



## Corruption and Economic Growth at Province Levels in Indonesia

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### Abstract

*This study aims to determine the effect of corruption on economic growth at the provincial level in Indonesia. This study uses a model based on the economic growth model of Levine and Renelt (1992). This study uses secondary data obtained from the Central Statistics Agency (BPS), the Investment Coordinating Board (BKPM), and Transparency International Indonesia with the research period of 2014-2018. This study uses a panel data model with a cross-section of 16 (sixteen) provinces in Indonesia. This study uses a model with a Random Effect Model (REM) approach. The results showed that the corruption perception index, foreign direct investment (FDI), initial growth (EG<sub>t-1</sub>), government spending (GE) and labor (L) each had a positive and significant effect on economic growth (EG) in 16 provinces in Indonesia for the 2014-2018 period, ceteris paribus.*

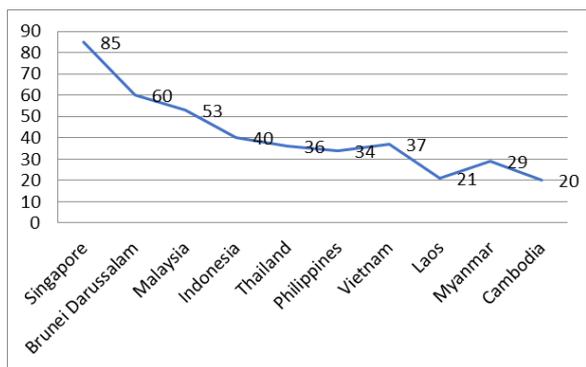
**Key words :** Corruption Perception Index, Foreign Direct Investment, Initial Growth, Government Expenditure, Labor, and Random Effect Model

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**INTRODUCTION**

According to the 2020 Transparency International Report, Indonesia is one of the countries that have a high level of corruption compared to neighboring countries in Southeast Asia. Transparency International uses the Corruption Perceptions Index as a measuring tool. The Corruption Perception Index uses a scale from 0-100, the closer to 0 means that the level of corruption that occurs in the country is very high and the closer to 100, the level of corruption that occurs in that country is very low. The indicators used by Transparency International Indonesia to measure the Corruption Perceptions Index consist of; 1) The prevalence of corruption, namely the intensity of misuse of office by the government; 2) Public accountability, namely accountability for public funds used; 3) Corruption motivation, namely the driving factor for committing abuse of office; 4) Impact of corruption, namely what business sectors are affected by corruption; and 5) The effectiveness of corruption eradication, namely how effective is the eradication of corruption in each province in Indonesia.

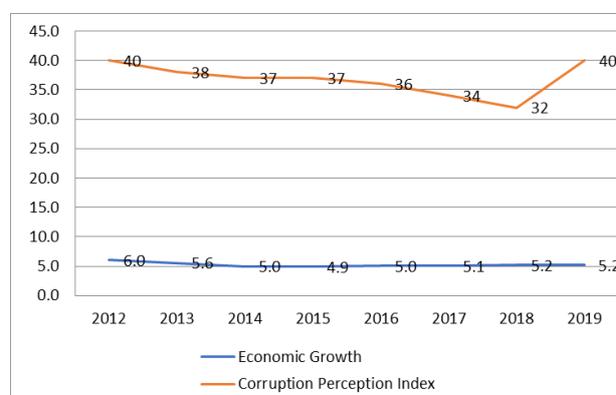


**Figure 1.** ASEAN Corruption Perceptions Index 2019

Based on Figure 1, the level of corruption in Indonesia is at a moderate level of 40 points, below Singapore, Brunei Darussalam, and Malaysia but better than other countries, namely Thailand,

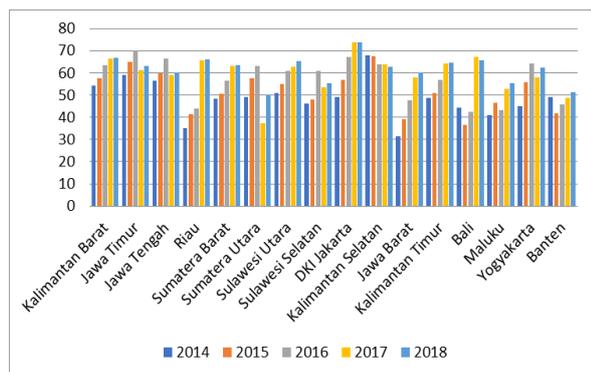
Philippines, Vietnam, Laos, Myanmar, and Cambodia.

It describes the research design used comprises of methods, technique in collecting data, technique of data analysis, and variables measurement which are written in paragraphs, not numbering. The technical information of the study presented clearly. Therefore, readers can conduct research based on the techniques presented. Materials and equipment specifications are necessary. Approaches or procedures of study together with data analysis methods must be presented.



**Figure 2.** Economic Growth and Indonesia's Corruption Perception Index 2012-2019.

Figure 2 shows the trends in the level of corruption and economic growth in Indonesia. There is a tendency to increase the level of corruption in the 2012-2018 period, although in the 2019 period the decline in the level of corruption was quite good. On the other hand, there has been a downward trend in economic growth during the same period. Based on Figure 2, it can be seen that there is an inverse relationship between the level of corruption and economic growth in Indonesia in that period. When viewed from the level of corruption at the provincial level, the development of the level of corruption in Indonesia can be seen in the period in Figure 3.



**Figure 3.** Corruption Perceptions Index (Points) in 16 Provinces of Indonesia for the 2014-2018 Period.

Transparency International Indonesia only assesses the level of corruption in 16 provinces. The selection of sixteen (16) provinces is based on: 1) provinces that have the largest GDP at the national level, (2) these provinces represent the western, central, and eastern regions.

Based on Figure 3, the tendency of the level of corruption in each province is decreasing, except for South Kalimantan Province. On average, in the 2014-2017 period, the highest level of corruption occurred in West Java Province with 44.03 points, followed by Maluku (43.2 points), Riau (43.9 points), and Maluku (43.2 points). Meanwhile, the lowest level of corruption occurred in South Kalimantan with 65.74 points, followed by East Java (63.9 points), DKI Jakarta (61.7 points), and West Kalimantan (60.4 points).

The effect between corruption and economic growth is currently under debate. One-party states that corruption is the grease of the wheels if corruption can have a positive impact on the economy. Other parties claim that corruption has a negative impact and endangers the economy (sand of the wheels). Nilsson (2017) shows that corruption in Southern Europe can improve the wheels of the economy, through the avoidance of inefficient bureaucracies.

Huang (2016) in his research in the Asia Pacific shows that corruption has no effect on economic growth, but in South Korea, corruption has a positive effect and can increase economic growth.

Hakimi, et al. (2017) show that corruption is a serious obstacle to economic growth in the Middle East and North Africa because it hinders investment activities and the inflow of Foreign Direct Investment. Hariyani, et al. (2016) found that in the countries of the Asia Pacific region, corruption hurts economic growth. d'Agostino, et al. (2016) also show that corruption harms economic growth in African countries.

But in developing countries, corruption will adversely affect economic conditions (Asogu, 2012) and (Alatas, et al., 2009). Corruption inhibits economic growth and prosperity through distortions in business activities, reduces investment, and weakens the impact of policies, and hinders the functioning of institutions (Sequeira, 2012). Podobnik, et al. (2008) and Aidt, et al. (2008) stated that corruption has a negative effect if the quality of political institutions is low, and corruption does not affect economic growth. Meanwhile, Neeman, et al. (2008) stated that in an open economy, corruption is negatively related to GNP per capita whereas in a closed economy there is no relationship between the two.

Research on corruption in Indonesia has been conducted by several researchers such as Suresco (2012) which examines the patterns of corruption in 50 major cities in Indonesia. The results show that there is a corruption problem in big cities in Indonesia. By using a Geographical Information System (GIS), it is known that most corrupt cities have the same characteristics, for example in the eastern region of Sumatra and Java. Dana, et al. (2017) examined economic growth and corruption in Indonesia in the period 1987-2016 using a good governance approach with multiple linear regressions showing that corruption had a

negative and significant effect on Indonesia's economic growth.

Meanwhile, Akman & Sapha (2018) examined the effect of corruption on economic growth in Indonesia using the panel data regression method in 46 major cities in Indonesia for the period 2008-2010. The regression results show that corruption has no significant effect on Indonesia's economic growth. Based on previous research, research on corruption and economic growth have not been carried out at the provincial level.

## METHOD

This study uses panel data from 16 provinces in Indonesia from 2014-2018, sourced from the Central Statistics Agency, Transparency International Indonesia, and the Investment Coordinating Board.

The dependent variable in this study is the economic growth in the province calculated by BPS. The independent variables consist of 1) Corruption Perception Index variable obtained from the Transparency International Indonesia (TII) Report, 2) Foreign Direct Investment using the ratio of realized foreign direct investment to GRDP at constant prices in 2010, 3) government spending using the expenditure realization ratio local government to GRDP at constant prices in 2010, 4) labor using the ratio of the working population aged 15-64 years to the workforce, and 5) initial growth using 2013-2017 economic growth data.

The economic growth model used adopts the Levine & Renelt (1992) model:

$$Y = \beta_1 I + \beta_m M + \beta_z Z + \mu \quad (1)$$

Where Y is economic growth, I is a variable that must exist theoretically in the growth model, variable M is an independent variable that is of interest to researchers that

can affect economic growth, and variable Z is another variable as a complement outside of these variables.

In this study, variable I is the variable Foreign Direct Investment, labor, and initial growth. The variable M is the Corruption Perception Index variable, and Z is the government expenditure variable,  $\varepsilon$  error term, and  $\beta$  of the regression coefficient of each variable. Then the structural equation is formed as follows:

$$EG_{it} = \beta_0 + \beta_1 CI_{it} + \beta_2 FDI_{it} + \beta_3 L_{it} + \beta_4 GE_{it} + \beta_5 EG_{it-1} + \varepsilon_{it} \quad (2)$$

The selection of the best model in the panel data method uses 3 methods Baltagi (2005) as follows: a) Pooled Least Square (PLS) is the simplest estimate of panel data testing, which combines cross-section and time-series data. The test only uses the Ordinary Least Square without paying attention to individual dimensions (cross-section) and time dimensions (time series); b) Fixed Effect Model (FEM) in this approach assumes that the intercept between the cross-section dimensions is different but the time-series dimension slope remains the same; c) Random Effect (REM) which tends to see changes between cross-sections and between time series. The REM method is used to perfect the FEM model.

To determine the best model that can be used in analyzing and predicting three stages of testing, namely the Chow test to select the best model between PLS and FEM, the Hausman test to select the best model between FEM and REM, and the LM test to choose the best model between PLS and REM (Baltagi, 2005).

## RESULTS AND DISCUSSION

**Table 1.** Panel Data Regression Results for Economic Growth Bound Variables

| Variable                                    | CEM                 | FEM                    | REM                  |
|---|---------------------|------------------------|----------------------|
| Constant                                    | -3.9591<br>(0.3999) | -15.3930<br>(0.0816)** | -3.9591<br>(0.1456)  |
| Corruption Perception Index<br>(Corruption) | 0.0271<br>(0.0223)* | 0.0021<br>(0.8008)     | 0.0271<br>(0.0122)*  |
| Government Expenditure<br>(Expenditure)     | 0.0557<br>(0.3907)  | -0.1753<br>(0.3395)    | 0.0557<br>(0.1379)   |
| Labor<br>(Labor)                            | 0.0356<br>(0.4757)  | 0.2208<br>(0.0227)*    | 0.0356<br>(0.0922)** |
| Foreign Direct Investment (Capital)         | 0.0482<br>(0.1434)  | 0.0439<br>(0.2199)     | 0.0482<br>(0.0122)*  |
| Initial Growth<br>(Initial)                 | 0.8007<br>(0.0000)* | 0.0723<br>(0.3395)     | 0.8007<br>(0.0000)*  |
| Chow test                                   |                     |                        | 10.8222<br>(0.0000)* |
| Hausman test                                |                     |                        | 6.4569<br>(0.2643)   |
| Lagrange Multiplier test                    |                     |                        | 1.6375<br>(0.2007)   |

\*) significant at  $\alpha = 5\%$  and \*\*) significant at  $\alpha = 10\%$

Source: Eviews 9.0 Output

Based on Table 1. by using three approaches. it was found that the chow test resulted in a better FEM method than CEM. whereas in the Hausman test the REM method was better than FEM. and the LM test showed that the CEM method was better than REM. However. according to Gujarati & Porter. (2013). if I (the number of cross-section units) is greater than t (the number of periods). the efficient and best model for analyzing the data in this study is the Random Effect Model (REM).

$$\text{Growth} = -3.9591 + 0.0271\text{Corruption}^* + 0.0557\text{Expenditure} + 0.0356\text{Labor}^{**} + 0.0482\text{Capital}^* + 0.8007\text{Initial}^* \quad (3)$$

$$R^2 = 0,7265$$

$$DW_{\text{statistic}} = 1,7080$$

Note: \*) significant at  $\alpha = 5\%$  and \*\*) significant at  $\alpha = 10\%$

Based on the probability value of 0.12, which is greater than  $\alpha$  (0.05), it can be concluded that the data is normally distributed.

**Table 2.** Partial Correlation Test Results

|                  | CI      | FDI     | GE      | L       | EGT <sub>1</sub> |
|------------------|---------|---------|---------|---------|------------------|
| CI               | 1.0000  | 0.2179  | 0.2585  | -0.0148 | -0.1453          |
| FDI              | 0.2179  | 1.0000  | 0.1223  | -0.0721 | 0.0097           |
| GE               | 0.2585  | 0.1223  | 1.0000  | -0.0692 | 0.2368           |
| L                | -0.0148 | -0.0721 | -0.0692 | 1.0000  | 0.1469           |
| EGT <sub>1</sub> | -0.1453 | 0.0097  | 0.2368  | 0.1469  | 1.0000           |

Source: Output Eviews 9.0

From the multicollinearity that has been produced that there are no variables that have a value of more than 0.85, it can be concluded that there is no multicollinearity. Based on the calculated Chi-Square value of (12.77) smaller than the Chi-Square Table (11.07), heteroscedasticity does not occur. Based on the results of testing the value of  $dU (1.6946) < DW (2.1223) < 4-dU (2.3054)$ , there is no autocorrelation.

Based on the results of calculations, all the main variables in equation (3) have met the requirements in the formation of economic growth models (Levine & Renelt, 1992) namely capital, in this case, the FDI variable is significant and has a positive effect on economic growth, the labor variable is significant and has a positive effect on growth. economy, likewise the initial growth variable has a positive sign which shows that economic growth in several provinces is convergent. For complementary variables, namely the government expenditure variable does not affect but has a positive sign.

The corruption variable which is the main variable in this study is significant and has a positive effect on economic growth. This shows that the higher the Corruption Perception Index value, the higher the level of economic growth in Indonesia. In other words, the higher the level of corruption, the lower the economic growth in Indonesia's provinces. The high index of corruption perceptions indicates that corruption cases have decreased in every province in Indonesia, which means that corruption prevention policies in Indonesia have increased. Low corruption will significantly affect economic conditions by encouraging investment and economic growth.

This research is still in line with Kuncoro (2002), although research was carried out in the New Order or the Reformation Order in Indonesia, corruption will always be a burden to the Indonesian

economy. Rational investors will choose to invest in areas that have a low level of corruption by streamlining production processes and prices.

The impact of a decrease in the level of corruption includes an increase in investment both from within the country and abroad. Investments that enter a country with a low level of corruption carry a low level of risk. Increased investment has an impact on increasing job opportunities, decreasing unemployment, and increasing economic growth. A reduction in the level of corruption can promote inclusive economic growth in some different regions, which will have a positive impact on economic performance including macro-financial stability, investment, human capital accumulation, and labor productivity.

From the fiscal side, controlling corruption will encourage economic growth, through an increase in the budget, state financial capacity, state defense, and good political stability. In developing countries, controlling corruption can increase economic growth and investor confidence, while in developed countries, controlling corruption can maintain the country's political stability and controlling corruption affects countries that are undergoing transition such as Indonesia, if corruption is not controlled it can damage the market economy and democracy.

In the last five years, the condition of corruption eradication in Indonesia has increased, although not too high. According to Transparency International Indonesia (2020), Indonesia's Corruption Perceptions Index in 2019 received a score of 40 points. Indonesia occupies position 85 out of 180 countries surveyed. One of the efforts of the Government of Indonesia in preventing and eradicating corruption is by making a road map to eradicate corruption. In this effort, the President of the Republic of Indonesia has issued Presidential Regulation Number 55 of 2012 concerning the

2012-2025 Long-term National Strategy for PPK and the 2012-2014 Mid-term National Strategy for PPK. As a follow-up to the strategy formulation, the Government prepares Corruption Prevention and Eradication Actions which are implemented and evaluated annually.

Controlling corruption is beneficial in accelerating the process of economic recovery in Indonesia, such as improving the business climate. Various methods have been attempted by the government, both at the central and regional levels, to control bribery among businessmen and government officials. The problem is how effective the efforts to eradicate corruption, especially in the era of regional autonomy, have provided flexibility for local governments to manage regional finances.

## CONCLUSION

The results of this study indicate that the high Corruption Perception Index in several provinces in Indonesia has a positive effect on economic growth, which means that lower corruption will have a good impact on economic growth. This proves that the government's efforts to prevent and the crackdown on corrupt behavior can reduce the level of corruption and provide economic benefits for domestic and foreign investors to invest in Indonesia.

One of the reasons for the still low Corruption Perception Index is the low level of one of the components that make up the Corruption Perception Index, namely the prevalence of corruption. Therefore, a policy is needed to suppress acts of corruption that occur, through various prevention of corruption in the future. The decline in this component will increase the Corruption Perception Index so that it will have a good

impact on the Indonesian economy in the future.

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