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DETERMINANT FACTORS ON INDONESIA ECONOMIC GROWTH

Revan Adityara
Department Economic and Business, Trisakti University
revan.adityara@trisakti.ac.id

ABSTRACT

Indonesia's economic growth has not been able to become an accelerator of efforts to overcome unemployment and poverty. Indonesia's economic growth is still too small even since 2011-2015 tends to experience a significant decline. Analysis of the factors that influence economic growth can be approached through two sides, namely from the supply side (supply-side economics) and the demand side (demand-side economics). This research was conducted with two approaches, namely from the supply side, by looking at the impact of capital accumulation. The data analysis method used in this research is multiple linear regression using the Ordinary Least Square (OLS) model, which was previously performed first using the classic assumption test to ensure that the model used meets normality assumptions and does not contain multicollinearity, heteroscedasticity, and serial correlation so meet the Best Linear Unbiase Estimate (BLUE) assumption.. This finding is in line with economic theory, both based on the aggregate supply side, and the aggregate demand side

Keywords: Economic Growth, Capital Accumulation, Exports, MEC, Inflation

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INTRODUCTION

Economic growth is the main variable for increasing employment opportunities and poverty reduction (Ainajjar, 2002). Until now, Indonesia's economic growth has not been able to become an accelerator of efforts to overcome unemployment and poverty. Indonesia's economic growth is still too small even since 2011-2015 tends to experience a significant decline. In 2011 Indonesia's economic growth rate was 6.50 percent, in 2012 it dropped to 6.2 percent, in 2013 it fell again to 5.56 percent, in 2014 to 5.02 percent, in 2015 it was 4.79 percent, and in 2016 increased by 2.52 percent (BPS, 2017). (Nguyen, 2011) said that every percent of Indonesia's economic growth could only create a maximum employment of 200,000 people. Based on this information, Indonesia's economic growth in 2016 amounted to 5.02 percent, only able to create employment opportunities around 1.004.000 people. Though the number of open unemployment in 2016 is 7 million people and the growth of the workforce each year is an average of around 1.800.000 people (BPS, 2017). This explains that Indonesia's economic growth has not been able to become an accelerator to reduce the level of open unemployment. The unemployment rate parallels the poverty rate, it can be concluded that Indonesia's economic growth cannot be used to accelerate poverty alleviation in Indonesia (Simbolon & Purwanto, 2018).

From 2011 to 2016 Indonesia's economic growth paralleled the dynamics of the world economy (Wirawan et al., 2019). The world economic turmoil caused a decline in world economic performance as a result of the case of the property industry in the United States, Bank Lehman Brothr and the Greek crisis, apparently having implications for the decline in national economic performance, so it can be said that the national economy is vulnerable to global economic turmoil (Soejono et al., 2015; Sun et al., 2017). In 2001 Indonesia began implementing a decentralized system within the government system, namely by applying Law No. 22 of 1999 concerning Regional Government and Law No. 25 of 1999 concerning Financial Balance between the Central Government and Regional Governments. The philosophy of this system is to improve government and local government services to the community. Giving broad autonomy to the regions, it is hoped that the government and regional governments can deal with regional problems quickly. Development policy is expected to be in accordance with regional needs, so that it will accelerate economic growth both on a regional and national scale (Cheng et al., 2019; Gunter, 2018; Prasetiono, 2010).

Analysis of the factors that influence economic growth can be approached through two sides, namely from the supply side (supply-side economics) and the demand side (demand-side economics) (Chen & Li, 2019; Guru & Yadav, 2019). Adherents of supply-side economics (Classical, Neo Classical and New Classical mashab) state that economic growth as measured by increasing national income or national income per capita (Malik & Velan, 2019; Noor & Dutta, 2017; Ren &

Jie, 2019), is largely determined by the quantity and quality of the factors of production, namely natural resources , human resources, capital and technology (Sephton, 2012). Demand-side economics (Keynesian, Neo Keynesian, New Keynesian) states that the factors that accelerate economic growth are factors on the aggregate demand side, namely consumption, investment, government spending, exports, and the demand and supply of money (Altman & Tushman, 2017; Bruhn et al., 2019; Guru & Yadav, 2019). This research was conducted with two approaches, namely from the supply side, by looking at the impact of capital accumulation, Marginal Efficiency of Capital (MEC) and from the demand side by looking more at the impact of exports and inflation on economic growth. This study also analyzes the extent of the impact of the government system on economic growth.

METHODOLOGY

The variables used in this study are: Gross Domestic Product (GDP) as a proxy for economic growth, Capital Accumulation (K), Export (X), Marginal Efficiency of Capital (MEC), Inflation (Infl) and dummy variables. Based on a theoretical framework, GDP is a dependent variable whose changes are determined by capital accumulation, exports, MEC, inflation and differences in government systems. The operational definitions of the variables used in this study are: Gross Domestic Product (GDP), GDP used is real GDP calculated based on 2010 constant prices. Gross Domestic Product is expressed in billions of rupiah. Capital Accumulation (K) is the amount of net capital in a one year period, this amount of net capital is an aggregate investment that can be calculated from the formation of gross fixed capital plus stock adjustments. This capital accumulation data is obtained from GDP data based on usage and is expressed in billions of rupiah. Exports reflect the vast market for Indonesian products, data in millions of US $. Some researchers use Openness (export + import) / GDP) as a benchmark of market area, but in this study exports are used as a proxy of market area. The greater the export the wider market for domestic products, so that it will increase GDP. This measurement method uses market area, which was carried out by (Alcocer et al., 2019; Chen & Li, 2019; Doh-Khul Kim & Sung Chul No, 2013). MEC measures the efficiency of capital use. MEC is measured through 1 / ICOR). ICOR is the ratio between changes in capital and changes in output. Inflation is calculated based on annual inflation.

The population which is the object of this research is data on GDP, capital accumulation, exports, MEC and inflation in Indonesia during 1987-2016. All data from the variables mentioned above in the period 1987-2016, except data for 1998, 1999 and 2000. The data is not used in this study because it is extreme data as a result of the 1998 economic crisis. The data are grouped into two parts, namely data in the period 1987-1997, during the centralized government system,

and data in the 2001-2016 period in the decentralized system. To test whether different government systems affect economic growth or not dummy variables are used. 1 for the centralized government system, while 0 for the decentralized government system. The data used are secondary data, annual data for the period 1987-2016. The data was obtained from the Central Statistics Agency and Bank Indonesia. Data obtained through literature study and documentation study. Literature study is carried out through the internet, books, articles, scientific journals and newspapers that are relevant to the research topic. This study was carried out mainly when researchers developed models and analyzed research results. The documentation study was carried out mainly to collect secondary data, on GDP, capital accumulation, ICOR, exports and inflation.

The data analysis method used in this research is multiple linear regression using the Ordinary Least Square (OLS) model, which was previously performed first using the classic assumption test to ensure that the model used meets normality assumptions and does not contain multicollinearity, heteroscedasticity, and serial correlation so meet the Best Linear Unbiase Estimate (BLUE) assumption. As has been said that for economic growth benchmarks used GDP, thus in accordance with the theoretical framework, the equation that shows the relationship between GDP and the factors that influence it can be written as follows:

PDB = f(K, X, MEC, Infl dan D)
$PDB = \alpha 0 + \alpha 1D + \beta K + \gamma X + \pi MEC + \lambda Infl + \varepsilon$

Information:
PDB = Gross domestic product
D = Variabele dummy
K = Capital accumulation
X = Export
MEC = Marginal Efficiency of capital
Inf = Inflation

RESULT

General description of the four determinant variables for GDP can be seen in table 2. In the table it can be seen that the average capital accumulation in Indonesia in 1987-2016 experienced fluctuations, so it can be said that capital accumulation in Indonesia from 1987-2016 is high. In addition, the coefficient of variation from exports is relatively low. MEC has a lower average than deviation. MEC fluctuations during the 27-year study period were high. And inflation fluctuations occur in Indonesia, but by removing data from 1998, 1999 and 2000 is relatively small.

Based on the normality of the test results seen in table 3, the Asymp value is generated. Sig. (2-tailed) is greater than 0.05 so the skewness of the histogram frequency is not significant. The criteria if Asymp. Sig. (2-tailed) is greater than the significant level used (in this case 0.05), then the regression equation model meets the assumption of normality (Ghozali, 2009), then the null hypothesis is accepted and concluded in the model that the assumption of normality is met.

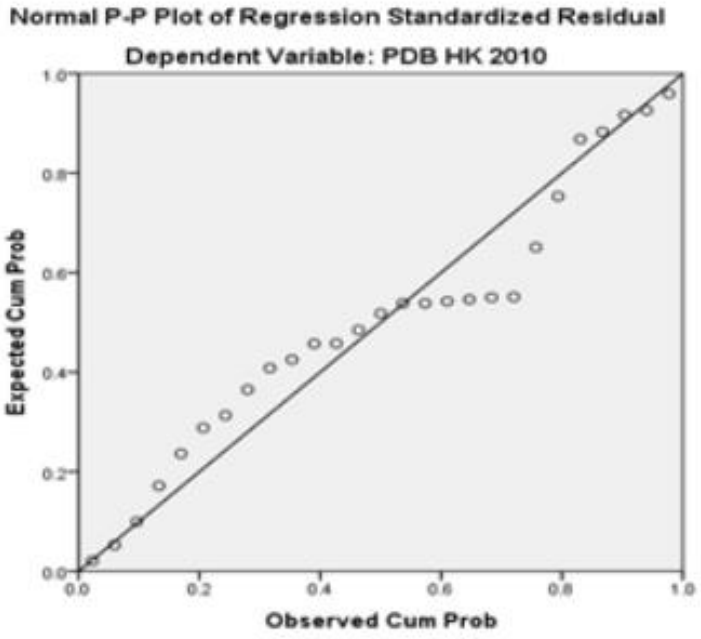
Table 1
Descriptive Statistics of Research Variables

	Mean	Std. Deviation	Variation Coefficiient	Trend	Sig F change	N
ABS RESIDUAL	86606,004	83816,791				27
K	721312,807	804653,779	1,115541	64597,53	0,000	27
X	88089,822	59875,037	0,679704	7044,499	0,000	27
MEC	0,401	0,406	1,010866	0,006	0,533	27
Infl	7,468	3,112	0,41679	-0,131	0,089	27
D	0,59	0,501				27

Source: Data processed, 2019

Table 2
Normality test – Kolmogorov – Smirnov

Sig	Result
0.421	Ho Accepted



Source: Data processed, 2019

Table 3
Regression Results

Model		Standardized Coefficients	t	Sig.	Collinearity Statistics	Hetero Statistics
		Beta			VIF	Sig
1	(Constant)		7.716	.000		
	K	.354	8.926	.000	1.449	.447
	X	.586	9.375	.000	3.591	.076
	MEC	.005	.125	.901	1.523	.209
	Infl	-.012	-.323	.750	1.236	.299
	D	.211	3.405	.003	3.538	.190
F		179,737				
Sig F		0,000				
R^2		0,977				
R^2 adjusted		0,972				
DWstat		1,833				

Source: Data processed, 2019

Based on the regression results in table 4, it can be said that the model does not contain mulicollinearity. In table 4 it can be seen that there is no tolerance value of each independent variable smaller than 0.1 and a VIF value greater than 10. This means that the model does not contain multicollinearity. From the Heteroskedastiticity test it can be said that the equation does not contain heteroscedasticity. In table 4 it can be seen that none of the independent variables have a significant influence on the mutlah price of residuals (| u |). Based on the results of table 4 it can be concluded that the equation model used in this study fulfills the normal requirements, it does not contain multicollinearity, heteroscedasticity and serial correlation. Therefore it can be said that the equation model that is used meets the BLUE requirements, so it is good to be used for predictions. Based on table 4, that the adjusted R^2 value is 97.20 percent, meaning that the independent variables used in this study are able to explain the behavior of GDP by 97.20 percent, while the rest are explained by other independent variables not included in the model, so that the model concluded submitted goodness. Partially the effect of capital accumulation on significant positive economic growth, an increase in capital accumulation by one unit will increase GDP by 0.354 units. So an increase in capital accumulation turns out to only be able to increase GDP in smaller units.

The effect of exports on significant positive economic growth. An increase in one-unit exports can increase GDP by 7.787 units, so an increase in exports can in fact increase GDP more than an increase in exports themselves. The influence of the Dummy variable on economic growth is significantly positive. This finding shows that the decentralized government system has a positive impact on increasing GDP (economic growth). This condition can be understood because

with a decentralized system that gives broader authority to local governments, development policies and activities will be more in line with regional needs. The effect of the MEC and the inflation rate on GDP was not significant. This fact is more caused because during the 27 years of the study period, the two variables did not experience significant changes. In table 2 it can be seen that the trend coefficient (trend) of MEC and inflation is not significant because the significance value is greater than 0.05. Furthermore, by observing the standardized coefficient it turns out that the effect of changes in exports on changes in GDP (economic growth) is greater than the effect of changes in capital accumulation. The beta coefficient of exports to GDP is 0.840 while the Beta coefficient of the capital accumulation variable is 0.040. Regarding the role of exports in economic growth compared to capital accumulation carries two important meanings, namely: First, exports are one of the determinants of the GDP variable from the aggregate demand side, while capital accumulation is a determinant of the GDP variable from the aggregate supply side. Therefore it can be said that during the study period, GDP in Indonesia was more influenced by the variable aggregate demand compared to aggregate supply. Second, the large role of exports compared to capital accumulation also reflects that the dynamics of Indonesia's economic growth are influenced more by external variables than by internal forces. This condition can be used as one of the answers why Indonesia's economic growth is so vulnerable to global economic turmoil. The world economic crisis in 1998, 2009 and 2012, had a strong influence on the decline in economic growth in Indonesia.

CONCLUSION

This study found significant factors as determinants of changes in GDP / economic growth. The ability of the model to explain economic growth in Indonesia is very high, which is 97.2%. And has fulfilled the BLUE requirements. Capital accumulation and exports have a positive effect on GDP. This finding is in line with economic theory, both based on the aggregate supply side, and the aggregate demand side. But the regression results about the influence of MEC and inflation are not significant, although the coefficient of direction of the resulting parameters is in accordance with the theory. This is more due to the two variables during the study period did not change significantly. Economic growth in Indonesia was more influenced by the variable aggregate demand compared to aggregate supply. In addition, the Indonesian economy is still vulnerable to global economic turmoil, because economic growth is more influenced by external variables (exports) than internal variables (capital accumulation).

Based on the results of this study that Indonesia's economic growth is still vulnerable to global economic turmoil, which shows how important it is to strengthen Indonesia's internal factors for economic growth. Increased capital

accumulation for investment is needed to accelerate national economic growth. The government in this case needs to create a conducive investment climate to increase investor interest in investing in Indonesia. The role of MEC on economic growth is not significant, this is due to the absence of a significant increase in MEC, for 27 years. Until now, Indonesia is still known as a country with a high cost economy. Bureaucratic services are not optimal and regional infrastructure is inadequate, a major cause of high cost economies. So that it needs acceleration of bureaucratic reform and infrastructure development

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