The Impact of the Fiscal Policy on Economic Growth in Indonesia: Study of 33 Provinces in Indonesia at 2006-2016

Inayatur Robbaniyah[1], Sebastiana Viphindrartin[1], Zainuri[1]
[1,2,3]Faculty of Economic and Business, Universitas Jember, Jl. Kalimantan No. 37, Jember (68121)
Email: ina7robbaniyah@gmail.com

Abstract

Economic growth is the economic progress of a country, especially the increase of goods and services so as to provide a trickle down effect. In an effort to encourage economic growth, fiscal potential consisting of government expenditure, income, tax revenue becomes an important capital in the development process. This study aims to determine the effect of fiscal policy in the form of government capital expenditure and provincial regional taxes on economic growth in Indonesia. This study uses panel data from 33 provinces in Indonesia during the period 2010-2016. The type of data used in this study is secondary data, which includes GRDP data, taxes and capital expenditure of the provincial government. This study uses a data analysis method of Vector Autoregressive (PVAR) panel. The dependent variable in the study is economic growth. While the independent variables in the study are fiscal policies in the form of government capital expenditure and provincial taxes. This study concluded that (1) government capital expenditure has a positive and significant effect on economic growth (2) tax has a negative and significant effect on economic growth. Based on this research, fiscal policy affects economic growth. These results indicate that the importance of optimizing fiscal policy in Indonesia to achieve the expected economic growth targets in each region in Indonesia.

Keywords: fiscal policy, provincial capital expenditure, provincial tax and economic growth

1. Introduction

Economic growth is the economic progress of a country, especially the increase of goods and services so as to provide a trickle down effect. Therefore, economic growth is targeted in development at the national or regional level. Economic growth is measured by GDP indicators in assessing economic performance, especially related to the ability of the region in managing the resources they have.

Economic growth is one indicator of the success of the development of a region. Rapid economic growth is the hope of each region. One indicator that can be used to measure the economic performance of a region in a given period is GRDP. GRDP size can be used as an indicator in assessing economic performance, especially those associated with the ability of an area to manage resources owned. According to Samuelson and Nordhaus (2001: 248), GRDP is the value of products produced by all factors of production, the magnitude of the rate of economic growth, and the structure of the economy in one period in a particular area. Economic growth in Indonesia from 2010-2017 is described in Figure 1.

Figure 1 explains Indonesia's economic growth which experienced fluctuating developments. In 2010 economic growth of 6.51% continued to decline until finally in 2017 until the economic growth rate of 5.07%.

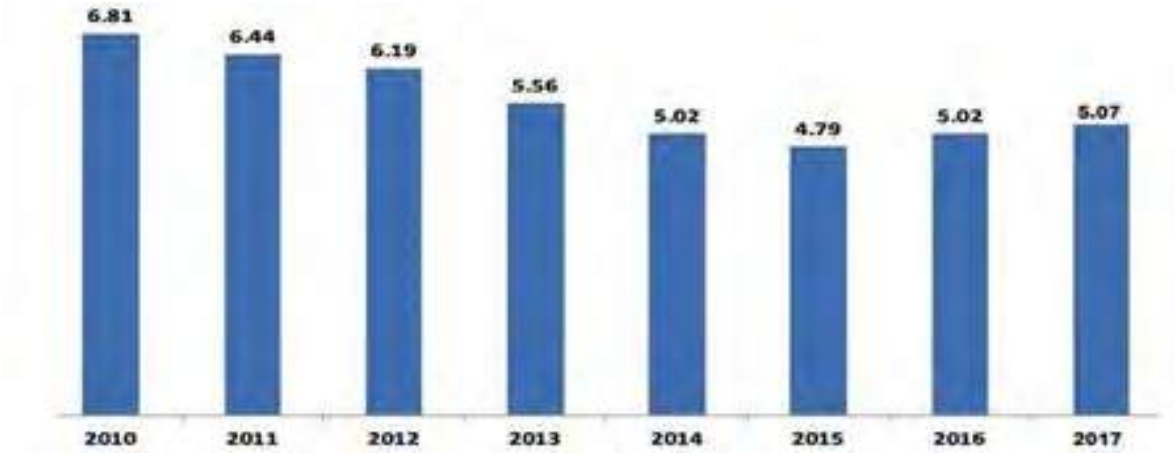


Figure 1. Indonesia's Economic Growth in 2010-2017
Source: BPS (2017)

Economic growth is influenced by various factors including human resources, natural resources, capital formation and technology. Samuelson and Nordhaus (2001:250) describe neoclassical economic theory that focuses on capital and labor, and technological change as a new element. Suryana (2000: 66) explains that Harrod-Domar's economic growth model of the "steady growth theory" is the development of Keynes's analysis, emphasizing the key role of the need for investment in the process of creating economic growth. According to Halim and Subiyanto (2008: 4-5), the government issued capital for development in financing development can increase economic growth.

This study examines fiscal policy on economic growth. Economic growth which is a process of change in a country in increasing the income of its people. According to Abdullah and Halim (2003), economic growth is also influenced by fiscal potential consisting of fiscal components including government expenditure, income, tax revenue in accordance with the rules of the Minister of Finance No. 224/PMK.07/2008. This fiscal potential will later increase economic growth that leads to public welfare.

Fiscal policy consists of policies on government spending and tax revenues. Expenditures by the government also increase economic growth. The government makes expenditures in the form of capital expenditure to finance its activities. The government finances government spending to drive the economy. There are government expenditures during 2010-2017 described in Figure 2 below.

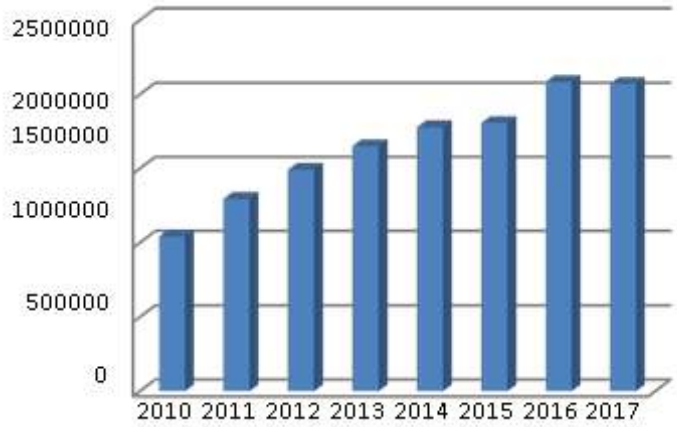


Figure 2. Government Expenditures for 2010-2017
Source: BPS (2017)

Figure 2 explains that government spending during 2010-2017 experienced fluctuating developments. Government expenditures occur in 2016 while the lowest government expenditure occurs in 2010. One government expenditure is capital expenditure. Yanikkaya (2011) shows that government spending negatively affects economic growth. Sakyi and Adams (2012) show that government spending has a positive effect on economic growth in the long run. Hendarmin (2012) and Patricia and Izuchukwu (2013) found that capital expenditure has a significant effect on economic growth

The objectives of this study include: (1) to analyze the effect of capital expenditure on economic growth; (2) to analyze the effect of provincial tax revenue on economic growth.

2. Literature Review

Economic Growth Theory

Taringan (2004: 4) explains that economic growth is an additional income of people in an area with an increase in value added. The theory of economic growth associated with the role of government is based on Adam Smith who explained that the market economic system will be free will create efficiency, bring the economy to full employment conditions and guarantee economic growth until a stationary position is reached. The role of government in Smith's view here is to ensure security and order and to provide legal certainty and justice for economic actors (Taringan, 2004: 45).

Furthermore, the theory used by Robert M. Solow (1970) from the United States and TW. Swan (1956) from Australia (Taringan, 2004: 46). Neo classical theory as the successor of classical theory suggests that conditions are always directed towards a perfect market. In perfect market conditions the economy can grow to its full potential. Further analysis of neo-classical understanding shows that the creation of a steady growth (steady growth), requires an appropriate saving level and all profits of entrepreneurs are reinvested in the region. The growth theory put forward by Harrod-Domar. This theory is based on assumptions (Jhingan, 2003: 67):

1. The economy is closed
2. The desire to save (MPS = s) is constant
3. The production process has a constant coefficient, and
4. The labor force growth rate (n) is constant and equal to the rate of growth.

Harrod-Domar's growth model explains that investment in the process of economic growth has a very decisive role, especially the dual character possessed by investments, namely (Jhingan, 2003: 66):

1. Creating income is called the impact of demand.
2. Increasing economic production capacity by increasing capital stock is often referred to as the impact of investment offers. As long as net investment continues real income and output will always increase.

Fiscal Policy Theory

Fiscal policy is an economic policy used by the government to manage/direct the economy to better or desirable conditions by changing government revenues and expenditures. Regional fiscal policy is one of the policies in the economy carried out by the government through the Regional Budget (APBD). The APBD is the provincial government's annual financial plan approved by the Regional People's Legislative Assembly. The APBD contains a systematic and detailed list that contains regional revenue and expenditure plans for one fiscal year.

APBD is an instrument to regulate regional expenditures and revenues in order to finance the implementation of government and development activities, achieve economic

growth, increase national income, achieve economic stability, and determine development directions and priorities in general.

According to Budiarto (2008), government revenue is assumed to come from taxes. The amount of tax received by the government is influenced by the level of income, tax should be influenced by patterns of production and consumption behavior. Economically, tax can be defined as the transfer of existing resources in the household sector and companies (business world) to the government sector through the collection mechanism without the obligation to provide direct compensation. If, the government levies give direct compensation, the claim is called retribution.

Effect of Fiscal Policy on Economic Growth

Economic growth is influenced by fiscal policy and monetary policy. The fiscal policy instrument consists of government expenditure and taxes while the monetary policy instrument consists of the money supply and interest rates. If government spending increases and taxes fall, economic growth will increase and vice versa. Government expenditure in the form of capital expenditure allocations is based on the need for facilities and infrastructure both for the smooth implementation of government duties and for public facilities in the form of land, equipment and machinery, buildings and buildings, roads, irrigation and networks, and other fixed assets. Through the increase in capital expenditure the APBD is expected to be a driving factor for the emergence of various new investments in the region in optimizing the utilization of various resources for production activities so that it can ultimately increase regional economic growth (Tambunan, 2011).

The role of the government in improving community welfare is also needed, one of which is through. Regional fiscal policy is one of the policies in the economy carried out by the government through the Regional Budget (APBD) instrument, which contains regional revenue and expenditure plans for one fiscal year. This is in accordance with Keyness's theory which argues that the government should intervene through fiscal and monetary policies to encourage full employment opportunities, price stability and economic growth.

According to Bati (2009), capital expenditure is a regional expenditure carried out by regional governments including the development and improvement of the education, health, transportation sectors, so that the community also enjoys the benefits of regional development. The availability of good infrastructure is expected to create efficiency and effectiveness in various sectors, the productivity of the community is expected to become higher and in turn increase economic growth. Yanikkaya (2011) shows that government spending negatively affects economic growth. Sakyi and Adams (2012) show that government spending has a positive effect on economic growth in the long run. Akpan and Abang (2013) found that government spending negatively affected economic growth. Hendarmin (2012) and Patricia and Izuchukwu (2013) found that capital expenditure has a significant effect on economic growth.

Another fiscal policy is tax revenue, namely a strong tax revenue capability will provide the government's ability to build. Pjak is still used as one of the important instruments to build strategic advantages that exist in a country. Tax revenues can increase economic growth. Lee and Gordon (2005) found that taxes can increase economic growth. Sumaryani (2015) found that taxes can increase economic growth. Gale and Samwick (2014) obtain results that the higher tax revenue will increase economic growth.

3. Research Methods

This research is a quantitative research used to analyze the influence of fiscal policy growth, namely provincial government local taxes, and provincial government capital

expenditure on economic growth in Indonesia. This type of research data is secondary data in the form of panel data with a period of 7 (seven) years, namely from 2010-2016, and cross section observations in 33 provinces in Indonesia. The conservation used is 7 x 33 which is 231 observations. This study uses Per Capita GRDP data from the Central Bureau of Statistics (BPS), realization of local tax revenues and realization of capital expenditures sourced from data on provincial APBD realization in BPS publications.

Research variables are: 1) economic growth proxied by the growth of GDP per capita at constant 2000 prices in each province, expressed in percent units, during the period 2010-2016; 2) Provincial Tax is the ratio of the realization of provincial government regional tax revenue to GRDP on the basis of current prices expressed in percent units; 3) Capital Expenditures proxied by the ratio of Realization of Capital Expenditures of each provincial government throughout Indonesia to GRDP in each province according to the prevailing price which is stated in percent units.

Data analysis method uses Random Effect Model (RE) panel data regression, used by calculating errors from the data panel with the Generalized Least Square (GLS) method. The form of panel data regression equation in this study can be mathematically formulated as follows:

Y = f (BLMit, TAXit,), i = 1,2, ..., 33; t = 1,2, ..., 7

$$Y_{it} = \beta_0 + \beta_1 BLM_{it} + \beta_2 TAX_{it} \quad (1)$$

Where:

Y : Provincial GRDP per capita growth
i : Province i (cross section), i = 1, 2, ……, 33
β_0 : Constants
t : Time series, t = 2010, ..., 2016
β_j, j = 1,2, ... : Regression coefficient
e_{it}: Error term
BLM_{it} : Capital expenditure for the provincial government
TAX_{it} : Regional tax of the provincial government

The research model uses a random effect model estimating panel data whose residual variables are thought to have relationships between time and between subjects. This model is used to overcome the weaknesses of fixed effect models that use dummy variables (Widarjono, 2009). Panel data analysis method with Random Effect model must meet the requirements, namely the number of cross sections must be greater than the number of research variables. Before analyzing the data, the data is tested according to classical assumptions. If there is a deviation from the classic assumption, non-parametric statistical tests are used, whereas classical assumptions are met if parametric statistics are used to obtain a good regression model. the resulting data must be normally distributed.

Then, the Vector Autoregression Panel (VAR) method which is a dynamic estimation method is also used in this study. The VAR method was proposed by Smith (1980) as a dynamic model that is not based on theoretical concepts, but rather a model based on the basic assumptions of economic theory, so that this method is more directed to a model that adapts to changes in economic phenomena that occur. There are several stages of testing in the VAR method, namely stationary data testing using unit root tests, integration degree test, cointegration test, optimum lag selection, estimation with VAR model, impulse response function (IRF) and variance decomposition (VD). Basically the VAR model is written as follows:

$$X_t = \beta_0 + \beta_n X_{t-n} + e_t \quad (2)$$

Where:
X_t : is a vector element of: GRDP model = tax, capital expenditure
β_0 : is a vector of n×1 constants, β_0 is the coefficient of X_{t-n} while n is the lag length.
e_t *:* is a vector of shock to each variable.

Model Specifications

GRDP = f (tax, capital expenditure)
PDRB = f (pajak , belanja modal)

$$PDRB_{it} = \alpha_0 + \alpha_1 Tax_{it} + \alpha_2 BLM_{it} + e_{it} \quad (3)$$
$$Tax_{it} = \alpha_3 + \alpha_4 PDRB_{it} + \alpha_5 BLM_{it} + e_{it} \quad (4)$$
$$BLM_{it} = \alpha_6 + \alpha_7 PDRB_{it} + \alpha_8 Tax_{it} + e_{it} \quad (5)$$

4. Research Result

Based on the results of data analysis with panel data regression, the Random Effect model estimates panel data that the residual variables are suspected to have a relationship between time and between subjects. The Random Effect model is used to overcome the weaknesses of the Fixed Effect Model that uses dummy variables. The output of panel data regression analysis with the Random Effect model can be seen in Table 1 below.

Table 1. Regression Results with Random Effect Model

Variable	Coefficient	t-Statistic	Prob
Konstanta	0,301121	27.80224	0.0000
Belanja Modal (BLM)	0,009024	2.888404	0.0042
Pajak Daeah (TAX)	0,050919	6.044935	0.0000
R-squared	0.229842		
Adjusted R-squared	0.216211		
F-statistic Prob	16.86156		
(F-statistic) Durbin-Watson stat	0.000000		
	0.953090		

Source: Data Processed, 2018

Table 1 explains that the results of the statistical test t (t-statistics) to determine the effect of capital expenditure variables (BLM) with p value of 0.042 less than α of 0.05. This shows that capital expenditure has a significant effect on economic growth. While the capital expenditure variable (BLM) with a p value of 0.00 less than 0.05 indicates that capital expenditure has a positive and significant effect on economic growth.

Based on the estimation of panel data regression, the random effect model above obtained the equation of the panel data regression model as follows:

$$Y_{it} = \beta_0 + \beta_1 BLM_{it} + \beta_2 TAX_{it} + e_{it}$$

Where:

$$Y_{it} = 0{,}301121 + 0{,}009024 BLM_{it} + 0{,}050919 TAX_{it} + e_{it}$$

Based on the results of panel data regression, the Random Effect Model shows that capital expenditure and Regional Tax have a positive effect on economic growth. The estimation results of the regression equation model above are known as follows:

1. A constant value (C) 0.301121 which means that if the independent variable (BLM, TAX) is considered to be constant (constant), then economic growth is 0.301121. This shows that there are still other variables outside the model that affect economic growth;
2. Capital Expenditures with a coefficient of 0.009024 shows that if the TAX variable does not change (ceteris paribus), then Capital Expenditures will have a positive and significant impact on economic growth.
3. Regional Tax Variables with a coefficient of 0.050919 indicate that if the variable capital expenditure does not change (ceteris paribus), the Regional Tax will have a positive and significant effect on economic growth.

Vector Autoregressive Panel (PVAR) Test Results

1. Stationarity Test

The unit root test is the initial stage before estimating the model in time series data. Stationary test is a test to see the consistency of data in each variable used in the research model. The unit root test is done by comparing the ADF probability value with the α (alpha) used. To see the stationary data on each variable, either in the Times series data or panel data, the unit root test is used. There were several types of testing in the test including Levin, Lin & Chun (LLC), Im, Pesaran, & Shin (IPS), ADF Fisher and Philips, Peron, & Fisher (PPF). Table 1 presents the results of unit root testing for each variable.

Table 2. Data Stationary Test Results

Variable	Statistic Value	Level	LLC	IPS	ADF-Fisher	PP-Fisher
PDRB	Statistic (prob)	Level	0.0000*	0.03*	0.01*	0.0000*
	Statistic (prob)	First differences	0.0000	0.0000	0.0000	0.0000
	Statistic (prob)	Second differences	0.0000	0.0000	0.0000	0.0000
Tax	Statistic (prob)	Level	0.0000	0.0000	0.3402	0.1397
	Statistic (prob)	First differences	0.0000*	0.0000*	0.0000*	0.0000*
	Statistic (prob)	Second differences	0.0000	0.0000	0.0000	0.0000
BLM	Statistic (prob)	Level	0.0000*	0.0024*	0.0008*	0.0000*
	Statistic (prob)	First differences	0.0000	0.0000	0.0000	0.0000
	Statistic (prob)	Second differences	0.0000	0.0000	0.0000	0.0000

Source: Data Processed, 2018

Stationary values in each variable are compared with alpha values (5%). If the probability value of the unit root test is less than the alpha value then it is stated stationary and vice versa if the probability value of the unit root test is more than the alpha value then the data on the variable is declared not stationary. Table 1 describes that the data used in this study are generally stationary at the 1st Difference level. The next stage is cointegration testing to determine the use of the model using VAR or VECM (Vector Error Connection Model) systems.

2. Cointegration Test

The cointegration used to obtain long-term relationships between variables in this study is the Kao Residual Cointegration Test as follows:

Table 3. Cointegration Test Results

Kao Residual Co-integration Test			
ADF	**t-Statistic**	**Probability**	**Co-integration**
	-1.780082	0.0375	Cointegrating

Source: Data Processed, 2018

Table 3 shows the results of panel data cointegration test in this research model. The results of the analysis show that the probability value in the Kao test is smaller than the statistical t value of 0.037 > 0.05. These results indicate that in this model there is cointegration which means there is a long-term relationship in the model so that the tax and capital expenditure variables in the long term will affect growth in Indonesia. In accordance with the requirements, that when the model is not cointegrated, it cannot be estimated further with the VECM estimation, but estimation is done using the VAR method to follow up. In this method, aims to determine the response of all variables in response to the fluctuation or instability of the phenomenon that occurs through the impulse response function (IRF) test and variance decomposition to see the contribution of the independent variable response to the dependent variable shocks.

3. Optimum Lag

Optimal lag selection is to get the best VAR model that will be used in the study. VAR estimates are very sensitive to the length of lag used. Determination of the right lag will also have implications for the release of the model of autocorrelation and heteroscedasticity problems (Gujarati and Porter, 2009). This lag test is used to determine the length of the period of influence of a variable on its past variables and other endogenous variables. Determination of lag in this study uses Akaike Information Criterion (AIC) because it will provide additional variable intervals to reduce the degree of freedom.

Table 4. Optimum Lag Test Results

Lag	AIC
0	8.490197
1	3.251708
2	2.973483
3	2.741162
4	0.574703
5	-0.581358
6	-1.123778*

Source: Data Processed, 2018

From Table 3 it can be seen that the minimum AIC value occurs at lag 6 which is a value of -1.123778.

4. Impulse Response Functions (IRF)

The next step is the analysis of Impulse Response Functions (IRF). IRF can describe the effect of shock or shock from endogenous variables on other endogenous variables contained in the model. The IRF in this study will provide an interrelated influence between GDP, tax and capital expenditure variables.

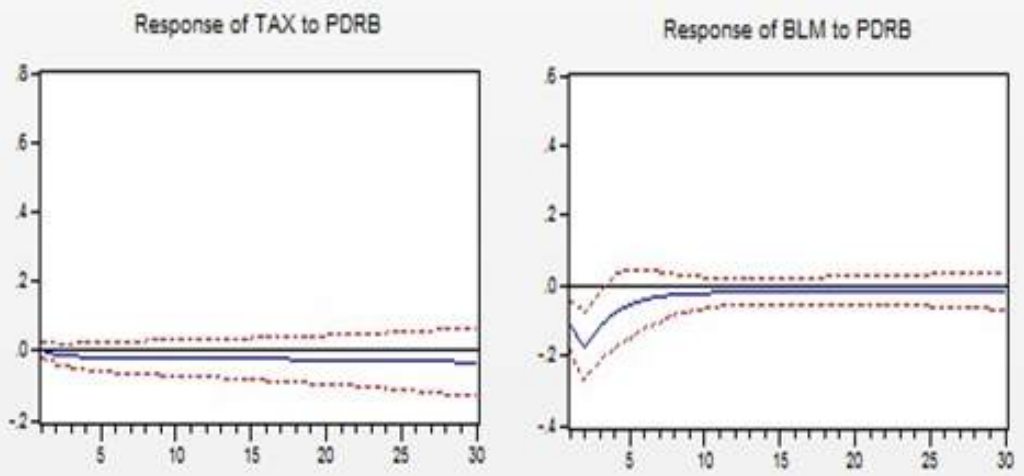


Figure 3. Government Expenditures for 2010-2017
Source: Data Processed, 2018

Each independent variable has a different response pattern in response to shocks to economic growth. Figure 1 shows the repon of the independent variable in response to shocks on the dependent variable until it reaches the stability point (steady state). Tax variables and capital expenditure have different response patterns in response to GRDP shocks. Figure 1 shows the response of tax and government capital expenditure to indicators of economic growth, namely GRDP. The first shock is between tax and GRDP. Shocks that occur from the beginning to the end of the period are likely to increase and not reach the balance position until the end of the period. The next capital expenditure also responded with an increasing trend. The capital expenditure response to the GRDP fluctuations was responded from the beginning to the end of the period and until the end of the period did not reach the point of balance.

5. Variance Decompotition Test Results

To see the contribution of macroeconomic independent variables, financial inclusion and labor mobility to changes in GDP, varince decomposition analysis is used. Table 4 shows the magnitude of the contribution of tax variables and government capital expenditure in changes in GDP.

Table 5. Optimum Lag Test Results

Period	S.E.	PDRB	TAX	BLM
1	3.087839	100.0000	0.000000	0.000000
2	3.368792	99.81065	0.112123	0.077232
3	3.453445	99.06458	0.147599	0.787826
4	3.487217	97.64132	0.149266	2.209411
5	3.516018	96.07692	0.147211	3.775866
10	3.588698	92.29622	0.238273	7.465503
15	3.604298	91.53820	0.485456	7.976343
20	3.612589	91.13499	0.865760	7.999252
25	3.622220	90.66267	1.378601	7.958731
30	3.634722	90.05157	2.040472	7.907956

Source: Data Processed, 2018

The results of this analysis will describe the highest contributors per period in the analysis of this study. In the second period, the Tax variable contributed to changes in GDP by 11.21% followed by the contribution of capital expenditure by 0.7%. In the 5th period, Taxes contributed greatly to changes in GRDP at a rate of 37.75% and was followed by a tax of 14.72%. And at the end of the period, namely the 20th period, the variable capital expenditure shows a large contribution of 79.99% but smaller than the contribution of taxes in influencing the GRDP of 86.57%.

5. Discussion

Effect of Capital Expenditures on Economic Growth

Based on the regression results with a random effect model on capital expenditure will have a positive and significant impact on economic growth. This means that increasing capital expenditure will also increase economic growth.

Government expenditure in the form of capital expenditure allocations is based on the need for facilities and infrastructure both for the smooth implementation of government duties and for public facilities in the form of land, equipment and machinery, buildings and buildings, roads, irrigation and networks, and other fixed assets. Through the increase in capital expenditure the APBD is expected to be a driving factor for the emergence of various new investments in the region in optimizing the utilization of various resources for production activities so that it can ultimately increase regional economic growth.

Capital expenditures are regional expenditures made by local governments including the development and improvement of the education, health, transportation sectors, so that people also enjoy the benefits of regional development. The existence of good infrastructure is expected to create efficiency and effectiveness in various sectors, the productivity of the community is expected to become higher and in turn increase economic growth.

The test results show that capital expenditure has a significant effect on economic growth. Capital expenditure increases economic growth. East Java government spending should have a role in economic growth with the assumption that the implications of government spending are for productive activities such as infrastructure spending. Shopping that is productive and in direct contact with public interests will stimulate the economy. Capital expenditure has a significant effect on economic growth.

The increase in capital investment (capital expenditure) is expected to improve the quality of public services and in turn be able to increase the level of public participation (contribution) to development as reflected in the increase in PAD (Mardiasmo, 2002). In other words, the construction of various public sector facilities will lead to economic growth.

Capital expenditure policy is a policy in the economy that needs to be implemented when facing serious unemployment problems. The results of this study are in accordance with the "steady growth theory" which is the development of Keynesian analysis, emphasizing the key role of the need for investment in the process of creating economic growth (Suryana, 2000: 66). Capital or capital as a factor of production in economic development is not in the form of money but real capital / capital goods. The results of this study found that capital expenditure has a significant effect on economic growth. Hendarmin (2012) and Patricia and Izuchukwu (2013) found that capital expenditure has a significant effect on economic growth. Sakyi and Adams (2012) show that government spending has a positive effect on economic growth in the long run. Akpan and Abang (2013) found that government spending negatively affected economic growth.

Tax Influence on Economic Growth

Based on the regression results with the random effect model, the Regional Taxes have a positive and significant effect on economic growth. This means that the increasing regional tax ratio will also increase economic growth. This situation indicates that if there is an increase in the economy, tax revenues will also increase, because the increase in the economy indicates that the production of goods and services has increased. Increased production of goods and services will certainly increase the excitement of the economy so that economic activities will also increase.

Provincial tax revenues based on Law No. 28 of 2009 consist of Motorized Vehicle Taxes, Motor Vehicle Transfer Charges, Motor Vehicle Fuel Taxes, Surface Water Taxes and Cigarette Taxes. Transfer of Motor Vehicle, Cigarette Tax and Motor Vehicle Fuel Tax is an indirect tax. With this indirect tax the public will pay for the goods or services they consume will increase the economy. Government policy to increase tax revenue from taxes will not directly increase economic growth.

The results of this study in accordance with Lee and Gordon 92005) found that taxes can increase economic growth. Sumaryani (2015) found that taxes can increase economic growth. Gale and Samwick (2014) obtained the results that higher tax revenues will increase economic growth.

6. Conclusions and Recommendations

Based on the results of the study it can be concluded that fiscal policy affects economic growth where: (1) capital expenditure has an effect on economic growth. The higher the capital expenditure, the higher government spending in the form of capital expenditure will increase economic growth; and (2) tax revenue affects economic growth. If the high tax revenue will finance the community's economic facilities so that economic activity runs and will increase economic growth.

Suggestions that can be submitted in this study are: (1) the government uses capital expenditure prioritized on efforts to create jobs for economic activities so that it will increase economic growth; and (2) the order increases efforts to make the public aware of paying taxes so that it redistributes the tax revenue results in the form of government spending, especially in the development of public infrastructure and social spending

References

[1] Abdullah, Syukriy dan Halim, Abdul. 2003. Pengaruh Dana Alokasi Umum (DAU) dan Pendapatan Asli Daerah (PAD) terhadap Belanja Pemerintah Daerah: Studi Kasus Kabupaten/Kota di Jawa dan Bali. *Jurnal Simposium Nasional Akuntansi VI.* Surabaya , Oktober 2003

[2] Akpan, Usenobong F. dan Abang, Dominic E. 2013. Does Government Spending Spur Economic Growth? Evidence from Nigeria. *Journal of Economics and Sustainable Development.* Vol.4, No.9, 2013.

[3] Alexiou, Constantinos. 2009. Government Spending and Economic Growth: Econometric Evidence from the South Eastern Europe. *Journal of Economic and Social Research* 11(1) 2009, 1-16.

[4] Astri, dkk. 2013. Pengaruh Pengeluaran Pemerintah Daerah pada Sektor Pendidikan dan Kesehatan Terhadap Indeks Pembangunan Manusia di Indonesia. *Jurnal Pendidikan Ekonomi dan Bisnis.* Volume 1 Nomor 1 Maret 2013.

[5] Bati. 2009. Pengaruh Belanja Modal dan Pendapatan Asli Daerah (PAD) Terhadap Pertumbuhan Ekonomi (Studi pada Kabupaten dan Kota di Sumatera Utara). *Tesis* . USU. Medan

[6] Budiarto, Bambang. 2008. Pengukuran Keberhasilan Pengelolaan Keuangan Daerah. *Seminar Ekonomi Daerah*. Surabaya

[7] Gale, William dan Samwick, Andrew. 2014. Effects of Income Tax Changes on Economic Growth. *Economic Studies.* Volume 7

[8] Halim, Abdul dan Subiyanto, Ibnu. 2008. *Seri Bunga Rampai Manajemen Keuangan Daerah: Analisis Investasi (Belanja Modal) Sektor Publik Pemerintah Daerah. Edisi Pertama. Cetakan Pertama*. Penerbit UPP STIM YKPN. Yogyakarta.

[9] Hendarmin. 2012. Pengaruh Belanja Modal Pemerintah Daerah Dan Investasi Swasta Terhadap Pertumbuhan Ekonomi. Kesempatan Kerja dan Kesejahteraan Masyarakat di Kabupaten/Kota Provinsi Kalimantan Barat. *Jurnal EKSOS.* Volume 8, Nomor 3. Oktober 2012 hal 144 – 155.

[10] Jhingan, ML. 2003.*Ekonomi Perencanaan dan Pembangunan*. Edisi Pertama. Penerbit CV Rajawali. Jakarta.

[11] Lee, Young dan Gordon, Roger. 2005. Tax Structure And Economic Growth. *Journal of Public Economics.* Volume 89, Issues 5–6, June 2005, Pages 1027-1043.

[12] Mardiasmo. 2004. *Otonomi dan Manajemen Keuangan Daerah*. Yogyakarta: Andi.

[13] Patricia, Chude, Nkiru dan Izuchukwu, Chude. Daniel. 2013. Impact of Government Expenditure On Economic Growth In Nigeria. *International Journal of Business and Management Review.* Vol.1. No.4. pp.64-71.

[14] Sakyi, Daniel dan Adams, Samuel. 2012. *Democracy, Government Spending and Economic Growth: The Case of Ghana, 1960–2008*.

[15] Samuelson, Paul A. dan Nordhaus, William D. 2001. *Ilmu Makroekonomi.* Edisi Ketujuhbelas. Jakarta: PT. Media Global Edukasi.

[16] Sitaniapessy, Harry. 2013. Pengaruh Pengeluaran Pemerintah Terhadap PDRB dan PAD. *Jurnal Ekonomi*. Volume 9 No 1 April 2013.

[17] Suryana. 2000. *Teori-teori Pertumbuhan Ekonomi. Ekonomi Pembangunan: Teori. Masalah dan Kebijakan.* UPP AMP YKPN Yogyakarta.

[18] Tambunan, Tulus. 2011. *Perekonomian Indonesia Sejak Orde Lama Hingga Pasca Krisis.* Jakarta: Penerbit PT Pustaka Quantum Prima.

[19] Taringan, Robinson. 2004. Perencanaan Pembangunan Wilayah. Jakarta: PT. Bumi Aksara.

[20] Yanikkaya, Halit Y. dan James L.Butkiewicz. 2011. Institutions And The Impact Of Government Spending On Growth. *Journal of Applied Economics* Volume 14, Issue 2, November, pages 319-341.

Regional Development Planning Through The Government's Participative Role, Case Study: Cibadak and Bojongcae Village- Banten's Province-Indonesia

Sugianto[1], Yul Tito Permadhy[1], Indri Arrafi Juliannisa[1]
[1]UPN "Veteran" Jakarta, JL. RS. Fatmawati No.1, Jakarta (12450)
Email: sugiantosemm@yahoo.com

Abstract

Regional development can begin with build the potential village in a way exploring all the potential resources, because from village development can support the country's economic growth, as stated in NAWACITA. The potential should be supported by the the participatory role of the village apparatus and local community. This research examines about regional development planning of Banten Province through exploring the potential village with the participatory role of the village's apparatus, study case: Cibadak & Bojongcae. This research uses Qualitative-Quantitative method, and potential village mapping classified by; economic, social, cultural, political, natural & human resources, and ideology. Subsequently, The SWOT (Strength, Weakness, Opportunity, and Threat) analysis for the overall potential and The Location Quotient (LQ) analysis to see the major economic activity. The results from LQ analysis show that in both villages agriculture is a superior sector and can be managed for increase the sales value, and then these villages have the economic potential in the field of trade, art, and animal husbandry, like: cow, goat, rabbit & chicken. Of course, the village's government has participative to build the village, as well as the citizens, but they are still constrained by the lack of knowledge.

Keywords: Regional Development; The Potential Village; The Government Participatory Role; The Economic Potential

1. Introduction

Regional development is an integral part that is inseparable from national development, various development activities carried out by the central government in the regions are intended to improve national development. Every regional government has freedom in the development of their respective regions, as stipulated in Law Number 32 of 2004. That is discussing the administration of government in the regions, especially the regency or city, which is based on the principle of autonomy and the task of assisting with the principle of autonomy to the greatest possible extent in the system and principles of the Unitary Republic of Indonesia (Rusdi, 2014).

Successful development will have an impact on a country's economic growth, if in a country there are many remote areas with the high poverty rates, so the country will be difficult to develop and even impossible to become a developed country. Countries with high poverty rates can cause income inequality, unemployment and declining health rates for citizens. Village development is a step to help the success of development activities (Rusdi, 2014).

The village is a manifestation or unity of geography, social, economic, political and cultural found in an area. According to Law Number 22 of 1999 concerning Regional Government article I, Village is the legal community unit that has the authority to regulate and manage the interests of the local community based on local origin and customs recognized in the national government system and in the district. Based on Permendagri No. 66 of 2007

concerning Village Development Planning, which is a participatory development model that is a system of development management in the village together in consultation, consensus and mutual cooperation which is a way of life that has long been rooted in Indonesian culture (Bappenas, 2016).

Lebak Regency is a district in Banten Province, Indonesia with the capital Rangkasbitung. Lebak Regency consists of 28 Districts, covering 340 villages, among them are Bojong Cae and Cibadak villages, Based on the observations of researchers, the two villages have a population of 3,499 people and 4905 people (BPS, 2017).

Figure 1. Google Earth Cibadak District - Banten

When viewed from the topography of the two villages, they are still surrounded by fields and paddy fields, therefore most of the population work as farmers and farm laborers, but it does not deny the existence of residents who choose to work in the trade sector, like trading or opening a wholesale business.

Bojongcae and Cibadak villages can also be developed in a better direction, because researchers see the potential of art, agriculture, plantations and livestock, and by utilizing human resources towards more productive. Of course, this is the same as the village development program launched by the President of Indonesia, if economic growth is directed to regions that have potential, and then regional facilities and strategic location, it will accelerate economic progress and push the country into a developed country. So, in this study researchers will conduct village potential mapping based on aspects, such as: 1) Social, Economic-Political, and Cultural, 2) Human resources - nature and environment, 3) Ideology.

These two villages have the potential to succeed in the development of the Lebak Regency in Banten province, because it is supported by the presence of citizens who have a spirit of change towards a better direction. But, village development is not only fixated on the spirit of the citizens, but it is also necessary to map the potential of the village as the initial stage of realization of village development planning which is expected to arise in terms of economic, socio-cultural, demographic and political background and certainly participatory role of village government which can move people's enthusiasm to face innovation in the future (Dwiyanto, 2009).

Based on the description above, the researcher is interested in conducting further research to find out the potential of the village and the participatory role of the village government, by raising the title of research about **"Regional Development Planning Through The Government's Participative Role, Case Study: Cibadak and Bojongcae Village- Banten's Province-Indonesia"**.

2. Method

This study uses a mix method consisting of quantitative methods for Location Quotient Analysis (LQ). LQ is an analytical technique to determine the potential for an area's specialization of the main economic activities found in Bojongcae and Cibadak Villages, LQ can divide the economic activities of an area into two groups (Wasil, 2012):

1. Industrial activities that serve markets in the region itself or outside the area concerned. Industries like this are called basic industries.
2. Economic or industrial activities that serve the market in the area, this type is called local industry (industry non basic).

Formulation of the amount of LQ with the formulation as follows (Wasil, 2012):

$$LQ = \frac{vI / vt}{VI / Vt} = \frac{vI / vt}{VI / Vt}$$

Information :
vI : GRDP of each sector / business field in the Regency / City
vt : Total Regency / City PDRB
VI : Provincial GRDP of each sector or business field
Vt : Total provincial GRDP

Based on the above formulation (Wasil, 2012):
1. LQ > 1, means that the regions are more specialized in the sector so they can export.
2. LQ = 0, meaning that both regions and regions have a high level of specialization.
3. LQ <1, means that the region does not have specialization in the sector so as to meet the needs of the region itself to import or obtain from other regions.

In addition, in this study to use qualitative methods to see the potential of Bojongcae Village and Cibadak Village with the following operational variables; Economy, Environment and Resources, Politics, Socio-culture and Ideology. In this study also used SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis techniques, this analysis techniques that identify various factors systematically to formulate strategies (Afrillita, 2013).

Whereas, to examine the participatory role of the government of Bojongcae and Cibadak villages in this study will use SPSS analysis tools with normality and validity testing techniques. Normality Test is a test carried out with the aim of assessing the distribution of data in a data group or variable, whether the data distribution is normal or not. Validity test is used to measure validity, or whether a questionnaire is valid or not. A questionnaire is said to be valid if the question in the questionnaire is able to reveal something that will be measured by the questionnaire (Sugiyono, 2012).

The object of filling out questionnaires was 155 residents, consisting of 31 neighborhood associations, Cibadak Village as many as 18 neighbors and Bojongcae Village as many as 13 neighbors. Each of the neighborhood associations was represented by 5 people to fill out the questions in the questionnaire. As for the techniques and types of data collection in a way; documentation, interviews, observation and literature studies.

3. Findings and Argument

General Picture of the Village

Bojong Cae Village is not a coastal area, but a lowland area located outside the forestry area, likewise for Cibadak Village. The area of Bojongcae village is 188 ha and Cibadak is 75 ha. The distance between these two villages to the sub-district is 2 Km. Rice fields in Bojongcae Village are 94 hectares and the village has 210 m of sea level. The population of Bojongcae village until 2017 is 3524 people, with a population density of 1874 people / km2. The number of people who work as farmers is 183 people, as many as 268 farm laborers, as many as 1 fisherman, 1 fisherman worker, 16 civil servants, 10 home industries, 58 people trade and work as services another 54 people.

While, rice fields in Cibadak Village are 94 hectares and the village has 240 m altitude above sea level. The population of Bojongcae village up to 2017 is 4950 people, with a population density of 2475 people/km^2. The number of people who work as farmers is 595 people, as many as 532 farm laborers, as many as 4 people as fishermen, as many as 18 civil servants, 5 home industries, 402 people trade and 245 other professionals. In this village there is also one resident who becomes an Indonesian Worker (TKI) in Saudi Arabia.

Potential of Bojongcae and Cibadak Village

Through adequate village potential, it will make it easier to create national development and increase the value of a country's economic growth. Like what happened in Indonesia, there are NAWACITA or nine ideals of the Indonesian people, one of them is developing Indonesia from the periphery by strengthening regions and villages within the framework of a unitary state.

Table 1. Results of Analysis of Potential of Bojongcae Village and Cibadak Village

No	Variables	Existing Potential	
		Bojongcae	**Cibadak**
1	Economy	In this village there are no domestic companies or foreign companies that stand, there are only entrepreneurs who are engaged in the field of business (umbia).	In this village there were no domestic companies or foreign companies that were established, there were only entrepreneurs such as; mechanic and ginger.
2	Environment and Resources	1. There are 88 family heads whose homes have been using electricity. 2. The road access is still inadequate. 3. There are lack of clean water and the frequent crop failures due to the dry season. 4. The unavailability of public transportation and internet networks. 5. Lack of facilities from the government to manage and dispose of waste 6. Plant excellence those in this village such as rice and pulses	1. There are 1683 family heads whose houses have been using electricity. 2. Access roads is very good. 3. The water supply in the village is quite adequate and harvest failure often occurs because of the dry season and irrigated rice fields are not available. 4. There is no public transportation, and nothing government facilities for manage and dispose of garbage. 5. The availability of independent internet services such as fizta nets. 6. The superior entrepreneurial products is "Labeur Ginger".
3	Political	In this village there are residents who are members of the political party council, management of branches, and community organizations such as LSM.	In this village there are several political party activists, but LSM did not play an active role in supporting the activities of the local government.

No	Variables	Existing Potential	
		Bojongcae	**Cibadak**
4	Social and Culture	1. The superior economic sector in this village is the agricultural sector, with a total production of 1,657.5 per ton / year. 2. The main fruit plants are mango, rambutan, duku, durian, papaya, banana, pineapple, jackfruit, guava, breadfruit and melinjo. 3. There is only 1 primary school, most of the residents have the last education in elementary school. 4. Pencak silat is a characteristic of culture. 5. There are 5 posyandu posts	1. The superior economic sector in this village is the agricultural sector, with a total production of 812,2 per ton / year. 2. The main fruit plants are mango, rambutan, duku, durian, papaya, banana, pineapple, jackfruit, guava, breadfruit and melinjo. 3. In this village often get a tractor subsidy from the government 4. There are 2 primary schools, 1 early childhood education and 1 junior high school (SANAWIYAH) 5. Pencak silat and marawis are typical of the village 6. There are 3 posyandu posts
5	Ideology	1. The village's life order is to make village agricultural products become superior and become a tourism area 2. Establishing elementary and junior high schools	The order of life of this village to move in the field of entrepreneurship and community productivity

The Results of the SWOT Analysis

1. *Strengths*
   These two villages have a superior agricultural sector in the economy, for bojongcae village is very famous for its rice and palm products, while for cibadak villages in addition to rice and secondary crops, there are ginger plants which are superior products of UMKM. Karang Taruna and community institutions in Bojongcae village are very active to assist the government in development.
2. *Weaknesses*
   In Bojong Cae village, there are no sectors that have the potential to be developed for tourism, while in Cibadak village there is a ginger plantations that have the potential to become tourist areas. Lack of educational facilities in these two villages, so that the education standards in these two villages are low, and there is no irrigation and waste management place that makes these two villages dry and easily polluted by the environment. For bojongcae villages, the damaged road access makes it difficult for residents to engage in activities.
3. *Opportunity*
   Bojongcae and Cibadak villages are able to maximize agricultural yields, and should be assisted by processing industries. The waste contained in these two villages can be maximized for processing so that it can be used as fertilizer for plants and the abundant fruit yields of these two villages have the potential to produce candied fruits.

4. Treath

Because schools are too far from these two villages, it will cause a low level of enthusiasm for learning to continue to the next level, so that in these two villages there will be a lack of productive human resources. Both of these villages will be prone to drought, because of inadequate water resources, and inadequate internet networks can make it difficult to open up a society's insight.

Location Quotient Analysis (LQ)

In this study LQ analysis was calculated based on gross domestic regional income (PDRB) in 2017. The results show that the LQ value is more than 1, which means that regions are more specialized in the sector so they can export, are the sectors; Agriculture, Forestry and Fisheries, Mining and Excavation, Construction, Wholesale and Retail Trade; Car and Motorcycle Repair, Provision of Accommodation and Eating Drinks, Government Administration, Defense and Mandatory Social Security, Other services.

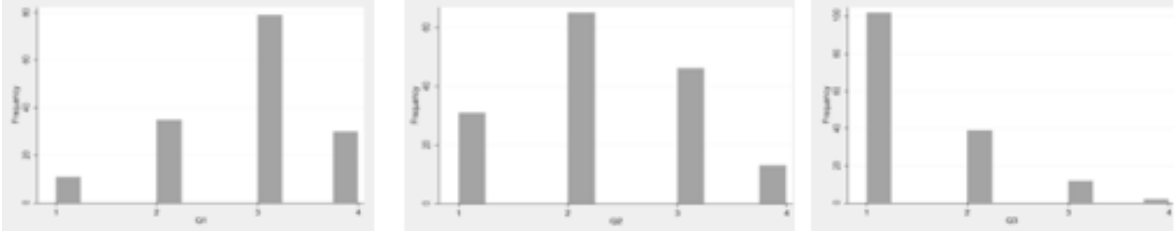
Whereas for sectors that have a LQ value <1, which means that the region does not have specialization in the sector so as to meet the needs of the region itself, import or get from other regions, are the sectors ; Processing industry, Electricity and Gas Procurement, Water Supply, Waste Management, Waste and Recycling, Transportation and Warehousing, Information and Communication, Financial Services and Insurance, Real Estate, Company Services, Education Services, Health Services and Social Activities.

Participatory Role Statistics Test Results of the Bojongcae Village Government and Cibadak Village

The village government or precisely the village head has the task of organizing government, development and community affairs. Governmental affairs are the arrangement of community life in accordance with village authority such as the making of village regulations, the formation of community institutions, the establishment of village-owned enterprises, and inter-village cooperation (Ulumiyah, Gani, & Mindarti, 2016).

The village potential will not be able to grow without the role of the village government, so in the discussion of this research will be presented the results of the analysis of statistical data tests on the role of the village government / village head of Bojongcae and Cibadak in giving servants to the local village community, as for the data obtained by the research team is the result of the assessment of the villagers of Bojongcae and Cibadak villages in the form of questionnaires. In this study 83 male respondents and 72 females. Susceptible age of respondents is 26 years to 41 years, characteristics of respondents' work for 103 farmers, 10 mechanics and 42 traders.

The questions contained in the questionnaire are based on aspects; suitability of type of service, ease, speed, cost, ability of officers, courtesy, as well as the overall service delivered by the community, with the following categories of choice; 1) Not Compliant, 2) Less Compliant, 3) Appropriate, 4) Very Suitable.



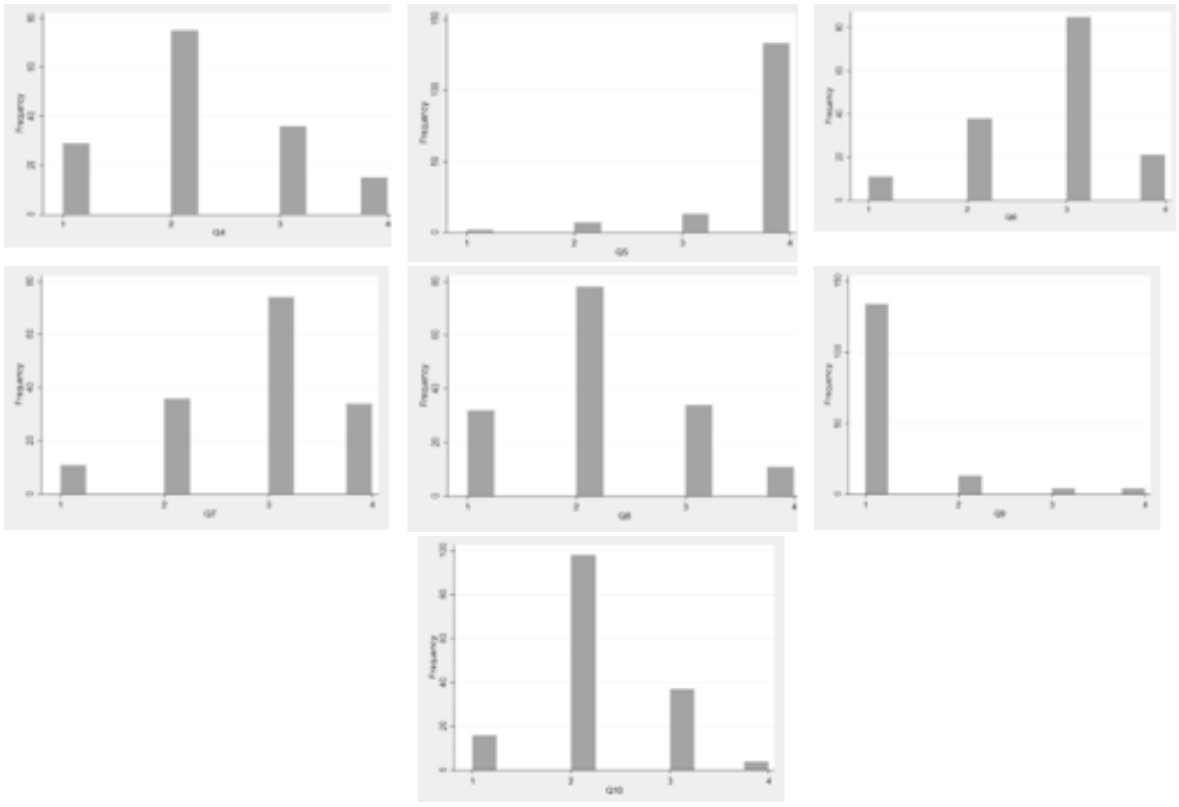


Figure 2. Histogram Questionnaire

Based on Figure 2, it can be seen below for the first question or Q1 about the suitability of service requirements with the type of service, most respondents answered accordingly, this indicates that all the requirements set by the village government can be fulfilled by the community. For the second or Q2 question about the ease of service procedures, most respondents answered that it was not appropriate, this indicated that the community was still having difficulties in obtaining services, an example of a problem of difficulty found is the problem when printing letters, sometimes the village government apparatus is difficult to correct the printer machine. For the third or Q3 question about the speed of service, the majority of respondents answered that it was not appropriate, this indicates that the village government is less responsive to the services that the residents have ordered. For the fourth question or Q4 about the suitability between the fees paid and the costs that have been set, the majority of respondents answered that it was not appropriate, this indicates that there was an indication of payment of fees that did not exist properly. For the fifth question or Q5 about the suitability between the results of services provided and the stipulated conditions / initial customer requests, most respondents answered it was very appropriate, this indicates that the residents were satisfied with the services proposed at the beginning and the results they received.

For the sixth or Q6 questions about the ability of officers to provide services, most of the respondents answered accordingly, this indicates that the apatarur in charge is capable people in the service sector. For the seventh or Q7 questions about the attitude (politeness and friendliness) of officers in providing services, most respondents answered accordingly, this indicates that the government apparatus has a good work ethic. For the eighth question or Q8 regarding the suitability of the implementation of services provided with the stipulated (service standard) stipulated, most of the responders answered that it was inappropriate, this indicated that there were officers who were not disciplined in carrying out the Worker's

Oprational Standards. For the ninth or Q9 question about handling complaints and suggestions, most respondents answered that it was not appropriate, this indicates that the criticism or suggestions given by the residents in the suggestion box or delivered directly to the village government apparatus was not realized, and for the last question or Q10 about the overall perceived satisfaction of the service, most respondents answered that it was not appropriate, this indicates that the villagers of Bojongcae and Cibadak villages still felt dissatisfied with the services provided by the local village government officials, such as the collection of fees. voluntary, lack of service provided so that residents have to wait long or even come many times, and criticisms and suggestions that are not heard.

Table 2. Normality Test Results

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint adj chi2(2)	joint Prob>chi2
q1	155	0.0246	0.7172	5.16	0.0758
q2	155	0.2548	0.0230	6.19	0.0454
q3	155	0.0000	0.0042	33.63	0.0000
q4	155	0.0336	0.2679	5.61	0.0605
q5	155	0.0000	0.0000	.	0.0000
q6	155	0.0231	0.8448	5.17	0.0753
q7	155	0.0353	0.3561	5.24	0.0727
q8	155	0.0205	0.6726	5.45	0.0654
q9	155	0.0000	0.0000	.	0.0000
q10	155	0.0398	0.1691	5.91	0.0520

Based on table 2, it is known that the results of the normality test of 10 questions regarding the quality of service provided by the Bojongcae and Cibadak village government to the local community, there are 6 questions that are normally distributed and 4 questions that are not normally distributed, including questions number 2, 3, 5 and 9. These questions are categorized as normally distributed if the Prob> chi2 value is greater than the trust standard of 5%, and vice versa if the Prob> chi2 value is smaller than the trust standard of 5%, it can be said that the question is not normally distributed. Questions 2,3,5, and 9 are not normally distributed because the number of vulnerable choices of answers that have been chosen by the respondents is not evenly distributed between choices 1 to 4, in which the 1st choice category is for the inappropriate category, the second choice is for the inappropriate category, option 3 is for the appropriate category and the last choice is 4 is the choice for the very appropriate category.

Part of the kurtosis value can be seen that it is greater than 0.263, it can be categorized into leptokurtic distribution, which means that this distribution narrows at the top or near point. This situation shows that the frequency tends to accumulate in the area around the mean value or shows only a few frequencies that spread further than the central tendency value, and based on table 4.8 it is also known that for the plan 1 to 10 the skewness is in the range -1.96 and +1.96, then the data is close to symmetrical (Arianto, 2010).

Validity test conducted by the research team used a Pearson correlation test or pairwise test. Can be seen below in var14 all questions, is that from Q1 to Q10 there is an asterisk (*), this indicates that all questions presented by the research team have been proven valid at the level of trust 1%, 5% and 10%.

Table 3. Validity Test Results

	q1	q2	q3	q4	q5	q6	q7	q8	q9	q10	var14
q1	1.0000										
q2	-0.2149*	1.0000									
	0.0072										
q3	-0.2043*	0.0400	1.0000								
	0.0108	0.6211									
q4	-0.0323	0.1725*	0.0165	1.0000							
	0.6899	0.0318	0.8389								
q5	0.1664*	-0.0035	-0.0694	0.0628	1.0000						
	0.0385	0.9659	0.3911	0.4378							
q6	0.0832	-0.0923	-0.0317	-0.0259	-0.1193	1.0000					
	0.3031	0.2534	0.6952	0.7494	0.1392						
q7	0.0356	0.0118	0.0959	0.1036	-0.0411	0.0095	1.0000				
	0.6600	0.8840	0.2350	0.1994	0.6118	0.9068					
q8	0.0967	0.0951	0.0261	-0.1326	0.0822	0.1210	-0.0026	1.0000			
	0.2313	0.2394	0.7475	0.1001	0.3092	0.1338	0.9742				
q9	-0.0032	0.0033	0.0657	0.0137	-0.1635*	-0.1047	-0.1987*	-0.0141	1.0000		
	0.9681	0.9677	0.4169	0.8658	0.0421	0.1947	0.0132	0.8614			
q10	0.1480*	0.0730	0.0159	0.0242	-0.0318	-0.0741	-0.1136	0.0549	0.1124	1.0000	
	0.0661	0.3665	0.8447	0.7653	0.6948	0.3595	0.1594	0.4978	0.1637		
var14	0.3384*	0.3837*	0.2708*	0.4169*	0.2207*	0.2644*	0.3381*	0.4334*	0.1579*	0.3273*	1.0000
	0.0000	0.0000	0.0007	0.0000	0.0058	0.0009	0.0000	0.0000	0.0498	0.0000	

Validity test conducted by the research team used a Pearson correlation test or pairwise test. Can be seen below in var14 all questions, is that from Q1 to Q10 there is an asterisk (*), this indicates that all questions presented by the research team have been proven valid at the level of trust 1%, 5% and 10%.

4. Conclusion

1. Bojongcae and Cibadak Village both have economic potential in the agricultural sector. The superior agricultural production results in these two villages are rice and secondary crops. The results of the LQ analysis also show that the agricultural sector is a superior sector that has the potential to produce goods for import. The cultural arts found in these two villages are pencak silat, gendang pecak, and marawis.
2. In Cibadak Village has a typical plant, namely ginger. Until now the results of the ginger product are packaged in the form of a beverage "Laber Ginger".
3. In Bojongcae Village there is not enough internet service available and there is no public transportation, only motorcycles base, besides that the road infrastructure is not good, many roads are hollow, and the village is still having trouble with clean water and irrigation for rice fields. The opposite situation is found in Cibadak Village, the village already has independent internet services such as Fizta Nets,

but the unavailability of public transportation equipment, the road infrastructure in Cibadak Village is fairly good and not too often the village is hit by drought.

4. The absence of junior high schools in Bojoncae Village, which caused most of its citizens to only have elementary school education, another situation occurred in Cibadak village, namely the village is still available, so that residents who want to continue their education are not too difficult.
5. The villagers of Bojongcae and Cibadak still feel dissatisfied with the services provided by the local village government apparatus, such as voluntary fees, the lack of services provided so that residents have to wait a long time or even come many times, and lack criticism be heard.

References

[1] Afrillita, N. (2013). SWOT Analysis in Determining Motorcycle Marketing Strategies on Pt. Samekarindo Indah in Samarinda. *E-Journal of Business Administration.*

[2] Bappenas. (2016). *Final Report on the Study Activities on the Preparation of Rural Development Evaluation Instruments (Village Scope)*. Jakarta: Bappenas.

[3] Dwiyanto, H. (2009). *The Role of Government in Rural Development in Kandangan Village, Kandangan District, Temanggung Regency.*

[4] Rusdi, M. (2014). Secondary Data Analysis in Mapping Village or Village-Based Economic Potential in Buru District. *Journal of Societas Fisip*, 1-2.

[5] Statistics, B. P. (2017). *Cibadak Dalam Angka T*. Jakarta: Central Statistics Agency.

[6] Sugiyono. (2012). *Quantitative and Qualitative Research Methods and R & D*. Bandung: C.V.

[7] Ulumiyah, I., Gani, A. J., & Mindarti, L. I. (2016). The Role of the Village Government in Empowering Village Communities. *Department of Public Administration Universitas Brawijaya*, Vol. 1, No. 5, Hal. 890-899.

[8] Wasil, M. (2012). *Mapping of Regional Potential and Leading Product Development as an Effort to Improve Community Economy (Study in North Malang)*. Internal Research Report.

Different Test Between Companies That Pay and Do Not Pay Dividends Initiation to Stock Returns

Desmintari
[1]UPN "Veteran" Jakarta, JL. RS. Fatmawati No.1, Jakarta (12450)

Abstract

Dividend initiation is the policy of a company to pay the first dividend after the IPO, although not all companies pay dividend initiation after the IPO. This study aims to analyze whether there is a difference in average return of stocks between companies that pay dividend initiation and those that do not pay dividend initiation. The analysis is carried out using dummy regression and different tests to determine whether the difference exists within the average stock returns between the two groups of companies.

From the test results obtained that there is a difference between companies that pay dividends initiation and those who do not pay it on stock returns. This is identified with a positive coefficient value or $\alpha > 0$.

Keywords: dividend initiation, yield different-test

1. Introduction

Dividend policy has a very important impact on investors as well as on companies that pay dividends. This policy is implemented as a result of the general meeting of shareholders (GMS). Investors generally expect to get compensation for investments they made in the form of dividends or additional capital (capital gains). On the other hand, the company also expects continuous growth by utilizing profits as an internal funding source and at the same time able to deliver welfare to its shareholders.

The company's readiness to implement the first dividend policy after an IPO called dividend initiation is the first indication of a company with the financial capability that is supported by the prospect of adequate corporate performance to distribute excess cash to shareholders. Therefore, it is expected that the company's decision through the GMS to immediately or delay the initiation of the dividend will give a signal about the company's financial performance. Companies that are able to pay their dividends early/faster are considered to have a better financial ability in terms of growth opportunities, leverage, size and profitability of the company as well as the company's ownership structure (Sharma 2001).

The ownership structure also determines how the company is running as it should be due to an agency problem between management and shareholders who share an interest in companies that conduct IPOs on the stock market.

The dividend initiation policy is measured by the dividend payout ratio (DPR). The reason for using the DPR as a dependent variable is because the DPR determines the portion of profit that will be shared with shareholders and retained as part of retained earnings. The dividend theory that is relevant to this research is the signaling theory. The theory of dividends as signals was developed by Miller and Rock (1985) who argued that dividend announcements contained information about current and future earnings. An announcement of increased dividends gives a signal that, in the future, profits will increase.

Sharma (2001) reveals that in the US, companies doing IPOs pay the first dividend not at the beginning of the year after the IPO, but mostly after more than 3 years. While Sugeng (2009) states that in Indonesia between 1990 and 2000 the payment of dividend initiation in the first year after the IPO was carried out by almost all companies doing IPO.

However, between 2000 and 2014 as can be seen in Table 1, not all companies pay dividend initiation, and most companies make payment of dividend initiation are between 0-1 to 5 years after the IPO. The dividend initiation payment policy in Indonesia in the period of 2000 to 2014 is different from the conditions in the period of 1990 to 2000 as a result of Sugeng (2009) and Sharma (2001).

In Table 1 we can see that of the 266 companies whose IPO or go public through the Indonesia Stock Exchange (BEI) in the span of 15 years (between 2000 and 2014), there are 159 companies (59.77%) who have made the payment of dividend initiation, while 104 companies (39.23%) do not make dividends initiation.

Of the 159 companies that made the first dividend payment or dividend initiation, as many as 113 companies or 71.07% initiated dividends between year 0-1 after IPO. Until the 5th year, there were 150 companies or 94.34% who paid dividend initiation, while there were 9 companies or 5.66% that did it after more than 5 years.

Based on the background explained above, this study tries to analyze the influence of company policy that pays and does not pay the initiation of dividends on stock returns. The sample of this study is companies listed on the Indonesia Stock Exchange (IDX) between 2000 and 2014.

Research Purposes

To analyze whether there are differences in stock returns between companies that pay dividend initiation and companies that do not pay dividend initiation. Analysis to prove the difference was conducted using dummy regression and different tests.

Table 1. Payment of Dividend Initiation After IPO on IDX 2000 to 2014

Year of IPO	IPO	No	No ID	ID	PAYMENT OF DIVIDEND INITIATION AFTER IPO (Year after IPO)													
		ID	incomplete		0-1	2	3	4	5	6	7	8	9	10	11	12	13	14
2000	21	6	0	15	12	0	1	1	0	1	0	0	0	0	0	0	0	0
2001	31	11	0	20	11	2	0	3	0	1	0	0	0	0	2	1	0	
2002	22	4	0	18	10	2	1	2	0	1	0	1	0	0	1	0		
2003	6	1	0	5	5	0	0	0	0	0	0	0	0	0	0			
2004	12	5	0	7	7	0	0	0	0	0	0	0	0	0				
2005	8	1	0	7	5	1	0	0	1	0	0	0	0					
2006	12	5	0	7	4	2	0	0	0	1	0	0						
2007	22	6	0	16	13	1	0	1	1	0								
2008	19	12	0	7	4	1	1	1	0									
2009	13	5	1	7	3	1	3	0										
2010	23	11	0	12	6	5	1											
2011	25	12	0	13	10	1	2											
2012	22	10	0	12	10	2												
2013	30	15	2	13	13													
TOTAL	266	104	3	159	113	18	9	8	2	4	0	1	0	0	3	1	0	0
% ID	100%	39.10	1.13	59.77	71.07	11.32	5.66	5.03	1.26	2.52	0.00	0.63	0.00	0.00	1.89	0.63	0.00	0.00

Source: IDX, own calculation.

2. Previous Studies and Hypothesis Formulation

Previous studies prove the information content that is signaled through dividend distribution. Pettit (1972) found empirical evidence that markets react to dividend announcements as indicated by changes in stock prices that quickly adjust to dividend announcements. The results of research conducted by Pettit support signaling theory used by investors as a basis for analyzing information content or signals contained in dividend announcements of

future profitability / earnings. Some research then examines whether dividend distribution provides information about earnings quality. Hanlon et al. (2007) prove that investors can predict earnings in the future better for companies that distribute dividends. His research also proves that companies that distribute dividends have a current rate of return that is better associated with future profits than companies that do not distribute dividends.

Easterbrook (1984) states that companies that manipulate earnings tend to be less likely to distribute or increase dividends than companies that are not involved in profit manipulation. Profit derived from earnings manipulation has no cash basis and is not sustainable. Therefore, managers tend not to share or not increase dividends even though there is an increase in profits, because such profits are not sustainable (Lintner 1956).

Thus, the following hypothesis can be formulated:
H1: Companies that pay dividends have better earnings quality compared to companies that do not pay dividends.

3. Research Methods

1. Object of Research
   This study analyzes the company policy that pays and does not pay dividend initiation after the IPO (first dividend) and stock returns on companies listed on the Indonesia Stock Exchange in the period of 2000 - 2014.
2. Method of Collecting Data
   The type of data used in this study is annual secondary data from 2000 to 2014, which includes IPO data from 2000 to 2013 and the year the company first pays dividends or so-called dividends initiation in 2000 to 2014.
3. Population and Sample Research
   The sample in this study are all companies that conduct initial public offering (IPO) from 2000 to 2014 and are listed on the IDX either paying or not paying dividend initiation. Information about stock returns data, where operational variables are contained in the company's financial statements, is also taken from these companies.
4. Operational Definition and Variable Measurement
   Dependent Variable: Dependent variable namely Stock Returns is the yield (profit or loss) obtained from a stock investment.
   Independent Variable: The dependent variable in the logistic equation has a probability categorical value of policy to pay or not to pay dividend initiation which is part of the dividend policy where the company gives the first dividend after the IPO as can be seen from the dividend payout ratio. With a value of 1 if the company pays the dividend initiation and 0 if the company does not pay dividend initiation.
5. Data Analysis Method
   Difference Test: Independent Z test in principle compares the average of two groups that are not related to each other in order to find out whether the two groups that pay dividends and who do not pay dividends have the same average or not. Both groups have a large sample size and with the same sample as the logit model above. The test was conducted by dummy regression test to see the difference with a positive coefficient value.

4. Results and Discussion

Using Z-score, with the formula and method as follows:

Companies that perform dividend initiation:

$$\bar{x}_1 = \mu_1 = 0.39021$$
$$\sigma_1^2 = (1.31884)^2 = 1.73933$$
$$n_1 = 159$$

Companies that do not perform dividends initiation:

$$\bar{x}_2 = \mu_2 = 0.15297$$
$$\sigma_2^2 = (0.91037)^2 = 0.82878$$
$$n_2 = 104$$
$$D_0 = 0$$

$$Z\ score = \frac{(\bar{x}_1 - \bar{x}_2) - D_0}{\sqrt{\left[\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}\right]}}$$

$$= \frac{(0.39021 - 0.15297) - 0}{\sqrt{\left[\frac{1.73933}{159} + \frac{0.82878}{104}\right]}}$$

$$= \frac{0.23724}{\sqrt{[0.01094 + 0.00797]}} = \frac{0.23724}{0.0545} = 4.35$$

$$Z\ score = 4.35$$

With 95% confidence level or α = 5% = 0.05, then from the statistics table we get the value of $Z_{0.05}$ = 1.65.

Since Z score = 4.35 > $Z_{0.05}$ = 1.65, then we reject H_0.

Since Z-score = 4.35 is higher than Z-table = 1.65, then there is a significant difference between companies that pay dividends initiation and companies that do not pay dividends initiation on stock returns.

A dummy regression test is carried out to see whether companies that pay dividend initiation are better than companies that do not pay dividend initiation in terms of stock returns. Previously a classic assumption of heteroscedasticity was tested using a White-test where prob value generated is 0.4089. With an alpha value (α) = 5% then 0.4089 > 0.05 or *prob > α* then we reject H_0 or there is no heteroscedasticity in the model.

From the regression results with Y = stock return and X = dummy (1 = the company pays dividend initiation and 0 = company that does not pay dividend initiation), then the results obtained are as follow:

Table 2. Regression Test Results on Yields

Variable	Coefficient	Z-Statistic	Prob
Constant	0.1526	1.324	0.1865
Dummy ID	0.2378	1.605	0.1098

Source: Data Processed

Ri = ρ0 + ρ1Di
1.324 + 1.605 Di

From the results of the data calculation above with a coefficient value of ρ1 > 0 indicates that the company that pays dividend initiation has a better stock return than the company that does not pay dividend initiation with a positive coefficient value of 0.651.

4. Conclusion

There is a difference between companies that pay dividend initiation with companies that do not pay dividend initiation in stock returns. Companies that pay dividend initiation have better stock returns than companies that do not pay dividend initiation.

Reference

[1] Afza T, Mirza HH. 2010. Ownership Structure and Cash Flows As Determinants of Corporate Dividend Policy in Pakistan. *Intl Bus Res*, 3(3).

[2] Afza T, Mirza HH. 2011. Institutional shareholdings and corporate dividend policy in Pakistan. *African J of Bus Man*. 5(22):8941-8951.

[3] Allen F, Bernardo AE, Welch I. 2000. A theory of dividends based on tax clienteles. *J of Fin*, 55: 2499-2536.

[4] Boedi K, Alan J, Markus, 2014. *Investments, 9th ed*. McGraw-Hill Education (Asia) and Salemba Empat.

[5] Brigham EF, Houston JF. 2011. *Essentials of Financial Management.* 11Th Edition

[6] Brigham EF, Houston JF. 2011. *Fundamentals of Financial Management.* 10th Edition.

[7] Dhaliwal, Li OZ, Trezevant R. 2003. *Test of the influence of a firm's post-IPO age on the decision to initiate a cash dividend.*

[8] Damodaran A. 2001. *Corporate Finance: Theory and Practice, Second edition*, Whiley and Sons, New York.

[9] Easterbrook F. 1984. Two agency-cost explanations of dividends. *The American Econ* Rev 74:650-659.

[10] Fama EF, Babiak H. 1968. *Dividend Policy o f Individual Firms*.

[11] Fama EF, French KM. 2001. Disappearing dividends: changing firm characteristics or lower propensity to pay? *J of Fin Econ*, 60:3-43.

[12] Ghojali I. 2013. *Aplikasi Analisis Multivariate Dengan Program Edisi 7*. Badan Penerbit Univ Diponegoro ISBN 979.704.015.1.

[13] Gujarati D, Zain S. 2003. *Ekonometrika Dasar.* Erlangga.

[14] Hanlon M, Myers J, Shevlin T. 2007. Are dividends informative about future earnings? *Working paper*, Univ of Washington.

[15] Husnan S, Pudjiastuti E. 2002. *Dasar-dasar Manajemen Keuangan*. Yogyakarta (ID): Akademi Manajemen Perusahaan YKPN.

[16] Healy PM, Palepu KG. 1988, "Earnings Information Conveyed by Dividend Initiations and Omissions," *J of Fin Econ*, 21(2):149-176.

[17] Jain BA, Kini O. 1994. The post-issue operating performance of IPO firms. *J of Fin,* 49:1699-1726.

[18] Jain BA, Kini O. 1999. On investment banker monitoring in the new issues market. *J of Bank & Fin*, 23:49-84.

[19] Jensen MC, Meckling WH. 1976, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *J of Fin Econ*, 3(4):305-360.

[20] Kasmir. 2014. *Analisis Laporan Keuangan*. PT. Rajagrafindo Persada Jakarta.

[21] Lintner J. 1956. Distribution of incomes of corporations among dividends, retained earnings, and taxes. *American Econ Rev* 46(2):97-113.

[22] Lintner, J. 1956. Optimal Dividend and Corporate Growth under Uncertainty. The Quart J of Econ, 78:49–95.

[23] Miller MH, Rock K. 1985, Dividend policy under asymmetric information. *J of Fin*, 40(4):1031-1051.

[24] Miller MH, Modigliani F. 1961, Dividend policy, growth and the valuation of shares. *J of Bus*, 34:411-433.

[25] Modigliani F, Miller MH. 1958. The Cost of Capital, Corporate Finance and The Theory of Investment. *The American Econ Rev*. 48(3):261-297.

[26] Myers SC. 1984, The Capital Structure Puzzle, *J of Fin*, 39:144-155.

[27] Myers SC, Majluf NS. 1984. Corporate financing and investment decisions when firms have information that investors do not have. *J of Fin Econ* (June):321-333.

[28] Myers SC. 1977. "Determinants of Corporate Borrowing," *J of Fin Econ*, 5(2):147-175.

[29] Nafi'ah Z, 2013. *Analisis Faktor-faktor yang mempengaruhi kebijakan dividen dan dampaknya terhadap Nilai Perusahaan pada perusahaan manufaktur yang tercatat di Bursa Efek Indonesia thn 2008 – 2010*.

[30] Nguyen HK. 2013. *Impact of a Dividend Initiation Wave on Shareholders' Wealth*, The University of Texas-Pan American 1201 West University Drive, Edinburg, TX 78539-2999, USA. JEL classification: G35

[31] Ritter JR. 2000. The long-run performance of initial public offerings. *J of Fin*, 46:3-27.

[32] Ross SA, Waterfield RW, Bradford JJ, Tan Ruth. 2015. *Corporate Finance*. MC Grow-Hill, Inc. The USA.

[33] Sartono A. 2010. *Manajemen Keuangan Teori dan Aplikasi Edisi 4.* BPFE. Yogyakarta.

[34] Sharma S. 2001. Do Dividend Initiations Signal Firm Prosperity? *Pro Quest Information and Learning 300 North Zeeb Road, Ann Arbor*, MI 48106-1346 USA 800-521-0600.

[35] Sugeng B. 2009. Pengaruh Struktur Kepemilikan dan Struktur Modal terhadap Kebijakan Inisiasi Dividen Di Indonesia. *J Ekon Bis*. Nomor 1. Maret 2009.

[36] Tendelilin E. 2010. *Portofolio dan Investasi*. Kanisius Yogyakarta.

[37] Wals C, 2004. *Key Management Ratio. Ratio-ratio Manajemen Penting Penggerak dan Pengendali Bisnis*. Terjemahan oleh Haikal S. Erlangga Jakarta.

[38] Weston FJ, Copeland TE. 2001. *Managerial Finance 8th Ed (Revised Edition) Manajemen Keuangan edisi 8 (Edisi Revisi) Buku 1*. Diterjemahkan Oleh Wasana A. Jaka & Kirbrandoko. Binarupa Aksara.

[39] Weston FJ, Copeland TE. 2001. *Managerial Fianance 8th Ed (Revised Edition). Manajemen Keuangan edisi 8 (Edisi Revisi) Buku 2*. Diterjemahkan oleh Jaka WA dan Kirbrandoko. Binarupa Aksara.

[40] Yogianto. 2010. Teori Portofolio dan Analisis Investasi, Edisi 7. PBFE-Yogyakarta.

Contribution and Effectiveness Ease Smoke to Earnings of Genuiness Area North Province Sulawesi of The Year 2014 - 2018

Alzefin Yolandi Roos Mareike Sinolungan
Faculty of Economics and Business, Universitas Negeri Manado, Jl. Tondano, Manado (95618)
e-mail: alzefinsinolungan@unima.ac.id

Abstract
Identify problem's is: Realitation is lower the than goals which it's it him resistance in and collection of management, like is circulation of cigarette of ilegal. Problem limited to regarding contribution and effectiveness lease smoke to earnings of genuiness area (Earning's Of Genuiness) in North Sulawesi Province. **Formulation of problem** is: (1) How much is big of lease contribution smoke to Earning's Of Genuiness North Sulawesi Province of The Year 2014-2018. (2) How is lease effectiveness storey level smoke? *Research of lease contribution aim to*: (1) Knowing to smoke to Earning's Of Genuiness North Sulawesi Province of Year 2014-2018, (2) Knowing to lease effectiveness storey level smoke. **Hypothesis Research**: (1) Is anticipated lease contribution smoke to Earning's of Genuinness North Sulawesi Province Of The Year 2014-2018 is to have good contribution to, (2) Is anticipated lease effectivenness smoke is goodness. **Research method: quantitative descriptive. Operationalitation Variable:** (1) Contribution lease of smoke, (2) Efectivitnness smoke taxes lease cigarette, (3) Earning's of Genuinness North Province: Law Number 33 Year 2004 about Counter Balance Of Finance between Central Government and Local Government, Section 1, Sentence 18; such of Earning's Of Genuinness is obtained by acceptance is area from source of in region alone which is collected pursuant to by Law as according to Law and Regulation going into effect, (3) Earning's Of Genuinness is: Law,Number 33, Year 2004 about Counter Balance Of Finance between Central Government and Local Government, Section 1, Sentence 18; such of Earning's Of Genuinness North Sulawesi is obtained by acceptance is area from source of in region alone which is collected pursuant to by Law as according to Law and Regulation going into effect. **Type Data:** data of Earning's Of Genuinness North Sulawesi North Sulawesi Province Year 2014-2018 data acceptance of lease Smoke. **Source Of Data:** Data Primary: passing observation process, direct interview; secunder of data: line on website, journal. **Technique Data Collecting:** (1) Riset Library, (2) Field Study: (a) Observation, (b) Interview, (c) Documentation. **Technique Analyse Data:** (a) Analyze Contribution, (b) Effectiveness Lease Cigarette. **Analysis Data:** contribution and effectiveness lease smoke to earnings of area genuiness. **Model Analyse Data: (1) Analyze Contribution**: Acceptance Of Cigarette Lease/Earning's Of Area Genuinness X 100%. **(2) Analyse Effectiveness Lease Cigarette:** Analyze Smoke Taxes = Acceptance Of Cigarette Lease / Earnings Of Area Genuiness.

Keyword: Contribution, Effectiveness Lease Cigarette, Earnings of Genuiness Area

1. Introduction

Unity State Republic Of Indonesia represent divided archipelagic country of province area and province area consist of sub-province area. Construct in management of government,each of area have rights and obligations arrange and manage by exself its governance business to increase effectiveness and efficiency management of service and governance to society. Pursuant to Law, Number 23, Year 2014 about Governance of Local,

Local is entitled to arrange its own household, including managing acceptance, monetary expenditure and plan execution of development. To carry out governance of area entitled to impose collection to society, according to Constitution State Republic Of Indonesia Year 1945 placing taxation as one of the materialization of state,following that location of burden to other collection and people,is :taxes have the character of to force to regulate the. The collection used in order to management of service and governance to society. Because of it,local have to have the source of adequate earnings and enough in order to development and improvement of service of public .

Source of acceptance of area used to defray development come from some source one of them is lease. To be able to defray and move forward area can be gone through by an wisdom by is optimal of acceptance of lease, where each and everyone is obliged to pay for lease as according to its obligation. lease Area is lease specified by area for the sake of defrayal of governmental household of local. Each one(Earning's Of Genuiness) that is coming from lease Area. lease Area in Indonesia pursuant to Law, Number 28,Year 2009 divided to become 2 Province is:Taxes and lease Sub-Province / Municipality. This Division is conducted as according to imposition authority and collection of is each area lease type at administration region of Provinsi or Sub Province/pertinent municipality, there are difference of lease coverage among area of province sub-province area and/ municipality.

Law, Number 28, Year 2009, Section 2, Article 1 and 2 about lease Area and Retribution Area arrange about Source of Earnings each;every otonomous area good to storey;level of province sub-province and also / municipality According to Halim, (2015): for province storey; level, lease type collected to compose from: (1) Taxes Vehicle Of Motorcycle, (2) Bea Return the Name Of Vehicle Of Motorcycle, (3) Taxes Fuel Vehicle of Bermotor, (4) Taxes Water Surface, (5) Taxes Cigarette. For a while for the storey; level of sub-province /municipality,lease type can be collected to compose Hotel from: (1) Taxes, (2) Restaurant Taxes, (3) Taxes Entertainment amusement, (4) Lease Advertisement, (5) Taxes Lighting of Road; Street, (6) Taxes Mineral's is not Metal and Rock, (7) Taxes Parking, (8) Taxes Ground Water, (9) Taxes Nestle of Wallet, (10) Taxes Earth and Rural Building and Urban, (11) Bea Acquirement Of Real property. One of the spelled out members provinsi just contained in Law, Number 28 Year 2009 is lease Cigarette. lease Smoke is collection of cigarette collected by government. Applying of lease smoke equal to 10 % from duty value. lease Cigarette enter in lease Province category become completion of policy and Regulation of lease Area in the form of extension of area lease object. Especial target of applying of lease smoke to protect society to cigarette danger.

Province Sulawesi North as one of the province is in Indonesia formed pursuant to Law, Number 13, Year 1964, about Forming Of Province Sulawesi of North, located is upstate: Island Sulawesi, capital of: Manado. In running wheel governance of area, Province Sulawesi North have Set Of Activity Peripheral of Area (SKPD) most located in provincial capital. On Duty Earnings Of Area of Provinsi Sulawesi North is SKPD coordinated Earnings Of Area Mount Province have strategic function in supporting defrayal of activity of government in area very complex, earn operational, if when having in stock adequate budget.

Pursuant to data below, explained by lease realization Smoke to Earnings Of Genuiness Area Year 2014 a long way off from goals specified, differing year 2015 pursuant to existing data show growth of lease realization smoke to Earnings Of Genuiness Area enough year berkembang,sementara 2016 showing the existence of degradation compared to previous year. Realization of Earnings Of Genuiness budget year 2016 still spelled out members to lower, where On Duty Earnings Of Area (new Dispenda) Province North Sulawesi collect 36,67% from determined goals, where many factor cause lease realization smoke less than determined goals, one of them that is: circulation of cigarette of ilegal,where

cigarette of ilegal is cigarette at its production phase do not enlist so that is not duty-bound, causing the target of applying of lease smoke is to service of enforcer and health punish by government officer in charge,but the level of acceptance of lease smoke very small big base on of effort done by Local Government side, specially Province Sulawesi North year 2014-2018 in doing collection and it is management, as according to condition of compared to among which is expected with existing result every year, causing researcher do research concerning: "Contribution and Effectiveness lease Smoke To Earnings Of Genuiness Area Year 2014- 2018".

Table 1. Amount Of Earnings Of Genuiness, Goals Acceptance of lease Smoke and Realization lease Smoke,Province Sulawesi North Year 2014- 2018 (Estimation)

Year	Amount Of Earnings Of Genuiness Area (Rp)	Goals Acceptance of lease Cigarette	Realization lease Cigarette
2014	938.583.020.354	96.000.000.000	69.377.472.983
2015	1.012.945.961.368	98.560.000.000	112.412.415.261
2016	980.925.824.286	127.900.000.000	107.158.711.896
2017	1.079.018.000.012	140.690.000.011	9.383.280.011
2018	1.186.920.000.012	154.759.000.011	103.216.100.012

Source: On Duty's Earnings Of Area of Provinsi Sulawesi North (Estimation Year 2014-2018)

Identifying Problem

*Realitation obtained lease Cigarette is lower the than determined goals.it is it him resistance in management and collection, like: circulation of cigarette illegal.

In limited of is problem of

Demarcation of Problem about Contribution and Effectiveness lease Smoke To Earnings Of Genuiness in Province Sulawesi North Year 2014- 2018.

Formula of is problem of:

(1) How is big of lease contribution smoke to PAD Province Sulawesi North 2014-2018?
(2) How lease effectiveness storey;level smoke PAD Province Sulawesi North to year 2014-2018?

Target of Research

(1) Knowing area lease contribution to PAD Province Sulawesi North year 2014-2018.
(2) Knowing lease effectiveness storey; level smoke to PAD Year 2014- 2018.

Benefit Research

Usefull Theoretical

To science, expected can become reference materials for furthermore research to problem of is same at different object.

Usefull Practical

1. To local government side, expected can become to include and comparison of exploiting lease smoke to the make-up of Earnings Of Genuiness in Province North Sulawesi.
2. To taxpayer side and also Province Sulawesi North society, presumably can become one of the knowledge in executing obligation in paying lease Cigarette, utilize to improve area lease and of Earnings Of Genuiness, specially Province North Sulawesi and can become one of the source of information good for side have importance.

* Sinergi between research group woke up to utilize to yield innovation targeted:
- Law, Number 28, Year 2009, Iease Area, Area Special:Taxes Mount I/Province Iease
*) Iease Cigarette
- Tax Rate Area: equal to 10 % from Duty Smoke from Section 181.
- Law, Number 7, Year 2011, Section: Object Iease Cigarette: Consumption Cigarette: cigarette, cheroot, Cigarette Leaf. Is Not Object Cigarette: Law, Number 11, Year 199,5 altered by Law, Number 39, Year 2007, Section 26, Sentence 3, letter of a: and section 6, Article 2.
- Subjek Iease: Law, Number 7 Year 2011:Pajak Cigarette: cigarette consumer.
*) Taxpayer: manufacturer of cigarette / cigarette importer and producer have permit of each Number Fundamental of Entrepreneur Of Goods Hit Duty, according to Regulation of Minister for Finance Republic Of Indonesia.

Table 2. Variabel Solusi, Dimensi, Saran and Indicator

No.	Solution Variable	Dimention	Suggestion	Indicator
1	(X) Contribution and of Iease Cigarette vitas	1. Contribution Iease Smoke is analyzer used to know how big contribution can be rendered from acceptance of Iease smoke to Earnings Of Genuiness. 2. Efektivity Iease Cigarette represent ability to chosen correct target/ precise equipments for the attainment of target specified and represent an efficacy size measure/ failure of organization in reaching an target.	Government Center an Republic of Indonesian *People Province North Sulawesi	*Company of manure of urea national get adequate profit
2	(Y) Earnings Of Genuiness	*Earnings Of Genuiness according to Invitor – Invitor, Number 33 Year 2004 about Counter Balance Of Finance Between Central Government and Local Government, Section 1, Sentence 18, is obtained by earnings is area from source of in region alone which is collected pursuant to By Law as according to Law And Regulation go into effect.	* Law Number 33 Year 2004	*Earnings Of Genuiness Province North Sulawesi In The Year 2014-2018

**) Related/Relevant Previous Review Study [of] Contribution And Effectiveness Iease Smoke To Earnings Of Genuiness Area (PAD) Province Sulawesi North Year 2014-2018*

Table 3. Research Of Contribution And Effectiveness lease Smoke To Earnings Of Genuiness Area (PAD) Provinsi Sulawesi North Year 2014 – 2018

No.	Writer, Institution and Year	Title Research	Finding, Conclusion and Suggestion
1	Ridwan Heriansyah Putra; Bursar State Monetary Majors Management, Politeknisk State'S Finance of STAN Provinsi Sumatra of Utara; 2016	Influence Of lease Smoke To Earnings Of Genuiness Area in Provinsi North Sumatra	Data used: primary data and data of secunder as supporter. Source of data from On Duty Earnings Of Area North Sumatra. Method used: Quantitative Method: lease Cigarette, owning contribution equal to 9,07 % from totalizeing PAD Province North Sumatra in Year 2014 and 13,46% in Year 2015
2	Kartika Permata Sari, 2017	Influence Of lease Smoke To PAD Of lease Area of Provinsi DKI Jakarta	" Result of this research indicate that endorsement of lease smoke every year natural of increase. Seen from year 2014 endor sement of lease smoke every year natural of increase. Year 2015:endorsement of lease smoke equal to Rp.47.453.918.878,00- Year 2016: Rp.69.350.088.861. Calculated by using formula:Meant endorsement TMA of year 2014-2015 equal to Rp.58.402.003.870 Estimate of endorsement of year lease 2017 for the Provinsi of DKI Jakarta equal to Rp.558.402.003.870

Hypothesis Research

1. Anticipated by lease contribution smoke to Earnings of Genuiness Area in Province North Sulawesi Year 2014 - 2018 is to have good contribution to.
2. Anticipated lease effectiveness smoke to Earnings of Genuiness Area in Province North Sulawesi Year 2014 - 2018 is goodness.

Method Research

Is quantitative descriptive method, representing technique analysing of data used by numbers to conclude from occurence can be measured (rikunto, 2010). **Quantitative Descriptive research** present data about realization and goals acceptance of lease smoke and is total of Earnings Of Genuiness Area Province North Sulawesi year 2014 – 2018.

Table 4. Operasionalitation Variable Research

Variable	Notation	Indicator	Size
(Dependent) Earnings Of Genuiness Area	(Y)	Local Taxes	(Rp/Year)
(Independent) Contribution and Effectiveness lease Smoke in Province Sulawesi North Year 2014- 2018	(X)	Contribution and Effectiveness lease Cigarette	(Rp/Year)

Source and Way Of Determination of Data / Information

Population, is all taxpayer smoke in Provinsi Sulawesi North Year 2014 - 2018
Sampel, is taxpayer smoke and acceptance of lease smoke in office On Duty Earnings Of Area of Provinsi Sulawesi North Year 2014 - 2018

Type and Source Data

1. Data of earnings of Genuiness Area of Provinsi Sulawesi North Year 2014 - 2018
2. Data Acceptance of lease Smoke in Province Sulawesi North Year 2014 - 2018
3. Other data correlate research

Source of data used by is

* Data Primary that is data obtained to through observation process and direct interview with related parties, in interview conducted with head side and officer involve direct in taxation administration at On Duty Earnings Of Area of Provinsi Sulawesi North Year 2014 - 2018.
* Data of Secunder that is data form other supporter literature and enclosure relate to this research.

Table 5. Model In The Form Of Equation: Technique Analyse Data

No.	Equation
1	$\text{Contribution} = \frac{\text{Acceptance of lease Cigarette}}{\text{Earnings of Genuiness Area}} \times 100\%$
2	$\text{Effectiveness lease Cigarette} = \frac{\text{Acceptance of lease Cigarette}}{\text{Targeted of Genuiness Area}} \times 100\%$

Reference

[1] Alwi,Hasan.2006. *Dictionary of language of Indonesia.* Jakarta: Departmental of Education National Hall Book

[2] Afiff, Faisal, 2003, Tracing Idea of Strategic- Solution of is Problem of in Indonesia First Edition, Publisher's Of Paramadina-Jakarta.

[3] Arikunto, S.2010. *Procedure Research An Approach Of Practic.* Jakarta: Rineka Creature.

[4] Ansoff H.Igor, 1987.*The New Corporate Strategy*, New York, Mc Graw Hill.

[5] Baye, R.Michael, 2000, *Managerial of Economics And Business Strategy, Third Edition*. International Edition,Mcgraw-Hillcompanies,Incorporation. USA.

[6] Besanko, David; David Dranove; Mark Shanley, 2000, *Economics Of Strategy Second Edition*, John Willary & Sons, Incorporation.

[7] Berman, Barry & Joel R. Evan, 1994, *Essentials Of Marketing*, London: Mac Millan Publishing Company.

[8] Bern,Ernst R.,1991,*The Practice Of Econometrics: Classic And Contemporary*, Addison Wesley Publishing Company.

[9] Best J. Roger. *Marked Based Management, Second Edition,* Prentice Hall Incorporation.

[10] Budiyuwono, Nugroho. 1995. *Statistical Deliverer of Economics and Company of Volume 2*. Yogyakarta: UPP AMP YKPN.

[11] Chaudhuri, Arjun & Morris B. Holbrook, 2001, The Chain Of Effects from Brand Trust and Brand Affect to Brand Performance: The Role Of Brand Loyalty, *Journal Of Marketing*, Vol.65: (April 2001), 81-93.

[12] Channon, Derek F, 1996, *Strategic Management And Marketing*, Toronto, John Willey & Sons.

[13] Cooper, Donald R.and C.William Emory, 1995, *Business Research Methods, Fifth Edition*, Richard D.Irwin, Incorporation, USA.

[14] Cintagunta, Pradeep K, 2002, Investigating Category Pricing Behavior At A Retail Chain, *Journal Of Marketing Research*,Vol. XXXIX (May, 2002), page: 141-154.

[15] Cravens, David W,1996, *Pemasaran Strategis, Terjemahan oleh Lina Salim, MBA, Edisi: Keempat*, Penerbit Erlangga-Jakarta.

[16] Cravens, David W, & Niegel F. Percy, 2003, *Strategic Marketing. Seventh Edition*, Mc Graw Hill: Irwin.

[17] Day, George S,1999, *Market Driven Strategy:Process For Creating Value*, Free Press A Division Of Simon & Schuster, Incorporation.

[18] Daft, Richard L.,1983, *Organization Theory And Design*, St.Paul-Minnesotta, West Publishing Company.

[19] David R.Bell, Genesh Iyer, and V. Padmanabhan, 2002, Price Competition Under Stockpilling and Flexible Consumptions, *Journal Of Marketing Research*, Vol. XXXIX (August 2002), 292-303.

[20] Effendi. 2003. *Ground-ground Management Organization Management.* Jakarta, PT. Raja Grafindo Persada.

[21] Frels, Judy K., Tasaddud Shervani & Rajendra K.Srivasta, 2003, The Integrated Networks Model: Explanaing Resource Allocation In Network Markets, *Journal of Marketing*, Vol. 67 (January 2003):29-45.

[22] Glen, Urban L, Steven H. Star, 1991, *Advanced Marketing Strategy, Phenomena, Analysis, Decisions,* Prentice Hall, USA.

[23] Grewal, Rajdeep & Ravi Dharwadkar, 2002, The Role Of The Institusional Environment In Marketing Channels, *Journal Of Marketing*, Vol.66 (July 2002, Hal.82-87).

[24] Gujarati, Damodar, 1998, *Essential Of Econometrics, Second Edition*, Mc Graw Hill International Editions.

[25] Gujarati, Damodar, 2003, *Basic Of Econometrics, 4 th Edition*, Mc Graw Hill, International Editions.

[26] Griffitths, William E., And R. Cartel Hill And George G. Judge, 1992, *Learning And Practicing Econometrics*, John Willey & Sons, Incorporation.

[27] Halim, Abdul. 2004. *Financial Accounting Area*. Jakarta: Salemba Empat.

[28] Hair, Anderson,Tatham, Black, 1998, *Multivariate Data Analysis, Fifth Edition, International Edition*, Prentice Hall International Incorporation.

[29] Hasan, Iqal. 2002. *Pokok-Pokok Materi Metodologi Penelitian dan Aplikasinya*. Jakarta: Ghalia Indonesia.

[30] Handayaningrat, Soewarno. 1996. *Deliverer of Study Administrative Science and Management.* Jakarta: Glorious PT.TOKO Mount.

[31] Hax, Arnoldo C. And Nicolas S. Majluf, 1991, The Strategy Concept And Process, A Pragmatic Approach, Englewood Cliffs, New Jersey, Prentice Hall

[32] Hill, Charles W. L, And Gareth R. Jones, 2000, *Strategic Management-An Integrated Approach, Fourth Edition.* Houghton Mifflin Company, Boston - New York.

[33] http://dispenda.sulutprov.go.id/

[34] http://web9.manadoline.com

[35] Iyer, Ganesh & J. Miguel Villas Boas, 2003, A Bargaining Theory Of Distribution Channels, *Journal Of Marketing Research*, Vol. XI. (February 2003) 80-100.

[36] Jeanet/Hennessey, 2001, *Global Marketing Strategies, Fourth Edition*, Houghton Mifflin.

[37] Jorg Dopke And Christian Pierdzioch, July 2001, Inflation And Skewness Of The Distribution of Relative Price Changes: Empirical Evidence For Germany, Kiel *Working Paper No.1059*, Kiel Institute Of World Economics Duestern brooker Weg 12024105 Kiel (Germany).

[38] Kartika Permata Sari. 2017. Pengaruh Pajak Rokok Terhadap Pendapatan Asli Daerah Atas Pajak Daerah Provinsi DKI Jakarta. *Skripsi.* Fakultas Ekonomi dan Bisnis Universitas 17 Agustus 1945. Jakarta.

[39] Kuncoro, M. 2004. *Otonomi Daerah: Reformasi Perencanaan, Strategi Dan Peluang.* Jakarta: Erlangga.

[40] Kurniawan, Panca dan Purwanto Agus. 2004. Pajak Daerah dan Retribusi Daerah. Malang: Bayu Media.

[41] Keegan, Waren J, 1999. *Global Marketing Management, Sixth Edition*. Prentice Hall, New Jersey, USA.

[42] Keysuk Kim And Changho Oh, 2002, On Distributor Commitment In Marketing Channells For Industrial Products: Contrats Between The United States And Japan, *Journal Of International Marketing*, Vol. 10. No. 1 2002, pp:72-97.

[43] Kotabe, Masaaki And Kristian Helsen, 2000, *Global Marketing Management*, Second Edition, John Willey & Sons, Incorporation.

[44] Kotler Philip, 2003, *Marketing Management, Eleventh Edition*, Prentice Hall International Edition.

[45] Kotler And Gary Amstrong, 1997, *Principle Of Marketing*, London Prentice Hall.

[46] Lamdin, Douglas J, 1996, *The Managerial Economics Reader*. University Of Maryland Baltimore County, Blackwell Publisher.

[47] Maddala, G.S. 1985, Limited Dependent And Qualitative Variables In Econometrics, Econometrics Monographs.

[48] Mardiasmo. 2009. *Taxes, Edition Revition*. Yogyakarta: Andi.

[49] Mc Carthy, E. Jerome And William D. Perreault, *Basic Marketing*, Boston Irwin.

[50] Michelle Mc Guire, Helen Cousineau And Melissa Stephanou, 2002, *The New Era Of International Supply Chain Security. Avoid Increased Cost And Benefit From New Border Security Initiative*, Word Trade, November, 2002.

[51] Miller, Alex,1998, *Strategic Management. Third Edition*, Irwin Mc Graw Hill.

[52] Morash, Edward A. and Daniel F. Lynch, 2002. Public Policy And Global Supply Chain Capabilities And Performance: A Resource-Based View, *Journal Of International Marketing*, Vol. 10. No:1 2002, pp: 25-51.

[53] Myers, Mathew B. & Michael Harvey, 2001, The Value Of Pricing Control In Export Channels: A Governance Perspective, *Journal Of International Marketing*. Vol. 9.No.4, 2001. Pp:1-29.

[54] Muhammad Yusmal Nikho. 2010. Analysis Scenario Affect Applying Of Iease Cigarette to is Fiscal of Government and Economics In Order To Preparation Execution of Law, Number 28, Year 2009, about Manure Area And Retribution of Daerah. *Tesis*. FE-UI. Jakarta.

[55] Nagel, Thomas S. T., 1995, *The Strategy And Tactics Of Pricing*, London Prentice Hall.

[56] Peter, J. Paul And James H. Donelly, Jr., 2003, *Marketing Management-KnowledgeSkill, Seventh Edition*, Mc Graw Hill Irwin.

[57] Rakesh Niraj; Mahendra Gupta, And Chakravarti Narasimhan, 2001, Customer Profitability In Supply Chain, *Journal Of Marketing*, Vol. 65: (July 2001), 1-16.

[58] Resmi. Siti. 2005. *Perpajakan Teori dan Kasus*. Jakarta: Salemba Empat.

[59] Republik Indonesia. *Undang-Undang Nomor 28 Tahun 2007 Tentang Ketentuan Umum dan Tata Cara Perpajakan.*

[60] Republik Indonesia. *Undang-Undang Nomor 23 Tahun 2014 Tentang Pajak Daerah Dan Retribusi Daerah.*

[60] Republic Of Indonesia. Law, Number 23, Year 2014, *About Iease Area And Retribution Area*

[60] Republic of Indonesia. *Undang-Undang Number 33 Year 2014 About Government Area Republic of Indonesa.* Law, Number 33, In the Year 2014 *About Counter Balance Monetary Among Central Government and Local Government.*

[61] Raymond, Mary Ane; John F. Tanner Jr., and Jonghoon Kim, 2001, Cost Complexity Of Pricing Decisions For Exporters In Developing And Emerging Markets, *Journal Of International Marketing*. Vol.9, No.3, pp:19-40.

[62] Ridwan Heriansyah Putra. 2016. Pengaruh Pajak Rokok Terhadap Pendapatan Asli Daerah (PAD) di Provinsi Sumatera Utara. *Jurnal*. Kebendaharaaan Negara Jurusan Manajemen Keuangan Politeknik Keuangan Negara STAN.

[63] Salvatore, Dominick, 1989, *Managerial Economics*, Mc Graw Hill Book Company.

[64] Sekaran, Uma, 2000. *Research Methods For Business*, John Willey & Sons, Inc.

[65] Sedarmayanti. 2001. *Sumber Daya Manusia dan Produktivitas Kerja*. Bandung: Mandar Maju.

[66] Stanton, William J. 1994, Fundamental Of Marketing, New York, Mc Graw Hill.

[67] Stottinger, Barbara, 2001, Strategic Export Pricing: A Long And Winding Road, *Journal Of Internasional Marketing*, Vol. 9, No.1, 2001. pp:40-63.

[68] Sudirman. 2002. *Pengaruh Motivasi Kerja Terhadap Efektivitas*. Jakarta: Erlangga.

[69] Sujoko, 2002, Pengaruh Distribusi Selling in Terhadap Kinerja Pemasaran, *Jurnal Sains Pemasaran Indonesia*, Vo.1. No.3, Desember 2002, halaman 241-256.

[70] Sugiyono. 2009. *Metode Penelitian Bisnis (Pendekatan Kuantitatif, Kualitatif dan R & D)*. Bandung.

[71] Sugiyono. 2011. *Metode Penelitian Bisnis Edisi 3*. Bandung. Alfabeta.

[72] Rakesh Niraj; Mahendra Gupta, And Chakravarti Narasimhan, 2001, Customer Profitability In Supply Chain, *Journal Of Marketing*, Vol. 65:(July 2001), 1-16

[73] Theodosiou, Marios, Constantine S. Katsikeas, 2001, Factor Influencing The Degree Of International Pricing Strategy Standardization Of Multinasional Corporations, *Journal Of International Marketing*, Vol. 9. No. 3, pp:1-6.

[74] Tony Marsyahrul. 2005. *Introduction Taxes*. Jakarta: Grasindo.

[75] Vanhuele, Marc And Xavier Dreze, 2002, Measuring The Price Knowledge Shoppers Bring ToThe Store, *Journal Of Marketing*. Vol.66: October 2002, pp:72-85.

[76] Van Savage, Eleanor, 2002, Urea Prices Up On Depleting Inventories And Rising Natural Gas Price, *Journal Chemical Market Report/*140687141 Pro Quest ABI/INFORM@ Research Vol. 262 July 15 2002, p.19.

[77] Van Savage, Eleanor, 2002, Nitrogen Fertilizers Production Planning: Economics Recovery, Industry Wide Conditions, *Journal Chemical Market* Report/115139808 ProQuiest ABI/INFORM@Research Vol. 261, Apr 15 2002. p.17.

[78] Waluyo dan Wirawan B. Illyas. 2003. *Taxes Indonesian*. Jakarta: Salemba Empat.

[79] Yudha of Permana. 2016. Execution Of lease Smoke Province Float. *Skripsi.* University of Lampung. Lampung.

[80] Yuyun, Wirasasmita, 2002, Method Research In Compilation Of Dissertation Program Doctor Management Business University of Padjadjaran, Program of DMB, University Padjadjaran, Bandung.

[81] Zain, Mohammad. 2007. *Management Taxation*. *Third Edition*. Jakarta: Salemba Four. 2004.

[82] Zikmud, William G, 1997, *Business Research Methods, Fifth Edition,* The Dryden Press, USA.

Analysis of Regional Economic Growth and Inflation in Indonesia

MB Ariani[1], Ferry Hadiyanto[2], Yayan Satyakti[2], Indra Y. Mambea[2]
[1]Faculty of Economics and Business / UPN "Veteran" Jakarta, JL. RS. Fatmawati No.1, Jakarta (12450)
[2]Department of Economics, Universitas Padjadjaran, Jl. Raya Bandung Sumedang KM 21, Bandung (45363)
Email: nani.upnvj@gmail.com

Abstract

This study aims to analyze macroeconomic factors that affect economic growth and regional inflation. The data used in this study include macro data from 33 provinces in Indonesia from 2004 to 2014. We employ panel regression with the General Least Square method to analyze the influence of government expenditure variables, credit, the number of workers and the Human Development Index on economic growth as economic growth model. In addition, a regional inflation model is used to estimate factors that determine inflation by running probit panel regression with marginal effect. In order to capture the determinant of dummy inflation, we include labor productivity and the highest contribution rank from commodities contributing to regional inflation for the probability to reach the inflation target.

Keywords: economic growth, regional inflation, probit panel reggression

1. Introduction

Indonesia's dynamic economy with high output growth requires that inflation control is based on a good understanding of inflation. Monetary policy used by central banks in the short term to achieve two objectives, namely to maintain economic activity remained high and reached a low inflation rate[1]. Empirical facts indicate a trade-off between the two goals, where the increase in output growth (or decline in the unemployment rate since the creation of labor) tend to be followed by increases in the rate of inflation. AW Phillips describes the relationship between inflation and unemployment rates are based on the assumption that inflation is a reflection of an increase in aggregate demand. With the high price (inflation) then to meet the demand producers increase their production capacity by increasing the labor force (assuming labor is the only input that can increase the output). As a result of the increase in the demand for labor will increase prices (inflation), and reduce unemployment.

In regulation under the Act (UU) No. 3 2004 Article 7, the task of Bank Indonesia is to achieve and maintain the stability of the rupiah, which the stability of the Rupiah against the goods and services reflected through the stability of inflation. Therefore, monetary policy is directed to achieve and keep inflation at low and stable levels. According to the Act referred to, the inflation target set by the Government after coordination with Bank Indonesia which are intended to improve the credibility of monetary policy. To achieve this goal, since 2005 the Bank Indonesia implement monetary policy framework with inflation as the main target which is commonly called the Inflation Targeting Framework (ITF). This framework is applied, after previously using monetary policy to apply in base money (base money) as a monetary policy target. With this framework, Bank Indonesia explicitly announced to the public inflation target and monetary policy is aimed at achieving the inflation target set by the Government. In order to achieve the inflation target, monetary policy carried forward looking, which means that changes in the monetary policy stance is done through evaluation whether future inflation still in line with the inflation target has been declared [2].

Table 1. Actual Inflation

Year	Inflation Target	Actual Inflation (%, yoy)
2004	5.5 + 1%	6.4
2005	6 + 1%	17.11
2006	8 + 1%	6.6
2007	6 + 1%	6,59
2008	5 + 1%	11.06
2009	4.5 + 1%	2,78
2010	5 + 1%	6,96
2011	5 + 1%	3.79
2012	4.5 + 1%	4.3
2013	4.5 + 1%	8.38
2014	4.5 + 1%	8.36
2015	4.5 + 1%	3.35

Source: www.bi.go.id

It can be seen that the actual inflation still failed to reach the inflation target set. Of the twelve observations, there are only three observations to meet inflation targets, in 2004, 2007 and 2012. More actual inflation that occurred there are some that exceed the inflation target or lower than the target set. Bank Indonesia only has the ability to influence inflationary pressures from the demand side, while inflationary pressures from the supply side are beyond the control of Bank Indonesia [3]. Inflation comes from the supply side or that are shocks can be exemplified in forms such as rising global oil prices and the disruption of harvest or floods.

In micro perspective, Indonesia commodity prices of food stuffs often experience fluctuations in prices are rice, corn, soybean flour, sugar, cooking oil, onions, peppers, eggs, meat and milk [4]. Changes in prices of food commodities may be the largest contributor to the inflation rate due to the number of its large population, the demand for foodstuffs will be quite high. But sometimes deals not quite been able to meet the demand, so that eventually pushed the rate of inflation[5]. Stable inflation expected by every administration since inflation stability is a prerequisite for sustainable economic growth. Therefore, inflation control becomes very important because of the high inflation and unstable causing negative impacts on the socio-economic conditions of society. Inflation characteristics often associated with domestic factors such as aggregate demand, the behavior of wages, productivity, inflation expectations, the effect of the whole balance of the real factors and national monetary policy. In addition, inflation is also attributed to external factors or an external shock such as world energy prices and food prices.

Various studies on inflation using national aggregation of data has been done but there is still little research attention to inflation and build models of inflation based on the provincial data. Research that examines inflation dynamics using panel data regions or provinces should also be conducted to better understand inflation. The research is important because Indonesia large country with regional growth differences that cause variations in inflation. The study of the dynamics of inflation in Indonesia, among others carried the research found the specification forward looking than backward looking better in explaining inflation. Likewise, monetary surprises have a temporary effect on inflation [6].

Furthermore, several studies have discussed about the local inflation, among others by Wimanda (2005) and Ricardo D.Brito (2010) stated that inflation expectations had no

effect on local inflation [7]. Results of research Rahman Hakim (2016) suggest that inflation earlier period, inflation expectations and GDP significantly affect the rate of inflation, by contrast, Bank Indonesia's inflation target does not significantly influence the rate of inflation in Indonesia While research Silvia and Iqbal (2015) which made provision for the inflation target is achieved is -1 to 0, while not achieved is 0 to +1. A proxy for the market supply in the GDP and the rate of inflation prevailing prices. Such variations are not viewable using aggregate data but can be seen using the data area.

Mehrotra et al. (2007) stated that research using provincial data important for the country because the province has a different spread of institutional, economic performance, and level of market development. Economic obstacle between regions, such as trade barriers, also can be a source of differences in inflation formation process. Furthermore, inflation differences between regions reduce the ability to adjust the shock (shock) economy [8]. In addition, the role of inflation and inflation expectations in various areas that have varying inflation dynamics also influence the effectiveness of monetary policy. To overcome the problem of inflationary shocks on the supply side since inflation targeting is substantial [9] [10] [11].

2. Methods

The analytical method used is quantitative analysis approach is the development of a panel regression model, where this equation shows the interdependence (interdependency) between the explanatory variables with dependent variables resulting causality [12]. According to theory of sollow, output is function of labor and capital [13]. However, the proxy of labor could be expressed by employment whereas capital is outstanding credit. Specifications of the model that we employ in this study are panel regression model structural equation model as follows:

$$\ln gdp_{it} = \beta_0 + \beta_1 (HDI)_{it} + \beta_2 \ln(Spend)_{it-3} + \beta_3 \ln(EMP)_{it} + \beta_4 \ln(CRI)_{it} + u_{it} \quad (1)$$

As for the model, the authors use the economic growth model of development used by Mankiw-Romer-Weil (MRW) with the following specifications:

Q = f (K,L) the augmented model of Mankiw et. al. (1992) added variable of government exenditure into :

Q = f (K,L,G) to transform into a logarithm then [13]. In the model developed by the authors, the HDI variables being used to proxy variable L, then Credit for proxy K, and government spending is G.

$LnQ = lna + \beta lnk + \gamma lnL + \delta lnG$

$$\text{Dummy target Inflasi}_{it} = \gamma_0 + \gamma_1 \ln(PDRBh)_{it} + \gamma_2 \ln(labp)_{it} + \gamma_3 [\Sigma\beta_i] + e_{it} \quad (2)$$

In the model into two, namely the inflation's model the authors apply binary probit regression. The model was used as the dependent variable in the model is the dichotomy that is using dummy variables. Using a dummy because want to know the probabilities of the regional inflation is contributing to the national inflation target. Operational definitions of study variables and the measurement is as follows: Economic Growth denoted by GDP is the development of activities in the economy that led to the goods and services produced within the community and increase the prosperity of society. Variables describing the economic growth of a region (province), namely the GDP based on constant price in 2010 divided by the total population that is expressed in nominal rupiah (Rp). Data published by the BPS are printed for each of the provinces in Indonesia, in this study expressed in

natural logarithm. Human Development Index denoted by HDI, is an indicator for education, health and expenditure per-capita for each province expressed in index numbers (0-100). Labor denoted by lnEMP. The variable amount of labor used in this research is the nominal number of people working in each province. These data were published online on the BPS website for each province. In this study, total employment is expressed as a natural logarithm. Government Spending denoted by SPEND is the sum of all government spending in nominal Rupiah (Rp). These data were published online on the BPS website for each province. In this study, the type of expenditure is expressed as a natural logarithm. Credit denoted by lnCRI. In this study, the investment is measured as the growth of bank credit granted to each province with a nominal unit rupiah (Rp). Labor productivity denoted by (labp). In this study, labor productivity measured by total GDP divided by the number of workers in each province with units of percent. Inflation is the rising prices of goods and services continuously in an area. Inflation measure used in the Consumer Price Index (CPI) base year of 2010. Commodities is the weight of each type of commodity goods and services contributor to inflation in each province. In determining the weights used basic consumption values based diagram weigh SBH SBH 2007 and 2012.

Besides, in order to capture the phenomenon in which the area is able to transmit national policy, local governments should be able to anticipate inflation in the region with both national inflation target despite the central bank authority. Thus, by comparing the model predictions made between inflation and the inflation target area (BI), with the following assumptions:

1 = if inflation area = target BI
0 = if inflation targets ≠ area

To determine the effect of independent variables on the dependent variable is a binary regression probit. In this model transformation function that maps a linear function x 'in the interval (0,1) is the cumulative normal distribution function. In addition to this model using a probit model of the second model, the study used regression panel models on the first model. Dummy variable for inflation is used to capture the target of inflation [14]. Whereas, panel regression possible to estimate by using a common, random, or fixed effect where the gain adjuster coefficient in the model allows for the use Generalized Least Squares (GLS), which is different from the ordinary least squares (OLS) where model-based OLS necessary to draft model test in which there are the classical assumption that heteroskedastis and autocorrelation [12].

3. Findings and Argument

To estimate the regional economic growth random effects regression using GLS. The estimation results of the Regional Economic Growth (lgdp) are presented in Table 4.2 below:

Table 2. Estimation Model of Regional Economic Growth

Economic growth	**Coefficient**
Human Development Index (HDI)	.027* (.0155)
Ln (Government Spending Lag-3)	.005*** (0.001)
Ln (Labor)	.078*** (.120)
Economic growth	**Coefficient**

Ln (Credit)	.063* (.327)
Constants	2.984 (1.954)

Source: results of data processing STATA 13
*Description: *** significant at α = 1%, ** α = 5%, and * α = 10% Standardized error in brackets*

Based on estimates found that the variable HDI has a positive direction with coefficient of 0.027, so if there is an increase of 1 unit on the HDI index will increase economic growth by 0,027 with a significant level of 10%. Another variable is the variable to government spending, the value of the regression coefficient of 0.005, meaning that if there is an increase in government spending at 1% in the 3rd lag period would increase economic growth by 0,005, with a significant level of 1%. Lag on government spending for the benefit of government expenditure to economic growth is not directly in the relevant year. After the results data obtained by the lag in government spending are on the highest significance parameter is the lag-3.

Wagner process in the province in Indonesia, that government spending significantly affects the economic growth of over 3 years, meaning that government investment will significantly influence the three years to come. For labor variables regression coefficient of 0.78 means that if the number of employees rose 1%, the regional economic growth would rise by 0.78, with a significant level of 1% For investment loans regression coefficient of 0.063, meaning that if there is an increase in the variable credit of 1%, the region's economic growth will rise by 0.063 with a significant rate of 10%.

In this study the model used to estimate the regression model used Inflation Probit estimation that the results can be seen in the tables below:

Table 3. Probit Regression Results[a)]

Regional Inflation Target Dummy to National Inflation	Coefficient
Prediction (Growth)	-1.281247 (346.6471)
Labor Productivity	.0044571 (1.205887)
Commodities Cluster 1 Rating Contributor on Inflation (%)	.2007495 (54.33031)
Commodities Cluster 2 Rating Contributor on Inflation (%)	-.4520621 (122.3161)
Commodities Cluster 3 Rating Contributor on Inflation (%)	.2797786 (75.70161)
constants	21.79192 (5895.907)

Source: results of data processing STATA 13
*Description: *** significant at α = 1%, ** α = 5%, and * α = 10% Standardized error in brackets*

[a)] In addition to our probit estimate compares with the estimated regression model panel Inflation = f (Economic Growth, Productivity Labor). Our initial model Regress with two stages of economic growth factors and outcome prediction in Regress inflation = f (Growth) with a coefficient of -0870 with no significant (z statistics = -.92; p value = 0360). In addition to the panel regressions, we try also using recursive estimation, only two provinces that have a significant sign that economic growth will be decreased the inflation that is in the province of East Kalimantan and North Maluku.

The table shows the probability value (probit regression coefficient) and the value of significance (P> | z |) of each independent variable in the inflation equation area. Seen that the regression coefficient value varies, there are positive and some are negative. While the value of P> | z | varies, there is less than 0.05, and there are also more than 0.05. Furthermore, the significant value compared to alpha of 0.05

For the results of the probit regression model of regional inflation may be interpreted magnitude parameters via marginal effect as follows:

Table 4. Marginal Effect

Target of Inflation	dy / dx
lgdph	-.3919296 (.1018196) ***
labp	.0013634 (.001402)
com	..0614087 (.4114507)
com_B	-.1382845 (.4465499)
com_C	.0855834 (.2979625)

Source: results of data processing STATA 13
*Description: *** significant at α = 1%, ** α = 5%, and * α = 10% Standard error in parentheses*

From Table 4.4 can be explained that the economic growth predicted outcome variable of the model of economic growth has a marginal effect of -0.392 with a significance level of 99%. This means that economic growth has significant impact on achieving the inflation target. However, the coefficient is inverted for any increase in economic growth will cause the greater the inflation target. This means that economic growth will cause inflation target difficult to achieve. This is evident from marginal coefficient effect that whenever there is economic growth (lgdph) by 1 percent, then the probability to achieve the inflation target of the less that is likely to fall by 0.39 assuming other independent variables held constant.

While labour productivity with marginal effects of 0.001, meaning that if there is an increase in labor productivity by 1%, then the probability area inflation increased by 0,001. In other word, every increase of 1 unit of labour productivity, the average regional inflation is likely to rise by 0,001. As for Contributions commodity A (ranked commodity cluster I) have a marginal effect value of 0.061; meaning that every increase in the weight of a commodity contribution of 1%, then the probability Inflation 0.061 area increases. Contributions Commodities B (cluster ranked commodities II) the value of the marginal effect of -0,138, meaning that every increase in the weight of the contribution of commodity B by 1%, then the possibility / opportunity area inflation fell by 0,138. That is likely to rank inflation contributor both regions do not have the same pattern so that the individual effects negatively impacted. While commodity C (ranked commodity cluster III) have a marginal effect value of 0.085; meaning that every increase in the weight of the contribution of commodity C by 1%, then to commodities C possibilities Inflation increased area of 0.085.

4. Conclusion

During the period of the study found that the Human Development Index (HDI), Government expenditure, total workforce and the number of credit effect on the Regional Economic Growth. Of these four independent variables that have a significant effect of

99% is government spending and the amount of labor. This indicates that the amount of labor that many will be the subject of development. It requiredefforts to increase the skills, business development, business training, promotion, therefore the economy is growing, and increasing economic growth. This coherent since productivity is main source of income [15] [16]. The role of government spending is required by an area to explore and enhance the potential of the area so that the area has a good competitiveness locally, nationally and internationally

However, for both variables were significant effect of 10% is HDI and credit. It can be explained that the province has a high HDI will have an impact on people's purchasing power increases, the economy increasing, but must be balanced with the stability of prices. As for the credit should be directed to develop and enhance the potential of the area and given assurances that economic stability will be maintained, therefore investors are not worried in developing a business. Results of the test of the area by using Marginal Inflation effect shows that if economic growth increases, probability to achieve the inflation target of less Meanwhile, when rising labor productivity indicates that local inflation has a probability of achieving the inflation target increases. Similarly, the highest contributor to commodity inflation has the opportunity to achieve the inflation target through the contribution of the first rank is the group Foodstuffs such as rice as a staple, this phenomena occurs in several countries [17] [18]. Whereas the second contribution of group housing, water, Electricity and gas are contributing services or contract rental home is the community needs a place to live and third contribution of contributions group transport.

References

[1] V. Author, E. Robert, R. Dornbusch, and S. Fischer, *The Open Economy : Implications for Monetary and Fiscal Policy*.1986.

[2] www.bi.go.id.

[3] A. K. M, P. R. W. Guruh, and G. S. R, *Penerapan Kebijakan Moneter dalam Kerangka Inflation Targeting di Indonesia*, no. 21. Jakarta, 2008.

[4] Sumaryono, "Komoditas Pangan Utama Dengan Model Arch/Garch Retail Price Volatility Analyzes of Some Food Commodities Using Arch / Garch Model, JAE, vol. 27, no. 2, pp. 135–163, 2009.

[5] W. Santoso, S. L. Suselo, Nurhemi, and G. S. R, "Pengaruh Hari Besar pada Komoditas Utama Inflasi di Indonesia," p. 58, 2013.

[6] Insukindro and G. A. Sahadewo, "Inflation dynamics in Indonesia: Equilibrium correction and forward-looking phillips curve approaches," *Gadjah Mada Int. J. Bus.*, vol. 12, no. 1, pp. 117–133, 2010.

[7] A. bayu Purwoko and Y. Feni, "Analisis persistensi inflasi daerah: studi kasus sumatera barat," 2011.

[8] A. Mehrotra, T. Peltonen, and A. Santos Rivera, "Modelling inflation in China-A regional perspective," *China Econ. Rev.*, vol. 21, no. 2, pp. 237–255, 2010.

[9] C. Freedman and D. Laxton, "Why Inflation Targeting?," *IMF Work. Pap.*, vol. 09, p. 1, 2009.

[10] B. S. Bernanke and F. S. Mishkin, "Inflation targeting: A new framework for monetary policy?," *National Bureau of Economic Research Working Paper Series*, vol. No. 5893. pp. 1–29, 1997.

[11] D. Winkelried and J. E. Gutierrez, "Regional inflation dynamics and inflation targeting. The case of Peru," *J. Appl. Econ.*, vol. 18, no. 2, pp. 199–224, 2015.

[12] Damodar N. Gujarati and D. C. Porter, Gujarati - *Basic Econometrics, Fifth.* New York: The McGraw-Hill, 2009.

[13] N. G. Mankiw, D. Romer, D. N. Weil, T. Quarterly, and N. May, "A Contribution to the Empirics of Economic Growth," vol. 107, no. 2, pp. 407–437, 1992.

[14] J. Silvia and A. Iqbal, "An ordered probit approach to predicting the probability of inflation/deflation," *Bus. Econ.*, vol. 50, no. 1, pp. 12–19, 2015.

[15] N. G. Mankiw, *Macroeconomics, Seventh Ed.* New York: Worth Publishers, 2010.

[16] N. Islam, "Growth Empirics: A Panel Data Approach," *Q. J. Econ.*, vol. 110, no. 4, pp. 1127–1170, 1995.

[17] S. Radukić, M. Marković, and M. Radović, "The effect of food prices on inflation in the Republic of Serbia," *J. Cent. Bank. Theory Pract.*, vol. 4, no. 2, pp. 23–36, 2015.

[18] J. Davidson, a Halunga, T. a Lloyd, S. Mccorriston, and C. W. Morgan, "Explaining UK Food Price Inflation Working Paper No. 1 Transparency of Food Pricing TRANSFOP," no. 1.

The Impact of Infrastructure on Strategic Sectors Expenses For Poverty: The Case in ASEAN 4

Suryaning Bawono[1], Ati Musaiyaroh[1], Fawaid Hasan[1], Panji Tirta[1], Ida Kurnia[1]
Faculty of Economics and Business, Universitas Jember, Jl. Kalimantan no. 37, Jember (68121)

Abstract
The development of state infrastructure encourages economic growth. This is supported by the availability of adequate resources both in terms of quality of human resources, nature, and technology. This phenomenon is a reflection of the state government in development activities. Infrastructure development is a driver of growth by reducing poverty and reducing unemployment. The objectives of the study were to analyze Appropriate strategies in economic development especially on poverty issues in ASEAN 4 (Indonesia, Malaysia, The Philippines, and Thailand). The variables that Become the object of research are poverty, infrastructure (education and health), GDP per capita, the Gini index, government expenditure and the unemployment rate. The research method used is the Panel Generalized Method of Moment (PGMM). The results of PGMM estimates provide evidence that infrastructure in the form of health care, per capita GDP and government expenditure has significant implications for poverty in ASEAN 4. The results illustrate that the government for each country needs to a make improvement and additional Infrastructure as an investment in economic growth. This can be done by Mobilizing monetary and fiscal policies, especially Reviews those that lead to an emphasis on poverty.

Keywords: Poverty, infrastructure, economic growth, PGMM

1. Introduction

Economic growth reflected by gross domestic product. It means, increasing production able to grow economically. Gross domestic product affected by investment, consumption, government expenditure, and net export (Mankiw,2010). Production need's labour and capital. Capital obtained from investment and investment originate investor cash. An investor who invest their money in increasing production able to owe from the bank or take investment return from other investment or engage their salary. But without labour, production activity never happen. Increasing investment equals with increasing job available for people. It means investment available to decrease unemployment and in aggregate, increase people income. Saving equals with loanable supply. Loanable supply is the cash available to investor lending. Therefore, keyness explains that investment affected by interest rate and investor expectation.

We know, production output is a product. The product is not only goods for people consumption but also service. Goods need to distribute to customer and service need a place. The place is not just land but the server is placed too. Distribution and place need infrastructure support. For instance road, communication tower and internet network. But distribution and place of service are not enough to ensure production – consumption goes on. It needs security and justice. Road, telecommunication infrastructure, security, justice and other public goods for support production – consumption activity is infrastructure financed by goverment and it calls government expenditure. Government expenditure is determinants of economic growth because government expenditure support business operation which financed by Investment. Business operation able to provide jobs for people. In aggregatable to increase people earning or people revenue. Therefore government expenditure able to reduce poverty. Paul Spicker argues that poverty is an individual issue

caused by the weakness and choice of the individual concerned. Poverty will disappear if market power is expanded to the maximum and economic growth is driven to the highest possible level. Directly, poverty reduction strategies must be temporary residual and involve only families, self-help groups or religious institutions. The role of the state (government) is only as a guard may be able to carry out their duties.

Economic growth able to increase production. When production has increased, availability of Jobs is increasing too. When the availability of jobs increase, in aggregate people revenue increase and poverty is reducing.(Scoot Wisor,2011). People in the world become poor because of the culture of poverty with apathy character, surrender to fate, unsteady family system, lack of education, lack of ambition to build the future, crime and violence occur (Lewis,1968). Poverty is caused by injustice and imbalance in society due to clogging of group access to community resources (Thomas Meyer & Lewis P Hinchman,2007). equality is an essential prerequisite for gaining independence and freedom. Achieving freedom is only possible if everyone has or is able to reach sources, such as education, good health and sufficient income. Freedom is more than free from outside influences; but also free in determining the choices. In other words, freedom means having capabilities to do or not to do something. For example, the ability to meet basic needs, the ability to avoid premature death, the ability to avoid malnutrition, the ability to read, write and communicate. The State, therefore, has a role in ensuring that everyone can participate in community transactions that enable them to decide on their choices and meet their needs.

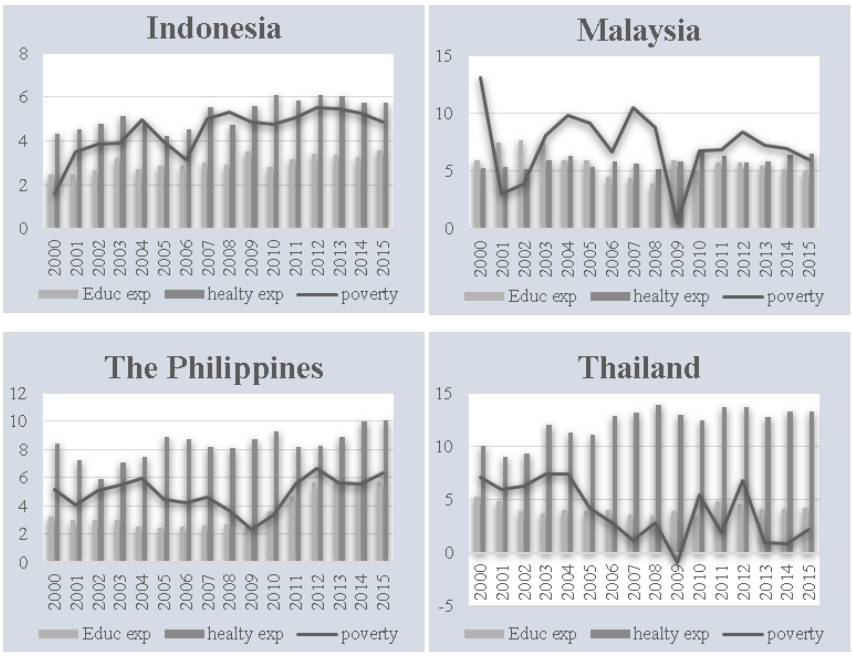


Figure 1. Development of infrastructure costs (education expenditure and health expenditure) and poverty in ASEAN 4 (The World Bank, 2000-2014)

The phenomenon of inequality, poverty and the movement of the economic growth of developing countries in ASIA which include low income or poor, viewed from the position in below the poverty line nationally and internationally namely income below $1 per day, gross revenue (gross domestic product / GDP) per capita as an indicator for economic development and generating measure income differences between population groups with the lowest incomes and the highest (The World Bank, 2017). Based on Figure 1, the ASEAN

4 is generally between infrastructure costs are proxied by the cost of education and health have a positive relationship and negative in certain periods. Sometimes the allocation of infrastructure costs incurred as a whole has not been accommodated so that the poverty rate is likely to increase [1] [2]. Therefore, this study has the objective to see influence between the cost of infrastructure and poverty, and policy recommendations, especially to overcome poverty.

The world is dominated by a single economy in such a way that all the countries of the world are integrated into the production environment of capitalism which causes backwardness in poor countries. Core countries attract surpluses from poor countries through a metropolis-satellite chain. As a result, poorer countries are becoming increasingly poor and rich countries are getting richer (Frank,1967). in macro terms, poverty can be overcome by enhancing mutually beneficial cooperation between countries. of course with the advantages of each interdependent and mutually build the economy so economic growth can be created with harmonious relations and mutual benefits socially and economically.

2. Data and Methodology

This research focuses on a phenomenon that occurs in the ASEAN 4 (Indonesia, Malaysia, the Philippines, and Thailand) especially those on the problems of poverty and the growth of infrastructure in each country. The data used are secondary data obtained from the World Bank Indicator (WDI). The definition of a variable which is the object penalties can be seen in Table 1. The period penalties 200-2015 is used that year by using panel data with a cross-section of four countries, namely Indonesia, Malaysia, the Philippines and Thailand.

Table 1. Definition Variable

Variable	Resources	Information
Poverty (POV)	WDI	Household final consumption expenditure (annual% growth)
EDU (Education Expenditure)	WDI	Government expenditure on education, total (% of GDP)
HE (Health Expenditure)	WDI	Health expenditure, public (% of government expenditure)
GDP (Gross Domestic Product)	WDI	GDP per capita growth (annual%)
GOVEXP (Government expenditure)	WDI	General government final consumption expenditure (annual% growth)
UNEMP (Unemployment)	WDI	Unemployment, total (% of total labour force) (national estimate)

The method used is the Panel Generalized method of Moment (PGMM). GMM is a method of analysis that serves to make the interpretation of the parameters of the expansion moment method, in which the moment method can be used when a smaller number of instrument variables dividing by the number of parameters that will do the interpretation [3], [4]. Pre Test PGMM estimation consists of a statistical test, the data stationary test, cointegration test. Furthermore, estimate panel data and GMM panel estimation.

Specifications research model adapted from the study [1], [2], so specification models research are as follows:

$$POV_{it}=\beta_0+\beta_1 EDU_{it} + \beta_2 HE_{it} + \beta^3 GDP_{it} + \beta_4 GOVEXP_{it} + \beta_5 UNEMP_{it} + \mu_{it} \quad (1)$$

Estimate moment can be defined by entering into the sample analogues

$$\frac{\sum_{it} mit\ (y_{it},\theta)}{T} = 0 \quad (2)$$

However, the estimated moment of the equation (3.63) has not been may meet obstacles θ obtained when M is greater than the parameter θ. Therefore, to meet these conditions, the estimate becomes:

$$\sum_{it} m(y_{it},\theta)A\ (y_{it},\theta)m(y_{it},\theta) \quad (3)$$

A is a metric at each moment in a model used and any positive (A) will produce consistent estimates of θ. GMM method contains an endogenous variable that has a relationship with an error.

Model of methods GMM used in the study can be written so as to form a model:

$$POV_{it}=\beta_0+\beta_1 EDU_{it} + \beta_2 HE_{it} + \beta^3 GDP_{it} + \beta_4 GOVEXP_{it} + \beta_5 UNEMP_{it} + \theta_{it} \quad (4)$$

E (eit) = 0

$$E(POV_{it} - \beta_0 - \beta_1 EDU_{it} + \beta_2 HE_{it} + \beta^3 GDP_{it} + \beta_4 GOVEXP_{it} + \beta_5 UNEMP_{it} - \theta_{it}) = 0 \quad (5)$$

Equation 5 is used to estimated between level 4 and macroeconomic condition in ASEAN poverty using GMM panel.

3. Results and Discussion

Analysis

Statistical tests in this study aim to look at the minimum and maximum values as well as distribution of each variable. In Table 2 gives an explanation that the minimum and maximum values of GOVEXP has a gap that is high enough that signifies GOVEXP growth quite fluctuating gap of 19.6 points. Further growth of the variables that have a gap height between the minimum and maximum values that POV, is known based on data from the World Bank (2017) among ASEAN 4 were thoroughly (see Figure1) that the growth of poverty in Malaysia is quite volatile, where the highest rate in 2000 and the lowest figure in 2009. Judging from the distribution of the visible variable that is normally distributed evidenced by the standard deviation value which is lower than their mean.

Table 2. Definition Variable

	POV	EDU	HE	GDP	GOVEXP	UNEMP
Mean	5.106151	4.134917	7.900773	3.437175	5.795718	5.262969
Median	5.152825	3.865025	6.614583	3.563961	5.220757	4.815000
Maximum	13.02843	7.662190	13.92774	7.445581	15.70289	11.85000
Minimum	-0.899216	2.425330	4.235455	-4.271241	-3.971871	0.190000
Std. Dev.	2.477173	1.336533	2.929090	2.073361	4.133765	3.375070
Jarque-Bera	3.226099	6.567904	7.454449	25.36340	2.487995	4.076167

	POV	EDU	HE	GDP	GOVEXP	UNEMP
Probability	0.199279	0.037480	0.024060	0.000003	0.288230	0.130278
Observation						
s	64	64	64	64	64	64

Results stationary or often unit root test is a test of pre-estimate of the support that the data are well used in the study. This study uses four methods of calculation, namely LLC, IPC, ADF and PP-Fisher Fisher. Based on the results of stationary data shown in Table 2, that the Communities and UNEMP stationery at a rate of 1st different that showed with a probability value alpha <5%. POV stationary at level LLC level on methods and PP-Fisher, while the IPC method, ADF-Fisher showed POV 1 stationary at levels.st different Furthermore stationary GDP [No current level on four methods, while HE stationary at the current level in the LLC and stationary method at a rate of 1st different on IPC method, ADF-PP-Fisher Fisher damn. In Table 2 also provides evidence that the method GOVEXPpada LLC, IPC and PP-Fisher stationary at the current level and the ADF-Fisher method stationary at the current level.

Table 3. Test Results Data Stationarity

Variable	LLC	IPC	ADFFisher	PP-Fisher
POV	-2.0447 [0.0204] *	-4.5250 [0.0000] **	34.3967 [0.0000] **	29.3103 [0.0003] *
Communities	-2.3796 [0.0087] **	- 2.9511 [0.0016] **	23.7025 [0.0026] **	50.0534 [0.0000] **
HE	-2.5755 [0.0050] *	-5.6387 [0.0000] **	42.3283 [0.0000] **	67.5378 [0.0000] **
GDP	-3.6257 [0.0001] *	-2.4428 [0.0073] *	19.6328 [0.0118] *	37.9067 [0.0000] *
GOVEXP	-1.6739 [0.0471] *	-1.6800 [0.0465] *	52.8373 [0.0000] **	2.5792 [0.0001] *
UNEMP	-2.2989 [0.0108] **	- 2.7715 [0.0028] **	22.0196 [0.0049] **	49.6288 [0.0000] **

*[]: probability; *: Levels levels; **: level 1st;***: level 2sd*

Once the data stationary test next steps see cointegration data showing the connection between long-term or short of variables. Based on Kao approach Residual Cointegration Test showed that alpha probability value of <5%, so that the results indicate the presence of cointegration or their long-term relationship.

Table 4. Test Results Cointegration

Approach	Value	Cointegration
Kao Residual Cointegration Test	4.86708 [0.0000] *	cointegrated

**: significant alpha <5%*

This study uses data ASEAN panel 3 so that at this stage best compare models with test Chaoww, Hausman and LM. The model compared to that panel Least Square (PLS),

Fixed Effects Model (FEM) and Random Effects Model (REM). Based on estimates PLS and REM all variables have significant relations at the level of 1%, 5% and 10% except UNEMP variables that have relationship insignificant. In the FEM model provides results that GDP and GOVEXP which has a significant relationship as evidenced by a probability value alpha <10%. Selanjutnyas interconnect models to obtain the best model, the first test Choww the comparison of the PLS model and FEM FEM produce the best model is shown from the value of prof> f 0.00053 which is less than 5%. So based on test Chaow, Hausman and LM broadly provide results that FEM is a model of FEM.

Table 5. Estimation Results Panel Data

Variable		Panel Least Square (PLS)	Fixed Effect Model (FEM)	Random Effect Model (REM)
EDU	coefficient [prob]	0.7343 [0.0002] *	0.2785 [0.1899]	0.7422 [0.0002] *
HE	coefficient [prob]	-0.3688 [0.0001] *	-0.6158 [-0.6158]	-0.3675 [0.0001] *
GDP	coefficient [prob]	0.7024 [0.0000] *	0.7499 [0.0000] *	0.71678 [0.0000] *
GOVEXP	coefficient [prob]	-0.1318 [0.0097] *	- 0.0792 [0.0905] *	-0.1354 [0.0081] *
UNEMP	coefficient [prob]	-0.0770 [0.3887]	0.0523 [0.7530]	-0.0789 [0.3705]
Adjusted R-Squared		0.6888 0.6116		0.6115
F-statistic		0.6888 20.8429		20.83649
prob (F-statistic)		0.0000	0.0000	0.0000
Choww Test		17.5914		
Prob> f		0.00053		
Hausman Test			4.7508	
Prob> chi-Sq			0.4470	
testLM		1.8921		
Breusch-Pagan		0.1690		

) significant at α = 1%, **) significant at α = 5%, *) is significant in α = 10%*

Estimated Generalized next is used the method of moment (GMM) is useful for getting basic parameter estimator for a parameter. Besides the advantage of GMM method is to resolve the situation in the form of data with violations of the assumptions in the regression analysis. This stage data Panel GMM estimates using two different first is method and system GMM. GMM panel estimation results in Table 5 shows that the GDP difference fist method that had a significant association with POV with a probability value of 0.000 and 0.6566 parameter values. whereas the method of System GMM prove there are several variables that had a significant relationship with POV is HE, GDP and GOVEXP described with a probability value of less than 10% alpha. The results of System GMM HE has negative parameter values that indicate that there is -0.6158 relationship negative significant with POV influenced by economic phenomena that occur in the ASEAN 4, in addition, GOVEXP also used negative parameter value with the value of -2.7227. while. The next GDP discount positive parameter value of 0.7499 which indicates that when the POV that proxy for household consumption increases, due to the increasing value of GDP of ASEAN 4.

Table 6. Test Results GMM Panel

Variable		First Difference	System GMM
Communities	Parameter Value	0.2785	-0.2274
	t-statistics	1.3272	-0.5332
	Prob	[0.5960]	[0.1899]
HE	parameter Value	-0.6158	-0.3235
	t-statistic	-2.9155	-0.9708
	Prob	[0.3358]	[0.0051] *
GDP	parameter Value	0.7499	0.6566
	t-statistic	8.7173	6.8421
	Prob	[0.0000] *	[0.0000] *
GOVEXP	parameter Value	-0.0792	-0.0315
	t-statistic	-1.7227	-0.6035
	Prob	[0.5485]	[0.0905] ***
UNEMP	parameter Value	-0.0523	-0.0071
	t-statistic	-0.3161	-0.0220
	Prob	[0.9824]	[0.7530]
J-stats		54.9999	45.1163
Prob. (J-statistics)		0.0000	0.0000

: significant α = 1%, *: * significant α = 5%, *: significant α = 10%*

Aspects of equitable health services to be one of the important points in the implementation of the National Health Insurance program, especially in the availability of health services, both in terms of quantity and quality of health facilities [5] - [7]. Health care providers increasingly required to provide quality service, fast, affordable and scalable up to the expectations and needs of the community. For conditions that exist in Indonesia budgetary allocations during the last seven years has increased but the data presentation budget realization decreased (Ministry of Finance, 2016). Therefore, there is a need for a strategy for policy implementation in order to synchronize between the budget and realize. The difference between the budget and the realization made possible as a result of not sprightly government and stakeholders in mapping the existing conflict between countries.

The government can also intervene directly through activities funded by the government, which includes the activities of providing goods and public services [8] - [10], implementing activities or strategic initiatives, empower the powerless (empowering the powerless) or alignments , Nevertheless, the problem of poverty is very complex and multidimensional, not only the responsibility of government, but it becomes more responsible all stakeholders ranging from local governments, businesses, activists of non-governmental and international organizations.

Conditions occurring in Thailand tend to be caused by the existing financial conditions, for example when the economic crisis that hit Thailand in 1997, the unemployment rate increases that pushed the poverty rate. Based on some research conducted showed that poverty in Thailand tend to be caused by the equalization of financing has not been evenly distributed, because they are focused on Bangkok and surrounding areas [11] - [13]. Additionally, equitable distribution of income such as investments and large salaries are still concentrated in Bangkok and surrounding areas. So, in this case, labour market needs to be managed appropriately to maximize equity and economic stability objectives. In general,

the phenomenon of poverty in some parts of ASEAN due to planning or strategy developed by the government is less precise.

To alleviate the problem of poverty should not only emphasize on economic development approach alone. Economic development has an important role in alleviating poverty, but economic development often reaps a failure in creating public welfare, for example, the case of unemployment, social inequality, social disintegration, social injustice and others [14] - [16]. This is because poverty is a multidimensional problem.

Therefore, economic development must work together with social development, in which social development aimed at improving the quality of individuals, families, and communities through education, health, social security, public participation, and social justice. With the increasing ability of individuals, families, and society, it will have implications for their self-reliance in meeting basic needs, able to manage social problems, and is able to maximize the opportunities that exist.

4. Conclusion

Poverty is a public discussion that has the influence to economic growth. The problem of poverty in ASEAN based on the analysis PGMM prove that health expenditure, GDP and government spending has a significant relationship to poverty which in this study on proxy and consumption levels. These results indicate that consumption expenditure per household was affected by expenditure allocation especially the government's financial allocation for education and health. Education is a sector that explores human resource skills, so required proper planning strategy to improving the quality of education in each country. Besides health related to people's living standards, which meet the standards of health care if the survival rate of each country has increased. so for the preferred policy recommendations on infrastructure in the form of public service.

Reference

[1] B. Dahiya, "Cities in Asia, 2012: Demographics, economics, poverty, environment and governance," *Cities*,vol. 29, no. SUPPL.2, pp. S44-S61, 2012.

[2] VR Savage, *Social Science Infrastructure*: Asian, Second Edi., Vol. 22. Elsevier, 2015.

[3] ZB Irfan and A. Nehra, "Analyzing the aid effectiveness on the living standard: A check-up on Southeast Asian countries," *Urban J. Manag.*, Vol. 5, no. 1, pp. 23-31, 2016.

[4] M. Museru, F. Toerien, and S. Gossel, "The Impact of Aid and Public Investment Volatility on Economic Growth in Sub-Saharan Africa," *World Dev.*, Vol. 57, no. 1966, pp. 138-147, 2014.

[5] E. Saints, "Child of access to health services during the economic crisis: An Indonesian experience of the safety net program," *Soc. Sci. Med.*, Vol. 63, no. 11, pp. 2912-2925, 2006.

[6] BK Sovacool, "The political economy of energy poverty: A review of key challenges," *Energy Sustain. Dev.*, Vol. 16, no. 3, pp. 272-282, 2012.

[7] X. Zhang and R. Kanbur, "Spatial inequality in education and health care in China," *China Econ. Rev.*, Vol. 16, no. 2, pp. 189-204, 2005.

[8] A. Bergh and T. Nilsson, "Is Globalization reducing absolute poverty ?," *World Dev.*, Vol. 62, pp. 42-61, 2014.

[9] S. Shuid, "The housing provision system in Malaysia," *Habitat Int.*, Vol. 54, pp. 210-223, 2016.

[10]JM Dowling and CF Yep, "Indonesian economic development: Miracle or Mirage ?," *Asian J. Econ.*, Vol. 19, no. 5-6, pp. 474-485, 2008.

[11] Z. Morad, HL Choong, K. Tungsanga, and Suhardjono, "Funding Renal Replacement Therapy in Southeast Asia: Building Public-Private Partnerships in Singapore, Malaysia, Thailand, and Indonesia," *Am. J. Kidney Dis.*, Vol. 65, no. 5, pp. 799-805, 2015.

[12] J. Rigg, B. Promphaking, and A. Le Mare, "Personalizing the middle-income trap: An inter-generational migrant view from rural Thailand," *World Dev.*, Vol. 59, pp. 184-198, 2014.

[13] TK Vu and H. Nakata, "The Macroeconomic Effects of Oil Price fluctuations in ASEAN Countries: Analysis Using a VAR with Block Exogeneity The macroeconomic effects of oil price fluctuations in ASEAN countries: Analysis using a VAR with block exogeneity *, "no. 619, 2014.

[14] G. Ranis, "Arthur Lewis's Contribution to Development Thinking and Policy," *Manchester Sch.*, Vol. 72, no. 6, pp. 712-723, 2004.

[15] R. Thillainathan and K. Cheong, "Malaysia's New Economic Policy, Growth and Distribution: Revisiting the Debate," *Malaysian J. Econ. Stud.*, Vol. 53, no. 1, pp. 51-68, 2016.

[16] A. Rustemova, "Political economy of Central Asia: Initial reflections on the need for a new approach," *J. Eurasian Stud.*, Vol. 2, no. 1, pp. 30-39, 2011.

Role of Banking Agencies and Village Crediting Institutions on Economic Growth Inclusion in Bali Province

Made Suyana Utama[1], Nyoman Djinar Setiawina[1], Made Agung Raharja[2]
[1]Faculty of Economics and Business, Universitas Udayana, Bali, Indonesia
[2]Faculty of Mathematics and Science, Universitas Udayana, Bali, Indonesia
Email: suyanautama@unud.ac.id

Abstract

As a development agency, Commercial Banks and Rural Banks (BPR) and Lembaga Perkreditan Desa (LPD) are financial intermediaries conducting activities to collect and channel funds for the smoothness of economic activity. The existence of BPR and LPD is expected to create inclusive or qualified economic growth, which is economic growth accompanied by poverty reduction, decreasing inequality of income distribution and decreasing unemployment rate. With the inclusive economic growth is expected to increase public welfare.

This study aims to analyze the role of banking institutions and Lembaga Perkreditan Desa (LPD) against changes in economic structure, inclusiveness of economic growth, and community welfare in Bali Province. The data used are obtained from secondary sources in the form of panel data of regencies / cities in 2010 until 2016. The design of this study uses a tiered causality model by applying the Structural Equation Model (SEM) with the application of Partial Least Square (PLS).

The result of the research shows that credit given by Commercial Banks and Rural Banks (RBs) and Lembaga Perkreditan Desa (LPD) gives the impact of changes in economic structure, namely the increase of capital formation, the increase of labor absorption, and the increasing contribution of modern sectors to economy. Changes in economic structure affect the inclusiveness of economic growth. Inclusiveness of economic growth is economic growth accompanied by poverty reduction, decreased inequality in income distribution and declining unemployment rate. Inclusiveness of economic growth also affects the welfare of the people in Bali Province.

Keywords: banking institutions, Village Credit Institutions, and inclusiveness of economic growth

The Effect of Government Expenditures and Inflation on Employment With Economic Growth As Intervening Variable in Indonesia 1997-2015

Nurma Kamelia Suryantoro[1], Siti Komariyah[1], Badjuri[1]
[1]Department of Economics Development Study, Faculty of Economics and Business, Universitas Jember, Jl. Kalimantan no. 37, Jember (68121)
Email: sitikomariyah.feb@unej.ac.id

Abstract

This study aims to determine the effect of goverment expenditures and inflation on employment with economic growth as intervening variables. This research is a quantitative research using time series data (1997-2015) in Indonesia. Data used in this research is secondary data obtained from the Central Statistics Agency (BPS) and World Bank. The analytical method used is the method of path analysis used SPSS Statistics software 24. The results showed that, goverment expenditures and economic growth have a positive effect and no significant in Indonesia, 1997-2015. However inflation and economic growth have positive significant effect but negative significant effect on employment. Economic growth is still weak to be an intervening because the result showed positive and no significant on employment.

Keywords: Goverment Expenditures, Inflation, Economic Growth, and Employment.

1. Introduction

Economic development is the whole thing of development efforts conducted by the societies to develop ecenomy activities and the income level, that economic development is a process which causes the increase in per capita income of the residents in a certain region in the long term (Sukirno, 2006:53). The purpose of economic development is to improve the whole societies' welfare and prosperity. As the effort of improving society's welfare and prosperity, the government improve several sectors either in the short or long term. Economic growth is one of success standards of economic development in a region. If the economic growth increase, there must be an increase in the economic activities (Djojohadikusumo, 1994:6). The significant economic growth urges the availability of various economic facilities and infrastructure needed to accelerate the economic development. The economic development indicator of a country were on its economic growth and employment. Human resource is the most important factor in the economic growth. Economic growth does not only depend on the human resource, but it emphasizes more on the efficiency (Jhingan, 2004:220).

In the employment and economic growth theory stated by Okun, an economy experts that is well-known for his Okun Law stated that the joblessness level is related to the real GDP level, where there was a negative relation between the employment and real GDP, which means there was a positive relation between employment and GDP (mankiw, 2008:234). GDP aggresively showed certain region ability in producing income or recompensation to the production factor which participate in the production process at the region. GDP increase is very important on employment availability in Indonesia.

Monetary crisis occured in Indonesian economic in the middle 1997 had a serious impact on various economy sectors of Indonesia. They are: high inflation, disturbed labor activity, increased joblessness, flight of capital overseas, decreased local investment level

and in the end, the national economic growth become lower than the previous period. In this case, the financial sector become the center of attention in the monetary crisis recovery policy. Therefore, a set of policy was launched by the government to overcome the unstable financial sector (Krisnamurthi, 2002).

This activity gave a direct impact on a country's economic that was shown by the government expenditures, that if the government expenditures spent did not reach the target, it will harm the economic. Therefore, government expenditures may be the guideline of a country's economic improvement and be able to increase economic activities as the result of increasing investment. The investment increase will have an impact on the increase of output, employment, export, tax, government revenue, and current transaction (Sriyana, 2006).

According to Keynes, inflation happens because a society requires a life they cannot aford. The high inflation level causes joblessness. The high inflation level causes high joblessness level, which means the employment opportunity become smaller or in other words, the number of labor employed will be decreased. Then, the GDP growth cannot be separated from the investment increase. Investment is the determiner of economic growth rate, since beside pushing the output increase significantly, it also increase the input request that in the end it will increase the employemnt and society's welfare as the consequence of increasing the society's income (Makmun and Yaksin, 2003:63).

Historically, the highest inflation level and volatility of Indonesia is in 1998 caused by the economic crisis at that time. The condition at that time was hard and affected all economic factors of Indonesia. Initially, this crisis was caused by the depreciation of Indonesia exchange rate on foreign exchange (especially US Dollar). The economic condition and high inflation might cause changes in output and employment. There was a significant relation between inflation and economic growth (Bick, 2010). The employment rate becomes smaller because the high joblessness level as the result of the high inflation level. On the macro policy, government must control the inflation rate and suppress the revolving funds in the society.

2. Research Method

1. Research Framework
   This is the explanatori quantitative research, a research that explain the causal relation among variables trhough hypothesis testing.
2. Data Type and Source
   Data is a whole empirical and documentative information obtained from the location as the support to scientific and academic science construction (Mukhtar, 2013:11). The data type used in this research was the quantitative secondary data. The data obtained from documents which contained statistic data from various edition published by the related institution, such as Bapadan Pusat Statistik (BPS), World Bank, and other data gained from other supporting sources.
   The data was in the form of time series. Time series data was used to see the development from time to time, which was collected since 1997 until 2015. The data required in the modelling was GDP (Gross Domestic Product) value to proxy the economic growth, government expenditures for development, and inflation.
3. Data Analysis Method
   This research used Path Analysis assisted with SPSS application to analyze the causal relation of economic growth, government expenditures and inflation on employment in Indonesia 1997-2015 either directly or indirectly through intervening variable.

4. Path Analysis
   The causal relation among variables can be analyzed through path analysis. The model significance was based on the beta coefficient (β) that was significant on the path. The path analysis model used in this research were described at the following structural equation:

$$Z = \beta ZX_1 + \beta ZX_2 + \varepsilon_1 \quad (1)$$
$$Y = \beta YX_2 + \beta ZY + \varepsilon_2 \quad (2)$$

Description:
X_1 = *Government Expenditures (GE)*
X_2 = *Inflation (I)*
Z = *Economic Growth (EG)*
Y = *Employment (KK)*
ε_1, ε_2 = *Intervening Variable*

3. Result and Discussion

Data Analysis Result

Path Analysis

The path analysis was related to the dependence study of a dependen variable on one or more independent or intervening variable (s) on the dependent variable. There served the path analysis result of independent variables, the government expenditures and inflation, and the intervening variable, the economic growth, and the dependent variable, the employment. Based on the multiple linear regression analysis result (in this case was to test the effect partially), the result was stated as follows:

The government expenditures variable on economic growth was stated as $t_{count} < t_{table}$ (1,446 < 2,119) and significance 0,168 > 0,05. Thus, Ho was accepted and Ha was rejected which means government expenditures had no effect on economc growth. The inflation variable on economic growth was stated as $t_{count} > t_{table}$ (3,945 > 2,119) and significance 0,001<0,05. Thus Ho was rejected and Ha was accepted, which means the inflation had an effect on economic growth. tcount was positive, hence if there was an increase on the inflation variable, it will increase the economic growth. the inflation variable on employment was stated as $t_{count} > t_{table}$ (-2,582 < 2,119) and significance 0,020 < 0,05. Thus, Ho was rejected and Ha was accepted, which means the inflation had an effect on employment. tcount was negative, hence an increase in the inflation variable will decrease the economic growth level. The economic growth variable on employment was stated as $t_{count} < t_{table}$ (1,698 < 2,119) and significance 0,109 > 0,05. Thus Ho was accepted and Ha was rejected, which means the economic growth had no effect on employment.

Trimming Theory

Based on the calculation on the path analysis, there were two paths which had no significant effects or were over the predetermined alpha (α) value. The trimming method will be used to fix a path analysis structure model by removing the independent variable which had no significant path coefficient (Heise; Ridwan and Engkos, 2012:127). The multiple linear regression analysis result was used to determine the effect of inflation and the intervening variable, the economic growth, and the dependent variable, the employment. Based on the multiple linear regression result analysis (in this case was to test the effect partially), the result was stated that the inflation variable on economic growth was stated as $t_{count} < t_{table}$ (3,565 > 2,109) and significance 0,002 < 0,05. Thus Ho was rejected and Ha was accepted, which means the inflation had an effect on economic growth. tcount was positive, thus an increase on the inflation variable will increase the economic growth. The

inflation variable on employment was stated as $t_{count} > t_{table}$ (-2,313 < 2,109) and significance 0,034 < 0,05. Thus Ho was rejected and Ha was accepted, which means inflation had an effect on employment. tcount was negative, hence an increase in inflation will decrease the economic growth.

Path Coefficient Calculation

The path coefficient test was conducted directly to determine "how much the direct effect of independent variable on the dependent variable."

1. Direct Effect
   a. The direct effect of inflation on economic growth was 65,4%
   b) The effect of inflation on employment was -48,9%
2. Total Effect
   Total Effect: Y ← X2 → Z , 0,654 + 0,489 = 1,143 or 114,3%

Classical Assumption Test

After determining the model, then the next step was testing whether the developing model was BLUE (Best Linear Unbiased Estimator). The BLUE Assumption Test that must be fulfilled was that the model had normal distribution, there was no multicolinearity, and there was no heteroscedacticity.

Discussion

The data analysis result showed that the government expenditures gave positive insignificant effect on economic growth. This result was in line with the previous research stated that simultaneously the government expenditures had no effect on economic growth, the effect of governemnt expenditures through economic growth was not considered as intervening because it was negative (Tandiawan et al, 2014). The research of Hadiyanti (2013) stated that the government expenditures had indirect negative and insignificant effect on employment through GDP. However, it was not in line with the research of Sunusi et al (2014) stated that the government expenditures can directly affect the economic growth, which means the number of government expenditures was in line with the economic growth level. Government expenditures which can not affect the economic growth had no significant result because of these following conditions:

The proportion of government expenditures for the central government and regional expenditures

The ministry of finance (Kemenkeu, 2017) stated that the fund proportion for the central government was greater than the regional expenditures by 63,2% where the central government expenditures was allocated to develop the infrastructure, overcome poverty and joblessness, and distribute the development and repair the connectivity. However, in this case, the impact of central government expenditures has not been yet depicted. This is due to the too much number of fund spent by the central government for employee expenses, goods expenses, debt rate payment, and subsidy that cannot be seen at the short term since the government expenditures impacts on certain people such as the civil servant. The civil servant will perform consumption where the consumption itself will trigger investment. Those two were the most essential elements for an economy.

There are a lot of reasons stated that the macro economy analysis should pay more attention to the household consumption. The first reason, the household consumption contribute to the national income. Most of countries has 60-75 percent consumption of the whole national income. Second, the household consumption had an impact in determining

the economic activity fluctuation through times. Someone's consumption is in line with his/her personal income (Sukirno, 2008:338). That the impact of an investment cannot be seen in the short term, though the central government expenditures is greater than the regional expenditures still the impact for economic growth cannot be seen directly.

There was a government policy for infrastructure

The governing period of President Joko Widodo and Jusuf Kalla will have entered the third year at Oktober 20th 2017. Various policies and infrastructure development has performed to increase the economy of Indonesia. The Program Director of Institute for Development of Economics and Finance, Berly Martawardaya, said that the time has come for Jokowi-JK to shift their focus from the infrastructure development. Because if they keep on developing the infrastructure, there will be no rapid income for the country. According to Berly, it is time for Jokowi-JK to find investors. Thus, it will increase national revenue for the society's welfare (economy.okezone.com). However, with the imbalance infrastructure availability among regions in Indonesia, the infrastructure development is the essential requirement for the even national development framework. If it cannot be fulfilled, it would be a "devil's circle", where the investment attraction take place only at Java region. When such kind of condition rise, it will urge the infrastructure development to befocused at Java Region. The government should avoid this condition. The infrastructure development cannot be enjoyed in the short term. This made the government expenditures for other region focused on public service improvement, increasing the employment level, and decreasing the imbalance among regions had no significant effect on economic growth of Indonesia (Kemenkeu, 2018).

Based on the path analysis result, it is concluded that inflation had positive significant effect on economic growth, it proved that the level of economic growth is in line with the level of inflation. This result was not in line with with the prervious research said that the effect of inflation on growth was negative significant (Mawardi et al, 2016). However, this result was in line with the research of Bick (2010) and Pramesthi (2013) who also stated that inflation had a positive effect on economic growth.

So that this research was supported by a theory expressed by Sukimo (2000:11) where the economics policy especially the monetary policy of a country tried to suppress the inflation to keep being on the level of creeping inflation because inflation was able to create a good effect in an economy. The company's profit will increase and attract the investors. That the employment and income will also increase and lead to an economic growth. inflation can increase the production. Because when inflation happens, the goods cost rise earlier than the wages, that the profit of the company will increase. However, when the inflation rate was too high (Hyperinflation), it will cuse the other hand, the output decrease. On the hyperinflation situation, the real value of money will decrease drastically, the society tends to have no cash fund, transaction lead to barter, which was usually followed by the decreased goods production. Inflation will be accompanied by the output increase or decrease. But in normal case, usually, the hyperinflation will increase the output, and it will make the business man or company invest their capital. This is due to the investor hope to get more profit because of the inflation. This is in line with the trade off relation on the Phillips Curve stated that the higher the joblessness level means the lower the wage inflation level and vice versa. Because the Phillips Curves has proved that the price stability and employment will not happen simultaneously, which means that to reach high employment, low joblessness, and high economic growth, the consequence is we are willing to carry on the hyperinflation.

The data analysis result showed that economic growth had a positive insignficant effect on employment. this was not in line with the research of Saman (2005) who stated

that employment was affected positively by the economic growth, and Situmorang (2005) also stated that the effect of economic growth on employment can be affected by other factors such as interest rate and employment response on the inelastic minimum wages. In the theory of employment and and economic growth expressed by Okun, an economics expert that is well-known by his Okun Law stated that the joblessness level was related to the real GDP level, where there was anegative relation between joblessness and real GDP which means there was a positive relation between employment and GDP (Mankiw, 2008:234). However, in line with the research conducted by Isti et al (2015) stated that the economic growth affect positively yet insignificant on the employment.

This research stated the small effect of the economic growth on employment was the quality of economic growth which was affected by the increased population growth without being accompanied by the good quality human resource. As what has been expressed by Darlis Darwis (2011) there were several factors affect the economic growth and development, but initially, those factors can be grouped into two, the economics factor and the non economics factor. One of the econimics factors affect the economic growth and development was the human resources which will determine the national development success through quantity and quality of the society. The great number of pupulation was the potential market for production results, while the quality determined the existing production capacity. The other economics factor that affect the economics growth and development was the natural resources which includes land and natural wealth such as soil fertility, climate/weather condition, woods, mines, and ocean's wealth, really affect the industrial growth of a country, especially in the production material provision.

Therefore, the great number of population will decrease the employment. The workforce number increasing without being accompanied by the economic growth rate in creating new employment, at the end will cause the high number of jobseeker, and if it was not overcome by the government it will cause several problems such as the increase of joblessness level which will lead to poverty that trigger economic degeneration, and the economic growth was too weak to be considered as intervening variable.

The other result of this research showed that inflation affect negative significantly on employment, which means if the inflation rate increase will decrease the employment rate and vice versa. This research was in line with the previous research conducted by Dewi (2016) which stated that the effect of inflation on employment was negative significant. This showed that the calculated inflation was the general price inflation, that the inflation rate increase will impact on the loan rate. Therefore, the high loan rate will decrese the investment to develop the productive sectors. This will cause the low employment as the result of low investment which will impact on the productivity. By considering that the inflation level and joblessness increase their position (no trade off) then it showed through Phillips Curve where there was a trade off between low inflation or low joblessness. If the required inflation was low, then the joblessness will rise and vice versa.

4. Conclusion And Suggestion

Conclusion

The path coefficient result obtained several new assumptions that can be used as a future research. These are the path analysis result obtained by the writer:

1. Government expenditures had a positive and insignificant effect on economic growth. This was cused by the first, there was a proportion of government expenditure for central government and regional expenditures. Second, there was government policy for infrastructure.

2. Inflation had significant positive effect on economic growth, this proved that the increase of economic growth will also increase the inflation rate.
3. The economic growth had positive significant effect on employment. this research stated that the small effect of economic growth on employment was caused by the number of icreasing population was not accompanied by good quality of human resources.
4. Inflation had negative and significant effect on employment, which means the increase of inflation rate will decrease the employment rate.

Suggestion

1. It is better for the government to optimize the workforce quality through work training and enterpreneurship that it will increase the knowledge of the workforce in the future. Such treatment will affect the the workforce productivity and decrease the joblessness rate as the result of the emploment increasing.
2. Government should increase the employment rate by paying attention on the enterpreneurship sector since there are many people start working there. Enterpeneurship will create many job vacancies with a giid support from the government.
3. Government should review more about government expenditures for the unrealized regions, because the government expenditures will affect the economic growth that will impact the employment.

References

[1] Bittencourt, Manoel. 2012. Inflation and economic growth in Latin America: *Some panel time-series evidence*

[2] Djojohadikusumo, Sumitro. 1994. *Perkembangan Pemikiran Ekonomi: Dasar. Teori Ekonomi Pertumbuhan dan Ekonomi Pembangunan.* Jakarta: PT Pustaka. LP3ES Indonesia. Hal 6. Hal 234.

[3] Frisca, Dewi. 2016. *Analisis Faktor-Faktor yang Mempengaruhi Kesempatan Kerja di Provinsi Lampung.* Lampung: Ekonomi Pembangunan Fakultas Ekonomi Dan Bisnis Universitas Lampung

[4] Hadiyanti, Sofia Ulfa Eka. 2013. External Variables in the Expansion of Employment Opportunities. Samarinda: *Jurnal Ekonomi Pembangunan.* Volume 14, Nomor 2, Desember 2013, hlm. 234-245

[5] Isti, Sumeda., Rujiman., M.Lian., Dalimunte., Jhon Thafbu Ritonga. 2015. *Analisis Kesempatan Kerja Sektoral di Indonesia*. Fakultas Ekonomi dan Bisnis. Universitas Lampung.

[6] Jhingan, M. L, 2004. *Ekonomi Pembangunan dan Perencanaan.* Jakarta: Rajawali Press. Hal 220.

[7] Kementerian Keuangan Republik Indonesia Badan Kebijakan, *pengeluaran pemerintah untuk daerah* (2018). http://www.kemenkeu.go.id.

[8] Krisnamurthi, Bayu (2002) Krisis Moneter Indonesia, *Makalah*, Jakarta.

[9] Makmun dan Akhmad Yaksin. 2003. Pengaruh Investasi dan Tenaga Kerja Terhadap PDB Sektor Petanian. *Kajian Ekonomi dan Keuangan*, Vol &, No. 3 September. Hal 63.

[10] Mankiw, N. Gregory. 2008. *Makroekonomi Edisi Ketujuh*. Jakarta : Erlangga.

[11] Mawardi., Aziz Septiatin., Mohammad., Ade Khairur. 2016. Pengaruh Inflasi Dan Tingkat Pengangguran Terhadap Pertumbuhan Ekonomi Di Indonesia. *I-Economic* Vol. 2. No.1.

[12] Mukhtar. 2013. *Metode Praktis Penelitian Deskriptif Kualitatif*. Jakarta. Hal 11

[13] Nainggolan, Indra. 2009. *Analisis Faktor Yang Mempengaruhi Kesempatan Kerja Pada Kabupaten/Kota Di Provinsi Sumatera Utara*. Medan: Badan Penerbit Universitas Sumatera Utara Medan.

[14] Pramesthi, Rovia Nugrahani. 2013. *Pengaruh Pengangguran Dan Inflasi Terhadap Pertumbuhan Ekonomi Di Kabupaten Trenggalek*. Surabaya: Fakultas Ekonomi, Unesa

[15] Sarman (2005) *Analisis Pertumbuhan Ekonomi dan Kesempatan Kerja di Kota Kendari*.

[16] Situmorang, Boyke T. H. 2005. *Elastisitas Kesempatan Kerja Terhadap Pertumbuhan Ekonomi, Upah Minimum Dan Suku Bunga Di Indonesia Tahun 1990-2003.* Bogor: Institut Pertanian Bogor

[17] Sukirno, Sadono. 2006. *Ekonomi Pembangunan: Proses, Masalah, dan Dasar Kebijakan.* Jakarta: Prenada Media Group. Hal 53.

[18] _____. 2008. *Makro Ekonomi Modern: Perkembangan Pemikiran dari Klasik Hingga Keynesian Baru*, Jakarta: PT Raja Grafindo Persada. hal 338

[19] Sunusi, Dewi Kurniawati, Anderson Kumenaung, Debby Rotinsulu. 2014. *Analisis Pengaruh Jumlah Tenaga Kerja, Tingkat Pendidikan, Pengeluaran Pemerintah Pada Pertumbuhan Ekonomi Dan Dampaknya Terhadap Kemiskinan Di Sulawesi Utara Tahun 2001-2010.* Manado: Fakultas Ekonomi dan Bisnis, Jurusan Ilmu Ekonomi Pembangunan. Universitas Sam Ratulangi Manado. Volume 14 no. 2.

[20] Tandiawan, Elvandry, Amran Naukoko Dan Patrick Wauran. 2014. *Pengaruh Investasi Swasta Dan Belanja Pemerintah Terhadap Pertumbuhan Ekonomi Dan Dampaknya Terhadap Kesempatan Kerja Di Kota Manado Tahun 2001-2012.* Manado: Fakultas Ekonomi dan Bisnis Ekonomi Pembangunan Universitas Sam Ratulangi Manado.

Analysis of the Influence of Credit Growth and Asset Prices on the Global Financial Cycle in ASEAN 3

Firda Nisfia Nurfadilah[1], Siswoyo Hari Santosa[1], Aisah Jumiati[1]
[1]Department of Economics Development Study, Faculty of Economics and Business, Universitas Jember, Jl. Kalimantan no. 37, Jember (68121)
Email: siswoyohari68@gmail.com

Abstract

The global financial crisis that hit the United States in 2008 prompted a risk-taking behavior. It also increased the vurnerability of the capitalist economic system, namely in the sector of money and capital market which is aimed at investment financing activities. Credit growth has been known to have a positive causality relationship with economic growth. Movements in the global financial cycle would show changes in market sentiment which will eventually affect financial markets in emerging market. The research method used in the study was the Data Panel Method with a span of time starting from 2000 to 2016. This method was used to see the effect of credit growth and asset prices on the global financial cycle in ASEAN 3 countries, namely Indonesia, Malaysia, and Thailand. Tests which used Panel Data Method found that the credit growth of ASEAN 3 had negative influence on the global financial cycle after the global financial crisis. However, different results were shown by the variable 'Asset' that has a positive influence on the global financial cycle.

Keywords: Emerging Market, Global Financial Cycle, Risk-taking behavior

1. Introduction

The financial crisis that hit the United States (US) in 2008 has led to an increase in risk-taking behavior, a condition occurring when bank housing loans were increasingly rampant and then securitized and traded into the financial system. Bruno and Shin (2013) considered that the shocks due to the financial crisis in the United States of America against global finance occured because of some factors that drove fluctuations in financial markets in the world. Foreign investors tended to reduce portfolio investments in asset markets in developing countries because it could increase global risks and uncertainty of monetary policy in developed countries (Adler, 2016).

The global financial crisis also caused an increase in the amount of funds entering developing countries. This increase in capital inflows not only increased the real economy of the concerned country, but also had the potential to become a serious financial problem. The amount of capital inflows in developing countries is a major cause of financial sector instability (Byrne and Fiess, 2016). In addition to the increase in capital inflows that cause financial sector instability, high levels of volatility can also show potentials that lead to a higher reversal of funds which can cause changes in national financial conditions and global finance. This instability in the financial sector might disrupt economic growth in a country. It can be said that good economic growth will be achieved when instability of financial sector can be suppressed or minimized.

Capital inflows within the countries of Indonesia, Malaysia and Thailand had different levels but not very significant. In 2008, following the global financial crisis in the United States, capital inflows increased. This was because investors for ASEAN countries assumed that to continue their businesses they must look for other countries for gaining more profits. ASEAN countries then were chosen since they were classified as developing countries with

resources abundant. This was quite interesting for investors, especially foreign investors from developed and powerful countries such as the United States, Britain, the Netherlands, and others whose capital funds were substantial. Investments made by investors with large capital made the destination countries experienced an increase in their net foreign direct investment.

An empirical study conducted by Ebeke and Kyobe (2015) focused more on the impact of global financial risk on government bonds in the markets of EMEs countries. The study modeled bond sensitivity in the markets of EMEs that were conditioned at the level of foreign participation and concentration of the investor base. The foreign participation would be higher than the local currency in the bond market which is useful to increase the transmission of global financial shocks especially at the threshold that had been reached which is above 30% in the participation. Indonesia and Malaysia had foreign ownership of government bonds in local currencies around or above 30%. In countries with a threshold of more than 30%, government bonds in foreign currencies tend to be mostly owned by foreigners. Meanwhile, a higher concentration of investor base would cause EMEs in local currencies to be more sensitive to global financial shocks.

The results of a study showed that changes in the Fed's policy direction became the driving force in the global financial cycle that would affect the flow of funds, asset prices, and credit growth. Claessens, Kose, & Terrones (2012), Borio & Zhu (2012), Drehmann, Borio, & Tsatsaronis (2012) analyzed the pattern and duration of the property price cycle, stock price, and credit cycle, but did not provide an intensive understanding of the causing factors and effects of the global financial cycle. A study was also conducted by Alamsyah, Adamanti, and Yumanita (2014) in Indonesia, but they focused on the duration of the cycle.

Based on the background described above, after the global financial crisis that occurred in the United States, research problems can be formulated, namely: What is the influence of the global financial cycle on the growth of credit and assets in ASEAN 3? What is the response of credit growth and assets in ASEAN 3 to the global financial cycle after the global financial crisis?

2. Method

The type of research used was quantitative in which data were in the form of numbers and based on time series. This type used Panel Data analysis method to determine the effect of credit growth and asset prices on the global financial cycle to be studied.

The type of data used was secondary data in the form of panel data with a study period from 2000 to 2016 in the form of annual data. Data sources used in this study were partly obtained and processed from the World Bank, International Financial Statistics, Bank Indonesia (BI), Monetary Authority of Singapore, Bank Negara Malaysia, and several related internet sources.

The research model used to answer several problem formulations in the research conducted is as follows:

Volatility Index: f(Credit,Asset)

The Econometric Model is:

$$\textit{Volatility Index}_{it} = \alpha + \beta_1 (\textit{Credit})_{it} + \beta_2 (\textit{Asset})_{it} + e_{it}$$

3. Results and Discussion

The Chow test that was done to choose the most appropriate model between common effects and fixed effects indicated that the most appropriate model to use in this study was Fixed Effect Model. Similarly, the Hausman test that was conducted to choose the most appropriate model between random effects and fixed effects also suggested that the most appropriate model to use in this study was Fixed Effect Model.

This panel data linear regression analysis was used to estimate the effect of credit growth and asset prices on the global financial cycle.

Table 1. Data Panel Regression Estimation Results with Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	13.50015	2.178674	6.196497	0.0000
Credit	3.670010	3.060010	1.200281	0.0623
Asset	0.099886	0.052281	1.910580	0.0263

Based on table 1, it can be seen that the results of the regression estimation values show the effect of Credit and Assets on VIX, so the following equation can be obtained:

$$VIX = 13.50015 + 3.670010Credit + 0.099886Asset + x_{it}$$

Based on the results of panel data regression using Pooled Least Square method, as seen on the table, it can be explained that the constant of the regression equation is 13.50015. It means that if Credit and Assets are considered constant, the level of VIX will reach 13.50015 per year. The coefficient of regression of Credit is 3.670010. It means that if Credit increases by one percent, there will be an increase in the VIX of 3.670010, assuming that other variables are considered constant. The coefficient of regression of Asset is 0.099886. That is, if there is an increase in Asset by one percent, there will be an increase in VIX of 0.099886, assuming other variables are considered constant.

Table 2. Statistical Test Results

R-squared	0.209695	**Mean dependent var**	17.869020
Adjusted R-squared	0.140973	**S.D. dependent var**	5.322571
S.E. of regression	4.933157	**Akaike info criterion**	6.122730
Sum squared resid	1119.458	**Schwarz criterion**	6.312124
Log likelihood	-151.1296	**Hannan-Quinn criter.**	6.195103
F-statistic	3.051342	**Durbin-Watson stat**	0.568359

F test is seen from the Probability (F statistic) that is 0.025967. This means that based on the regression results, it is proven that the Probability (F statistics) is smaller than the significance level α = 0.05, then H_0 is rejected and H_a is accepted, which means that simultaneously Credit and Asset affect VIX in ASEAN countries 3. Meanwhile, the Determination Coefficient test shows the adjusted R-squared is equal to 0.140973 or 14.0973%. This indicates that 14.0973% of the global financial cycle is influenced by Credit and Assets, while the remaining 85.9027% is influenced by other variables outside the model.

Table 3. Resuts of t test

Variable	Probability	Note
Credit	0.0623	Insignificant
Asset	0.0263	Significant

Based on the table above, it appears that the independent variable 'Credit' has no significant effect on the dependent variable 'VIX'. This is because the probability value is greater than the significant level α = 0.05, which is 0.0623. Then, the value of another independent variable 'Asset' shows the opposite result, which is a significant effect on the dependent variable 'VIX'. This is because it has a smaller probability value compared to a significant level of α = 0.05, which is 0.0263.

Multicollinearity was used to determine whether there is a relationship between independent variables in a regression model or not. If the correlation coefficient of the relevant variable is located outside the acceptance limit (critical value), then the correlation coefficient is significant and multicollinearity occurs. To find out a variable affected by multicollinearity, a basic belief, which is 0.8, can be used. If the number found is greater than 0.8, then multicollinearity occurs in the concerned variable. Vice versa, if the result obtained is less than 0.8, then there is no multicollinearity in that variable.

Table 4. Multicollinearity Test Results

	VIX	**CREDIT**	**ASSET**
VIX	1.000000	0.321831	-0.144191
CREDIT	0.321831	1.000000	-0.549662
ASSET	-0.144191	-0.549662	1.000000

The results above show that there are no variables that experience multicollinearity because the numbers obtained from the multicollinearity test on each variable show results that are less than 0.8, respetively.

Heteroscedasticity occurs when errors or residuals of the observed models do not have a constant variance from one observation to another. That is, each observation has different reliability due to changes in the background conditions not summarized in the model specifications (Imam Ghozali, 2005).

Table 5. Heteroscedasticity Test Results

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	3.348672	1.396101	2.398589	0.0206
CREDIT	-1.09E-10	1.96E-10	-0.554451	0.5820
ASSET	0.022801	0.033502	0.680596	0.4995

The results of the study show that there are no variables that experience heteroscedasticity problems because the numbers obtained from the heteroscedasticity test for each variable show a probability value greater than 0.05.

Normality test aims at testing whether, in the regression model, there are confounding variables that have normal distribution or not. In this study, to test the normality of data distribution, the jarque-Bera test (J-B test) was used. The criteria for testing Jarque-Bera (JB test) are, among other things, if JBcount ≥ X2table or the probability of JBcount ≤ the probability value (α = 5%), then the hypothesis which states that the residual error term is normally distributed is rejected. Meanwhile, if $JB_{count} \leq X2_{table}$ or the probability of $JB_{count} \geq$ the

probability value (α = 5%), then the hypothesis which states that the residual error term is normally distributed is accepted.

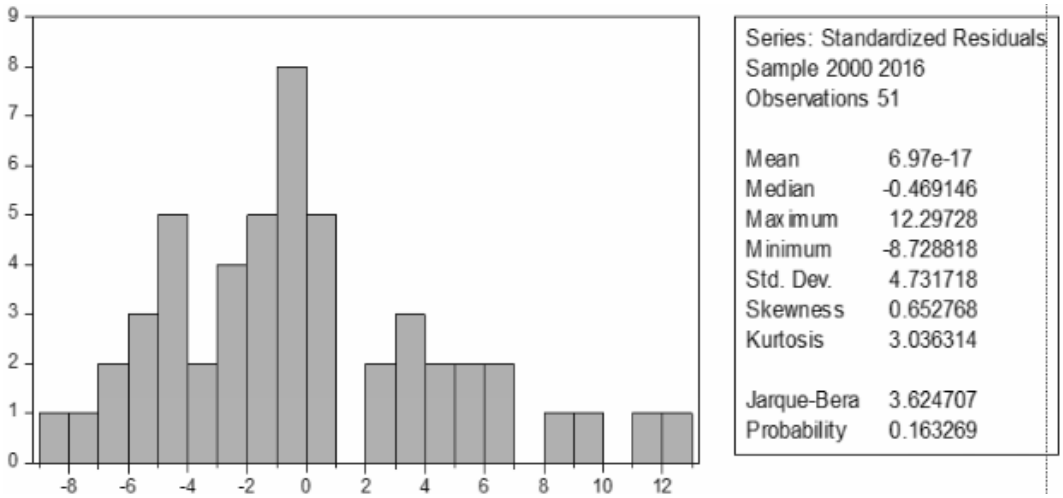


Figure 1. JB Analysis Results

The probability value JB_{count} is 0.163269 ≥ 0.05, so that it can be concluded that the empirical model is normally distributed.

Table 6. Individual Effect Test Results

No	Country (Crosside)	Effect
1	Indonesia	4.242828
2	Malaysia	-1.550004
3	Thailand	-2.692824

The table of the Cross-Section Effect estimation results above shows the influence between variables in each country; when the effect is positive, the dependent variables have an influence on the independent variables used, whereas if the effect value is negative, the dependent variables have no effect but other factors influence the independent variables. Judging from the results of the estimation, it appears that in Indonesia, the influence of the independent variables on the dependent variables is 4.242828. The results obtained are positive, which means that the global financial cycle has an influence on credit growth and asset prices in Indonesia.

Meanwhile, Malaysia shows different results, where the value of the effect is negative, namely -1.550004. This result indicates that the global financial cycle has no effect on credit growth and asset prices in Malaysis, or that there are other factors that affect the two independent variables. Similar to Malaysia, Thailand also shows negative results, namely -2.692824. This means the dependent variables of the global financial cycle do not have an influence on the independent variables, and there are other factors that affect the independent variables.

The estimation results have shown that in Indonesia, Malaysia and Thailand, after the global financial crisis in 2008 in the United States, credit growth has no influence on the global financial cycle, or in other words, has a negative response. The results are the same as the research that has been done regarding the response of credit growth of ASEAN 4 countries in 1990 to 2016 using the VAR Panel method which resulted negative numbers. That is, in a stable and stationary condition, there is no relationship or influence on global

financial cycle and credit growth in each of these countries. This can occur due to the movement of the credit cycle of each country is more driven by the domestic sector than by the foreign sector.

Meanwhile, the results of estimation that have been carried out in ASEAN 3 countries (Indonesia, Malaysia and Thailand) using Data Panel Method show that the variable 'Asset' has an influence on the global financial cycle. Asset is significantly positively related to the global financial cycle. The impact of the Asset response to the global financial cycle can be in the form of an increase in foreign capital entering each country. In the research, it is known that Asset refers to Net Foreign Asset data in the form of domestic assets originating from foreign people or, in other words, foreign investment in developing countries. In addition to increasing capital inflows, based on research conducted in ASEAN 4 countries regarding response of asset prices to the global financial cycle, the excess of global liquidity that reflects the global financial cycle used to measure global investor sentiment has a positive impact on asset prices. The increase in global financial risks will lead to an increase in asset prices. However, excess liquidity will cause an increase in output and property prices in developing countries will not affect asset prices significantly.

4. Conclusion

Testing the concept of credit and asset growth response to the global financial cycle variables in ASEAN 3 using the Panel Data Method provides the conclusion that credit growth that occurs in Indonesia, Malaysia and Thailand which were still developing countries responded negatively to shocks caused by the global financial cycle. Credit growth in each country is not affected by the global financial cycle. When the financial cycle shocked, ASEAN 3 countries' credit growth did not respond. This could happen because economic growth in each country weakened so that their credit growth experienced a decline because people could not do credit. In addition, the domestic sector which was more dominant than the foreign sector also triggered the weakening of credit in each country so that there was no response to global finance.

Different results are shown by the variable 'Asset' that provided a positive response to the shock caused by the global financial cycle. In each ASEAN 3 country, the increase in Assets owned was also influenced by the global financial cycle. Excess liquidity would cause an increase in the number of assets in each country, so that it could be used to reduce financial risks that might occur and would affect changes in the amount of assets owned. As developing countries, ASEAN 3 had an economy that generally was still influenced by cycles from developed countries, including the financial sector.

Policies that have been carried out in suppressing the shock of the global financial cycle require the role of financial authorities in each of ASEAN 3 countries to overcome these problems. The government as a decision maker on policies taken by the central bank in each ASEAN 3 country can conduct an evaluation and review of the financial sector, especially on credit growth and assets owned.

The policies in the financial sector that can be applied by the central banks in each ASEAN 3 countries are, as discussed in the previous chapter, implementing a macro prudential policy to reduce credit growth, so that the credit in each country that is still developing will not experience credit excessiveness which will affect its economic growth. In addition to policies that can be determined, central banks in each country can set minimum foreign investment limit. This can be done so that ASEAN 3 countries would not experience asset bubbles which can cause a financial crisis in their countries.

References

[1] Adler, G., Djigbenou, M., Sosa, S., & France, B. De. (2016). Journal of International Money Global financial shocks and foreign asset repatriation: Do local investors play a stabilizing role? *Journal of International Money and Finance*, 60, 8–28. https://doi.org/10.1016/j.jimonfin.2015.03.007

[2] Andaiyani. Sri, Falianty. Telisia Aulia. 2017. *ASEAN Credit Growth And Asset Price Response To Global Financial Cycle*. BEMP-Bank Indonesia

[3] Bruno, V., & Shin, HS (2013). Perbankan lintas-perbatasan dan likuiditas global. *Ulasan Ekonomi Studi* 82(2), 535-564. https://doi.org/10.1093/restud/rdu042

[4] Byrne, J. P., & Fiess, N. (2016). International capital flows to emerging markets: National and global determinants. *Journal of International Money and Finance*, 61, 82–100. https://doi. org/10.1016/j.jimonfin.2015.11.005

[5] Ciarlone, A., Piselli, P., & Trebeschi, G. (2009). Emerging markets' spreads and global financial conditions. *Journal of International Financial Markets, Institutions and Money,* 19(2), 222–239. https://doi.org/10.1016/j.intfin.2007.11.003

Enviromental Impact of The Proceesing Industrial Activities in Central Java

[1]Elok Fatia Kirana, [2]Evi Gravitiani
Faculty of Economic dan Business, Sebelas Maret University, Jl. Ir. Sutami no. 36A, Surakarta (57126)

Abstract

Economic growth in Central Java cannot be separated from the role of the industrial sector which is the highest contributor to GDRP (Gross Domestic Regional Product). The growth of the industrial sector cannot be separated from the negative impacts of environmental pollution. This research aims to analyze the effect of processing industry activities towards water and air pollutions in Central Java. The data used in this research is secondary data in the form of input-output table of Central Java in 2013 by means of pollution intensity and pollution cleaning costs. The data were obtained from Industrial Pollution Projection System (IPPS) published by World Bank and Badan Perencanaan Pembangunan Daerah (BAPPEDA). This research applies modified input-output model by adding anti-pollution sectors in analyzing the data. According to (the) available data, the types of air pollutants added to the table are sulfur dioxide (SO2), nitrogen dioxide (NO2), and total suspended particulates (TSP). While the types of water pollutants added are biological oxygen demand (BOD) and total suspended solids (TSS).The final result shows that the industrial sector plays a major role in the environmental pollution as indicated by the pollution effect index (IEp), pollution effect multiplier index (IMp), cleaning cost index (IEc), and cleaning cost multiplier index (IMc) more than 1 both from air pollution and river water pollution. Based on these results, the government is expected to be more assertive in overseeing the activities of the processing industry so that environmental pollution is not worse than before..

Keywords: Processing industries, pollution intensity, pollution cleaning costs, enviromental pollution.

1. Introduction

Economic growth and improving the welfare of the people in Central Java Province are the objectives of economic development related to the vision and mission of Central Java, namely creating an independent, competitive, prosperous, sustainable Central Java and a pillar of national development based on devotion to God Almighty in the container of the Republic of Indonesia. Economic growth in Central Java continues to experience a fairly good increase. The industrial sector that continues to progress has led to an increase in the Central Java GRDP. The economic structure of Central Java in 2017 was dominated by the manufacturing industry sector with a contribution of 34.96% and the industrial sector in Central Java alone accounted for 40% of Central Java's GRDP.

Economic growth is a process of increasing output over time to become an important indicator to measure the success of a country's development (Todaro, 2006: 125). One of the government's efforts to increase economic growth is to open up foreign investment opportunities to Indonesia. Based on a US News & World Report survey in 2016, from 80 countries that opened up foreign investment opportunities to invest in the country, Indonesia was considered the second best investment destination in the world. As a province that is opening investment opportunities, the industrial sector in Central Java Province is considered to have a very strategic role in increasing economic growth. The Central Java

* *Corresponding author. Tel.: 085643114465, 082225034455*
E-mail address: elokfatiakirana@gmail.com

Provincial Government continues to innovate and open up opportunities for investors to invest their capital with the ease provided.

The development of the industrial sector is directly proportional to environmental pollution caused by the industrial production process. Waste treatment in the industrial sector that does not pay attention to the environment causes pollution in both river and air water. The manufacturing industry sector is the sector that has the most impact on environmental pollution. The production process will produce residues in the form of wastes that become pollutants. There are several industries that do not pay attention to government appeals about policies that should be carried out at the time of disposal of waste to the environment, resulting in adverse impacts on the surrounding community. The government must be firm in calling on the economic players in the manufacturing sector who have a role in environmental pollution. This study limits its analysis to air and river water pollution problems. This is because: 1) The trend of air and river water populations in Central Java experienced a very rapid decline. 2) The negative impact of pollution on health and other damage that is difficult to avoid. Due to data limitations, this study only focuses on the processing industry sector.

2. Theoretical Basis

Economic growth

Economic growth is a condition of increasing income due to an increase in production of goods and services. Economic growth can also be interpreted as a process of changing the country's economy in a certain period of time to lead to better economic conditions. An economy is said to experience growth or develop if the level of economic activity is higher than that achieved in the previous period. Countries that experience economic growth can be indicated that the welfare of their people increases better. A country can experience rapid economic growth but can also experience slow growth. This situation is influenced by factors that exist in society and nature, namely; natural resources, human resources, advances in science and technology, etc.

Economic growth is one indicator of the success of a country's development. In real economic activities, economic growth has the meaning of physical economic development that occurs in a country, such as the increase in the number and production of industrial goods, the development of infrastructure, the increase in the number of schools, the development of manufactured goods, and so on. Meanwhile, economic development is economic growth which is followed by changes in economic structure and style of economic or business activities in order to increase per capita income by processing potential economic power into the real economy through investment, the use of technology, the addition of knowledge, increased skills, and the addition of organizational and management skills.

Industry

The general understanding of industry is the activity of processing raw materials into semi-finished goods and finished goods so that they have added value as benefits. The term "industry" comes from the Latin industria which means "labor". According to Law No. 5 of 1984 concerning industry, the definition of industry is an economic activity that processes raw materials, raw materials, semi-finished goods, and / or finished goods into higher value items for their use, including industrial design and engineering activities.

Industry and economic principles are two interrelated things. Economics is a social science that deals with production, distribution, and consumption, while the economic principle is the combination of economic activity in order to achieve a rational comparison between the sacrifices incurred and the results obtained. The principle of economics

teaches that in economic activities, people can maximize profits as much as possible with the smallest sacrifices. Economic principles apply in three economic activities, namely, production, distribution and consumption.

Industrial Impact

Development of the industrial sector is part of the national development process in enhancing economic growth that brings changes to people's lives. These changes include the impact of industrial development on socio-economic, socio-cultural and environmental aspects. The impact of industrial development on the socio-economic aspects includes the livelihoods of the population from the agricultural sector to the industrial and trade sectors, as well as the opening of wider employment opportunities for both the local community and the migrant community. The impact of industry on the socio-cultural aspects includes a reduction in the power of binding on existing cultural values and norms due to the inclusion of new cultural values and norms brought by immigrant communities, while the impact of industrial development on the environment is the emergence of pollution caused by industrial waste that disrupts the survival of living things.

Environmental Pollution

Environmental pollution according to the Basic Law on Environmental Management No. 4 of 1982 is the entry of living things, energy substances, and/or other components into the environment, or changes in the environmental order by human activities or natural processes so that the quality of the environment drops to a certain level which causes the environment to be less or unable to function according to its designation. Pollution events are called pollution. Substances and materials that can cause pollution are called pollutants. A substance is called a pollutant if its existence causes harm to other living beings.

Water pollution is the entry or inclusion of living things, energy substances or other components into the water by human activities so that water quality drops to a certain level which causes water to not function according to its designation. Water that deviates from its normal state is called polluted water. Polluted water will change both in color, odor and content. Wastewater plays a role in life because in addition to containing water there are also organic substances in it, which may be needed at certain limits. Therefore, there are two roles of wastewater, namely a positive role if wastewater with the quality contained is appropriate for its designation, among others for irrigation, fisheries, plantations, industry, households, recreation and others, while the negative role if wastewater is not in accordance with the quality standards of liquid waste and detrimental to the surrounding environment.

The definition of air pollution is gases and particulates, both obtained naturally from volcanoes, weathering plants, volcanic explosions, forest fires, as well as those obtained from human activities. The particulates will interfere with the cycle in the air so that it can cause air pollution. Human activities are the highest contributors of air pollutants compared to air pollution caused by nature.

Regional Regulation on Central Java about Environment

Environmental pollution in Central Java is increasingly severe, encouraging the local governments to make regulations or policies that regulate the environment. The Central Java Provincial Government is authorized to regulate the environment in its territory so the community can utilize the existing natural wealth that it can improve its welfare. Central Java Provincial Regulation Number 2 of 2017 regulates the corporate social and environmental responsibility. The regional regulation states that the Central Java Provincial Government is authorized to regulate the company's social and environmental responsibilities to

increase corporate awareness of the implementation corporate social and environmental responsibilities in Central Java Province, so that environmental pollution caused by the industrial sector can be reduced. The regulation was made with the aim of increasing capacity, awareness, legal certainty, corporate social and environmental responsibility and institutionalizing and sustaining synchronization of regional development planning in Central Java Province.

The implementation of corporate social and environmental responsibilities includes several scope, that is; planning, implementation, coaching, supervising, and reporting. Goverment responsibility covers several scope to minimaze the fraud from what the industry will do. The existence of control by the government in each stage of implementation provides a little gap for the industry to cheat in giving its influence on the environment.

3. Research Methods

The scope of this research is analyzing the influence of processing industry activities in Central Java Province on environmental pollution by using a modified input-output model by incorporating environmental elements to analyze the interaction of economic and environmental activities. The data used in this research is secondary data. Due to the limitations of existing data, this study limits the pollution problems in the manufacturing industry in Central Java. The main focus of this research is on the case of river water pollution and air pollution.

The data used in this study is the 2013 Central Java Input-Output table issued by the Central Statistics Agency (BPS). The table used is the I-O table on domestic transactions based on producer prices with 19 sector classification, then the I-O table was developed by incorporating elements of air pollution, river water pollution, and pollution cleaning costs. According to available data, the types of air pollutants added to the table are sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and total suspended particulates (TSP), while the type of river water pollutants added are biological oxygen demand (BOD) and total suspended solids (TSS). Data regarding air pollution loads, river water pollution, and cleaning costs were obtained from the Industrial Pollution Projection System (IPPS) issued by the World Bank.

The method used in this study is the Input-Output model or often referred to as Table I-O. The Model I-O was first introduced by W. Leontief in 1930. The purpose of table I-O is to provide information about transactions in goods and services that occur between productions sectors in an economic activity represented in a matrix form.

Estimated Pollution Cost

Conventional estimated pollution cost in this research focus on Industrial Pollution Projection System (IPPS) model. Industrial Pollution Projection System (IPPS) model provides emision factor based on three economics variable that is in total output, value-added, and amount of labor. The industrial statistical data obtained is data per industry. In order to be used in the IPPS model, this data must be grouped according to the industrial sector. The industrial sector grouping are based on the ISIC (International Standard Industrial Classification) code which consist of 79 sectors. The estimation of pollution costs are done by multiplying the number of workers in one industrial sector with the selected emission factor.

Conventional Input-Output Analysis

Inter-industrial relations are an important aspect of the economy and this relationship is interdependent. Changes in input will affect the amount of output produced and this

changes the input for other industries. Thus, the relationship between sectors in a chain will affect. In addition to inter-sector transactions, there are other transactions recorded in Table I-O, namely the final consumption balance, payment of services to workers and capital owners ("value added" lines), and import transactions.

This matrix shows the relationship between increased productions from a sector (industry) that will lead to the development of other sectors. The condition of each sector has different patterns of buying and selling so that the impact of changes in the production of a sector to the total production of other sectors will be different. The Leontief reverse matrix summarizes all the effects of changes in the production of a sector to the total production of other sectors into the coefficients called output multipliers (a_{ij}). This multiplier is the numbers contained in the matrix $(I-A)^{-1}$.

Environmental Input-Output Analysis

Applications from the environmental I-O table created by Leontief require anti-pollution data that pollutes the environment in great detail. Some countries do not have anti-pollution data, including Indonesia. Thus, the development of environmental I-O tables in Indonesia does not have a different anti-pollution sector and analysis techniques. The development of environmental I-O tables in Indonesia was applied to the calculation of the relationship of economic activities to environmental activities in Central Java.

Resosudarmo (2000:5) adapts the Leontief Environmental I-O model for Indonesia by placing pollution variables and pollution cleaning costs on the line to n + 1 (outside the system of goods/services flow matrix between sectors), where n is the number of sectors. Pollution and cleaning costs are treated like added value (primary input), but the meaning is negative added value (negative externality).

Based on the Indonesian environmental I-O model that has been adapted, several indices can be found, including; 1) The pollution effect index (E_j^p) is an impact caused by an increase in one rupiah final demand for a sector to increase the pollution load. 2) Pollution multiplier index (M_j^p) is an additional pollution burden in all sectors of the economy due to an increase in pollution load of 1 kg in certain sectors. 3) Index of the effect of cleaning costs (E_j^c) is the magnitude of the impact of a one-rupiah increase in the final demand of a sector on increasing the cost of cleaning up the environment. 4) Cleaning cost multiplier index (M_j^c) is the amount of additional costs required by the entire sector to clean up the environment due to an increase in cleaning costs of one rupiah in certain sectors.

Based on the explanation of the above indices, it can be suggested that the environmental policy strategy for the government can be applied to maintain environmental sustainability. These strategies are; First, clean up the sector that has a high pollution multiplier index (IM_i^p) and a low cleaning cost index (IM_i^c). The sector that has the magnitude of the index belongs to the heavy pollutant sector but the cost of cleaning is relatively cheap. Mathematically, to be able to choose a sector belonging to this type, it can be calculated using the index of industrial effectiveness, namely $\acute{M}i = (IM_i^p) / (IM_i^c)$.

Secondly, suppressing the high demand for the sector that has a high pollution effect index (IE_i^c) and a high index of the cost of cleaning costs (IE_i^c). This is because the increase per unit of output from a particular sector will cause a high level of pollution and also consume high cleaning costs. Mathematically, a new index has been developed, namely the index of the effectiveness of pollution prevention in order to select the sectors classified as above. The index is as follows $\hat{E} = IE_i^p \,.\, IE_i^c$.

4. Data Analysis and Discussion

Linkages Between Sectors

Backward linkage index is the linkage of a sector with its input provider sector (upstream) or the relationship between the influence generated by one final demand unit in the sector on the total purchase of inputs in all sectors in an economy, while the linkage index in the future (forward linkage) shows the relationship between the influence caused by a unit of final demand of a sector to the total sales output (downstream) of all sectors in an economy. The sector that has index numbers of future and backward linkages of more than 1 (one) means that the sector has a higher capability than other sectors in terms of increasing the growth of its upstream or downstream sectors.

Based on the inter-sectorial linkages, key sectors in an economy can be determined. The key sector is a sector that has a forward and backward linkage index of more than 1. These sectors are said to be key sectors because they have strong linkages, both with the upstream sectors and the downstream sectors so that the increase or decrease in output in the key sector greatly affects the increase or decrease in output in the economy.

Table 1. Key Sectors of the Central Java Economy

Code	Sector	FL	BL
8	Food, beverage and tobacco industries	1,27	1,21
9	Other industries	1,51	1,18
15	Transport and communication	1,15	1,14

source: Resudarmo, Budi P., dkk. (2000)

The community income index shows the magnitude of the increase in total community income for every one unit of increase in output produced by a sector. A sector is said to have a high role in attracting community income if the community income index is more than one. The income index of the people in Central Java is the highest in the general government and defense sector with a figure of 2.2, while the lowest index is in the electricity, gas and drinking water sectors with an index of 0.40. This shows that the sectors of general government and defense, livestock and their products, mining and quarrying, the oil refining industry, trade, transportation and communication, and services have a high role in attracting people's income.

Environmental pollution by industry sector in Central Java

The environmental pollution caused by industry sectors has entered a dangerous stage. The development of the industry push the increase of environmental pollution. The pollution has reached detrimental stage for people or other living creature.

The pollutions caused by industry influences the environment river water and air near the industry. In total of 136 rivers scattered in Central Java has been in polluted conditions which can endanger other living things near the river. The water river pollutions are resulted by domestic waste from household and industry waste. The polluted rivers such as; Babon river, flood canal Semarang City river, Bengawan Solo river, Pekalongan river, etc. These conditions indicate that there is still low public awareness in protecting or preserving the environment.

Pollution and Processing Industry Sector Activities

Input-output analysis of this research environment only covers the manufacturing industry sectors, so that adjustments are made between IPPS data that follows the four-

digit International Standard for Industrial Classification (ISIC-4) with input-output tables in Central Java classification 19 sectors. The following is a table that has adjusted sectors.

Table 2. Processing Industry Sector with Air/River Water Pollution in the Central Java Environmental I-O Table

I-O Code	Sector
8	Food, beverage and tobacco industries
9	Other industries
15	Transport and communication

source: Resudarmo, Budi P., dkk. (2000)

Analysis of air and river pollution data in the i-o table in Central Java environment produces several indices in accordance with those described in the methodology chapter. The index includes the pollution effect index, pollution effect multiplier index, cleaning cost index, and cleaning cost multiplier index.

Table 3. Results of Central Java Environmental Input Analysis for Air Pollution

Code	Sector	SO_2				NO_2				TSP			
		IE_p	IM_p	IE_c	IM_c	IE_p	IM_p	IE_c	IM_c	IE_p	IM_p	IE_c	IM_c
8	Food, beverage and tobacco industries	14,13	13,50	2,76	2,38	11,04	7,00	1,49	1,33	10,41	8,39	1,79	1,53
9	Other industries	14,63	10,07	9,39	5,80	6,16	42,95	6,92	4,48	5,36	40,35	6,74	4,37
10	Oil refining industries	12,62	13,12	3,11	2,36	12,62	7,07	1,84	1,34	2,38	28,58	3,28	6,06

source: Resudarmo, Budi P., dkk. (2000)

Table 4. Results of Central Java Environmental Input Analysis for River Water Pollution

Code	Sector	BOD				TSS			
		IE_p	IM_p	IE_c	IM_c	IE_p	IM_p	IE_c	IM_c
8	Food, beverage and tobacco industries	5,67	20,18	1,70	9,14	5,68	10,33	2,44	1,14
9	Other industries	9,65	72,20	1,28	7,44	9,65	6,37	1,25	7,30
10	Oil refining industries	3,43	6,92	2,68	6,06	3,43	6,22	5,03	3,50

source: Resudarmo, Budi P., dkk. (2000)

Based on the results of the above analysis, it can be used to search for sectors that need to be prioritized to be cleaned up with criteria in the form of pollution cleaning effectiveness index ($\acute{M}i$) and pollution prevention effectiveness index ($\hat{E}i$).

Table 5. Priorities for Cleaning Air and River Water Pollution

Rating	Air		River Water	
	Code	Sector	Code	Sector
1	9	Other industries	9	Food, beverage and tobacco industries
2	8	Food, beverage and tobacco industries	8	Other industries
3	10	Oil refining industries	10	Oil refining industries

source: Resudarmo, Budi P., dkk. (2000)

Table 6. Priorities for Air and River Pollution Prevention

Rating	Air		River Water	
	Code	Sector	Code	Sector
1	9	Other industries	9	Oil refining industries
2	8	Food, beverage and tobacco industries	8	Other industries
3	10	Oil refining industries	10	Food, beverage and tobacco industries

source: Resudarmo, Budi P., dkk. (2000)

From table 5 and table 6 it can be concluded that in the priority of cleaning and preventing air pollution, the most priority sectors are other industries, then the food, beverage and tobacco industries, and finally the oil refining industries, while for cleaning and preventing river water pollution there are difference. If the first rank cleaning is the food, beverage and tobacco industries, priority prevention is the oil refining industries. The second rating between cleaning and preventing pollution of river water is the same as other sectors.

Economic Growth and Pollution

This paper shows that the reduction in pollution loads is achieved by lowering output. In other words, to control the pollution burden there is an opportunity cost that must be sacrificed and must be borne by the economy. Therefore, the government must be firm in taking policies that will be implemented. In addition, also must consider the opportunity costs that will be wasted so that the policy implemented can run optimally.

Based on the analysis of the input output model, it is known that in the effort to control air pollution, there are 2 key sectors included in the priority of pollution prevention. This means that the sectors that are the main priority of preventing air pollution have a large opportunity cost (the decline in output is very influential). Similar to river water pollution control, there are key sectors that are included in the priority of pollution prevention. The food, beverage and tobacco industry sectors and other industrial sectors are key sectors that are included in the priority of preventing river water pollution.

5. Conclusion

This study shows that the industrial sector has a major influence on environmental pollution. With the increase in the industrial sector, the output produced is increasing so that the level of pollutants produced is also higher. The processing industry in Central Java has a pollution effect index (IE_p), pollution effect multiplier index (IM_p), cleaning cost index (IE_c),

and cleaning cost multiplier index (IM_c) more than 1 from both air pollution and river water pollution. These conditions indicate that the manufacturing sector in Central Java is a heavy pollutant sector.

Environmental pollution can affect economic growth. This condition is caused because in controlling the pollution load there is an opportunity cost that must be sacrificed and borne by the economy. This study shows that there are key sectors of the Central Java economy that are included in the priority of cleaning and preventing pollution, where controlling pollution loads in these key sectors will reduce economic output.

Cleaning and prevention of pollution caused by the processing industry sector is important so that environmental pollution can be controlled. The main focus in cleaning and preventing air pollution can be adjusted to priority cleaning and prevention sectors so that they can be carried out optimally, effectively and efficiently.

References

[1] Anonim. 2009. *Perhitungan dan Analisa Tabel Input Output Sumatera Barat 2007*. Padang: Badan Perencanaan Pembangunan Daerah Sumatera Barat.

[2] Anonim. 2012. *Analisis Input-Output Bidang Kelautan Terhadap Pembangunan Nasional.* Jakarta: Kementerian Kelautan dan Perikanan.

[3] Anonim. 2014. *Tabel Input Output Jawa Tengah 2013*. Semarang: Badan Perencanaan Pembangunan Daerah Provinsi Jawa Tengah.

[4] Anonim. 2016. *Analisis Keterkaitan Antar Sektor dan Sektor Kunci*. Diakses dari Amintesting: https://amintesting.wordpress.com/2016/05/07/analisis-keterkaitan-antar-sektor-dan-sektor-kunci/ (27 April 2018, 21:53 WIB)

[5] Handriyono, Rachmanu Eko dan Kusuma, Martiha Nilam. 2017. Kajian Beban Emisi SO2 dan NOx dari Kegiatan Industri di Kawasan Industri Sier Surabaya. *Jurnal Teknik Lingkungan*, Vol. 3, 41-46.

[6] Ifdillah, Febi Agil. 2015. *Aplikasi Matriks pada Model Input-Output Leontief*. Diakses dari Institut Teknologi Bandung: http://informatika.stei.itb.ac.id/~rinaldi.munir/AljabarGeometri/2015-2016/Makalah-2015/Makalah-IF2123-2015-073.pdf (4 Mei 2018, 15:10).

[7] Koning, Arjan de, dkk. 2015. Effect of aggregation and disaggregation on embodied material use of products in input–output analysis. *Ecological Economics*, 289-299.

[8] Kuncoro, Mudrajad. 2004. *Otonomi dan Pembangunan Daerah Reformasi, Perencanaan, Strategi, dan Peluang.* Jakarta: Penerbit Erlangga.

[9] Nazara, Suahasil. 2011. *Analisis Input Output Edisi Kedua*. Jakarta: Lembaga Penerbit FE UI.

[10] Resosudarmo, Budy P., dkk. 2000. Emisi Polusi Udara dan Air Sungai dalam Struktur Industri Indonesia. *Jurnal Ekonomi Lingkungan*, Vol. 11, 47-73.

[11] Sahubawa, Latif. 2008. Analisis Dan Prediksi Beban Pencemaran Limbah Cair Industri Kayulapis PT Jati Dharma Indah. *Jurnal Manusia Dan Lingkungan*, Vol. 15, No.2, 70-78.

[12] Sastrawijaya, A. Tresna. 1991. *Pencemaran Lingkungan.* Jakarta: Rineka Cipta.

[13] Supraptini. 2002. Pengaruh Limbah Industri Terhadap Lingkungan di Indonesia. *Media Litbang Kesehatan*, Vol. XII, 10-19.

[14] Wardhana, Wisnu Arya. 2004. *Dampak Pencemaran Lingkungan.* Yogyakarta: Andi.

[15] Wiratmo, Masykur. 1992. *Ekonomi Pembangunan: Ikhtisar Teori, Masalah dan Kebijakan*. Yogyakarta: Media Widya Mandala.