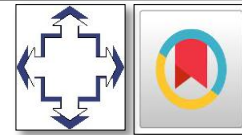


# Econometrics Model of Economic Growth in East Java Province with Dynamic Panel Data through Arellano-Bond Generalized Method of Moment (GMM) Approach



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## ARTICLE INFO

## ABSTRACT

### Article history

Received: 24/01/2020

Revised: 15/02/2020

Accepted: 21/02/2020

### Keywords

Economic growth

Agglomeration

Fiscal Decentralization

Poverty level

Human Development Index

Increasing the rate of economic growth is one of the biggest goals for an area, because it affects macroeconomic conditions in the aggregate especially the level of public welfare. Law Number 32 of 2004 becomes empirical evidence that there is a transfer of responsibility from the central government to regional governments in carrying out economic development. This research is conducted to determine the condition of economic growth in East Java Province with a population of 29 districts and 9 cities in the 2014-2018 observation period, the number of samples was 190 samples. The data analysis technique is carried out through the econometrics model with two stages, namely conducting a simultaneous regression analysis of the ordinary least square method, then for the second stage, an Arellano-Bond Generalized Method of Moment (GMM) analysis is carried out on the grounds that many economic variables are dynamic. This means that the value of a variable can be influenced by the value of other variables and is influenced by the value of the variable concerned in the past or previous period, in addition to knowing the short-term and long-term effects of economic growth. The findings of the study reveal that simultaneous economic growth in East Java Province is influenced by agglomeration, fiscal decentralization, poverty rates and human development index. Based on the results of the generalized method of moment arellano-bond analysis, the researchers find that fiscal decentralization have a partial effect on economic growth in the province of East Java with the impact of the elasticity of short-term and long-term economic growth values. In addition, researchers find that economic growth in East Java Province is influenced by the value of the variable itself (economic growth) in the previous period.

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## 1. Introduction

The rate of economic growth that always increases becomes one of the biggest goals for a government. Increased economic growth continuously will have a positive impact on all aspects of economic development in it, including reducing the ratio of poverty levels and improving people's welfare. Maintaining economic growth that always increases becomes an obligation that must be implemented by the government. One of the efforts of the Government of Indonesia in improving and maintaining economic development stability and improving people's welfare is carried out through the role of regional autonomy, including the policy of fiscal decentralization as stipulated in Law No. 23 of 2004. The existence of fiscal decentralization is expected that local governments can increase regional economic development (Rosdyana & Suhendra, 2015); (Sabilla & Jaya, 2014). The implementation of sustainable economic development shows the process of improving the welfare of the people in an area (Razaq & Christiawan, 2019); (Habibah & Hariyanto, 2018); (Hasanah & Mustofa, 2016).

The implementation of regional economic development needs to be improved, because it reflects the regional economic competitiveness (Wulandari, et. al 2019). This can be done through increasing the productivity of goods and services that will have an impact on increasing the Gross Regional Domestic Product (GRDP) (Mukhlis, et. al 2019); (Mauleny, 2015). GRDP is an indicator in measuring the rate of economic growth (Sardiyo & Dhasman, 2019). In macroeconomic analysis, the rate of economic growth is seen from the level of income of a region significantly (Winanto, 2019). The rate of GRDP growth in each region needs to be realized as evidence that economic growth can be achieved well. The Central Bureau of Statistics noted the economic growth in East Java in 2010-2018 as follows:

Table 1. Comparison of Economic Growth in East Java and Indonesia in 2010-2018

Year	East Java	Indonesia
2010	6,68%	6,1%
2011	7,22%	6,5%
2012	7,27%	6,11%
2013	6,55%	5,78%
2014	5,86%	5,07%
2015	5,71%	5,8%
2016	5,48%	5,02%
2017	5,45%	5,07%
2018	5,50%	5,17%

Source: Central Bureau of Statistics 2020

East Java's economic growth rate is higher when compared to Indonesia. This means that East Java Province is able to improve the welfare of the community which can be demonstrated through the Human Development Index (HDI) and reduce the level of poverty. The following is the HDI data in East Java:

Table 2. Human Development Index in East Java Province 2010-2018

Year	East Java Province
2010	65,36
2011	66,05
2012	66,74
2013	67,55
2014	68,14
2015	68,95
2016	69,74
2017	70,27
2018	70,77

Source: Central Bureau of Statistics 2020

Empirically the fluctuating rate of economic growth in East Java in 2010-2018 is able to have a positive impact on the continuous increase in HDI from 2010-2018. Economic growth will have an impact on reducing poverty (Pratama&Utama, 2019); (Sari &Nurdin, 2018); (Chen & Wang, 2015). The following is the condition of poverty levels in East Java Province in 2010-2018:

Table3. Provincial Poverty Level in East Java in 2010-2018

Year	East Java Province
2010	15,26%
2011	14,23%
2012	13,08%
2013	12,73%
2014	12,28%
2015	12,34%
2016	12,05%
2017	11,77%
2018	10,85%

Source: Central Bureau of Statistics 2020

The living standard of the people of East Java from the aspect of HDI always increases and the poverty rate decreases. This is a determining factor for the success of regional economic development through economic growth. East Java as one area that can carry out the role of regional autonomy by maintaining the stability of the GRDP and fiscal decentralization in the implementation of economic development. Economic growth is a process of increasing the capacity of products and services in the long run (Muqorrobin&Soejoto, 2017). Regions that have high industrial activity will develop more rapidly than regions that have low industrial activity (Mukhlis, et. al 2019). Agglomeration as concentration in a certain location, agglomeration saving theory reflects the equilibrium spatial configuration of all economic activities in a region (Mauleny, 2015)

Agglomeration can be interpreted as gathering various types of industries in a particular location so that it will have an impact on external savings (agglomeration). Agglomeration is expected to provide benefits for one industry to other industries because of the interrelationship between industries in productivity. Shandika, et al (2012) measurement of agglomeration can be done in various ways, among which is the concept of production agglomeration which can be identified through regional GRDP against regional GRDP. Mukhlis, et. al (2019) regions that agglomerate will be able to carry out economic development improvement than regions that do not agglomerate. Agglomeration will support an increase in industrial productivity in a region (Santoso&Prabatmodjo, 2012). These conditions will have an impact on increasing economic growth (Hasanah& Mustofa 2016); (Mukhlis, et. al 2019). The study of agglomeration analysis has been conducted by several researchers including Wetwitoo & Kato (2017); Hasanah& Mustofa (2016); Wulandari, et. al (2019); (Habibah& Hariyanto 2018) that agglomeration has a positive impact on economic development efforts and its role in the economic growth of a region.

The implementation of fiscal decentralization is able to bring changes in the economic community of a region. Independence of the rights, authority and obligations in the transfer of all government affairs from the central government must be carried out to the maximum by the autonomous region in achieving the welfare of society. The more effective the implementation of government affairs in the autonomous region in the aspect of economic development, the better the welfare of the community. Fiscal decentralization has had the effect of increasing investment in infrastructure and development for disadvantaged regions (Kis-Katos&Sjahir, 2017). Sun, et. al (2016); Chaudhry (2014) have identified a very close relationship between fiscal decentralization and economic growth. Miri, et. al (2017) analyzes the relationship between fiscal decentralization of

income and fiscal decentralization of expenditure on short-term and long-term economic growth. The results show that fiscal decentralization can increase economic growth only in the long term.

Fiscal decentralization is an important issue that shows the effectiveness and efficiency of relations between the central government and regional governments (Sabilla&Jaya, 2014); (Malicka, et. al 2017). The government is very instrumental in determining the level of economic growth (BiyasedanRooderick, 2017). Several studies have shown that the existence of fiscal decentralization has a higher expenditure impact than local governments (He & Sun, 2014); (Jia, et. al. 2014). Whereas fiscal decentralization has contributed to economic growth (Sun, et. al. 2016). In other cases, government revenue plays a very important role in economic growth, because local governments cannot depend solely on the region's original revenues.

Problems regarding poverty are still the target of development policies in each region. Poverty level is an indicator of the measurement of success and effectiveness of development performance carried out by the government(Pratama&Utama, 2019). Economic growth and poverty levels are very complex problems and become important issues in a government(Novriansyah, 2018). The level of poverty becomes a multidimensional problem, because in its case it involves a variety of problems that are not limited (Purnama, 2016). So that it requires the formulation of government policies as a solution to the problem of poverty (Dariwardani, 2014). Therefore, studies on poverty levels must be carried out continuously(Rahman, 2017); (Chen & Wang, 2015). Studies on poverty and economic growth show dependency on one another in the short and long term (Nyasha, et. al 2017). High levels of poverty in an area indicate the inability of people to meet the needs of both goods and services. This will have an impact on the minimum level of production of goods and services. The problem occurs because people's income is at the minimum level. Increased public demand for goods and services is largely determined by the level of community income, this condition has an impact on the level of economic growth.

The increase in economic development is marked by efforts to increase Human Resources (HR) carried out by the government, this can be shown through the HDI ratio of an area that is always experiencing an increase(Sari &Nurdin, 2018); (Marhaeni, et. al 2014). In one case, quality HR investment contributed to economic growth (Ghazo, et. al 2017). Basically, qualified human resources can influence the rate of economic growth, so increasing HDI will have an impact on increasing economic growth (Syaifullah& Malik, 2017). HDI is an indicator of overall development measures (Salim, et. al 2018). The quality of human resources owned by an area is able to determine competitiveness through capabilities, expertise and education, so that there is a balance of human development and infrastructure development that will have an impact on economic growth(Lengkong, et. al 2017); (Muqorrobin&Soejoto, 2017); (Dewi, 2017); (Panggabean, 2014). Nair (2018) in his research showed that, in certain conditions an area has a high HDI, but the level of economic growth is in a low condition. Babiarz (2018) explained that HDI viewed from economic, technological, educational and health conditions can determine the level of community welfare. HDI has an important role in the economic growth of a region (Izzah, 2015). Thus, HDI becomes one of the focuses of development policies that must be carried out by the government (DewidanSutrisna, 2014).

Several studies on the analysis of factors that influence economic growth are continuously conducted to obtain empirical results. Some of the results of previous studies found that agglomeration, fiscal decentralization, poverty levels and the human development index had a significant positive effect on economic growth through a multiple linear regression approach with panel data so that only a static model was obtained. While empirically many economic variables are dynamic, which means the value of a variable can be influenced by the value of other variables and is influenced by the value of the variable concerned in the past or previous period. Based on these problems, this study was conducted using dynamic panel data regression through the Arellano-Bond Generalized Method of

Moment (GMM) approach, with the aim of forming an appropriate model on economic growth in East Java and knowing the short-term and long-term impacts of an economic policy.

## 2. Literature Review

### Economic Growth

The development carried out is a process of continuous improvement for the community towards a better life (Todaro & Smith, 2006). Classical growth theory explains that natural resources become the most basic container in production activities in society, because the available natural resources have a maximum limit for the growth of an economy, while human resources (population) have a passive role in the process of output growth (Sari & Nurdin, 2018). While the Solow growth theory or often called the neoclassical growth model uses two main factors of production namely capital and labor as well as a new element namely technology, capital and labor are two things that substitute each other (Mubaroq, et al. 2013). In realizing the development of an area requires capital and experts as the most important factor (Sukirno, 2006). Economic performance in a region or province can be seen through macroeconomic indicators, such as increased employment, community income and income distribution (Tarigan, 2004).

Economic growth is the development of economic activity that causes increased community production of goods and services (Sukirno, 2011). Economic growth shows the extent to which all economic activity can result in additional income to the community in a certain period (Mankiw, et al. 2013). One indicator as a benchmark to determine the level of economic growth in a region is the Gross Regional Domestic Product (GRDP), as well as one of the important concepts in regional economic development and is a measure of the economic success of all economic activities (Adisasmita, 2014). GRDP becomes a function of quantitative indicators of the level of community welfare in an area and in a certain period (Anita, et al. 2014). Low economic growth in each period will have a negative impact on the level of overall community welfare (Sendouw, et al. 2017). Thus, the rate of economic growth is highly dependent on the factors of production produced by the region.

Several studies on factors that can influence the economic growth of an area have been conducted to obtain empirical research results. Research conducted by Xiao-Ling, et al (2013) shows that agglomeration has a positive influence on economic growth. Sabilla & Jaya (2014) and Mubaroq, et al. (2013) conclude that fiscal decentralization has a significant and positive influence on economic growth. Novriansyah (2018); Pratama & Darsana (2019) conclude that the poverty rate has a significant negative effect on economic growth. Lengkong, et al. (2017); Muqorrobin & Soejoto (2017); Izzah, (2015) conclude that the human development index has a significant and positive influence on economic growth.

### Agglomeration

The development of industrial zones (agglomeration) is one way for the government to industrialize in its area (Faisal, 2019). Policies related to industrial development based on industrial (regional) agglomeration, based on Law no. 3 of 2014 mandates that industrial development must be within an industrial area. Thus, industry is the most important element in collaboration with the government for the implementation of development of an agglomeration-based industry based on applicable regulations. The important role of agglomeration will have a positive impact on the exchange of information and easy access to production in an area (Asmawan & Hariyanto, 2017). While other impacts arising from the agglomeration are the benefits resulting from the location of adjacent industries in certain areas so that the result is low transportation costs (Habibah & Hariyanto, 2018). A good approach in developing industrial activities can be done through a group approach and building interconnected business networks between industries while maintaining fair business competition (Wulandari, et al. 2019). Kuncoro in Mauleny (2015), agglomeration saving theory and



optimal size theory for a region can describe the equilibrium of spatial configuration of all economic activities, classical perspective believes that agglomeration is a spatial form and is associated with a form of savings based on the concept of externalities to estimate the amount of economic value that is generated. Seeing the importance of the role of GRDP as a benchmark of economic growth in a region, the production agglomeration can be done by using the concept of the proportion of sub-regional GRDP to regional GRDP.

Research conducted by Mukhlis, et al (2019) explains that industrial agglomeration has a significant positive effect on economic growth, the more agglomerated the industry of a region will increase economic growth. Wibowo (2013) concludes that agglomeration has a significant positive effect on economic growth. Razaq & Christiawan (2019) explain that industrial development has an impact on economic development. Research conducted by Xiao-Ling, et al (2013) shows that agglomeration has a positive effect so that it can drive higher economic growth rates. Mauleny (2015) explains that agglomeration has a significant and positive influence on economic growth.

### **Fiscal Decentralization**

The implementation of fiscal decentralization has become one of the focuses of government policy based on Law no. 23 of 2014 which explains that decentralization as the transfer of authority, rights and obligations of the central government to autonomous regional governments in regulating and managing all government affairs (Khusaini, 2013). The policy is carried out to bring the government closer to the people, with fiscal decentralization it is hoped that the government can work better. The relatively better level of regional growth has a better level of readiness, the experience and capability in managing finance is the main capital to increase regional independence in the era of fiscal decentralization (Bashir, 2011). The theory of fiscal decentralization can be seen through two approaches, namely the Musgrave and Neo Classical approaches. In Musgravian's view, the existence of the public sector (government) to carry out its main functions. Whereas Neo Classic uses a political economy approach to find out which local governments are perceived as individuals, local government choices are closer to or in line with individual choices than central government choices (Parhah, 2019). In economics, fiscal decentralization is the most important issue to be examined in an effort to find out the effectiveness and efficiency of the relationship between the central government and autonomous regional governments (Sabilla & Jaya, 2014). Fiscal decentralization can encourage per capita income in an area (Yushkov, 2015). In a case of fiscal decentralization, the existence of Revenue Sharing and Original Regional Revenue will increase government spending through increasing per capita income, Government expenditure aims to increase production capacity through a project that refers to economic growth (Pratama&Utama, 2019). Fiscal decentralization policy has an important role in increasing the welfare of the community through government programs while at the same time affecting economic growth (Priyono, et al. 2019).

Research conducted by Sabilla & Jaya (2014) concludes that fiscal decentralization has a significant and positive influence on economic growth. Mubaroq, et al. (2013), the results of his study explain that fiscal decentralization has an influence on economic growth with a confidence level of 1 percent. Bashir (2011) explains that fiscal decentralization has an impact on increasing economic growth in a region. Penelitian-penelitian sebelumnya menunjukkan bahwa desentralisasi fiskal mempunyai pengaruh signifikan dan positif terhadap pertumbuhan ekonomi, it means that the more effective and efficient implementation of the role of fiscal decentralization, the more it will increase the economic growth of a region (Anita, et al. 2014); (Priyono, et al. 2019); (Salim, et al. 2018).

### **Poverty Level**

Poverty level is one of the targets in development in an area with the aim of getting a smaller income gap, poverty is a multidimensional problem in development that involves preferences, values and politics (Purnama, 2016). Poverty is one indicator in measuring the success of development

implementation (Pratama&Utama, 2019). Poverty is not only limited to economic inability, but the failure to fulfill basic rights and the differences in the treatment of individuals or groups in living a dignified life (Novriansyah, 2018). Poverty is one of the fundamental problems because it involves meeting basic needs in life and poverty becomes a global problem faced by each region (Yacoub, 2012). High levels of poverty will adversely affect macroeconomic aspects such as economic growth and other macroeconomics (Dewi, et al. 2017). The poverty level shows the extent to which the community can meet their basic needs. Mirza (2011) Poverty can be seen from residents who are economically unable to meet the needs of 2100 calories equivalent and other basic needs that can be seen from the percentage of poor people below the poverty line of an area and can be accessed through the Central Bureau of Statistics.

Previous research conducted by Novriansyah (2018) concludes that poverty rates has a significant negative effect on economic growth, in his research explains that the increasing level of poverty will have an impact on reducing the rate of economic growth. Jafar (2017) explains that high levels of poverty will have an impact on low economic growth rates. Pratama & Darsana (2019) explain that the level of poverty has a significant negative effect on economic growth, high levels of poverty in an area will have an impact on reducing the rate of economic growth.

### **Human Development Index (HDI)**

United Nation Development Program (UNDP) explains that the main purpose of development is to create an environment that allows people to enjoy healthy living, long life and lead productive lives, in response to criticisms of the previous HDI in November 2010 UNDP introduced the HDI method with indicators health index (life expectancy at birth), education index (length of school expectancy, average length of school) and expenditure index (adjusted per capita expenditure). Human development is one measure of overall development performance that can be seen from several dimensions, including longevity and healthy living, knowledge and a decent life (Noviatamara, et al. 2019). The human development index is an index that explains how the population can access the results of development in an effort to obtain health, education, health and others (Badan Pusat Statistik, 2020). Human development index is one way to determine the quality of life of the community and to find out the level of success of development in the long-term (Fajar & Azhar, 2018). The number of human development index between 0-100, the higher the number of human development index in an area, it will show that the better human development in the area. Erwin, et al. (2013) explain that the human development index is divided into three groups including the first group is <50 which shows that the human development index is in the low category, the second group is 50-80 which shows that the human development index is in the middle / medium category and the third group is > 80 which indicates that the human development index is in the high category. The human development index based on the Central Bureau of Statistics (2020) explains that the human development index is a composite index calculated through a simple average of life expectancy index, education index and decent living index, the calculation of the human development index can use the following formula:

$$HDI = 1/3 (X_1 + X_2 + X_3)$$

Information:    HDI    : Human development index  
                      X<sub>1</sub>    : Life expectancy index  
                      X<sub>2</sub>    : Education index  
                      X<sub>3</sub>    : Decent standard of living index

Previous studies conducted by Lengkong, et al. (2017) conclude that the human development index has a significant and positive influence on economic growth, the increasing quality of the development index, the more impact on increasing economic growth. The results of the study are consistent with research conducted by Fajar & Azhar (2018) which find that the human development

index has a significant and positive effect on economic growth. Some previous studies that find that the human development index has a significant and positive influence on economic growth include research conducted by Syaifulloh & Malik (2017); Muqorrobin & Soejoto (2017); Izzah, (2015).

### 3. Research Method

This research uses descriptive quantitative analysis with secondary data types sourced from the Central Bureau of Statistics. The population in this study are 29 districts and 9 cities in East Java Province with an observation period of 2014-2018 so that this study uses panel data, thus the number of samples in this study are 190 samples. While the measurement scale in this study uses a nominal scale. Data collection techniques are carried out by searching and downloading files on the official website of Badan Pusat Statistik in 29 Regencies and 9 Cities in East Java Province and the official website of Badan Pusat Statistik Jawa Tengah dalam angka/tahun 2014-2018. The data analysis technique was carried out with the econometrics model through two stages, namely conducting a regression analysis simultaneously with the Ordinary Least Square (OLS) method, then for the second stage, the Arellano-Bond Generalized Method of Moment (GMM) analysis is performed with the software version of the stata version 14. Equations of the research model are as follows:

$$EG_{i,t} = \beta_0 + \delta EG_{i,t-1} + \beta_1 AG_{i,t} + \beta_2 FD_{i,t} + \beta_3 PL_{i,t} + \beta_4 HDI_{i,t} + \varepsilon_{i,t}$$

the following is a measurement of each variable in this study:

Table 4. Measurement of Research Variables

Variable	Variable Measurement	Scale of Measurement
<b>Dependent Variable</b>		
Economic growth	Percentage of gross regional domestic income based on constant prices obtained from the Central Statistics Agency in 29 Regencies and 9 Cities in East Java Province in 2014-2018	Nominal scale
<b>Independent Variable</b>		
Agglomeration	$Ag = \frac{GRDP_{Regency / city}}{GRDP_{province}} \times 100\%$	Nominal scale
Fiscal decentralization	$Df = \frac{RSF + LGR}{Government Expenditures} \times 100\%$	Nominal scale
Poverty level	Percentage of poverty level obtained from the Central Statistics Agency in 29 Regencies and 9 Cities in East Java Province in 2014-2018	Nominal scale
Human development index	Human development index values obtained from the Central Statistics Agency in 29 Regencies and 9 Cities in East Java Province in 2014-2018	Nominal scale

Source: Data processed in 2020

### 4. Results and Discussion

This study uses two steps of data analysis namely simultaneity testing with ordinary least square to determine the effect of exogenous variables such as agglomeration, fiscal decentralization, poverty level and human development index on economic growth. The next step is to conduct an arellano-bond generalized method of moment analysis to find out endogenous variables of economic growth that are influenced by the values of other variables and the values of the relevant variables in the



previous period, besides that, it can know the short-term and long-term effects arising from the influence of other variables and the variables concerned.

The following are the results of simultaneous data analysis with ordinary least square:

Table 5. Estimation results simultaneously with ordinary least square

Predictor	Coefficient	Standard Error	t	P-value
$\delta EG_{i,t-1}$	0.8590176	0.0477657	17.98	0.000
$AG_{i,t}$	-0.0088437	0.0127803	-0.69	0.490
$FD_{i,t}$	0.1850618	0.0706587	2.62	0.010
$PL_{i,t}$	0.0226214	0.0485663	0.47	0.642
$HDI_{i,t}$	0.0189387	0.0313212	-0.60	0.546
$\beta_0$	3.7114	2.0314	1.83	0.069
R <sup>2</sup> = 0.626432		Prob (F-statistic) = 0.00000		Durbin Watson = 0.086732

Source: Data processed by researchers based on Stata v output. 14

Based on the results of simultaneous data analysis with ordinary least square in table 5 above it can be explained that the results of data analysis show the value of Prob. F-statistic of 0.00000 with a significance level in this study was 0.05 or 5 percent. This means that there is a simultaneous influence of exogenous variables of agglomeration, fiscal decentralization, poverty rates and human development index on economic growth. R-Square value of 0.626432 indicates that the overall influence of exogenous variables on economic growth is 62.64 percent. While the remaining 37.36 percent endogenous variables of economic growth are influenced by other variables not discussed in this study with a low Durbin Watson value of 0.086732. Seeing these results then the next is the generalized method of moment analysis.

The following are partial test results with generalized method of moment in this study:

Table 6. Partial Test Results with the Generalized Method of Moment Model

Predictor	Coefficient	Standard Error	Z	P-value
$\delta EG_{i,t-1}$	1.086477	0.0055415	196.06	0.000
$AG_{i,t}$	-2.9106	5.2706	-0.55	0.581
$FD_{i,t}$	0.0683876	0.0304997	2.24	0.025
$PL_{i,t}$	-0.0034911	0.0035998	-0.97	0.332
$HDI_{i,t}$	0.0008497	0.0015065	0.56	0.573
$\beta_0$	-0.9315477	0.8123993	-1.15	0.252

Source: Data processed by researchers based on Stata v output. 14

Partial test results with generalized method of moment show that the p-value of exogenous variables include agglomeration of 0.581, fiscal decentralization of 0.025, poverty rate of 0.332 and human development index of 0.537. Thus, partially the exogenous variables in this study indicate that only the fiscal decentralization variable has a significant and positive influence on the endogenous variables of economic growth as indicated by the p-value of 0.025 which is less than 0.05 with a positive coefficient of 0.0683876. In addition, the influence of exogenous fiscal decentralization variables has a significant effect on alpha 0.05 so H0 is rejected. This shows that the predictor model can be used.

Table 7. Arellano-Bond Test Results

Order	Z	Prob
1	-1.9596	0.0500
2	0.44824	0.6540

Source: Data processed by researchers based on Stata v output. 14

Based on the results of the Arellano-bond test in Table 7 above shows that the use of the dynamic panel data method with the arellano-bond generalized method of moment analysis approach has met the criteria of the best model statistically, which is consistent and the instrument variables used in this model are valid. The Arellano-Bond (AB) results in order 1 show p-value of 0.0500 and order 2 of 0.6540.

Table 8. Sargan Test Results

<i>Sargan Test</i>	
<i>Chi2(5)</i>	<i>Prob &gt; Chi2</i>
10.68572	0.0580

Source: Data processed by researchers based on Stata v output. 14

The sargan test results in table 8 above show that the probability value is 0.05, this study uses an alpha level ( $\alpha$ ) of 5 percent, so the decision is  $H_0$  rejected. Then, the estimation can be said to be consistent and there is no autocorrelation in the first difference order error. The following is a model of the arellano-bondgeneralized method of moment:

Table 9. Generalized Method Of Moment Arellano-Bond (GMM-AB)Model

<b>Predictor</b>	<b>Coefficient</b>	<b>P-value</b>	<b>Elasticity</b>	
			<b>Short-term</b>	<b>Long-term</b>
$\delta EG_{i,t-1}$	1.086477	0.000		
$AG_{i,t}$	-2.9106	0.581	-0.0000132	7.4206
$FD_{i,t}$	0.0683876	0.025	0.0086093	0.1281659
$PL_{i,t}$	-0.0034911	0.332	-0.0105466	0.0035644
$HDI_{i,t}$	0.0008497	0.573	-0.0021029	0.0038023
$\beta_0$	-0.9315477	0.252		

Source: Data processed by researchers based on Stata v output. 14

The equation model in the Arellano-Bond Generalized Method Of Moment (GMM-AB) is as follows:

$$EG_{i,t} = -0.9315477 + 1.086477 EG_{i,t-1} - 2.9106 AG_{i,t} + 0.0683876 FD_{i,t} - 0.0034911 PL_{i,t} + 0.0008497 HDI_{i,t} + \varepsilon_{i,t}$$

Partial test results with the generalized method of moment model based on table 6 above shows that the exogenous variable agglomeration, poverty level and human development index do not affect economic growth in East Java Province. The results of this study empirically show that the increase in economic growth in the province of East Java can be influenced by other economic variables broadly. Agglomeration, poverty level and development index in East Java Province are not the only factors that can determine the level of economic growth better. The condition of economic growth in East Java Province in this study is conducted with the 2014-2018 observation year showing fluctuating data, while the percentage of poverty level and human development index always increases for the better. This situation shows that the focus of the East Java Provincial Government is more on reducing the percentage level of poverty and increasing the human development index. Whereas the agglomeration conditions in East Java Province in this study are calculated by comparison between Regency / City GRDP against Provincial GRDP with percent unit showing insignificant results. This phenomenon empirically shows that increasing economic growth in the province of East Java is carried out with a variety of alternatives not only to the effectiveness and efficiency of the industry but in the aggregate more emphasis on the implementation of fiscal decentralization. Based on the findings of the researchers supported by empirical evidence that economic growth in the province of East Java show a fluctuating percentage results, the East Java provincial government emphasizes

more on economic aspects in improving economic growth, among others increasing industries and industrial areas with a focus on agglomeration.

Based on the results of the Arellano-bond generalized method of moment test in table 9 above, it can be seen that the lag coefficient of economic growth has a significant positive effect on economic growth. This means that economic growth in the previous period has an influence on the economic growth of the current period in this study. In this model, it shows that the exogenous variable fiscal decentralization has a significant and positive influence on the endogenous variable of economic growth, which is partially characterized by a positive coefficient of 0.0683876 and a p-value of 0.025, which is less than the significance level of 0.05. Exogenous variables of fiscal decentralization have an elasticity of short-term and long-term effects on economic growth. In this model every 1 percent increase in fiscal decentralization will increase economic growth in the short term by 0.008 percent and in the long run increase economic growth by 0.128 percent.

Exogenous variables in this study simultaneously have a significant effect on economic growth which is shown based on the results of OLS analysis. These results indicate that economic growth in East Java Province is largely determined by several factors including agglomeration, fiscal decentralization, poverty rates and the human development index. The findings of this study indicate that in an effort to increase economic growth in the province of East Java can be done through more than one alternative that is related in the aggregate and have a good impact on improving economic growth. Economic growth in this study is seen through the proportion of gross regional domestic income based on constant prices obtained from the Central Statistics Agency in 29 Regencies and 9 Cities in East Java Province in 2014-2018, these results indicate that each district and city in East Java Province has a contribution in increasing economic growth.

Arellano-bond generalized method of moment analysis is done on the grounds that empirically many economic variables are dynamic, which means the value of a variable can be influenced by the value of other variables and is influenced by the value of the relevant variable in the past or previous period. The analysis shows partially economic growth in the province of East Java is influenced by fiscal decentralization and economic growth in the previous period with an increase that is indicated through the short-term and long-term influence. This study find that this year's economic growth in this study is influenced by fiscal decentralization and economic growth in the previous year. The increase in economic growth in the province of East Java is largely determined by the role of fiscal decentralization and economic growth in previous years. The Government of East Java Province in an effort to increase economic growth based on the findings of this study can be done by further improving the performance of local governments in 29 Regencies and 9 Cities in East Java Province to be more effective and efficient in implementing their role as an autonomous region, besides that economic growth in East Java Province must be maintained from year to year.

Solow growth theory or often called the Neoclassical growth model uses two main factors of production namely capital and labor and a new element namely technology. Rostow's theory explains that in accelerating economic growth can be done by strengthening national saving. Rostow's theory is made clear by the Harrod-Domar theory which explains that the higher savings and capital stock will increase economic growth. Referring to the theory, the East Java Provincial Government in accelerating and increasing economic growth can be carried out based on the role in carrying out autonomous regions through the Regional Revenue and Expenditure which is managed effectively and efficiently in an effort to improve the welfare of the community. Some positive impacts of the government's role in implementing fiscal decentralization through development programs include increasing employment so that it can reduce the unemployment rate, increase people's income so that it will have an impact on increasing economic growth. This phenomenon indicates that there is a need for government synergy in optimizing development programs by adjusting community problems and needs so that the level of community welfare can be achieved. Law No. 32 of 2004 shows that the

government or autonomous region has full rights to the rights and authority in regulating and managing the affairs of the regional government as a form of delegation of responsibility from the central government. The theory of fiscal decentralization can be seen through two approaches, namely the Musgrave and Neo Classical approaches (Parbah, 2019). In the view of Musgravian explained that the existence of the public sector (government) to carry out the main functions, Neo-Classic is a political economy approach to find out that local government is considered as an individual, the choices of local government are closer to or in accordance with individual choices than the choices of the central government.

Fiscal decentralization has an important role in economic growth in East Java Province, the more effective and efficient role of fiscal decentralization carried out by the Government of East Java Province, the more it will have an impact on increasing economic growth. This research shows that fiscal decentralization affects economic growth both long term and short term. These findings are consistent with research conducted by Yushkov (2015) which explains that fiscal decentralization can encourage per capita income in an area. In a case of fiscal decentralization, the existence of Revenue Sharing and Original Regional Revenue will increase government spending through increasing per capita income, Government expenditure aims to increase production capacity through a project that leads to economic growth (Pratama dan Utama, 2019). Fiscal decentralization policy has an important role in increasing the welfare of the community through government programs while at the same time affecting economic growth (Priyono, et al. 2019). Several studies have shown that the existence of fiscal decentralization has a higher expenditure impact than local governments (He & Sun, 2014); (Jia, et. al. 2014). Whereas fiscal decentralization has contributed to economic growth (Sun, et. al. 2016). In other cases, government revenue plays a very important role in economic growth, because local governments cannot depend solely on the region's original revenues.

In addition to the influence of fiscal decentralization on economic growth both short and long term, this study finds that through the analysis of the arellano-bond generalized method of moment economic growth in East Java Province was influenced by the economic growth of the previous year. The findings in this study confirm that empirically economic growth in East Java Province is not only influenced by the value of other variables but is influenced by the value of the variable itself (economic growth) in the previous year. Economic growth in this study is seen through GRDP in 29 Regencies and 9 Cities in East Java Province in the period 2014 to 2018. Thus, the efforts of the East Java Provincial Government in increasing economic growth are carried out by taking into account the increase in GRDP in each Regency and City and continuing to strive for optimization and economic growth from year to year.

Economic growth indicates the extent to which the development of economic activity is causing an increase in community production of goods and services (Sukirno, 2011). Economic growth shows the extent to which all economic activity can result in additional income to the community in a certain period (Mankiw, et al. 2013). In realizing the development of an area requires capital and experts as the most important factor (Sukirno, 2006). Economic performance in a region or province can be seen through macroeconomic indicators, such as increased employment, community income and income distribution (Tarigan, 2004). Thus, economic growth in the province of East Java can be done with various efforts to increase GRDP, including improving the quality of human capital owned in the implementation and development of industries to increase the productivity of goods and services, an increase in capital and investment as a form of improving the quality and quantity of the industry so that the high absorption of labor and increasing income per capita of the community which has an impact on increasing consumption of goods and services each period.

## 5. Conclusion

Based on the results of data analysis and discussion in this study, it can be concluded that simultaneously economic growth variables in East Java Province are influenced by agglomeration, fiscal decentralization, poverty rates and human development index through the ordinary least square approach. Based on the Arellano-bond generalized method of moment approach using panel data as well as being the focus of this research, the researchers find that fiscal decentralization has a partial effect on economic growth in the province of East Java with the impact of the elasticity of the value of economic growth both short and long term. In addition, researchers find that economic growth in East Java Province was influenced by the value of the variable itself (economic growth) in the previous period. The findings in this study can contribute knowledge and as a basis for economic policy making by the government on economic growth that is strongly influenced by the implementation of fiscal decentralization and the value of economic growth in the previous period, so that it is necessary to improve the quality of the implementation of fiscal decentralization through programs that lead to increased economic growth from year to year. Thus, the suggestions for further research are more broader research objects and extended periods of observation, besides using other macroeconomic variables as exogenous variables.

## References

- Adisasmita, Rahardjo, 2014, *Pertumbuhan Wilayah dan Wilayah Pertumbuhan*, Penebit Graha Ilmu, Yogyakarta.
- Anita, et al., 2014, “Pengaruh Desentralisasi Fiskal terhadap Pertumbuhan Ekonomi di Provinsi Aceh”, *Jurnal Ilmu Ekonomi Pascasarjana Universitas Syiah Kuala*, 2(3), 21-29
- Asmawan, M Sulis Andre & Hariyanto, Bambang, 2017, “Kajian Aglomerasi Industri Logam di Desa Ngingas Kecamatan Waru Kabupaten Sidoarjo”, *Jurnal Swara Bhumi*, 5(2), 41-47
- Babiarz, et al., 2018, “The Application of Customized Human Development Index to the Analysis of Socioeconomic Development of the European Union Member States”, *Interdisciplinary Approach to Economics And Sociology*, 11(4), 332-342
- Badan Pusat Statistik, 2020, Retrieved from <https://www.bps.go.id/>.
- Bashir, Abdul., 2011, “Dampak Desentralisasi Fiskal terhadap Perekonomian Daerah Kabupaten/Kota Di Provinsi Sumatera Selatan”, *Jurnal Kajian Ekonomi*, 10(2), 1-32
- Biyase, Mduduzi & Rooderick, 2017, “Determinants of Growth in SADC Countries: A Fixed Effect Vector Decomposition Approach”, *International Journal of Economics and Financial Issues*, 7(4), 746-751
- Chaudhry, Rehan, 2014, “Fiscal Decentralization, Natural Disasters, and Economic Growth”, *UMI Dissertation Publishing*, Published by ProQuest, UMI 1525275
- Chen, Ke-Mei & Wang, Te-Mu, 2015, “Determinants of Poverty Status in Taiwan: A Multilevel Approach”, *Springer Science+Business Media Dordrecht*, 123, 371–389. DOI 10.1007/s11205-014-0741-4.
- Dewi, et al., 2017, “Pengaruh Kemiskinan dan Pertumbuhan Ekonomi terhadap Indeks Pembangunan Manusia di Provinsi Riau”. *JOM Fekon*. 4(1), 870-882.
- Dewi, Nyoman Lilya Santika & Sutrisna, I Ketut, 2014, “Pengaruh Komponen Indeks Pembangunan Manusia terhadap Pertumbuhan Ekonomi Provinsi Bali”, *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 3(3), 106 – 114.



- Dariwardani, 2014, “Analisis Dinamika Kemiskinan (Poverty Dynamics) di Bali Berdasarkan Data Susenas Panel 2008-2010”, *Jurnal Ekonomi Kuantitatif Terapan*, 7(1), 7-15.
- Erwin, et al., 2013, “Analisis Faktor-Faktor yang Mempengaruhi Tingkat Kesejahteraan Masyarakat Kabupaten/Kota di Provinsi Bali”, *Fakultas Ekonomi dan Bisnis Universitas Udayana (Unud), Bali, Indonesia*
- Faisal, Ade, 2019, “Analisis Kebijakan Pembangunan Industri Berbasis Aglomerasi (Kawasan Industri)”, *Bappenas Working Papers*, 2(2), 248-269
- Fajar, M & Azhar, Zul, 2018, “Indeks Persepsi Korupsi dan Pembangunan Manusia terhadap Pertumbuhan Ekonomi di Negara-Negara Asia Tenggara”, *Jurnal EcoGen*, 1(3), 681-690
- Ghazo, et al., 2017, “Causalities among Human Capital, Investment, Openness, and Economic Growth: an Empirical Investigation for Jordan”, *International Journal of Economic Perspectives*, 11(4), 162-174.
- Habibah, Tutut Umul & Hariyanto, Bambang, 2018, “Kajian Aglomerasi Industri Kerajinan Mebel di Desa Wringinpitu Kecamatan Mojowarno Kabupaten Jombang”, *Fakultas Ilmu Sosial dan Hukum Universitas Negeri Surabaya*, 5(9), Retrieved from <https://jurnalmahasiswa.unesa.ac.id/index.php/swara-bhumi/article/view/26733>.
- Hasanah, Fatihatun & Mustofa, 2016, “Analisis Pengaruh Aglomerasi Industri, Angkatan Kerja dan Human Capital Investment terhadap Pertumbuhan Ekonomi Kabupaten/Kota di Provinsi Jawa Tengah Tahun 2012-2014”, *Jurnal Pendidikan dan Ekonomi*, 5(4), 283-291
- He, Q & Sun, M., 2014, “Does Fiscal Decentralization Promote the Inflow of FDI in China”, *Economic Modelling*, 43, 361–371
- Izzah, N., 2015, “Analisis Pengaruh Indeks Pembangunan Manusia (IPM) dan Inflasi terhadap Pertumbuhan Ekonomi di Propinsi Riau Tahun 1994-2013”, *Jurnal At-Tijarah*, 1(2), 156-172
- Jafar, Juandi, 2017, “Pengaruh Kemiskinan terhadap Pertumbuhan Ekonomi melalui Pengangguran di Kabupaten Bone”, *Universitas Negeri Makassar*, Retrieved from <http://eprints.unm.ac.id/8657/>.
- Jia, et al., 2014, “Fiscal Decentralization and Local Expenditure Policy in China”, *China Econ. Rev.* 28, 107–122.
- Kis-Katos, K., & Sjahrir, B. S., 2017, “The Impact of Fiscal and Political Decentralization on Local Public Investment in Indonesia” *Journal of Comparative Economics*, 45(2), 344-365.
- Khusaini, Muhammad, 2013, *Ekonomi Mikro: Dasar-Dasar Teori*, UB Press, Malang.
- Lengkong, et al., 2017, “Pengaruh Alokasi Anggaran Pendidikan dan Kesehatan terhadap Indeks Pembangunan Manusia dan Dampaknya terhadap Pertumbuhan Ekonomi Kota Bitung”, *Jurnal Pembangunan Ekonomi dan Keuangan Daerah*, 19(2), 1-20.
- Malicka, et al., 2017, “Relationship between Fiscal Decentralization and Economic Growth in European Union Countries and Slovakia”, *Ekonomicky Casopis*, 65(9), 856 – 875.
- Mankiw, N.G., Quah, E. and Wilson, P., 2013, “Pengantar Ekonomi Makro, Pengantar Ekonomi Makro”, Retrieved from <https://doi.org/10.3390/bs30100>.
- Marhaeni, et al., 2014, “Evaluasi Program-Program Pengentasan Kemiskinan di Provinsi Bali”, *Jurnal PIRAMIDA*, 10(1), 8-18.
- Mauleny, Ariesty Tri, 2015, Aglomerasi, Perubahan Sosial Ekonomi, dan Kebijakan Pembangunan Jakarta”, *Jurnal Ekonomi & Kebijakan Publik*, 6(2), 147 – 162.
- Miri, et al., 2017, “Fiscal Decentralization and Economic Growth in Morocco: A Panel Cointegration Analysis”, *International Journal of Economics and Financial Issues*, 7(6), 192-201.

- Mirza, Denni Sulistio, 2011, "Pengaruh Kemiskinan, Pertumbuhan Ekonomi dan Belanja Modal terhadap IPM Jawa Tengah", *JEJAK*, 4(2).
- Mubarq, et al., 2013, "The Effect of the Government Investment, Employment, and Fiscal Decentralization on Economic Growth of Regencies in Indonesia 2007-2010", Retrieved from <http://pustaka.unpad.ac.id/wp-content/uploads/2013/01/Jurnal-M-Rizal-M-MET-UNPAD.pdf>.
- Mukhlis, M. K., et al., 2019, "Potensi Aglomerasi Industri Kecil dan Pertumbuhan Ekonomi di Provinsi Sumatera Selatan", *Doctoral Dissertation*, Sriwijaya University.
- Muqorrobin, Moh & Soejoto, Ady, 2017, "Pengaruh Indeks Pembangunan Manusia (IPM) terhadap Pertumbuhan Ekonomi di Jawa Timur", *Jurnal Pendidikan Ekonomi*, 5(3), Retrieved from <https://jurnalmahasiswa.unesa.ac.id/index.php/jupe/article/view/20602>.
- Nair, Manju S., 2018, "Human Development and Economic Growth in Kerala: Sustainability Issues", *Productivity*, 59(1), 81-91.
- Noviatamara, et al., 2019, "Analisis Pengaruh Pertumbuhan Ekonomi dan Tingkat Pengangguran Terbuka di Daerah Istimewa Yogyakarta", *Jurnal REP (Riset Ekonomi Pembangunan)*, 4(1), 53-60.
- Novriansyah, Moh. Arif, 2018, "Pengaruh Pengangguran dan Kemiskinan terhadap Pertumbuhan Ekonomi di Provinsi Gorontalo", *Gorontalo Development Review*, 1(1), 59-73.
- Nyasha, et al., 2017, "Poverty and Economic Growth in Ethiopia: a Multivariate Causal Linkage", *The Journal of Developing Areas*, 51(1), 344-359.
- Panggabean, Meiran, 2014, "The Influence of Private Investment, Human Development Index (HDI) and Local Government Capital Expenditure (LGCE) on the Economic Growth and Original Local Government Revenue (OLGR) in the Regency/City of West Kalimantan Province", *International Journal of African and Asian Studies - An Open Access International Journal*, 4, 142-150.
- Parhah, S., 2018, "Kontribusi Desentralisasi Fiskal terhadap Pertumbuhan Ekonomi Indonesia (Analisis Data Cross-Section Tahun 2002)", Retrieved from [http://file.upi.edu/direktori/fpeb/prodi.\\_ekonomi\\_dan\\_koperasi/siti\\_parhah/kontribusi\\_desentralisasi\\_fiskal\\_terhadap\\_pertumbuhan\\_ekonomi.pdf](http://file.upi.edu/direktori/fpeb/prodi._ekonomi_dan_koperasi/siti_parhah/kontribusi_desentralisasi_fiskal_terhadap_pertumbuhan_ekonomi.pdf).
- Pratama, AA Gede Krisna & Darsana, Ida Bagus, 2019, "Pengaruh Kemiskinan dan Investasi terhadap Pertumbuhan Ekonomi dan Kesejahteraan Masyarakat", *E-Jurnal EP Unud*, 8(6), 1300-1330.
- Pratama, Nengah Rai Narka Suda & Utama, Made Suyana, 2019, "Pengaruh Pengeluaran Pemerintah dan Investasi terhadap Pertumbuhan Ekonomi dan Tingkat Kemiskinan di Kabupaten/Kota Provinsi Bali", *E-Jurnal Ekonomi dan Bisnis Universitas Udayana*, 8(7), 651-680.
- Priyono, et al., 2019, "Studi Empiris: Peran Desentralisasi Fiskal Terhadap Peningkatan Kesejahteraan Masyarakat Dengan Pertumbuhan Ekonomi Sebagai Variabel Intervening Pada Kabupaten/Kota Di Indonesia", *Jurnal RAK (Riset Akuntansi Keuangan)*, 4(2), 13-25.
- Purnama, 2016, "Faktor-faktor yang mempengaruhi Kemiskinan di Provinsi Bali", *Jurnal PIRAMIDA*, 12(1), 101-110.
- Rahman, Sanzidur, 2017, "Determinants of Poverty in the Urban Slums of Bangladesh", *Current Politics and Economics of South*, 26(2), 168-182.
- Razaq, Abd & Christiawan, Putu Indra, 2019, "Analisis Faktor Aglomerasi Industri Manufaktur di Desa Celukanbawang Kecamatan Gerokgak Kabupaten Buleleng", *Jurnal Pendidikan Geografi Undiksha*, 7(1), 8-17.

- Rosdyana, Dewi & Suhendra, E. Susy, 2015, “Pengaruh Desentralisasi Fiskal terhadap Pertumbuhan Ekonomi Daerah dan Ketimpangan Pendapatan di Pulau Jawa Tahun 2009-2013”, *Prosiding Pesat (Psikologi, Ekonomi, Sastra, Arsitektur&Sipil)*, Universitas Gunadarma, 6, ISSN: 1858-2559.
- Sabilla, Kanetasya & Jaya, Wihana Kirana, 2014, “Pengaruh Desentralisasi Fiskal terhadap Pertumbuhan Ekonomi per Kapita Regional di Indonesia”, *Jurnal Ekonomi dan Studi Pembangunan*, 15(1), 12-22.
- Salim, et al., 2018, “Fiscal Desentralisation, Economics Growth and Human Development Index in Sumatera”, *Jurnal Transformasi Administrasi*, 8(2), 165-178
- Santoso, A. B. & Prabatmodjo, H, 2012, “Aglomerasi Industridan Perubahan Sosial Ekonomi di Kabupaten Bekasi”, *Jurnal Perencanaan Wilayah dan Kota, SAPPK ITB*, 1(2), 73-82.
- Sardiyo & Dhasman, Martini, 2019, “Globalization and Its Impact on Economic Growth: Evidence From Asean Countries”, *Ekuilibrum: Jurnal Ilmiah Bidang Ilmu Ekonomi*”, 14(2), 104-119.
- Sari, Cut Putri Mellita & Nurdin, Mhd, 2018, “Pengaruh Pertumbuhan Ekonomi, Pengeluaran Pemerintah di Sektor Pendidikan dan Kesehatan terhadap Kemiskinan di Provinsi Aceh”, *Jurnal Ekonomika Indonesia*, 7(1), 18-23.
- Sendouw, et al., 2017, “Pengaruh Belanja Modal, Belanja Sosial, dan Pertumbuhan Ekonomi terhadap Tingkat Kemiskinan di Kota Manado”, *Jurnal Pembangunan Ekonomi dan Keuangan Daerah*, 19(2), 1-15.
- Sukirno, Sadono, 2006, *Ekonomi Pembangunan*, Kencana, Jakarta.
- Sukirno, Sadono, 2011, *Teori Pengantar Ekonomi Makro*, Kencana, Jakarta.
- Sun, et al., 2016, “Fiscal decentralization and China’s Provincial Economic Growth: a Panel Data Analysis for China’s Tax Sharing System”, *Springer Science+Business Media Dordrecht*, 51, 2267–2289, DOI 10.1007/s11135-016-0386-2.
- Syaifullah, Ahmad & Malik, Nazaruddin, 2017, “Pengaruh Indeks Pembangunan Manusia dan Produk Domestik Bruto terhadap Tingkat Kemiskinan di ASEAN-4 (Studi pada 4 Negara Asean)”, *Jurnal Ilmu Ekonomi*, 1(1), 107 – 119.
- Tarigan, Robinson, 2004, *Perencanaan Pembangunan Wilayah*, PT Bumi Aksara, Jakarta.
- Todaro, Michael P & Stephen C. Smith, 2006, *Pembangunan Ekonomi (Jilid I Edisi Kesembilan) Haris Munandar (Penerjemah)*”, Penerbit Erlangga, Jakarta.
- Undang-undang Republik Indonesia Nomor 3 Tahun 2014 Tentang Perindustrian.
- Undang-undang Republik Indonesia Nomor 23 Tahun 2014 Tentang Pemerintah Daerah.
- Wetwitoo, Jetpan & Kato, Hironori, 2017, “Inter-regional transportation and economic productivity: a case study of regional agglomeration economies in Japan”, *Springer-Verlag Berlin Heidelberg*, 59, 321–344, DOI 10.1007/s00168-017-0833-6.
- Wibowo, Wisun A., 2013, “Pengaruh Faktor Aglomerasi Industri, Angkatan Kerja dan Tingkat Upah terhadap Pertumbuhan Ekonomi Kabupaten/Kota di Provinsi Jawa Tengah Tahun 2005-2010”, *Artikel*, Jurusan Ekonomi Pembangunan Fakultas Ekonomi Universitas Negeri Semarang.
- Winanto, Asis Riat, 2019, “Investment, Labor and Their Effects on Economic Growth of Ponorogo Regency”, *Ekuilibrum: Jurnal Ilmiah Bidang Ilmu Ekonomi*, 14(1), 58-73.
- Wulandari, et al., 2019, “Aglomerasi Industri Pengolahan di Wilayah Kabupaten Jember Tahun 2011-2015 (Studi Kasus: Subsektor Industri Makanan, Minuman, dan Tembakau)”, *Journal Ekonomi Bisnis dan Akuntansi*, 6(1), 76-80.

- Xiao-Ling, Y., Yu-Xian, F., & Jie, Q, 2013, A Positive Research on Spatial Agglomeration of China's Cultural Industries, *Advances in Management & Applied Economics*, 3(3), 245–257.
- Yacoub, Y, 2012, “Pengaruh Tingkat Pengangguran terhadap Tingkat Kemiskinan Kabupaten/Kota di Provinsi Kalimantan Barat”, *Jurnal Ekonomi Sosial*, Universitas Tanjungpura Pontianak.
- Yushkov, A., 2015, “Fiscal Decentralization And Regional Economic Growth: Theory, Empirics, And The Russian Experience”, *Russian Journal of Economics*, 1(4), 404-418.