

## Determinant on Economic Growth, Income Disparity, and Poverty of Regencies/Cities in East Java Province

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### ABSTRACT

*This study analyzed the influence of private investment, capital expenditure ratio, and human capital ratio towards economic growth, income disparity, as well as the number of poor for regencies/cities in East Java Province. The data used in this study were the panel data derived from 2008 to 2012 that covered the total of 38 regencies/cities in East Java Province. The result indicated: First, private investment significantly influenced economic growth in East Java regencies/cities with positive path; Second, capital expenditure ratio influenced significantly on economic growth with negative path; Third, human capital ratio with the proxy of secondary education level (Junior High School/Senior High School/Vocational School) accomplished by the workers aged 15 and above had significant influence on economic growth with positive path; Fourth, the economic growth itself possessed significant influence on income disparity with positive path; Fifth, human capital ratio insignificantly influenced income disparity with negative path; Sixth, economic growth significantly influenced poverty with negative path; and lastly; Seventh, income disparity significantly influenced poverty with positive relationship path.*

**Keywords:** Private investment, capital expenditure, economic growth, income disparity, the number of poor (poverty)

### INTRODUCTION

The fundamental problem faced by each country during the initial policy construction for economic development, other than to pursue the economic growth target, is the equity aspects of economic development results. Economic growth which is often assumed as an indicator of economic progress, in some countries, in fact, brings out some problems. In several developing countries, the goal of economic advancement may become a dilemma whether to concern on economic growth or to let income discrepancy and poverty happen.

The negative effect of pursuing mainly on economic growth for developing country as Indonesia in the beginning of economic growth era is mostly caused by economic growth paradigm relying on trickledown effect. However, the ability of the trickledown effect to diverse development results does not meet the expectation. Economic growth pursuit as one of development policy choices in its long run undergoes evolution from that who maintains economic growth to those who puts major attention to equalization and poverty aspects.

Agenor (2004:154) states that the breadth dimensions of economic development prevents the existence of one absolute or the most appropriate theory to be implemented holistically in countries across the world. This phenomenon seems to deal with the country differences in terms of nature condition, attitude, and resources. These varieties of conditions influence the ineffectiveness of the chosen economic policy, which often leads human capital condition to failure.

Some researches on regional economic growth provide various results. Barro (2003:407)

conducted a research on economic development on 98 countries since 1960 up to 1985. Barro found that the per-capita Gross Domestic Product (GDP) growth level significantly related to (proxy with school enrollment in 1960) and negatively related to the starting point of the real per-capita GDP in 1960.

For Indonesia, the available regional researches were mainly focused on economic growth determinant where human resource quality is one of the most important variables. The result of Sigit (2004:124) research estimates the influence of capital variable, student-teacher ratio (to measure education effort coverage and efficient use of resources for education), total fertility, share of oil and gas sector in PDRB (to measure natural resource availability towards regional economic growth). Tjahyono and Donni F (2006) in their study discuss the role of investment to boost economic growth, which in average, capital factor has a role in promoting economic growth; however, the major factor is labor force.

Siregar and Wahyuni (2007) assert that economic growth as the main indicator to observe country's development success that gives significant influence towards the decrease of poverty. This study result strengthens the study done by Balisacan and A. Asra (2003) that postulates that Indonesia has an impressive record on its economic growth and poverty reduction. Economic growth and the reduction of poverty have strong correlation for the aggregate level. Data panel which has been built from 285 cities/regencies reveals significant difference, such as the change in poverty number, sub-national economic growth, and local specific parameters.

In regional level, this study which was conducted in East Java province, tried to figure out the link between determinant factors influencing economic growth and their correlations with income disparity and poverty for regency/city level in East Java province. Quite different from other provinces, the average economic growth of East Java reached 6.55%, the highest economic growth percentage above the average level in Java Island. For regency/city level, the number of economic growth may vary.

This circumstance proves the relationship between the supportive resources of economic growth and the number of income disparity and poverty for different areas in East Java regencies/cities. However, the high economic growth of East Java province is still unable to overcome wide income disparity and the tendency of the increase in the number of the poor in East Java's regencies/cities.

There were two basic points underpinning the study analysis of the economic growth resources and the influence of economic growth on income disparity as well as poverty in regency/city of East Java province, they are:

Firstly, there were some problems in the previous studies on determinant factors for economic growth. The previous studies' results stated different conclusions in terms of how big and in which direction the determinant factors influenced economic growth. These different ways in arriving into conclusions pointed out an open space to conduct further research with different object and approach to widen the comprehension towards determinant variables on economic growth matter.

Secondly, the aim of regional development which was oriented on pursuing high economic growth percentage in order to reduce unequal distribution of income and poverty became somewhat different as occurred in East Java. The fact that East Java province achieving high economic growth above national average growth level and still being unable to overcome the problem of income distribution inequity was to be an interesting point to observe. The problem of inequity was shown by the high regional gap index and the increase of population

poverty rate in regencies/cities in East Java.

Based on these matters, the economic growth in East Java province was predicted to influence the income distribution imbalance and poverty rate. This condition indicated that economic growth, income disparity, and poverty were inter-related one another. Therefore, this study tried to analyze the economic growth determinant factors which might influence income disparity and poverty rate in East Java's regencies/cities.

## **EMPIRICAL OBJECTIVE AND HYPOTHETICAL DEVELOPMENT**

### **The Influence of Investment on Economic Growth**

According to Keynes (in Jhingan, 2007:137 and Todaro and Stephen C, 2006:214), generally, investment gives multiplier effect on economic growth through the increase of production capacity. This thought is in line with Harrod-Domar's point of view on the role of investment towards economic growth. Although the role of investment is less significant than consumption in supporting economic growth, investment evokes direct effect towards the average expenditure, which later on increases national income through multiplier process.

Armida and T.Akita (2005) explain that if the government wants to raise the living standards of its citizen, local production capacity should be increased. In order to increase production capacity, a region needs to improve its capital stock. To expand the capital stock, large investment is certainly needed. Sigit (2004), based on his research finding, describes that investment (I) on a particular region will directly and positively influence regional income (Y). It means that if the rate of investment in a particular region is high, theoretically it will improve the regional income. Based on this explanation, the research hypothesis is:

**H<sub>1</sub>:** *Private investment gives significant influence towards economic growth in East Java's regencies/cities.*

### **The Influence of Capital Expenditure on Economic Growth**

Aschauer (2000) concludes that there is a positive influence of public capital towards economic growth. In addition, the study by Easrterly and Rebelo (1993) proves some positive and significant influence of government investment towards economic output. Sodik (2007) also states that there is a positive influence of government expenditure towards economic growth. However, Badrudin (2012) and Patria (2012) show the insignificant relationship between capital expenditure and economic growth with negative coefficient due to the low portion of capital expenditure towards the total regional expenditure rate compared to the huge portion of direct regional expenditure towards its regional income.

Devarajan and Zhaou (1996) notify the significant and negative relationship between communication and transportation expenditure ratio and the total expenditure for economic growth. Kompas (2000) in its study in Indonesia indicates that the government investment expenditure provides negative effect both in short or long run towards economic growth. Based on the explanation above, the postulated hypothesis is:

**H<sub>2</sub>:** *Capital Expenditure Ratio gives significant influence towards economic growth in East Java's regencies/cities.*

### **The Influence of Education on Economic Growth**

Barro (1991:59-62) conduct a study on economic growth across 98 countries within the period of 1960-1985. The real per-capita's Gross Domestic Product (GDP) rate positively related to the human capital condition (proxy with school enrollment in 1960) and negatively related to the beginning state of the real per-capita's GDP (1960). The contribution for Neo-

classical Solow view of economic growth model is described by Mankiew *et al.* (2002).

Some studies that focus on overlooking the relationship between human capital (education) and economic growth are: Breton (2003) finds that income distribution for labor is the very important determinative factor influencing national income. Besides, Breton asserts that investment in physical and educational capitals, government consumption, political situation and stability are to be determinative factors for national income as well.

McDonald and J.Roberts (2002) study the influence of several forms of capital (physical, educational, and health capitals) towards economic growth by using the data from OECD countries and non-OECD countries from the World Bank. They figure out the fact that capital in different or various forms may give different influences on economic growth; and health aspect is more determinative in countries with low income; whereas education is more important in countries with high income. Based on this excerpt, the hypothesis is:

**H<sub>3</sub>:** *Human capital ratio gives significant influence towards economic growth in East Java's regencies/cities.*

### **The Influence of Education on Income Disparity**

According to Gylfason and Gylfi (2001), for the international level, empirically, the quality of human capital proxy with education level gives positive effect on economic growth and income distribution among countries. In line with this assertion, education is expected to give positive influence towards economic growth and income distribution across regions.

It is clearly shown in another aspect as well that the higher the education level is, the more even the education distribution will be. Therefore, income distribution will also be evenly spread (De Gregorio and Lee, 1999; Dur and Teuling, 2002). Education is the key determining factor for income distribution equalization and reduction of income inequity. Education has a long term effect on income distribution (Gylsafon and Zoega, 2001; Zhang, 2002; Breton, 2003). Based on this believe, the postulated hypothesis is:

**H<sub>4</sub>:** *Human capital ratio gives significant influence towards income disparity in East Java's regencies/cities.*

### **The Influence of Economic Growth on Income Distribution**

An empirical study to test the relationship between economic growth and income discrepancy by means of cross countries study was conducted by Perotti (1996). Perotti discovers the negative effect from the relationship between income discrepancy and economic growth. Forbes (2000), by using fixed effect and random effect for five year periodical phase in 35 countries, concludes that the relationship between income discrepancy and economic growth is positive. There is a robust relationship for sample variations, including the countries with different variables and the way to measure income discrepancy, sample distribution according to each country, the initial value of income as well as some other specification tests.

Galor (2002) by the use of panel data, also projects some income discrepancy, lack of access to capital markets, and some other changing in income that certainly give negative impact towards investment on human resource. Poor investment on human resource results in poor human resource skill which will lead to poor GDP. Based on this study, one proposed hypothesis to observe the impact of economic growth on income disparity is as follow:

**H<sub>5</sub>:** *Economic growth gives significant influence towards income disparity in East Java's regencies/cities.*

### **The Influence of Economic Growth on the Number of the Poor**

The study result by Strauss (2002) concludes the high level of per-capita expenditure means that the economic growth will have low level of poverty. Agrawal (2008) conducts a test between economic growth and poverty reduction; the result shows that when economic growth is rising, it is followed by the increasing number of labor force and the high level of real wages which significantly affect on the decrease of poverty.

The research by Balisacan and A. Asra (2003) provides fundamental relationship between economic growth and poverty in its average level; whereas the study done by Siregar and Dwi Wahyuni (2007) resumes that economic growth significantly affects the decrease of poverty rate with relatively small magnitude. Sasana (2009) concludes the economic growth has significant negative influence towards the number of poor. This study re-emphasizes Riyanto *et al.* (2011) research result stating that there is a consistency in terms of variable influence for the negative PDRB towards poverty in East Java. In line with this assertion, the proposed hypothesis is:

**H<sub>6</sub>:** *Economic growth significantly influences the number of poor in East Java's regencies/cities.*

### **The Influence of Income Distribution on Poverty**

In his study, Saleh (2002) describes that income discrepancy measured by 'gini' ratio influences positively towards poverty. Levernier *et al.* (2000) supports this finding, mentioning that 'gini' ratio as the income discrepancy measurement influences significantly and positively towards poverty. While De Sousa-Brown *et al.* (2004) forecast the relationship between the discrepancy of income distribution (presented in 'gini' ratio) and poverty is unidirectional. If there is a change in income discrepancy, the level of poverty will likely to change.

The influence of income distribution on poverty can be seen in Suhariyanto *et al.* (2009)'s study; 'gini' ratio has unidirectional relationship with poverty level. Several study results shown above prove that the impact of economic growth will occur only when there is a high level of discrepancy. It brings the point, in any phase of development, the less the discrepancy is, there will be more opportunity to decrease the poverty level. Reflecting this finding, this hypothesis is generated:

**H<sub>7</sub>:** *Income disparity influences significantly on poverty in East Java's regencies/cities.*

## **RESEARCH METHOD**

### **Population and Sampling Technique**

The population in this study was all the 38 regencies/cities in East Java Province consisting of 29 regencies and 9 cities. The regencies/cities were to be the cross section data, whereas the period of study started from 2008 to 2012. Due to some time lag where the influence of the variables could be seen in the following year, exogenous variables (such as private investment, capital expenditure ratio, and human capital ratio) adopted one year time lag within four year duration, 2008-2011. On the other hand, endogenous variables that were economic growth, income disparity, and the number of poor applied the data generated within 4 year span from 2009 to 2012.

### **Definition of Operational Variables**

The variables used in this study could be classified into independent exogenous variable, intervening endogenous variable, and dependent endogenous variable with 6 variables in

total. The definition of operational variables, in detailed, is as follow:

1. Private Investment ( $X_{1t-1}$ ) is the realization value of non-facility PMDN investment according to regencies/cities in the unit of rupiahs.
2. Capital Expenditure Ratio ( $X_{2t-1}$ ) is the value of capital formation by the regencies/cities' government in the unit of rupiahs (capital expenditure ratio towards total regional expenditure) which is stated in percentage.
3. Human capital Ratio ( $X_{3t-1}$ ) is the population ratio of the citizen aged 15 and above who has worked and finished their secondary level education (Junior High School, Senior high School, and Senior Vocational School) which is stated in percentage.
4. Economic Growth ( $Y_{1t}$ ) is the changing of real year-to-year PDRB of its regency/city based on the constant prices stated in units of percentage.
5. Income Disparity ( $Y_{2t}$ ) is the Williamson Index Value stated in index value.
6. Poverty ( $Y_{3t}$ ) is the number of poor that is mentioned in the unit of thousand.

### Data Collection Technique

In this study, in order to observe the relationships among the operational variables, the researcher applied path analysis technique. Based on the variables relationships, three structural equation models were constructed:

1. Structural equation for economic growth ( $Y_{t1}$ ):

$$Y_{1t} = \beta_1 X_{1(t-1)} + \beta_2 X_{2(t-1)} + \beta_3 X_{3(t-1)} + \varepsilon_1$$

2. Structural equation for income disparity ( $Y_{t2}$ ):

$$Y_{2t} = \beta_4 X_{3(t-1)} + \beta_5 Y_{t1} + \varepsilon_2$$

3. Structural equation for poverty ( $Y_{t3}$ ):

$$Y_{3t} = \beta_6 Y_{t1} + \beta_7 Y_{t2} + \varepsilon_3$$

Where:

$X_{1(t-1)}$  is Private Investment

$X_{2(t-1)}$  is Capital Expenditure Ratio

$X_{3(t-1)}$  is Human Capital Ratio

$Y_{1t}$  is Economic Growth

$Y_{2t}$  is Income Disparity

$Y_{3t}$  is Poverty

$\varepsilon$  is error term

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$  is access coefficients

## RESULT AND DISCUSSION

### Equation Estimation and Hypotheses Testing

In the structural equation model of economic growth ( $Y_{1t}$ ), there were three exogenous variables: private investment ( $X_{1(t-1)}$ ), capital expenditure ( $X_{2(t-1)}$ ) and human capital ratio ( $X_{3(t-1)}$ ); there was one endogenous variable: economic growth ( $Y_{1t}$ ). The structural equation 1

is:

$$Y_{1t} = 0.332X_{1(t-1)} - 0.356X_{2(t-1)} + 0.772X_{3(t-1)} + \varepsilon_1 \dots \dots \dots (1)$$

With its determinative coefficient  $R_1^2 = 0.503$

Based on this estimation, investment variable influenced significantly towards economic growth of the regencies/cities in East Java. The estimation value of  $\beta$  coefficient (access) was 0.332 in the significant level of 5%, which meant in every increase of investment for 1%, the economic growth will rise for 0.332%. With the assumption that there was no significant variation during the observation years, the private investment growth gave positive influence towards economic growth although in relatively small scale.

Capital expenditure ratio significantly affected economic growth in regencies/cities across East Java Province. This fact was seen from the access coefficient  $\beta$  that was -0.356 and the *p-value* as much as 0.004 in the significant level of  $\alpha = 5\%$ . It could be said that in every 1% of capital expenditure rise there would certainly be a decrease on economic growth as much as 0.356% with significant influence. This calculation result showed that capital expenditure possessed important role on economic growth process for regencies/cities in East Java. The coefficient value of negative access indicated the existence of the influence of capital expenditure ratio which led to the decrease of economic growth.

Human capital ratio influenced economic growth positively and significantly in the East Java's regencies/cities with the coefficient access of  $\beta$  0.772 in the significant level of  $\alpha = 5\%$ . From here, it could be concluded that in every 1% increase of labor education level there would be a boost on the economic growth up to 7.72%. Therefore, the improvement of labor education level into higher degree would give positive impact on economic growth.

Related to education level of citizen age 15 and above who worked in East Java's regencies/cities, the study found that their education level was still low. Almost 42% of the population completed only primary education level or even below. The low level of labor education gave negative implication on the wage rate received and the rate of returns to education, in which the higher the accomplishment of education level, the higher the rate of returns to education.

In the structural equation model of income disparity, there were two exogenous variables: human capital ratio ( $X_{3(t-1)}$ ) and economic growth ( $Y_{1t}$ ), as well as one endogenous variable: income disparity ( $Y_{2t}$ ). The income disparity equation is as follow:

$$Y_{2t} = -0.049X_{3(t-1)} + 0.042Y_{1t} + \varepsilon_2 \dots \dots \dots (2)$$

With its determinative coefficient value  $R_2^2 = 0.997$

The estimation result provided information that economic growth gave significant influence towards income disparity for regencies/cities in East Java. The coefficient access value  $\beta$  was 0.042 in the significant level of 0.000 *p-values*. It explained that in every 1% increase of economic growth, it would also increase income discrepancy 0.042%. Therefore, economic growth gave positive and significant impact on income disparity.

The estimation result of the economic growth influence towards the number of the poor proclaimed the probability value or *p-value* for about 0.000 which meant that economic growth variable negatively and significantly influenced the number of the poor with its coefficient access of -0.124 in the significant level of 5%. It could be described that in every 1% rise of economic growth standard deviation, there would be a decrease on the percentage of poverty until 0.124%. It indicated that the higher the economic growth level, the more it

reduced the number of the poor in East Java regencies/cities.

In the structural equation model for poverty, there were two exogenous variables: economic growth ( $Y_{1t}$ ) and income disparity ( $Y_{2t}$ ), as well as one endogenous variable: the number of the poor. Accordingly, the poverty equation model would be:

$$Y_{3t} = -0.091Y_{1t} + 0.272Y_{2t} + \varepsilon_3 \dots \dots \dots (3)$$

With its determinative coefficient value  $R_3^2 = 0.986$ .

The estimation result for the influence of economic growth towards poverty number denoted 0.000 *p-values*. It was interpreted that economic growth variable influenced negatively and significantly towards the number of the poor with its coefficient access of -0.124 in its 5% significant level. In every 1% standard deviation rise of economic growth variable, there would be a decrease on the percentage of poverty up to 0.124%. This finding indicated that the higher the economic growth rate, the more it reduced the number of the poor in the regencies/cities.

In addition, the estimation result of income disparity towards poverty pointed out that income disparity variable influenced positively and significantly towards poverty in East Java regencies/cities. The access coefficient was 0.772 with the probability value (*p-value*) reaching 0.004 for the significant level 0.050. Therefore, in every 1% increase of income disparity, there would also boost the increase of poverty rate up to 0.772%. This relationship led to significant influence of income disparity towards the number of poor in East Java Province.

From the holistic result of hypotheses tests (Picture 1), there were 6 influential paths or accesses that gave significant impact; Private Investment ( $X_{1(t-1)}$ ) towards Economic Growth ( $H_1$ ), capital expenditure ratio ( $X_{2(t-1)}$ ) towards economic growth ( $H_2$ ), human capital ratio ( $X_{3(t-1)}$ ) towards economic growth ( $H_3$ ), economic growth ( $Y_{1t}$ ) towards income disparity ( $H_5$ ), the influence of economic growth ( $Y_{1t}$ ) towards the number of the poor ( $H_6$ ) and lastly the influence of income disparity towards the number of the poor ( $H_7$ ). The non-significant access was the influence of human capital ratio ( $X_{3(t-1)}$ ) towards income disparity ( $H_4$ ).

The influence accesses among variables brought an implied message that the most influential variable to determine the number of the poor was the existence of income distribution equalization in East Java regencies/cities. By paying attention to the direction of access coefficient which was positive, the government's policy that supported the decrease in income disparity might be the best choice to reduce the number of poor.

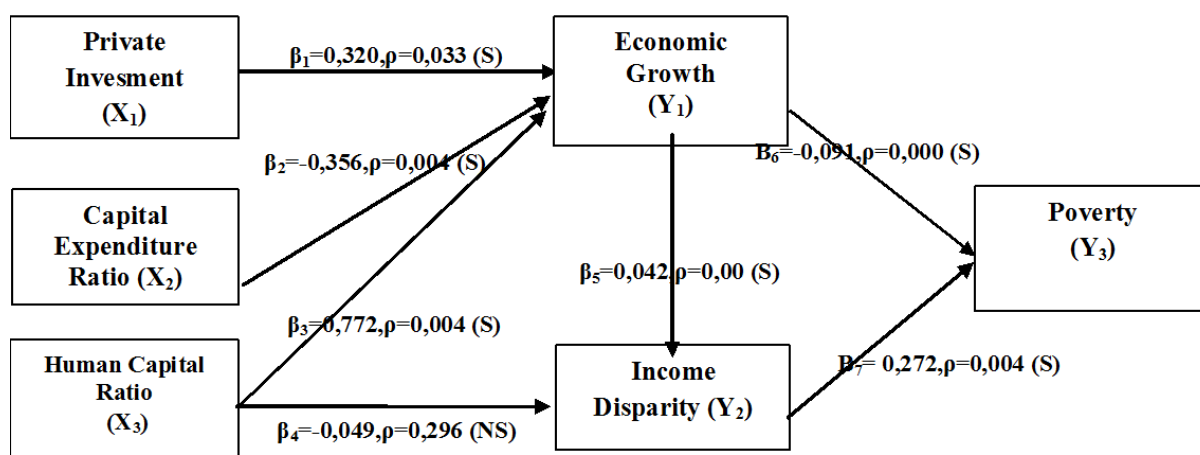


Figure 1: The Path Analysis of Influence among Variables



The alternative way to reduce the number of poor was by increasing the level of education (human capital). Human capital ratio variable which was measured by the education level of citizen aged 15 and above who worked and finished their secondary education level (Junior High School, Senior High School, and Vocational School) portrayed indirect influence towards the reduction of the poor both from economic growth variable and from income disparity.

### **Theoretical Finding**

First, in the equation model for economic growth, the study result was supported by the theory of modern economic growth according Harrod-Domar Theory and the Solow-Swan Theory. In model Harrod-Domar and Solow-Swan, economic growth was mainly determined by the value of saving and investment. If the value of saving and investment were low, the economic growth of a particular country was also slow.

One of the assumptions based on the above mentioned theory was the problem of capital investment generated by a country. If the capital investment developed properly, the economic development would positively follow. Therefore, the amount of capital investment was to become one of the pillars to maintain economic growth to improve the stock of capital goods in a particular area through the increase of domestic saving, foreign aid, private investment, and government spending.

The finding of this study was in line with endogenous development theory (new growth theory) formulated by Romer (1986) with his theory of human capital quality. Human resource played major role in economic development; one of which was by improving the quality of human resource through better education system, both formally and informally, as well as to improve human's health state.

Second, in the structural equation model of income disparity, the study result was in favor for income distribution theory. According to this theory, uneven distribution of income would arise in the starting point of any development phase and would disappear after the development result existed. The relationship between economic growth and income distribution followed the U-letter pattern (the opposite of the inverted-U hypothesis from Kutnez). In the beginning phase of development, there was a wide income gap among regions; however, along with the process of economic growth, the income disparity in different regions would decrease slowly. On the other hand, if there was an increase of economic growth within the next period of development, the income disparity would increase again among regencies/cities.

Kaldor (in Jhingan, 2007: 282) agrees with this U-letter pattern by stating, if income distribution was concentrated on groups of people who owned capital, the national saving would increase. The amount of national saving would influence the amount of capital investment as well as human capital which later on supported economic growth in a long run.

The result of this research indicated the influence of economic growth towards income disparity which could be observed from distributional theory from classical view and the truth of Kutnez hypothesis. These theory and hypothesis matched the condition in East Java with the strong and positive correlation between economic growth and income discrepancy.

Third, in the structural equation model for poverty, the finding did not support theory of poverty (Kutnez, 1955) that the relationship between economic growth and poverty followed the pattern as an inverted U letter (*inverted U hypothesis*). By the time the economic growth was slow, the poverty would increase and then decrease again along with the increase of economic growth.

However, the study found that economic growth had correlation with poverty by following the U letter pattern. In the beginning phase of economic growth, there was a huge income gap among regions, afterwards, the gap got smaller along the process of economic development. Based on the study finding, pro-poor growth policy assuming that economic growth was a necessary condition along with the implementation of Kutnez hypothesis to overcome poverty problem in East Java would no longer be effective.

### EMPIRICAL FINDING

*First*, the influence of private investment towards economic growth in this study was in line with the previous studies conducted by: Martinez and Robert (2001), Wibisono (2001), Mc Donnal and Jennifer (2002), Alfranca (2003), Mursinto (2004), Sodik and Didin N (2005), Tjahyono and Donni (2006), Sasana (2009), and Fatihudin (2011).

The role of private investment in improving economic growth was unidirectional, although it was in the smaller share compared to another source of economic growth such as the labor share. The small contribution of investment was indicated by donations forming component of economic growth based on its usage according to the average operational cost in East Java. The biggest component as a donator to improve economic growth was household consumption for about 66.61%; whereas investment contributed only 20.11%. The relatively small contribution of the investment indicated that the foundation of East Java Province economic growth was less qualified. On the other hand, the major role of household consumption in the formation of PDRB led to unhealthy economic growth, because most of the products consumed by the household were imported from foreign countries. By then, the increase in household consumption as the driving force for economic growth inhibited the production of goods in East Java.

*Second*, the influence of capital expenditure ratio towards economic growth in this study was not in line with the study by Aschauer (1989), Easterly and Rebelo (1993), Sodik (2007), and Rizal (2013) that looked at the positive and significant influence of capital expenditure towards economic growth. The finding of this study was not in line with Badrudin (2012), and Patria (2012); which portrayed inconsistent significance of relationship between capital expenditure and economic growth with more negative path coefficient.

This study result, however, was in line with the finding by Devarajan and Zhaou (1996) who observed the significant and negative relationship between communication and transportation spending ratio of the total spending towards economic growth. The same conclusion was derived from the research form Kompas (2000) that indicated the unclear government investment spending would reduce the economic growth. In favor of this study, Ramayadi (2003) proved that government's spending would bring negative impact on the economic growth, both for short and long terms.

The path coefficient value that was negative and significant for capital expenditure ratio towards economic growth pointed out the tendency that the amount of government spending for infrastructure (direct spending) was mostly spent for capital spending. The amount of capital expenditure for infrastructure in regencies/cities resulted in small allocation of spending for maintenance (maintenance spending is one of the direct spending components in the form of goods and service spending).

*Third*, in the aspect of the influence of human capital ratio towards economic growth, this study supported the researches by Barro and Sala-i-Martin (1995), Knowles (2002), McDonald and Roberts (2002), Breton (2003), Barro (2003), Sigit (2004), Dwi Cahyo and Donni (2006), and Wibowo (2008). From the previous and current study results, the human

capital element or education ratio gave positive contribution towards economic growth although the given effect was less significant.

In the equation economic growth, human capital ratio was an influential variable towards economic growth. In average, the majority of citizen above 15 years old who work in East Java were higher in number compared to that of from the other provinces outside of Java Island. This point indicated that although in statistic data the human capital was the dominant factor to influence economic growth, the empirical data proved that more than 54.48% of the labor in East Java had low education qualification of elementary school graduates or below. Only 40.68% of the labor force passed their secondary education level. The low quality of most labor force in East Java might directly inhibit the improvement of quality economic growth.

*Fourth*, the finding did not support the research conducted by De Gregorio and Lee (1999), Gylfason and Gylfi (2001), and Dur and Teulings (2002) who concluded that in every increase in levels of education would reduce “*gini*” coefficient or human capital quality which was proxy with the assumption that the level of education gave positive effect towards income distribution. The study result indicated that most of the citizen aged above 15 who work in East Java regencies/cities only had secondary education level or below. The huge portion of labor that had low education qualification was unevenly spread throughout regions which resulted in the high rate of income disparity among regencies/cities in East Java.

*Fifth*, the influence of economic growth towards income disparity in this study was not in line with the studies by Galor (2002). According to Galor, the low value of product GDP in a particular country was reflected by the low investment rate for human resource due to the low quality of labor skill which later on influenced the increase of community. Waluyo (2007) observed the impact of fiscal decentralization indicated by the betterment of economic growth, in fact, improved the discrepancy of income among regencies/cities. It means, economic growth was less capable of reducing discrepancy of income among regions.

Furthermore, the study result portrayed that economic growth had an influential aspect towards income disparity with the U-letter relationship pattern or it rejected Kutnez’s hypothesis. It could be said, the beginning phase of economic growth, it would be accompanied by high income disparity; along with the process of economic growth, the disparity rate would be reduced.

*Sixth*, this finding was in favor of Kakwani and Son (2000), Strauss (2002), Balisacan and A. Asra (2003), Siregar and Dwi Wahyuni (2007), Agrawal (2008), Sasana (2009), and Riyanto *et al.* (2011) who concluded that economic growth influenced negatively and significantly towards the reduction of the number of poor. Although there was only small influence, the access coefficient which was negative showed that the positive economic growth would certainly reduce poverty.

This study result pointed out that economic growth had an effect on the number of poor with the U-letter shaped relationship. It means, at the beginning phase of economic development, it would be accompanied by high poverty; and in the next development phase, there was a reduction of poverty along with the increase in economic growth. Although the negative effect of economic growth towards poverty was small in scale, this matter indicated that economic growth was a necessary condition to overcome poverty problem in East Java. This act was adopted as pro-poor growth government policy.

Seventh, this study exhibited the significant influence of income disparity on the number of poor. If the income discrepancy occurred, the number of the poor was also fluctuated. This

result espoused some findings by Saleh (2002), Levernier *et al.* (2002), De Sousa-Brown and Tesfa (2004), Agrawal (2008) and Suhariyanto *et al.* (2009). Mostly, they pronounced that income distribution discrepancy which was represented by its “*gini*” ratio as the measurement for income discrepancy gave significant and positive influence towards poverty level. This study pictured that the influence of income disparity towards the number of the poor possessed a U-inverted relationship pattern or inverted U Hypothesis.

## CLOSING REMARK

### Conclusion

Based on the analysis result by using path analysis, the most prominent variable to influence economic growth was human capital ratio (education level of labor). In the income disparity model, the most influential and significant variable was the economic growth. For the poverty model, the most outstanding variable was income disparity.

These results supported modern economic growth theory based on the Harrod-Domar Theory, Solow-Swan’s Theory, Endogenous Growth Theory and Human Capital Quality Theory. This study did not go in line with Kutnez’s Poverty Theory that the relationship of economic growth and poverty was in inverted U pattern (*inverted U hypothesis*). During the slow economic growth, the poverty would go high, and then it would be reduced whenever the economic growth growth.

### Suggestions

For East Java Province government, in order to boost an inclusive economic growth, a suitable government policy which supports even distribution of income in agricultural sector needs to be regulated as most of the labor and the poor concentration are in the area of agriculture. Development strategy with the basis of agriculture sector should be conducted to improve the output to fulfill society’s need and to produce production surplus to inject the growth of another economic sectors in East Java.

The reduction of poverty will be more effective and efficient if regencies/cities possess high economic growth, boost the productivity of the agricultural sector, employ more skilled and educated labor force, so as to increase income rate.

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