate reduction of 1.09%. The average human development index within the year of 1996-2012 was 67.46, with the average rate of increase of 0.52 (Table 2)

Southeast Sulawesi has third highest economic growth with an average growth of 7.8% in 2006-2012; the average Gini ratio of 0.35. The province average poverty rate of 18.66% and rate of decline of 1.2%. Average rate of unemployment in the province is 5.22%, with the rate of decrease of 0.89%. The average human development index within the period of 1996-2012 was 66.87, with an average increase rate of 0.43 (Table 2).

Province of North Sulawesi and Gorontalo both recorded an average economic growth in the period 2006-2012 of 7.57%, with an average of Gini ratio Gorontalo and North Sulawesi respectively in the year 1999-2012; 0.37 and 0.33.

The poverty rate in Gorontalo province during 2006-2012 was 24.31%, with an average rate of reduction of as much as 1.69%. While the North Sulawesi province has a poverty rate of 9.68%, with an average rate of reduction of 0.24% during the same period. Unemployment rate in the province of Gorontalo and North Sulawesi respectively; 5.55% and 10.7%, with an average rate of reduction respectively; 0.47% and 1.06%. The average rate of human development index achieved by Gorontalo and North Sulawesi province in 1996-2012 was 68.16 and 72.74, with an average increase of 1.12 and 0.47 (Table 2).

South Sulawesi Province has lowest average economic growth on the island of Sulawesi during the period 2006-2012 of 7.15%, with an average rate of gini index of 0.37 between the years 1999 to 2012 0.37. The average rate of poverty and unemployment in the year 2006-2012 in the province is 12.63% and 8.57%, with an average decline rate respectively 0.74% and 0.99%. Human development index average rate achieved by the South Sulawesi province was 67.75, with an average rate increase of 0.61 over the period 1996-2012 (Table 2).

Figure 2 illustrated the pattern of interrelation between economic growth and income inequality among the provinces in Sulawesi Island.

Figure- 2. Socio-economic Performance Comparison among provinces in Sulawesi Island

Quadrant II I South Sulawesi, Sulawesi North Sulawesi	Quadrant West	Quadrant II I Gorontalo , Sulawesi	Quadrant West Central
Quadrant III Gorontalo,	Quadrant IV Southeast Sulawesi Central Sulawesi	Sulawesi Quadrant III South Sulawesi	Southeast Sulawesi Quadrant IV

1. Quadrant I: High Economic Growth, Pro-Poor = West Sulawesi
2. Quadrant II: Low Economic Growth, Pro-Poor = South Sulawesi, North Sulawesi
3. Quadrant III: Low Economic Growth, Less Pro-Poor = Gorontalo
4. Quadrant IV: Low Economic Growth, Less Pro-Poor = Southeast Sulawesi, Central Sulawesi

1. Quadrant I: High Economic Growth, Pro-Job = West Sulawesi, Central Sulawesi, Southeast Sulawesi
2. Quadrant II: Low Economic Growth, Pro-Job = Gorontalo
3. Quadrant III: Low Economic Growth , Less Pro-Job = North Sulawesi, South Sulawesi
4. Quadrant IV: High Economic Growth, Less Pro-Job = -

Quadrant II I South Sulawesi, Sulawesi North Sulawesi	Quadrant West Central
Sulawesi Quadrant III Gorontalo,	Southeast Sulawesi Quadrant IV -

1. Quadrant I: High Economic Growth, High Accelerated Decline Rate of Poverty and Unemployment = West Sulawesi, Southeast Sulawesi, Central Sulawesi
2. Quadrant II: Low Economic Growth, High Accelerated Decline Rate of Poverty and Unemployment = Gorontalo, North Sulawesi, South Sulawesi
3. Quadrant III: Low Economic Growth, Low Accelerated Decline Rate of Poverty and Unemployment = Gorontalo, North Sulawesi, South Sulawesi
4. Quadrant IV: High Economic Growth, Low Accelerated Decline Rate of Poverty and Unemployment = -

There are three provinces that fall into the category of high growth, namely; West Sulawesi, Central Sulawesi and Southeast Sulawesi. Of the three provinces, only one pro-poor as well as pro-job, namely West Sulawesi. Central Sulawesi and Southeast Sulawesi, only identified as pro job. All provinces that have high economic growth is generally pro-job. Province of West Sulawesi, Central Sulawesi and Southeast Sulawesi are provinces with high growth acceleration to reduce poverty and unemployment rate.

5. Conclusion

Economic development that occurred at the large scale such as economic growth between the islands in Indonesia showed only two islands categorized as high economic growth namely Java-Bali and Sulawesi. Java-Bali provides evidence that high economic growth does not follow by income

inequality (disparity), simply put Java-Bali has high economic growth and pro-poor although not pro-job. In contrast, high economic growth in Sulawesi follows by income disparity, the economic growth in Sulawesi not pro-poor but pro-job.

Economic development on a smaller scale such as the economic development between provinces on the island of Sulawesi provides greater opportunities for development actors to achieve high growth. There are three high-growth provinces on the island of Sulawesi, namely; West Sulawesi, Central Sulawesi and Southeast Sulawesi. West Sulawesi is the only province that is categorized as a high-growth pro-poor and pro-jobs. Central Sulawesi and Southeast Sulawesi province have high growth but only pro-job.

This research found that development in Soeharto's regime which is well known as an authoritarian regime; accumulatively succeed in actualized higher economic development with lower Gini ratio compared to the development in the reform (democratic) era of the last fifteen years.

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