# JEJAK

**Jurnal Ekonomi dan Kebijakan**

http://journal.unnes.ac.id/nju/index.php/jejak

# Analysis of Institutional Quality Influence on Shadow Economy Development

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### *Abstract*

GDP is the main indicator of economy which reflects economic activities in a country. In fact, shadow economy is exist in every country, it is some of the activities which are not included in the national account. This condition can lead to a biased policies. So that, it is important to take into account the shadow economy when formulating policies. There are no such of data for shadow economy activities. The purpose of this research is to estimate shadow economy in seven developing countries of ASEAN. The estimation method used is the MIMIC approach in the period of 2007-2016. Besides, this research also examines the influence of the institutional quality on the shadow economy development. The results show that shadow economy in ASEAN has increased since 2007. Thailand is a country with the largest shadow economy among the ASEAN member countries with an average of 46.84% of GDP. On the other hand, the institutional quality shows a negative relationship with the development of shadow economy, except regulatory quality. Variables of control of corruption, political stability and absence of violent, and voice and accountability have influence on reducing the shadow economy development.

**Key words :** Shadow economy, MIMIC approach, institutional quality

**How to Cite:** Maulida, R., & Darwanto, D. (2018). Analysis of Institutional Quality Influence on Shadow Economy Development. JEJAK: Jurnal Ekonomi dan Kebijakan, 11(1), 49-61. doi: https://doi.org/ 10. 15294/jejak. v11i1. 11322

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## INTRODUCTION

The magnitude of economic activity in a country is described in the Gross Domestic Product. However, in practice, not all economic activities are monitored and recorded in GDP statistics. Unrecorded transactions, whether intentionally or unintentionally, are beyond the official account of the government. This condition causes a bias on the economic performance of a country that has been viewed through GDP. Besides, the country is impaired by the loss of potential taxes from the activities. Economic activity that is not recorded in GDP is called shadow economy. It needs to know that there is no agreement among the economists about the official definition of shadow economy. In many cases, the definition of shadow economy depends on the method and measurement of the estimates used (Schneider & Enste, 2000).

Some researches on the shadow economy have been conducted since the 1970s and have been a concern in recent years. Initial estimation was done by Feige (1979), who made the United States a sample of his research by using a monetary approach that is derived from the quantity of money model of Irving Fisher. Then the estimation method grows with various approaches. One of researches mostly used as a reference is the shadow economy estimation, which was conducted by Schneider, Buehn, and Montenegro (2010) using Multiple Indicators and Multiple Causes (MIMIC) approach.

Along with the development of economic issues, the recent researches link between the size of shadow economy and socio-political issues. Many researchers see that the emergence of this informal activity is due to the non-economic factors such as corruption, public trust to the government, and institutions. Researches that have been conducted previously show a negative relationship between the quality of institutions and the development of shadow economy in the developed and developing countries in general.

A developing country that enjoys the rapid economic growth will face various problems one of which is the availability of employment. With a large population and labors, a new, balanced job field is required. These conditions forced the creation of the informal sector and make the shadow economy in the developing countries become larger. According to Tanzi (in Torgler and Schneider, 2008), the assumption that informal activity is more important in the developing countries than in the developed countries is realistic because in the developing countries it is easier to create the informal activities than to work in the formal sector. This happens because in general the developing countries do not have a well-organized data collection and control system. Besides, law enforcement in the developing countries is not as tight as the developed countries.

The ASEAN region that is dominated by the developing countries can be said to have poor institutional condition. Indicators of institutional quality of the developing countries in ASEAN generally show a negative sign, which means that the institution is still bad. Malaysia is a developing country that has better institutional quality than other developing countries in the ASEAN region. Malaysia scored positive on five indicators of governance. Thailand scored positive for government effectiveness and regulatory quality indicators. Other indicators still show negative. Vietnam's stability indicator indicates that it has reached a good enough institutional level. However, other indicators still show poor quality. The Indonesian and

Philippine institutional indicators are generally below zero. Nevertheless, each country shows an improvement in the institutional quality in recent years. Myanmar, Cambodia, and Laos, which are the least-developed countries, indicate the institutional quality that is far under other ASEAN countries, even Myanmar's score is close to the lowest scores that reflects poor institutional quality.

Poor developing country institutional conditions provide opportunities for people to be involved in shadow economy. Therefore, this study examines the institutional influence on the development of shadow economy in the developing countries. This research uses seven developing countries in ASEAN those are Indonesia, Malaysia, Philippines, Thailand, Vietnam, Cambodia, and Laos as the research objects.

One of the macro indicators often used to measure the economic activity in a country within a certain period is Gross Domestic Product (GDP). Basically, GDP measures the value of final goods and services produced in a country over a certain period and in certain currency units. GDP includes goods and services produced by either the citizens or the foreigners in the country. The calculation of GDP can be done with three approaches as follows: income approach, expenditure approach, and production approach. Based on the theory, these three approaches should produce the same number. However, in fact they produce different numbers.

The existence of the shadow economy that overshadows the real economy is not necessarily separated from the real economy activities; shadow economy still has an attachment to the activity in the formal sector. The previous researches confirm that the presence of shadow economy puts pressure on the stimulus given to the fiscal and monetary sectors. Shadow economy can also influence the real economy through the tax revenue. In a developing country that does not have a good tax administration system, there is a big difference between the tax realization and the tax obligation that should be paid (tax gap). When the total realized tax is far from the target while at the same time the government needs funds to build the infrastructure, then the next is the fiscal deficit. Therefore, many countries are beginning to pursue taxes from this shadow economy activity.

Besides having negative impacts, shadow economy also has a positive impact on the economy. Shadow economy can create jobs for people who need jobs. Schneider (2014) mentioned that there are three types of workers working in the shadow economy; workers who make work in the shadow economy sector as a side job; workers who do not get jobs in the real sector so that they work in the shadow economy; and people who are not allowed to work in the formal economy, such as illegal immigrants. From the description, it can be seen that working in the shadow economy can increase the income and welfare of people who work in it. Besides, most of the revenue generated from the shadow economy sector is spent in the real sector, which encourages the growth of the real economy.

Some researches found that the development of shadow economy in the world generally show a declining trend. Elgin et al. (2012), who estimated the shadow economy of 1960-2005, concluded that the shadow economy of the world as a whole decreased slowly. The findings are strengthened by the research results of Schneider (2010), which showed that the

average of the world's shadow economy declined in the period 1999-2007. On the other hand, the factors driving the development of shadow economy are different based on the category of the country. In OECD countries, the driving factors are high taxes and labor regulatory issues, whereas in the developing countries, the driving factors of shadow economy are dominated by tax attitudes, avoiding regulation, corruption, and people's disbelief in the political system.

Various studies have examined the relationship between corruption and shadow economy in various countries. Some researches suggest that corruption is a substitute for shadow economy activity. As stated by Rose-Ackermann (1997) in his research, the underground economy is a substitute for corruption (bribery). Other researchers claim that the relationship between shadow economy and corruption is complementary. A research conducted by Vo, et al. (2015) concluded that corruption is complementary in ASEAN. Therefore, the control of corruption is an effective step to suppress the development of shadow economy.

Another factor that can be used to measure the quality of institutions is the effectiveness of governance in providing public services and the government's commitment in implementing the policies. Fast and well-distributed public services are very beneficial to the economic agents. Economic activity will become more efficient; besides, the government's consistency in carrying out its policies will enable the economic agents to be protected against their activities. These conditions are not found in activities that work in the shadow economy.

The increased effectiveness of government will attract the shadow economy doer to the real economy that further will give impact on the decrease in shadow economy activity.

On the other hand, the domestic political stability may influence a country's economy. Political instability may create uncertainty in business. The political situation is closely related to the security of a country. The unstable state's political situation may lead to a chaos and violence in various places and hamper the enforcement of property rights. These conditions may serve as a background to the rapid changing rules that increase the risk and cost to adapt to the new regulations. Therefore, more stable political condition is expected to improve the stability of economy.

Other institutional quality proxies can be seen through the quality of the policy makers (regulatory quality). Good policy makers who are balanced by the ability to implement their policies will produce policies that may encourage the economic development, especially in the private sector. Besides, the resulting policy is also able to protect the economic actors in running their business. The favorable policy for the businessman will reduce the shadow economic activities.

Another factor is the rule of law that includes the public compliance and trust in the applicable regulations, justice of law institutions, police, and protection of property rights. Schneider and Buehn (2016) in their research explained that individuals are very rational in calculating the costs and benefits for breaking the rules. If complying with regulations brings more benefits to the economic actors, they will not hesitate to comply with the applicable regulations and participate in the official economy. Property rights complied by all people can minimize the risk of losses incurred by the

economic actors because the rights and obligations of each agent have been regulated explicitly. Besides, police and legal institutions that run well will bring a sense of security for people to run their business. It can be an incentive for the businessmen to legalize the business they run. This situation may reduce the shadow economy activity in a country.

The quality of a country's governance can be measured through voice and accountability. Voice and accountability describes the level of democracy of people and the government transparency in running its government. In addition, people also have freedom to express including freedom to run the economic activities. A better democracy reflects the people's freedom to determine the leader and the board member desired and to control the course of government. According to Razmi and Jamalmanesh (2014), when people's wishes can be well voiced by the political parties and the board members, the public's desire to contribute to the state will increase.

Conditions that are detrimental to the economic actors may encourage the people to engage in hidden economic activities. The large number of corruption cases occurring in the government institutions, the paid taxes that cannot be distributed equitably, and the less transparent government will make people feel that they do not benefit from their contribution in the real economy.

Then it can be the incentives for the people to interact within the shadow economy. Therefore, better institutional quality is expected to reduce the shadow economy and to increase the people's contribution in the real economy

Dreher, Kotsogiannis, and McCorriston (2009) examined the relationship between the institutional quality with corruption and the shadow economy. The sample used consisted of 78-135 countries from various continents. The model is applied using a simultaneous equation. The first equation consists of shadow economy as the dependent variable while the independent variable consists of the quality of the institution and the control variable. The second equation consists of corruption as the dependent variable and shadow economy and institutional quality as the independent variable accompanied by the control variable. Estimation is done by applying three-stage least square (3SLS). The results obtained strengthen the results of previous similar researches, which suggest that corruption and shadow economy are substitutes. The influence of institutional quality on corruption and shadow economy is marked negative and significant, which means that the improvement of the institutional quality will reduce the amount of the shadow economy and the corruption practices. However, the relationship between the institutional quality and the corruption remains questionable and the relationship depends on the relative effectiveness of the quality of each institution.

Torgler and Schneider (2007) examined the relationship of institutional quality and tax morale with the development of shadow economy. As a proxy of the institutional quality variables, a government quality index is used. Kaufmann classified six governance indicators: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control over corruption. The higher the score is, the better the quality of the institution will be. The results of the estimates in the result showed a negative and significant sign,

which means that improving the institutional quality helps to reduce the shadow economy activity. Improvement of institutional quality can be done by increasing the tax awareness, the voice and accountability, the rule of law, the government effectiveness along with the quality of its regulation, and by fighting the corruption. Besides, the structure of legislation and property rights are important factors that can be an incentive for the economic agents to engage in shadow economy activities..

## RESEARCH METHODS

The analysis used in this research is divided into two parts. The first part estimates the shadow economy magnitude using a structural equation model with the MIMIC approach, while the second part analyzes the institutional influence of shadow economy development using the Ordinary Least Square (OLS) regression analysis. This method was chosen based on the consideration that this research does not focus on the mutual relationship between shadow economy and institutional; it focuses on the direct institutional influence on the development of shadow economy.

In the MIMIC model, shadow economy is an invisible variable but can be analyzed through the visible variables. Therefore, we need a model that bridges both variables through the measurement model, while the structural equation model connects the proxy causing the shadow economy with macroeconomic indicators. Structural Equation Model is as follows:

$$h = \gamma^{\wedge\prime} X + \zeta \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Where $X = (x_1, x_2, \dots, x_q)$ is vector $(q*1)$ and each $x_i$, $i = 1, \dots, q$ is the potential cause of the emergence of shadow economy (latent variable $\eta$) and $\gamma^{\wedge\prime} = (\gamma_1, \gamma_2, \dots, \gamma_q)$ is vector $(1*q)$ that explains the relationship of latent variable and its cause. Latent variable, $\eta$, is determined by exigent cause.

Measurement Model is as follows:

$$y = \lambda\eta + \varepsilon \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

Where $y = (y_1, y_2, \dots, y_q)$ is vector $(p*1)$ that is some indicator variables, while $\lambda$ is vector of regression coefficient, and $\varepsilon$ is vector $(1*p)$ of white noise disturbance.

Equation (2) and (3) are then combined to be multivariate regression model where the endogen variable, $y_j$, $j = 1, \dots, p$ is the indicator variable of shadow economy, $\eta$. The exigent variable $x_j$, $i = 1, \dots, q$ is the variable cause of shadow economy, $\eta$. The equation in general can be written as follows :

$$n = \lambda^{\wedge}(-1) (y-\varepsilon)\dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$

$$⟦\gamma^{\wedge\prime} X+\zeta=\lambda⟧ ^{\wedge}(-1) (y-\varepsilon) ⟦y=\lambda\gamma⟧ ^{\wedge\prime} X+\lambda\zeta+\varepsilon$$

$$Y = \Pi X + z\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4)$$

The following is a short description of the basic structure used in the MIMIC model :
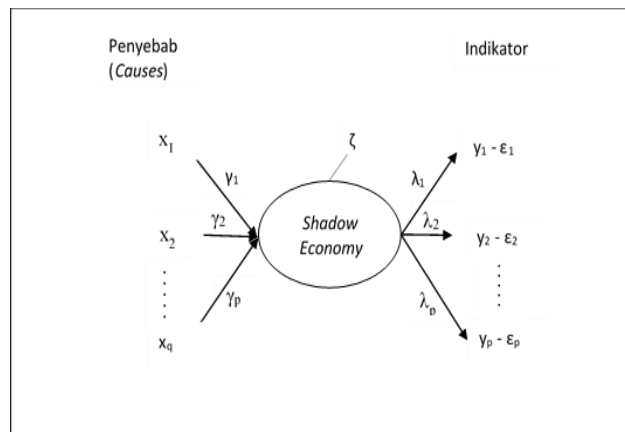


**Figure 1.** Basis Structure of MIMIC

Source : MIMIC Approach", International Journal of Economic and Finance, 2014.

The first step taken in estimating the MIMIC model is to confirm the hypothesis of the relationship between shadow economy and its

cause and indicator variables. After the relationship has been identified and the parameters are obtained, the results from the estimation with the MIMIC model are used to calculate the shadow economy.

The estimated coefficient is then substituted into the structural equation (1) by multiplying the variable coefficients with the data of each state in each year.

The result of calculating the shadow economy obtained is a relative number so that the absolute value must be through the calculation by benchmarking. This research used shadow economy magnitude in 2006 as a base year. The magnitude of shadow economy of ASEAN countries in the base year based on Schneider (2010) is presented in the following table.

**Table 1.** Shadow Economy in Southeast Asia in 2006

| Country | Shadow Economy |
|---|---|
| Brunei Darussalam | 30.8 |
| Kamboja | 46.8 |
| Indonesia | 18.3 |
| Laos | 28.4 |
| Malaysia | 30.0 |
| Myanmar | - |
| Filipina | 39.5 |
| Singapura | 12.4 |
| Thailand | 48.5 |
| Vietnam | 14.6 |

Source: Schneider et.al. "Shadow Economy All over the World: New Estimates for 162 Countries from 1999 to 2007 (Revised Version)", 2010.

The calculation of relative value to be absolute value is based on the following formula:

$$(\eta_t)\check{} = (\eta_t)\check{}/(\eta_{2006})\check{} \ \eta_{2006}^{} \quad\dots\dots\dots\dots(5)$$

$(\eta_t)$ is the relative value of shadow economy in year t estimated using MIMIC, $(\eta_{2006})$ is the relative value in 2006 calculated by substituting equation (1), and $\eta_{2006}^{\ *}$ is the amount of shadow economy in 2006 estimated by Schneider (2010). The calculation results show the shadow economy of each country in a certain year. The next model is a model used to test the influence of institutional quality on the development of shadow economy adopted from the model built by Torgler and Schneider (2007). The basic model in this research is as follows:

$$〚SE〛_{it}=\alpha+\beta_1 〚CC〛_{it}+\beta_2 〚GE〛_{it}+\beta_3 〚PSAV〛_{it}+\beta_4 〚RQ〛_{it}+\beta_5 〚RL〛_{it}+\beta_6 〚VA〛_{it}+\beta_7 〚PDB〛_{it} \dots\dots\dots\dots\dots\dots\dots(6)$$

SE is the shadow economy of each country as a percentage of GDP. CC is control of corruption, GE is government effectiveness, PSAV represents political stability and absence of violence, RQ is regulatory quality, RL is the rule of law, and VA represents voice and accountability. GDP is a gross domestic product that is the control variable. This model is then regressed by the Ordinary Least Square (OLS) method.

**RESULTS AND DISCUSSION**

The six causes of shadow economy, which are government expenditure, fiscal freedom, business freedom, unemployment rate, freedom of labor, and tax rate, show the significant results in shadow economy. With the freedom for the workers and the freedom to do business given by the government, the shadow economy activity among the people will be smaller. The tax rate also influences the formation of the shadow economy.
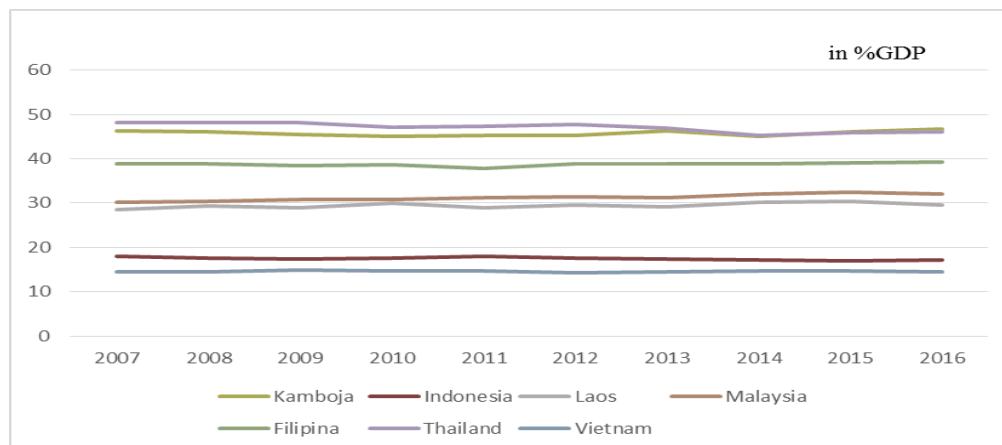
**Figure 2.** Development of Shadow Economy in ASEAN
Source : Data Processed

This also strengthens the previous research, which suggests that one of the driving factors of the emergence of shadow economy is a high tax and labor regulatory issues.

Based on the estimated results, the average shadow economy in ASEAN has increased slowly starting from 2012. Its growth is moving at the level of 27% -29% of GDP.

Countries with shadow economy rates above the average of ASEAN are Thailand, Cambodia, Malaysia, Laos, and the Philippines. In general, shadow economy has not changed significantly since 2007. The biggest change occurred in Thailand where the shadow economy has decreased more than other

The development of shadow economy in ASEAN countries is presented in this graph. In 2011 when the global economy weakened, the shadow economy in Thailand, Malaysia, Indonesia and Cambodia increased. In 2012, the developing countries are in an uncertain global economic condition, trying to conform to the policies that might possibly be taken by the superpower country.

The magnitude of shadow economy in most ASEAN countries (Thailand, Cambodia,

Philippines, Malaysia and Laos) in 2012 has increased when the global economy is unstable. When the global economy stabilized in 2013, the shadow economy in ASEAN declined again.

It indicates that there is a relationship between the economic conditions and the development of the shadow economy. When the economic conditions are unstable, people tend to choose to trade in the shadow market.

The ASEAN countries with the largest shadow economy are Thailand with an average of 47.09% of GDP, followed by Cambodia with an average of 45.8%, and the Philippines with 38.81%. Vietnam and Indonesia are the two developing countries in ASEAN with the lowest shadow economy. The percentage of shadow economy of these two countries is below 20% of the GDP of each country.

Although the magnitude of shadow economy in Indonesia is among the lowest, its real value is among the largest in ASEAN. The average value of shadow economy in Indonesia reached US $ 144 billion in 2007-2016, which is the second rank in ASEAN. Thailand is the country with the highest shadow economy value that reached US $ 167 billion. The country with the smallest real value of the shadow economy is Laos that only reached US $ 2.4 billion. The

transaction value of shadow economy in ASEAN countries in general has increased since 2007. When compared with the transaction value of shadow economy in 2007, Laos experienced the greatest change to 102%.

The transaction value of Thailand experienced the smallest change that is only 23%. This shows that although the percentage of shadow economy to GDP in 2016 is smaller than in 2007, the transaction value increases in each country.
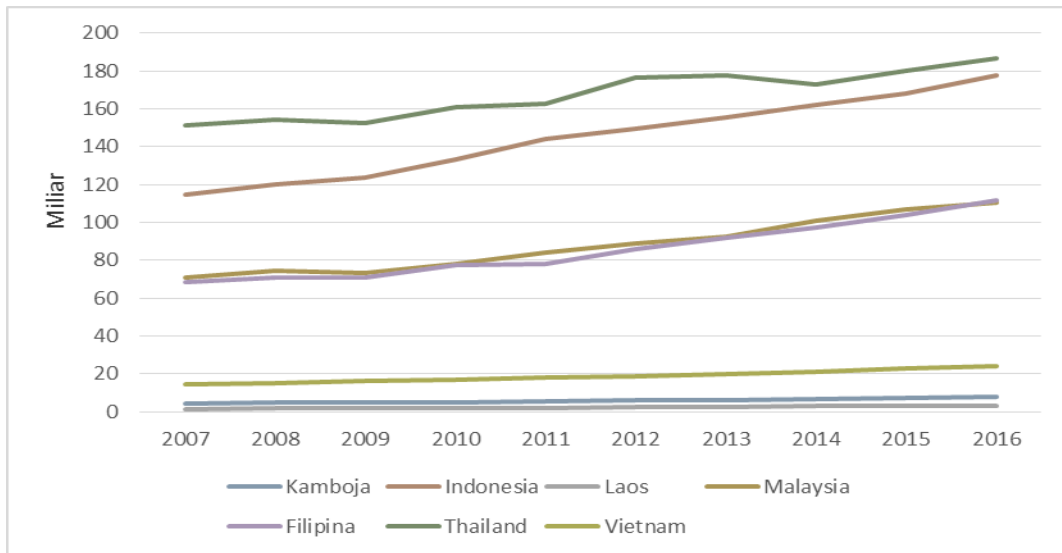


**Figure 3.** The development of Shadow Economy Value
Source: Data Processed

The transaction value of shadow economy in ASEAN countries in general has increased since 2007. When compared with the transaction value of shadow economy in 2007, Laos experienced the greatest change to 102%.

The transaction value of Thailand experienced the smallest change that is only 23%. This shows that although the percentage of shadow economy to GDP in 2016 is smaller than in 2007, the transaction value increases in each country.

The result obtained in this research is different from the shadow economy estimates performed by Schneider and Enste (2000). In the research, the shadow economy of ASEAN countries is constantly decreasing year by year while the research shows that the shadow

economy development in ASEAN is increasing slowly.

This finding is supported by a research by Vo and Ly (2014) that estimated the shadow economy of the ASEAN countries.

The results showed that the development of shadow economy in each ASEAN country experience fluctuations every year and tend to increase compared to the initial year. However, both researches showed similarity on the level of magnitude of shadow economy of each country although there is a difference of 2% to 3%.

Institutional Influence on Shadow Economy. Estimation of the influence of the institutional quality on the shadow economy is shown by regression result of the empirical model. The regression results of Ordinary Least Square are as follows :

SE = 3.75-17.76CC-0.05GE-8.32PSAV + 42.28RQ-15.84RL-16.74VA + 0.0004PDB..................................................(7)

The variable of the institutional quality as a whole shows a sign corresponding to the theory that is negative so that the better institutional quality will decrease the shadow economy. Of the six institutional variables used, only regulatory quality variable that showed a positive sign. This means that an increase in index, which also reflects an improvement in institutional quality, will increase the magnitude of the shadow economy.

The model used is good enough in describing the factors that influence the development of shadow economy. It can be seen from R2 shown on the regression result. The resulting R2 is 0.76, which means that 76% of the dependent variable can be explained by the independent variable in this model. The remaining 24% is explained by other variables outside the model.

Among the six variables, there are four variables that significantly influence the development of shadow economy that is control of corruption, political stability and absence of violence, regulatory quality, and voice and accountability.

The control variable that is GDP has no influence on the shadow economy. An increase in the quality of control over corruption may reduce the shadow economy by 17.8%. Domestic political stability accompanied by less violent cases will reduce the shadow economy by 8.32%. While the increase in the index of voice and accountability will reduce the shadow economy by 16.74%. Different signs are indicated by the regulatory quality variables.

The increase in the regulatory quality index actually increases the shadow economy up to 42.28%.

Control of corruption reflects the government's commitment to clean the government from the corrupt practices. In some cases, corrupt practices are related to shadow economy activity, one of which is the practice of illegal levies by the state officials. On the other hand, many economic actors do bribes or give commissions to the state officials to cover their activities.

Seeing this condition, a control of corruption must be conducted not only on the state officials but also on the economic actors. Institutions that are clean from the corrupt practices can run more efficiently and increase the public confidence in the institution. With a clean government the people will not feel disadvantaged and even benefit from better performance. Besides, the people should also be educated to stop the practice of bribery. If the control of corruption is tightened and run properly, the shadow economy activity will possibly be reduced.

A research conducted by Razmi and Jamalmanesh (2014) that took a sample of 34 Asian countries stated that control of corruption negatively influence the shadow economy. The results are similar to the findings in this research, which stated that control of corruption has a negative relationship with the shadow economy. Therefore, by tightening a control over corrupt practices, the shadow economy can be reduced.

Political stability and absence of violence variables significantly influence the shadow economy growth. Domestic political stability and also criminal cases influence the economic activities of a country. When there is instability in domestic conditions, the chances of chaos become high. These conditions have

implications for the risks faced by the economic actors to be higher.

Political instability increases the possibility of rapid regulatory changes and can harm the economic actors. On the other hand, stable political conditions will reduce the risks and costs that must be incurred. This condition is more profitable for activities in the official economy than the shadow economy.

Variables of political stability and absence of violence in this research showed significant results and negative influence on the shadow economy. This finding is supported by the research results of Razmi, et al. (2013), which stated that political stability has a negative relationship with the amount of shadow economy. Therefore, the stable political and security situation of a country may decrease the shadow economy.

Voice and accountability reflects the citizens' freedom to express themselves. Government in this case is only as a supervisor of the economic activity. This condition is beneficial to the people because they can show their innovation freely, including the freedom to run the economic activities without feeling over-supervised by the government.

It becomes an incentive for the shadow economy actor to move into the official economy so that shadow economic activity is reduced.

Regulatory quality emphasizes the quality of the policy makers to regulate the economy and to support the development of the private sector. In this research, the regression results show that the better quality of policy makers actually encourages the people to transact in the shadow economy.

This may happen because the quality improvement of the leaders in controlling the policy is not accompanied by the quality improvement of the policy executor.

As stated by Eilat and Zinnes (2000) in their research that creating modern (new) regulations requires the government administration skills that may not have been owned at the time. These conditions actually lead to the corrupt practices and then improve the shadow economy. Rule of law variable does not influence the shadow economy, which is in accordance with the results of research conducted by Schneider, et al. (2010). This research argued that regulation is an important determinant for the development of shadow economy in transition countries and developed countries. However, for the developing countries the regulation is not so important that it can affect the development of shadow economy.

The results in this research are different from the results shown in the research of Razmi and Jamalmanesh (2014). In the research, rule of law variable has the greatest influence on the development of shadow economy. However, in the research the rule of law variable has a positive sign that is not in accordance with the theory, whereas in this research the rule of law variable has a negative relationship with the shadow economy. Although the mark shown is in accordance with the theory, this variable has no influence on the shadow economy.

Government effectiveness that measures public services and policy implementation by the government does not show significant results. These results are different from other researches in which most states that government effectiveness has a strong influence on the shadow economy. This may happen when the improvement of government performance has

not been evenly distributed so that not all economic actors feel the benefits of the increase in the quality of government services. Control variable that is Gross Domestic Product per capita has no effect on the development of shadow economy. Describing the welfare of the population does not influence the development of shadow economy activity. It can be said that transactions in shadow economy are conducted at various levels of income class. These findings are supported by Torgler and Schneider (2007), which showed in their two models that GDP per capita has no influence on the shadow economy. In general, three of the six institutional variables can significantly reduce the shadow economy.

Therefore, to reduce the shadow economy activity, the government needs to control the corruption practices, maintain the domestic political stability, and improve the quality of democracy and government transparency. An increase in control over corruption reduces the size of the shadow economy in the largest proportion. The increase in political stability is also capable of reducing the shadow economy in large proportions. In general, an improvement in the institutional quality negatively influences the shadow economy. If the institutional quality improvement is conducted jointly on various sectors, the shadow economy can be continuously suppressed.

## CONCLUSION

Shadow economy of the ASEAN member countries vary in magnitude. Thailand is the largest shadow economy country in ASEAN with an average of 47.09%. Vietnam is a country with the smallest magnitude of shadow economy in Southeast Asia with an average of 14.59%. The development of shadow economy magnitude in ASEAN generally did not change significantly except Thailand that experienced a decrease in shadow economy percentage to GDP compared to 2007. When viewed from the real magnitude, shadow economy consistently increased from year to year.

The influence of the institutional quality on the development of shadow economy in the developing countries in general has a negative effect. These variables are control of corruption, political stability and absence of violence, and voice and accountability. This means that with the improvement of institutional quality, the magnitude of shadow economy will decrease. However, the regulatory quality variable shows a significant positive sign, which means that the increasing quality of the policy makers actually increases the magnitude of shadow economy, while the variables of government effectiveness and rule of law have no influence on the development of shadow economy of the developing countries in ASEAN.

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