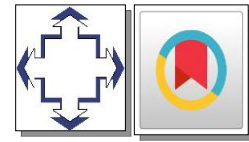


The Effect of Control Corruption, Political Stability, Macroeconomic Variables on Asian Economic Growth



Khubbi Abdillah^{a,1,*}, Rossanto Dwi Handoyo^{b,2}, Wasiaturrahma^{b,3}

^a Student of Economics, Faculty of Economics and Business, Universitas Airlangga, Indonesia

^b Faculty of Economics and Business, Universitas Airlangga, Kampus B Jl. Airlangga 4 Surabaya 60286

¹ khubbi.abdillah-2015@feb.unair.ac.id *; ² rossanto_dh@feb.unair.ac.id; ³ rahma@feb.unair.ac.id

* corresponding author

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ABSTRACT

This study aims to analyze the correlation between control corruption, political stability, macroeconomic variables on economic growth in Asia. Study population consist of 47 countries, employing secondary data from Worldwide Governance Indicators, World Development Indicators, and United Nations Development Programme. The data were analyzed using dynamic panel regression (GMM) during 2002-2018 period with Stata 14 software. The result of the analysis shows control corruption and political stability positively affect economic growth. Macroeconomic variables consist of foreign direct investment and human capital positively affects economic growth. While government size and employment have no significant effect on economic growth. The findings of this study confirms that economic growth can be increased through reducing levels of corruption, strong political stability, increase capital inflow, optimally government consumption especially increasing portion of the education budget and creating jobs widely.

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1. Introduction

The state can be said to occur economic development when economic growth increases accompanied by an increase in income per capita from time to time. Economic growth is one of indicator that is widely used to measure economic performance and benchmarks of country's development success. Economic growth is very important and needed in the development process (Todaro & Smith, 2012). One factor that causes the income per capita growth of each country varies depends on quality of institutions of each country. The quality of institutions is a determining factor in driving the economy of a country. Resources that allocated well will create good quality institutions. The behavior of the government that deviates by abusing its power for personal or group interests will worsen the quality of country's institutions. Economic growth tends to slow down in countries that have poor quality institutions. The quality of country's institutions can be seen from the level of corruption (Mankiw, 2012).

High corruption impacts the use inefficient budget allocations. Budget inefficiency results in the targeted budget not being reached and resulted in high cost economy. This causes the budget spent on capital expenditure doesn't work optimally. Capital expenditure which is a government investment will have an impact on decreasing output, so that economic growth slow down. In addition corruption, political stability is a determining factor for driving economic growth. Political conditions can be said to be stable when the government can provide trust, confidence and facilitate investors to conduct production activities. Political instability can lead to the splitting of the unity and integrity of country due to social conflict, terrorism, anarchist behavior, the overthrow of undemocratic regimes and the threat of national disintegration so as to create an investment climate that is not conducive. Conditions of investment climate that are not conducive lead to a decrease in the rate of economic growth (Shumetie & Watabaji, 2019).

One factor that causes low economic growth is due to distortion corrupt behavior and unstable political conditions. The following is shown in Figure 1 which explains control corruption index and political stability index in Asia from 2002 to 2018. Control corruption index and political stability index data taken from Worldwide Governance Indicators published by whose index values are between -2,5 (weak) to 2,5 (strong). From Figure 1 shows that the average of control corruption index and political stability index respectively -0,24 and -0,39. This means that control corruption and political stability in the Asia region is still weak.

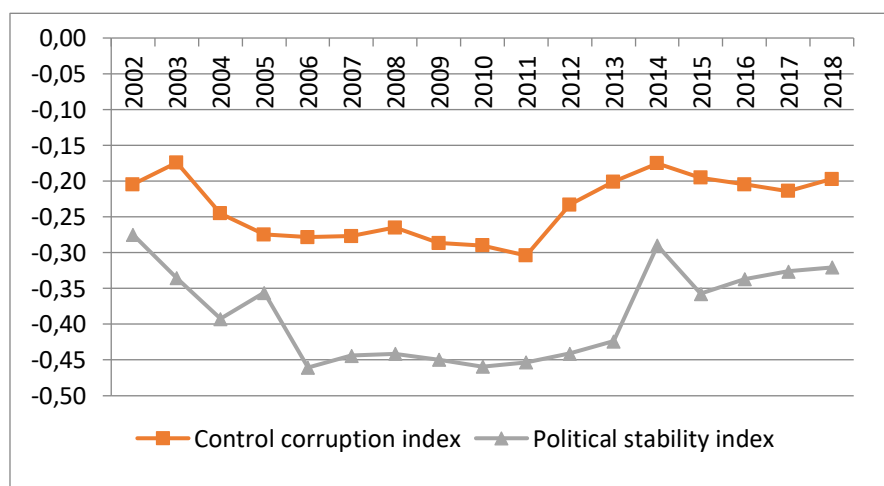


Figure 1. Control Corruption Index and Political Stability Index in 2002-2018
Source: Worldwide Governance Indicators, data processed

Low corruption and stable political conditions play an important role to increase GDP per capita growth (Cieřlik & Goczek, 2018). Low income countries tend to have high level of corruption

and unstable political conditions. Whereas, high-income countries tend to have low level of corruption and high political stability. Corruption is a determining factor in political instability. Political stability in countries with high levels of corruption is found in many countries (Omoteso & Mobolaji, 2014). Political instability tend to have an adverse effect on corruption in an economy. Countries whose political conditions are unstable are very difficult to attract foreign investment into a country (Nurudeen, Abd Karim, & Aziz, 2015).

Empirical study of corruption and political stability has been carried out. The difference in this study compared to previous study lies in the analysis technique and addition of macroeconomic variables in the model and this study uses dynamic panel model (GMM). The addition of macroeconomic variables in this study aims to determinants of high and low GDP growth of country not only caused by corrupt behavior and political instability conditions but also due to macroeconomic variables.

This study tries to examine the factors that influence economic growth in Asia. The indicators analyzed in this study are control corruption index, political stability index, and macroeconomic variables consisting of flow of foreign capital into the country, total government consumption, absorbed labor, and average education aged over 25 years. Low corruption, stable political conditions, a lot of incoming foreign investment flows, optimal government consumption expenditure, many workers who are unemployed, and high level of human capital will increase economic growth. Therefore, this study takes the title of the effect of control corruption, political stability, macroeconomic variables on economic growth in Asia from 2002 to 2018 with dynamic panel approach (Generalized Method of Moment/GMM).

2. Literature Review

Cieřlik and Goczek (2018) states that corruption negatively effects economic growth. Moreover, states that control corruption and political stability have significant effect on economic growth. These studies are in accordance sand the wheels hypothesis which states that corruption can hamper economic growth. According to Omoteso and Mobolaji (2014), the results of the study, political stability have significant effect on economic growth. Meanwhile, control corruption have no significant effect on economic growth. These studies are in accordance grease the wheels hypothesis which states that corruption can be a lubricant to shorten the process of economic activity.

Study results of Shabbir, Anwar, and Adil (2016) shows that political stability can reduce social unrest, political turmoil, and encourage investment so that economic growth can be increased. In contrast to study Adefeso (2018) which concluded that political stability and corruption have no significant effect on economic growth in African region. The study recommends reforming control corruption and political stability policies.

The study Papaconstantinou, Tsagkanos, and Siriopoulos (2013) aims to analyze the effect of corruption, bureaucracy on GDP per capita growth in Greece with conditional β convergence approach. Estimation results confirm that corruption perception index, economic freedom index has a significant effect on economic growth. The results of this study confirm that there is conditional convergence in Greece. The results of the study Sari (2012) showed that 26 provinces experienced divergence, the remaining 4 provinces experienced convergence. Almost all regencies/cities in Indonesia have not been able to catch up with development in developed regions.

Ogundari and Awokuse (2018), Teixeira and Queirós (2016) stated that human capital have positive significant effect on economic growth. Human capital is one of determining factors in driving economic growth and plays an important role in the technological progress of country. In other study, Delgado, Henderson, and Parmeter (2014) stated that human capital has a negative significant effect on economic growth.

According to the results of the study Feeny, Iamsiraroj, and McGillivray (2014), foreign direct investment (FDI) have positive significant effect on economic growth. These results confirm that growth led FDI hypothesis. FDI is an important vehicle in technology transfer and has a contribution in driving economic growth. In addition, trade restrictions, a conducive investment climate, availability of labor, macroeconomic stability, and reduction of trade barriers will make it easier for countries to attract FDI inflows. In other study, Albulescu (2015) stated that foreign direct investment has a negative significant effect on economic growth.

Altunc and Aydın (2013) stated that government size has a negative significant on economic growth for Turkey, Rumania, and Bulgaria. High government spending will have an impact on tax revenues that are not optimal and reduce public consumption. The government must allocate government consumption optimally without imposing excessive taxes on society. The contribution of public expenditure to national income needs to be limited between 15% until 50% so that government consumption can have a positive impact on GDP growth. The study is in accordance with the army curve theory. In other study, Aleksandrovich and Upadhyaya (2015) stated that government size has a positive significant effect on economic growth.

The result of study Winanto (2016) showed that employment abroad showed positive significant on economic growth in Ponorogo Regency. The same results are also shown in the study Winanto (2019) which shows that employment has a positive effect, but investment is not significant on economic growth in Ponorogo Regency. Therefore, to encourage economic growth in Ponorogo Regency, conducive investment savings are needed, injection of local government incentives, and labor intensive in economic activities are needed. In other study, Wahab, Iskandar, and Irwansyah (2016) stated that employment has no significant effect on economic growth. Economic growth can grow with the addition of inputs, especially labor. Increased employment opportunities can reduce unemployment and encourage production capacity.

3. Research Method

The analysis technique used in this study was dynamic panel model (GMM). In dynamic panel model we use of lag dependent variables as the regressor which causes endogeneity issue so that if the model is estimated using fixed effects approach and random effects approach the resulted estimators will be biased and inconsistent (Verbeek, 2012). The econometric GMM equation used in this study can be formulated as:

$$Y_{it} = \beta_0 + \beta_1 \text{lag } Y_{i,t-1} + \beta_2 \log Y_{pcap_{i,t-1}} + \beta_3 Cc_{it} + \beta_4 PS_{it} + \beta_5 Fdi_{it} + \beta_6 Gov_{it} + \beta_7 Edu_{it} + \beta_8 Emp_{it} + \varepsilon_{it} \dots\dots\dots (1)$$

Where:

- Y_{it} = GDP per capita growth
- $\text{lag } Y_{i,t-1}$ = Lag GDP per capita growth
- $\log Y_{pcap_{i,t-1}}$ = Log initial GDP per capita
- Cc_{it} = Control corruption
- PS_{it} = Political stability
- Fdi_{it} = Foreign direct investment
- Gov_{it} = Government size
- Edu_{it} = Human capital
- Emp_{it} = Employment
- ε_{it} = Error term
- i = Country (*cross-section*)
- t = Year

The data used in this study are secondary data and panel data. This study used annual data of 47 Asian countries from 2002-2018 period with Stata 14 program software. The data were obtained from Worldwide Governance Indicators, World Development Indicators, and United Nations Development Programme. The following is a measurement of each variable in this study:

Table 1. Operational definition variables

No	Variable	Operational definition	Source
1	Control Corruption (<i>Cc</i>)	It is an aggregation of various indicators that measure the perception of the extent to which public power is distorted for personal gain, both on a small and large scale of corruption	World Bank –Worldwide Governance Indicators
2	Political stability (<i>Ps</i>)	Perceptions of governance in a country that experiences instability such as overthrowing government regimes, violence, and the threat of terrorism	World Bank –Worldwide Governance Indicators
3	GDP per capita (<i>Ypcap</i>)	Measured purchasing power parity or GDP divided by the population	World Bank –World Development Indicators
4	GDP per capita growth (<i>Y</i>)	Annual percentage GDP per capita based on constant 2010	World Bank –World Development Indicators
5	Foreign direct investment (<i>Fdi</i>)	Ratio of investment entering a country, namely investment from abroad to GDP from year to year	World Bank –World Development Indicators
6	Government size (<i>Gov</i>)	Percentage of final government consumption to GDP	World Bank –World Development Indicators
7	Employment (<i>Emp</i>)	Percentage of population aged 15 years to 64 years involved in economic activity	World Bank –World Development Indicators
8	Human capital (<i>Edu</i>)	Average number of schooling aged 25 years and over is calculated from the level of educational attainment through the official time duration of each level of education	United Nations Development Programme

4. Results and Discussion

This study uses three model, namely one-step GMM, two-step difference GMM, and two-step system GMM. Table 2 in equation (1) uses one-step GMM to determine effect of control corruption, political stability, and macroeconomic variables on economic growth. Equation (2) is a two-step difference GMM model used to overcome the problem of bias due to the correlation of explanatory variables with error terms. While equation (3) is a two-step system GMM model by adding instrument variables (IV) to create a consistent estimator (Wintoki, Linck, & Netter, 2012). Using three model equation in table 2 is used to choose the best estimation method in the dynamic panel model.

Table 2. Estimation Result Dynamic Panel

Variables	Generalized Method of Moment Model		
	(1)	(2)	(3)
<i>Lag Y (t-1)</i>	-0,037 (0,033)	-0,044 (0,004) ***	0,259 (0,002) ***
<i>Log Ypcap</i>	-14,508 (3,169)***	-12,652 (1,847) ***	-5,696 (0,406) ***
<i>Cc</i>	5,462 (1,655) ***	4,798 (0,870) ***	0,688 (0,188) ***
<i>Ps</i>	-4,839 (1,042) ***	-4,181 (0,464) ***	0,669 (0,153) ***
<i>Fdi</i>	0,021 (0,020)	0,026 (0,013) ***	0,029 (0,014) **
<i>Gov</i>	-0,398 (0,063) ***	-0,393 (0,010) ***	0,012 (0,013)
<i>Edu</i>	-1,980 (0,797) **	-2,466 (0,370) ***	0,088 (0,037) **
<i>Emp</i>	0,982 (0,205) ***	0,993 (0,081) ***	-0,008 (0,013)
<i>Wald</i>	208,35 ***	7923,88 ***	39422,82 ***

Variables	Generalized Method of Moment Model		
	(1)	(2)	(3)
<i>Sargan</i>	746,55	39,84	721,99
<i>AR (1)</i>		-1,84 *	-2,07**
<i>AR (2)</i>		-1,83 *	0,58
<i>Hansen</i>			42,29

Source : Analyzed by Stata14

Partially the independent variables in study indicate that control corruption and employment have significant and positive influence on the dependent variable of economic growth as indicated by the p-value of 0,00 which are less than 0,01. Thus, log initial GDP per capita, political stability, government size and human capital have significant and negative influence on economic growth. But, lag GDP per capita growth and FDI have no significant on economic growth. Equation (1) in table 2, it also can be explained that the results of data analysis show the wald chi-squared value of 208,35 and the p-value 0,000 with a significant level 0,01 percent. This means that a simultaneous influence of independent variables of lag GDP per capita, log initial GDP per capital, control corruption, political stability, foreign direct investment, government size, human capital, and employment on economic growth. Sargan value of 746,55 and p-value 0,000 with a significant level 0,01, indicates that the instrument used is invalid. Therefore, we can continue estimating with two-step GMM in equation (2).

Based on the results of equation (2) in table 2 above it can be explained that the results of data analysis show the wald chi-squared value of 7923,88 and the p-value 0,000 with a significant level 0,01 percent. Sargan test results in equation (2) of table 2 show value chi-squared value of 39,84 that the probability value is 0,1. This uses alpha level (α) of 10 percent, so the decision is H_0 rejected. According to Stata calculations, equation (2) of table 2 shows that there is no autocorrelation. Control corruption, foreign direct investment, and employment have significant and positive influence on economic growth. But, lag GDP per capita growth, log initial GDP per capita, political stability, government size, and human capital have significant and negative influence on economic growth.

Partially the independent variables in equation (3) in table 2 indicate that lag GDP per capita growth, control corruption, political stability, foreign direct investment, human capital have significant and positive influence on the dependent variable of economic growth. Thus, log initial GDP per capita has a significant and negative influence on economic growth as indicated by the p-value of 0,00 which are less than 0,01. But, government size and employment have no significant on economic growth. Equation (3) in table 2, it also can be explained that the results of data analysis show the wald chi-squared value of 39422,82 and the p-value 0,000 with a significant level 0,01 percent. This means that a simultaneous influence of independent variables of lag GDP per capita, log initial GDP per capita, control corruption, political stability, foreign direct investment, government size, human capital, and employment on economic growth. Hansen test results in equation (3) of table 2 show value chi-squared value of 42,29 that the probability value is more than 0,1. This uses alpha level (α) of 10 percent, so the decision is H_0 rejected. Equation (3) of table 2 shows that coefficient AR (2) is more than AR (1). So, there is no autocorrelation. Equation (3) in table 2 is the best model to interpret because the expected estimation results are better than equation (1) or equation (2). Equation (1) and equation (2) give many estimation results that are inconsistent and not in accordance with theory built. According to econometric procedure, equation (3) is more consistent and valid. According to Wintoki et al. (2012), two-step system GMM model is robust and more efficient than two-step difference model and one-step model.

From equation (3) in table 2, it can be seen that variable of log initial GDP per capita are significant at 1% level. This means that log initial GDP per capita has a significant effect on economic

growth. The negative coefficient value in this variable indicates the convergence. When economic growth in a country is converge, then developing countries can reduce the income gap and will be improved to steady state economic growth with developed countries in long term. Then, Lag GDP per capita shows a positive coefficient and significant at 1%. It means that there is an increase in economic growth in the Asian region. The finding of this study agrees the finding of Papaconstantinou et al. (2013) and Cieřlik and Goczek (2018), while rejecting the findings of Sari (2012).

Control corruption shows significance at 1% with coefficient 0,668. This means that control corruption positively affects economic growth. Abuse of power through corruption practices inhibits economic growth. A low control corruption index score will reduce high economic cost, so that the government budget allocation can be distributed evenly without leakage of national income. This finding theoretically proving Sand The Wheels Hypothesis states that corruption hampers economic growth. In other hand, this finding supports the findings Cieřlik and Goczek (2018), while rejecting the findings of Adefeso (2018) and Omoteso and Mobolaji (2014).

Political stability shows significance at 1% with coefficient 0,669. Political stability has significant positive effect on economic growth. The positive coefficient of political stability indicates that the higher the level of political stability will positively affect economic growth. With stable political conditions, democratic government regimes, and safe state conditions will give perceptions of investors to invest in the country and create jobs so that economic growth can be increased. The finding of this study agrees the finding of Shabbir et al. (2016) and Omoteso and Mobolaji (2014), while rejecting the findings of Adefeso (2018).

Foreign direct investment shows significance at 5% with coefficient 0,029. Foreign direct investment has positive significant effect on economic growth indicates that capital inflow from developed countries to developing countries will impact to transfer of technology and science so that it will increase economic activity, increase employment opportunities, and will encourage economic growth at a higher level. The finding of this study agrees the finding of Albulescu (2015) and Feeny et al. (2014). Government size and employment have no significant on economic growth. This means that the government needs to encourage government spending through the allocation of government budget to increase output multiplier so as to increase jobs to encourage economic growth.

Government size has no significant effect on economic growth. Addition government size is needed in increasing economic activities to safe levels so that economic growth will increasing. However, when government spending exceeds safe limits, government needs to rudeau government size. Government size funded by high taxes will increase tax revenue that will be used for public goods. However, government size must be carried out proportionally and apply according to a predetermined threshold. The finding of this study rejected the finding of Aleksandrovich and Upadhyaya (2015), Altunc and Aydın (2013).

Human capital shows significance at 5% with coefficient 0,088. Human capital has a significant positive effect on economic growth. This means that human capital positively affects economic growth. A country that has a high level of human capital will have capital in development because a country that has an educated workforce is very important in supporting economic growth. Investment in education has an indirect rate of return by delaying work in order to get a higher education. A high level of education will improve a more decent standard of living in the future. The finding of this study agrees the finding of Ogundari and Awokuse (2018) and Teixeira and Queirós (2016) but rejecting the findings of Delgado et al. (2014).

Employment has no significant effect on economic growth. Economic growth can be increased by addition of inputs especially labor. Increasing employment opportunities can reduce the number of employed, encourage production capacity, and economic activities oriented to labor insentive. The

finding of this study agrees the finding of Wahab et al. (2016) but rejecting the findings of Winanto (2019) and Winanto (2016).

5. Conclusion

Based on the results of data analysis and discussion in this study, it can be concluded that simultaneously economic growth in Asian are influenced by lag GDP per capita, log initial GDP per capita, control corruption, political stability, foreign direct investment, government size, human capital, and employment through two-step GMM approach. Based on dynamic panel model (GMM) approach, this study find that control corruption and political stability have partial effect on economic growth in Asia. In addition, we find that macroeconomic variables include lag GDP per capita, log initial GDP per capita, foreign direct investment and human capital have partial effect on economic growth. However, government size and employment have no significant effect on economic growth. The findings in this study can contribute knowledge and as a basis for economic policy making by government in increasing economic growth by reducing the level of corruption through institutional reform and increasing budget transparency. In addition, a country's political stability will strong if the government is able to strengthen its resilience and security, especially related to social conflict, terrorism, violent demonstrations, and armed conflict. Furthermore, economic growth can be boosted through an increase capital inflow into the country, optimally increasing government consumption especially increasing the portion of the education budget and creating jobs widely.

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