

# Exploring the Link between Income Inequality, Poverty Reduction and Economic Growth: An ASEAN Perspective

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The main objective of the current study is to investigate the role of economic growth and income inequality in poverty reduction. In the emerging economies, there are more significant challenges of income inequalities as compared with the vibrant economies. For dealing with the issues of poverty in a successful way, there is a need to tackle the income inequalities. It has been proposed that policies working at redistribution of income should be implemented by the governments to support low-income families. Increase of income inequality is linked with economic growth. For development of economy, high-income inequality is essential as it decreases the advantages of economic growth for poor people. The increasing inequality of income and extensive poverty are major issues in the process of development. The key objective for most of the policies on economic growth is to reduce these issues. The previous research studies have used the traditional measures for income poverty, including index of the poverty gap and a headcount ration. However, the measures of human poverty that have become crucial estimators of social development and living conditions have been used in this research. The study has employed the dynamic panel data approach and used the data of 13 years from the period starting from 2004 to 2017. It has been suggested by the empirical analysis, that poverty levels reduce through economic growth in the emerging world. The levels of income poverty and poverty have a downward trend. It is implied by the results of research that the incomes of the poor should not be the only focus on countries to reduce poverty. Instead, there is a need to improve the provision of necessary facilities and an improvement in life expectancy rates to eliminate the poverty levels.

**Key words:** *Income inequality, Economic growth, poverty, ASEAN.*



## Background

It has become a major objective in policy making for international organisations and governments to remove the absolute poverty in the emerging economies. This aspect is crucial because of its significance for social well-being. The levels of poverty are decreasing since 1980, as per the 2012 report of the World Bank. Irrespective of these improvements, there is a high level of poverty in certain areas of the developing world. Because of this, more than one billion people are living on less than \$1.25 per day. In high and middle-income economies, there has been a reduction in poverty levels, but the low-income countries are still facing these consequences. A specific example of this divided improvement is the level of poverty in India and China as compared with the other developing economies. Other low-income economies are experiencing almost similar poverty levels as they were facing a few decades ago. It is achievable to reduce the level of poverty by almost half by the year 2015 as per the MDG (Millennium Development Goal). However, most of the emerging economies are experiencing certain challenges in dealing with the poverty. Further, decrease in maternal and child mortality, equality of gender and education are some crucial goals as well for the development of economies (WHO, 2016). The growth of economy is a significant tool, which can be used to reduce the absolute level of poverty. It is required to make progress in efforts for reduction of poverty to achieve high economic growth.

Several developing economies have implemented reforms for structural adjustment recommended by institutions of Bretton Woods during 1980's. The use of flexible policies of exchange rates and openness to trade are included in the policies of structural reforms. Foreign investments are attracted, which improve the growth of the economy. A general approach for reducing the level of poverty was proposed by the World Bank during the 1990s. This approach involved focusing on the issues of environment, privatisation of enterprises owned by government and human capital investment to improve the development of economy (Xu, Tihanyi, & Hitt, 2017).

During the early years of 2000, a shift occurred in the growth of the emerging world by focusing on the reduction of poverty. The development programs were formulated by the governments of emerging economies, which made PRSPs an integral element for reducing poverty (Cohn, 2016). Strategies and policies are provided by PRSPs to deal with poverty through integration of social, economic, and financial issues. The issues of poverty can be addressed through a comprehensive analysis, which is the foundation of PRSPs. The IMF and World Bank give debt relief to the emerging economies under the initiative of HIPC (Highly Indebted Poor Countries), which is the assistance for development. The economies aim at achieving MDGs. The main issues of poverty in several emerging economies include the denial of necessities for life such as food, shelter, health care, and education (Forson, Janrattanagul, & Carsamer, 2013). The basis of MDGs is formed by the needs of humans. There was a shift in UNDP from income-

based measures of poverty by the World Bank to human-based measures of poverty during the 1990's.

**Figure 1.** Per capital income of ASEAN countries



**Source:** World Bank

This resulted in the development of HPIs (Human Poverty Indices) that includes the necessities of a human being. Three important deprivations of a human being are involved in HPIs. Deprivation of life is the first element. It is the way, in which children are born and faced with the risk of mortality, and are expected to live at the time of birth. The second factor is the basic right of education and the third element involves the provision of economies including underweight children and clean drinking water. In PRSPs, these needs of humans are crucial. Aid is provided to the emerging economies through the bilateral and multilateral donors based on the indicators performance highlighted in PRSPs (Hoang, 2014). Much progress has been seen in the reduction of human poverty across the globe as per the 2013 Human Development Report of UNDP. The speed at which poverty has reduced is greater in the countries with low income. However, this statement contradicts with the earlier claim of the World Bank. The measures of income poverty by the World Bank focus on the number of people living below the line of poverty (Saksena, Hsu, & Evans, 2014). These people live with \$1.25 or \$2 a day. These trends are interesting, and need to be investigated. A significant role has been played by the emerging countries in reducing the level of poverty due to high economic growth. It has been claimed by Ravallion and Chen (2019) that poverty has reduced in the emerging economies because of the significant performance of economy in India, China, and Brazil.



Most of the Asian economies have moved to technological innovations over some recent years. This has facilitated the economies to manufacture and export products with technological advancement, including intermediate and equipment goods. The economies have changed their structure from agriculture based to technology based. Countries including India and China have been supported by such growth experiences to improve their performance rapidly as compared with some developed countries. The growth is attributed to the agriculture sector and natural resources in the regions of Latin America and sub-Saharan Africa. The recent financial crisis has improved the growth in the region of sub-Saharan Africa significantly. Almost 70% of the regional export revenue is based on the exports of minerals, agricultural products, and oil (Africa Development Bank (AFDB) (Taylor, 2016). The emerging economies have achieved economic growth and success through these policies and reforms. However, several emerging economies have experienced high economic growth but this has resulted in very low benefits to the people with lower incomes.

Increase of income inequality is linked with economic growth. For the development of economy, high-income inequality is important as it decreases the advantages of economic growth for poor people (Ncube, Anyanwu, & Hausken, 2014). The increasing inequality of income and extensive poverty are major issues in the process of development. The key objective for most of the policies on economic development is to reduce these issues. It is important to know whether the economic growth benefits the poor and to what extent the income affects distribution and reduces poverty (Boukhatem, 2016).

## Literature Review

It is the goal of economic growth to develop economy and reduce poverty. The significance of the benefit distribution of economic growth has gained huge attention. The income inequality was linked with three forms of economic growth by Vogl (2015) in his work on “Poverty, Inequality, and Development”. The modern sector is expanded in the economy, which is referred as growth of *modern-sector enlargement*. The modern sector was classified as the industrial sector, which utilises a large capital amount in the manufacturing process (Boianovsky, 2018). The significant examples include some Asian countries such as Taiwan and China as well as some advanced economies. The level of poverty is reduced and absolute incomes increase with such growth.

In the initial stages, the influence of growth of the modern sector is based on the benefit to poor or rich through improvements in economic growth. With the expansion of the modern sector, labour redistribution takes place, as there is a movement of workers to the modern sector from the traditional sector. Therefore, the level of poverty and income inequality is reduced (Bronfenbrenner, 2017). The growth is restricted to specific groups of people in *modern-sector enrichment growth* and little growth is experienced by the traditional sector. Average income

increases by such growth type and it results in an increase of income inequality without changing the level of poverty. Countries in Latin America and sub-Saharan Africa have experienced such growth. When there is an increase in the total income of the traditional sector, the modern sector experiences no or little changes in income. It was explained by Vogl (2015) that countries with such growth can reduce the level of absolute poverty when the incomes are low. This is because of the focus of countries on reduction of poverty. Such a growth results in equitable distribution of income and reduction of poverty significantly.

The reduction or elimination of absolute poverty is based on the sustained rate of economic growth and the way in which the society receives benefits. It has been claimed by some studies that the reduction in level of poverty is enhanced through economic growth. However, there is no significant role of income inequality in this regard (Dauda, 2017). Income distribution has a role in the relation of poverty reduction and economic growth, which cannot be denied. The relation of economic growth and poverty reduction has been investigated by researchers such as Ravallion and Chen (2019) and Augustin Kwasi Fosu (2017). It was found by the researchers that poverty reduction could be harmed by inequality of income. Therefore, the rate with which the poverty reduction is caused by economic growth is affected by inequality of income. It suggests that different poverty levels are experienced by the countries even when their economic growth is the same. The significance of inequality of income in the process of development was proposed by Alam, Murad, and Ozturk (2016). According to his hypothesis of inverted-U, the income distribution is worsened by economic growth in the earlier phases of economic development.

The inequality of income reduces with the growth of economy after a specific time in the development process (Jauch & Watzka, 2016). The concentration of economic growth in the earlier stages can be in the modern sector. The productivity and wages become high with limited level of employment. With the growth of economy, income inequality increases because of avoiding the poor. Improvements are experienced in the human capita, technology, and opportunities of employment with the sustained economic growth, which reduces the inequality of income (Zhang, 2018). It has been shown by the inverted 'U' pattern that the economies are transformed to the industrial or modern sector in which high productivity prevails.

The enlargement of growth of the modern sector can be lined with the Kuznets hypothesis (Vogl, 2015). An increase in inequality of income can be experienced by economies in initial years, which are going through such growth. However, the expansion of the modern sector involves reduction in income inequality. It implies that income inequality can increase during the initial phase of development, but it may decline at later stages in the development process. It is important to know that a development path similar to the development countries can be selected by the emerging economies to avoid the inverted U.

In order to understand about absolute poverty, income inequality is crucial, along with the implications of policies developed by the government for the low-income group. The relation between income inequality and economic growth has been analysed by several studies (Le & Nguyen, 2019; Rougoor & Van Marrewijk, 2015). No significant association has been found between economic growth and income inequality. In this research, the relation of economic growth and income inequality has been analysed by using an estimator, which is efficient and consistent. The estimator used is different from the previous studies.

There has been increase in income inequality in several economies irrespective of the growth of respective of World Development Indicators, 2007. It was explained by Lin, Wan, and Morgan (2016) that the economy of China has achieved sustainable economic development through reforms in its structure. However, there has been an increase in income inequality in China over the past few years. In Brazil, income inequality has decreased along with a moderate economic growth. An increase in inequality of income has been experienced by several advanced countries over recent years. In the US and other ASEAN economies, there is high-income inequality (Gugushvili & Hirsch, 2014).

It was found by Ram (2015) that the main reason for reduced poverty levels in the Eastern and Southern Asian countries is high and sustained economic growth. When the rate of economic growth increases rapidly, it may neglect the poor, benefiting the upper community. The modern sector in the economy receives benefit when there is a rapid increase in economic growth. It is evident that the effectiveness of growth transforming into the reduction of income inequality and poverty is determined through the nature of economic growth.

Several studies have been motivated by the inverted 'U' hypothesis to study the association between income inequality and economic growth. The Kuznets hypothesis was empirically investigated by Darku and Agyemang (2017) by using a data set based on 24 economies. The method of fixed estimation effect was used to determine the model based on panel data. Generally, the researchers found a pattern, which was un-inverted 'U' in shape. It was also found that the second element of the hypothesis could not be applied to the emerging economies including Turkey, Egypt, Cyprus, Ecuador, and Chile etc and other newly developed countries (Verme, 2014). However, for most of the developed economies, it is easily applicable. A significant role is played by economic growth in the reduction of poverty. However, this role cannot be assumed for reduction in income inequality. Different views exist on the association of income inequality and economic growth. A study was conducted by More and Aye (2017) on the countries of Latin America. The findings of the study showed that there is a negative association between economic growth and income inequality.

Some other research studies including Ravallion and Chen (2019), found that there is no association between income level and income inequality in the emerging economies. In other words, the aggregate level of income does not reduce the income inequality in emerging economies. The scatter points linking changes in inequality of income with growth of economy was used by both studies. Some researchers analysed the relation between inequality of income and economic growth and found no significant relation (Le & Nguyen, 2019; Rougoor & Van Marrewijk, 2015). For economic development, income distribution is crucial. Several studies have examined the relation of economic growth and poverty by considering the mediating role of income inequality.

The influence of economic growth on income inequality and poverty was analysed by Young (2019) among transitional and emerging economies (50 countries) for the years 1995-2006. Economic development was defined as the process of growth in the economy including human development and institutional changes. It has been suggested by the results that there is not a positive influence of economic growth on the level of poverty. These countries experienced an average growth of 4.7 percent during the period. This was because of some other development components that the level of poverty was not influenced by economic growth. The influence of economic growth on income inequality was analysed by the researcher and it was found that the inequality of income increases with economic growth. The researcher suggested that income inequality could be a result of the low level of public expenditure and education (Neumayer & Plümper, 2016). It was concluded that economic growth is increased by income inequality unless there is improvement in the standards of education. When good quality institutions are promoted by the government, this results in human development.

The role of institutional qualities and economic growth in poverty alleviation was analysed by Darku and Agyemang (2017) in Asian countries for the years 1985-2009. The researchers argued that poverty persistence is because of several factors in the emerging economies. The changes in the level of poverty are not solely attributed by the growth of economy. Other factors such the role of law, democracy, accountability, corruption, and economic stability influence the reduction of poverty level. It was found by the researchers that the poverty level is significantly reduced by economic growth in the East and South Asian region. There is no change in the distribution of income caused by economic growth. Therefore, the level of poverty reduces significantly. A negative relation was found between rule of law, stability of government and poverty for institutional qualities. Therefore, poverty levels reduce with improvements in qualities of institutions. Decrease in corruption, increase in bureaucracy and democratic accountability does not contribute to income inequality and reduction of poverty (Sulemana & Kpienbaareh, 2018). Corruption is damaging for the development of economy. However, when the level of corruption is moderate, it may not be damaging to the economic growth in the short run. Researchers claim that adverse effects are created by corruption on

economic development in long run. There is need for the governments of Asian economies to adopt strategies to cope with the corruption and improve the institutional qualities.

### Model Specification

Two models have been discussed in this section, which include model of income inequality and poverty. The model for the association between poverty and economic growth has been derived initially. When a person is not able to fulfill his basic needs, he is considered poor. The basic needs comprise of clothing, food and shelter, which are required for the survival of life. The assumption of Augustin Kwasi Fosu (2008) has been followed in this research, which considers the basic needs of humans to increase with the growth of economy. The specification of poverty function has been done in the form of Cobb-Douglas.

$$Poverty = S_0 Y^\alpha \dots (1)$$

In the above equation, Y is termed as GDO, the income elasticity has been depicted by I, and  $S_0$  reflects the constant value. The variable of poverty can be the measure of income or human-based poverty. The population percentage, having no access to clean water and rate of life expectancy, has been used for human-based poverty. The headcount ratio and index of poverty gap is used for income poverty. Therefore, four separate models are given by equation (1) based on the measure of poverty used in this research.

Some other explanatory variables have been used in this research, which influence the level of poverty including government spending and ODA (Official Development Assistance). To examine the extent with which lives of the poor have improved by different government programs and policies, the variable of government spending has been used. The expenditures incurred on the goods and services, along with transfer payments, are included in government spending. The economies, which have reduced the levels of poverty as MDGs, have been provided with assistance under the PRSPs. For reduction of poverty, ODA is a crucial tool. For macroeconomic instability, inflation has been used for in this research. The people's purchasing power is influenced by high inflation levels. Therefore, the living conditions of the poor, and income, is adversely affected. By considering the heterogeneity specific to an individual and regional country using model of one-way fixed effect error component, modification has been made in equation (1) as below:

$$Poverty_{it} = S_0 (Y_{it}^\alpha X_{it}^\beta) \varepsilon_{it} \dots (2)$$

Y is real GDP and I is the level of poverty in the economy. E is the error term including the country specific term, which is assumed to be distributed independently and identically. The right side variables are referred as the explanatory variables, which are assumed to influence

the level of poverty other than real GDP i.e. ODA, government expenditures, and inflation. The following equation is made after taking logs of (2).

$$\ln Poverty_{it} = S_0 + \alpha \ln Y_{it} + \beta \ln X_{it} + \varepsilon_{it} \dots (3)$$

The above equation can be modified to the dynamic model of panel data by allowing some persistence in the process of data collection (3). It is suitable to assume that the economies' poverty level can be based on the poverty level in the previous years, which is referred as the downward trending nature. The initial poverty levels determine the speed at which the change in poverty levels occurs at the end of this time (Carvalho, Meier, & Wang, 2016). Time is required for reduction in poverty level by the use of PRSPs and structural reforms. Long lags can occur in the implementation of time policies and their influence on the economies' variables. Therefore, the partial adjustments in the level of poverty can be explained by the inclusion of lags for achieving long run equilibrium. Lags are also incorporated in the model for explanatory shocks in the economy that may incur their influence with time. For instance, these shocks may include the political instability in the economy or natural disasters, which cannot be controlled. The incorporation of lag endogenous variables as regression, is regarded by Beck and Katz (1996) as a parsimonious method to estimate the continuing influence of exogenous variables in previous time. After the inclusion of lag endogenous variables, the equation (3) has been transformed into equation (4).

$$\ln Poverty_{it} = S_0 + \phi \ln Poverty_{it-1} + \alpha \ln Y_{it} + \beta \ln X_{it} + \varepsilon_{it} \dots (4)$$

The lagged variable of poverty is  $\phi \ln Poverty_{it-1}$ , the logarithmic increase in growth of real GDP is (Y). All the variables have been represented and  $\phi, \alpha, \beta$  as elasticity.

### ***Income Inequality Model***

Income inequality is the second model used in this research. The relation between income inequality and economic growth has been examined through this model. When the growth of economy benefits the poor people as compared to rich, there are improvements in the income distribution. When the rich people receive more advantages, then the distribution of income gets worse. Therefore, the influence of economic growth in inequality of income cannot be determined beforehand. The other variables influencing income inequality are included, other than economic growth. These incorporated variables include government spending, unemployment rate, and level of education (Clarke, Jones, & Lacy, 2016). Income inequality in the emerging countries can be determined through unemployment, as it exists in the poor economies rather than the rich. The level of human capital in a country is improved by education. The productive potential of the poor is improved through education that can reduce the level of income inequality in long run. Alternatively, when rich people receive advantages

more than the poor, there is an increase in income inequality. The variable of government expenditure has been included, as there are improvements in income inequality when the poor receive benefits through government programs and policies (Potrafke, 2015). The relation between income distribution and economic growth has been specified in the form of dynamic, which is similar to the model of poverty. Data persistence has been a model by assuming that the effects specific to the individual country do not change with time (Wawro, 2002). Following is the specification of relation between income inequality and economic growth in dynamic form.

$$\ln INCINQ_{it} = S_0 + \partial \ln INCINQ_{it-1} + \alpha \ln Y_{it} + \beta \ln B_{it} + \varepsilon_{it} \dots (5)$$

The income inequality has been represented by  $\ln INCINQ_{it}$ , Y represents growth of real GDP. Income inequality is measured through Gini Index in equation 5. The income inequality is affected by the vectors of control variables excluding the economic growth. The control variables include education level, government spending, and rate of employment. These have been shown in the form of elasticities. Elasticities have been used in the two models for coefficients. The income elasticity of poverty in equation 4 is negatively hypothesised in the model of income poverty. When the economy grows, the level of poverty is reduced. For measures of human poverty, it is expected that with the increase in real GDP, there is increase in access of population percentage to improved or clean water.

The health of the poor should improve with the increase of economic growth, thereby increasing the rate of life expectancy. Therefore, a positive relation has been hypothesised for the rate of life expectancy. It has been suggested by the economic theory that income inequality reduces with the increase in economic growth. However, some studies have shown that there is negative or no influence of economic growth on distribution of income. When poor people are not benefited by economic growth, income inequality increases. Alternatively, income inequality improves when poor people receive benefits by economic growth. Thus, there cannot be prior determination of the economic growth coefficient.

## Methodology and Estimates

The implications of growth in economy on the level of poverty in inequality of income have been empirically investigated by this research. The research has been conducted among the 5 economies in the region of ASEAN from 2005 to 2017. The study has employed the dynamic panel data estimates GMM to achieve the objective of the research. The key importance of panel data is that it gives the researchers a clearer and better understanding of adjustment which is dynamic in nature; also most relationships of economic variables are dynamic (Baltagi, 2008). In 1991, Arellano presented the GMM. Mankiw, Romer, and Weil (1992) ascertained that GMM estimation could truly cast light on a volume of well-identified complications with

estimating regressions. First, the right-hand-side variables are characteristically endogenous and measured with error; subsequent variables that should be involved in the regression are not there. This will infer that least squares parameter estimates are biased, since the omitted variables are correlated with one of the regressors. The dynamic panel can be specified as

$$\Delta Y_{it} = \sum_{j=1}^p P_j \Delta_{it-j} + \dot{X}_{it-1} \beta + \Delta \varepsilon_{it} \dots (6)$$

Thus, the equation 4 and 5 becomes

$$\Delta \ln Poverty_{it} = S_0 + \alpha_1 \Delta \ln Poverty_{it-1} + \alpha_2 \Delta \ln GDP_{it} + \alpha_3 \Delta \ln Infl_{it} + \alpha_4 \Delta Gov_{it} + \alpha_5 \Delta Dev_{it} + \Delta \varepsilon_{it} \dots (7)$$

$$\Delta \ln INCINQ_{it} = S_0 + \beta_1 \Delta \ln Poverty_{it-1} + \beta_2 \Delta \ln GDP_{it} + \beta_3 \Delta \ln Infl_{it} + \beta_4 \Delta Gov_{it} + \beta_5 \Delta Dev_{it} + \Delta \varepsilon_{it} \dots (8)$$

Where, GDP represents economic growth, Inf represents inflation rate, Gov represents government and Dev represents real development.

## Results

The results of the correlation test between the dependent variable and independent variables proved to be very useful in pre-estimation analysis especially as regards potential relationships suggested by theories. Therefore, prior to the econometrics analysis, the statistical correlation of the variables are examined which helped in determining the statistical relationships between and amongst the variables.

**Table 1:** Correlation Analysis

		1	2	3	4	5	6
<i>Poverty</i>	1	1					
<b>INCINQ</b>	2	0.830**	1				
<i>GDP</i>	3	0.257**	0.243**	1			
<i>Inf</i>	4	0.810*	0.118**	0.829*	1		
<i>Gov</i>	5	0.145**	0.463*	0.129	0.579*	1	
<i>Dev</i>	6	0.130*	0.247**	0.828	0.674*	0.882	1

The study also performed the unit root test to estimate the deviation series for each economy. Rejecting the null hypothesis that the series does not contain a unit root supports convergence. In order to justify the assertions made regarding the superiority of SURADF as against traditional ADF as well as other techniques for performing unit root test, results for the traditional ADF test for stationarity were reported alongside the chosen SURADF

for each of the 5 series. Results for the tests on deviation series from ASEAN average real poverty are presented in Table

**Table 2:** Seemingly Unrelated Regression Based Augmented Dickey-Fuller Unit Root Test

$y_i - \bar{y}_t$	<i>t</i> -statistic		SURADF critical values		
	ADF	SURADF	0.01	0.05	0.10
$(y_i - \bar{y}_t)$ Indonesia	-2.748[1]*	-2.974[1]*	-2.404	-4.399	-1.804
$(y_i - \bar{y}_t)$ Malaysia	-3.073[1]*	-2.150[1]*	-3.140	-2.047	-2.451
$(y_i - \bar{y}_t)$ Thailand	-1.111[1]*	-2.624[1]**	-4.858	-3.997	-1.509
$(y_i - \bar{y}_t)$ Singapore	-2.526[2]**	-3.570[2]	-3.381	-2.268	-2.707
$(y_i - \bar{y}_t)$ Philippine	-0.874[1]	0.138[1]	-2.149	-2.062	-2.495

**Note:**

- \* and \*\* indicate rejection of the null hypothesis that the poverty in a particular economy is not converging to the group average at 5% and 10% levels of significance, respectively.
- numbers in brackets represent the lags included to ensure that serial correlation is removed.
- the critical values for ADF test statistic are: 2.423, for 1% level of significance; 1.684, for 5% level of significance; and 1.303, for 10% level of significance.
- critical values for SURADF are generated by Monte Carlo simulation using 10,000 replications based on the underlying dataset.

As opposed to the case of the nine countries mentioned above, the null hypothesis of no-convergence cannot be rejected in four cases.

**Table 3:** GMM

Variable	Model 7	Model 8
lnlagPoverty	0.057 [0.017]*	
lnlagINCINQ		0.721 [0.000]*
INCINQ	0.871 [0.000]	
LnGDP	-0.459 [0.036]*	0.559 [0.000]*
lnInf	0.033[0.025]	0.243[0.025]
lnGov	-0.406 [0.099]*	-0.386 [0.099]*
lnDev	-0.503[0.000]*	-0.421 [0.000]*
Sargan ( <i>p</i> -value) Test	10.596 (0.645)	9.5321 (0.739)
AR (1) test	-1.322	-1.721
AR (1) test	0.122	0.132

\*\* and \* represents significance at 5% and 10% levels of significance respectively.

The implications of growth in economy on the level of poverty in inequality of income have been empirically investigated by this research. The research has been conducted among the 5 economies in the region of ASEAN from 2005 to 2017. The influence of economic growth on level of income poverty and human poverty has been investigated and compared in the selected areas. The influence of economic growth on income distribution in the selected regions has been analysed and compared. Further, the indirect influence of income inequality in relation to poverty and economic growth has been examined in this research. The findings of the study have revealed the fact that income inequality and inflation are in positive relationship with poverty, whereas government spending and development is in negative and significant relationship with poverty.

### **Conclusion**

The previous research studies have used the traditional measures for income poverty including the index of poverty gap and headcount ration. However, the measures of human poverty that have become crucial estimators of human development and living conditions have been used in this research (Heckman & Mosso, 2014). Moreover, this research has added to the existing literature through estimate of poverty, economic growth, and income inequality through a reliable estimator of dynamic panel data. The estimator of SYS-GMM has been used to determine the influence created on income inequality by economic growth. It has been revealed by studies that efficient and consistent estimates are produced by SYS-GMM in dynamic models as compared with the estimators including LSDV, OLS, and WG. The estimators experience issues of econometrics including models of dynamic panel data and endogeneity (Teixeira & Queirós, 2016).

Another contribution of the study is comparative analysis of regions include the ASEAN and three main emerging regions. The comparison of emerging regions has been done with the ASEAN regions regarding human development and income inequality. It is suggested by the findings of estimator SYS-GMM estimator that income poverty is reduced by growth of economy in the three emerging regions. Moreover, the analysis of findings show that technological transformation has improved the SEA region over some recent years along with improved level of income for the poor as compared with LAC and SSA. The SSA and LAC regions are based on the use of natural resources for growth in economy. Human poverty eradication is crucial for real economic advantage for the poor. It has been found that the population percentage without clean water is reduced through economic growth in the SSA and SEA regions. However, this finding is not applicable for LAC region. It is also found that the rate of life expectancy improves in all three regions through economic growth. Greater improvements have been seen in the region of sub-Saharan Africa as compared with any other

region. Different reforms in economic policy focusing on the MDGs achievement can lead to improvements in human development in the region (Augustin K Fosu, 2015).

The findings of the research are in line with the trends in level of human poverty. However, it is revealed by the trends that there is need for more action by the developing work on the provision of basic life necessities and improvement of human development in the ASEAN region. The influence of economic growth on the variables of human poverty is low in three regions. Findings must be interpreted with caution. It has been revealed through further analysis that the positive influence on poverty level by economic growth is based on the level of regional income inequalities. The level of poverty reduces greater with growth of economy when the level of income inequality is low and vice versa. It implies that economic growth is promoted by the countries through focus on programs and policies for the poor to achieve high poverty reductions. The positive influence on the living conditions of the poor and incomes is reduced by income inequality. The influence on income inequality created by economic growth has been analysed in this study. The results suggested that income inequality significantly decreases with economic growth in the sub-Saharan Africa. Alternatively, the findings reveal that the economic growth increases income inequality in Latin America. No significant influence of economic growth on inequality of income has been found in the SEA region.

### ***Implications***

It has been suggested by the empirical analysis that poverty levels reduce through economic growth in the emerging world. The levels of income poverty and poverty have a downward trend. It is implied by the results of research that the incomes of poor should not be the only focus on countries to reduce poverty. Rather, there is need to improve the provision of basic facilities and improvement in life expectancy rate to eliminate the poverty levels. Most of the countries in SSA region have taken these steps to reduce the levels of poverty. The level of poverty is reduced, and human needs improve through economic growth. However, poor people are influenced through macroeconomic stability, foreign aid assistance and government programs of financing (Dupuy, Ron, & Prakash, 2016). It is recommended by this research that the focus of governments should on poverty elimination along with promotion of stability in the economy, development assistance, and spending effectiveness. The poverty elimination is significantly influenced by foreign aid. The empirical analysis shows that the level of poverty increases by aid in the emerging world. Therefore, there is a need for the governments to focus on the misuse of aid. The focus should be on dealing with corruption, reduction of bureaucracies and promotion of a healthy environment. The focus of bilateral donors and multilateral institutions should be on proving aid to the economies, which give maximum benefit to the poor. The economic provisioning and health benefit to the poor can be improved through promotion of health facilities and care. In the long run, the income inequality and poverty is reduced, which promotes the development of economy. Bad policies of government,



corruption, ethnic violence, lack of political will, and corruption characterise the developing world, specifically the SSA region. These factors pose challenges in the eradication of absolute poverty. In order to transform people's lives through economic growth, the macroeconomic environment should be stabilised. Stable development and economic growth guarantee a good macroeconomic environment (Ismaila & Imoughele, 2015). The political environment, which is free of civil wars, political violence, and unrest, should be promoted in the regions of East and South Asian regions along with some areas of Africa.

The sectors, which promote the provision of economic and health benefits, are included in the elimination of human poverty. Moreover, the already established targets of development such as MDGs should be reviewed by the development authorities, multilateral institutions, and governments for coming to a consensus. The existing goals should be reviewed in accordance with the current challenges along with new targets to halve the poverty by the year 2025. It is also important to reduce human poverty and give attention to human development. The levels of poverty have reduced by economic growth along with improvements in the living standard of people in the emerging regions. It is evident in the research that the positive relation of economic growth and reduction in poverty is constrained by income inequality. In the emerging economies, there are greater challenges of income inequalities as compared with the rich economies. For dealing with the issues of poverty in successful way, there is need to tackle the income inequalities. It has been proposed that policies working at redistribution of income, should be implemented by the governments to support poor families.



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