



Political, Social and Economic Determinants of Corruption

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ABSTRACT

This study aims to analyze various political, social and economic determinants, measured through development indicators and various indexes, upon the perceived level of corruption indicated by corruption perception index in 92 observed countries for the year of 2014. The results prove that level of development, degree of democracy, economic freedom, level of education, political stability and religion have significant impact on the perceived level of corruption. Yet, there are differences in significant variables between the developing and developed countries groups.

Keywords: Corruption, Economic Development, GDP Per Capita

JEL Classifications: O17, O10, O11

1. INTRODUCTION

Over the years, the presence of corruption has attracted the world's attention because of its dramatic effects to a country's development and growth. The World Bank and IMF define corruption as the misuse or abuse of public office for private gain. It can come in various forms and a wide array of illicit behaviors, such as bribery, extortion, fraud, nepotism, graft, and so on. Corruption has become a global phenomenon that has affected almost all of social and economic aspects. The World Bank (2008) expected that more than US\$10 billion or around five per cent of the world's GDP were lost due to corruption.

Amundsen (1999) said that corruption was like cancer, striking almost all parts of the society and destroying the function of vital organs. This means that the cultural, political, and economic structures of society are affected by corruption. Moreover, according to transparency international, no country is immune to corruption. This is evident in numerous corruption scandals taking place in various countries, not only in developing countries like Indonesia, Mexico, the Philippines, but also in developed countries like Japan and United States around the world. Such condition has made corruption become a global agenda for international organizations like Transparency International, Global Witness and The International Association of anti-corruption.

Corruption is hard to measure mainly because most corruption activities went unreported. In 1995, transparency international has collected corruption data and formulated the corruption perception index (CPI), ranking countries on a scale from 0 (highly corrupt) to 10 (very clean). It measures the perception of corruption by weighing various assessment through surveys and expert's data such as World Bank's country policy and institutional assessment, Economist Intelligence Unit's country risk rating and Freedom House's nation in transit. The CPI has been used in various studies as a mean to measure perceived corruption.

The CPI in 1995 ranked New Zealand as the least corrupt country, while Indonesia the most corrupt one. In 2014, the CPI put Somalia as the most corrupt country, while Denmark as the least one. The trend in the CPI survey over the years shows that most developing countries are ranked lower than developed countries. However, this does not mean that developed countries which rank at the top are completely free from corruption. Countries that top the ranking are still experiencing corruption although only in a smaller degree compared to those with high corruption level.

Developing countries are often viewed as more corrupt than developed countries. This is because if a country is poor, it is more likely that individuals and businesses will pay off the government or the upholders of laws such as police or judges. According to surveys conducted by Transparency International, bribery is

the most common type of corruption occurring in developing countries. The results of the survey indicate that over half the residents in countries like the Democratic Republic of Congo, Senegal as well as Pakistan have been asked to give a bribe at some point in their lives whether it is to hasten the slow bureaucracy or to avoid laws. On the other side, money laundering, falsifying tax returns and other similar actions are the most common types of corruption taking place in developed countries.

This study will divide the determinants of corruption in two parts: Economic and non-economic determinants. The economic determinants include economic freedom, education level, level of development and income distribution. In non-economic determinants, this study includes the socio-political and religious determinants in the form of democracy, political stability, and dummy religions. The results indicate that both economic and non-economic determinants bring contribution towards the perceived level of corruption. However, the extent of contribution of factors may differ in the groups of developing and developed countries.

2. THEORETICAL REVIEW

Corruption is a term referring to a broad range of behavior. There have been intense debates over the definition of corruption itself. However, top anti-corruption organizations such as Transparency International and the World Bank have agreed to follow the definition mentioned in the study of corruption and political development by Nye (1967), that is the “abuse of public power for personal gain.”

Therefore, the definition of corruption as “abuse of public power for personal gain” can be supported. It can be said that corruption can happen if the person involved is not just immoral and unethical, but also has to be supported with discretionary and authoritarian power. Jain (2001) mentioned that for corruption to exist, it should be supported by discretionary power, economic rents, and a weak judicial system.

Shabbir and Anwar (2007) found out that almost all of the economic determinants were significant in determining corruption in developing countries except for Income Distribution. Economic freedom, globalization, and economic development all have negative relationship towards corruption. It signifies that as the three variables increase, there will be a decline in corruption. On the other side, the Education Level variable has a positive relationship towards corruption. It denotes that the rise in Education Level in a country will also increase the perceived level of corruption. In the non-economic determinants model, Shabbir and Anwar (2007) found out that degree of democracy, press freedom and religion in share of total population did not have significant impact towards the perceived level of corruption. Thus, it can be concluded that the social-political and religious norms are meager and unable to affect the level of corruption in developing countries at that time.

Prior to Shabbir and Anwar in 2007, Seldadyo and De Haan (2006), Ades and Ditella (1999), Mauro, P. (1995), Park (2003), and Krueger (1974) has conducted a study of the robustness of various corruption determinants. In the most recent study, Seldadyo and

De Haan (2006) gathered the determinants of corruption and conducted a robustness tests on those determinants to determine which determinants that were actually significant in determining the level of corruption. First, the authors used a technique called “expectation maximization” and generated a data set consisting 193 observations and 70 variables. Then, the authors conducted an exploratory factor analysis to reduce the dimensions of the data. In the end, Seldadyo and De Haan (2006) found that regulatory capacity can be concluded as the most robust determinant of corruption. The other robust determinants were population density (-), ethnic tension (+), government wage (+), portion of population with no religion (+), presidential (-), and portion of female in labor force (-).

Serra (2006) did a sensitivity analysis in her study of empirical determinants of corruption. The aim of her study was to test the robustness of previous empirical evidence on corruption’s determinants, which was pretty similar to the study by Seldadyo and De Haan (2006). The result was that out of 28 there were only five variables that were revealed to be highly related to the level of perceived corruption. The variables were Country’s level of development (-), the age of democratic institutions to exert corruption, political stability (-) and prevalent protestant countries (-).

Campante et al. (2009) conducted a study of the relationship between political stability and incentives for corruption by using a cross-country data set. Campante et al. found that the relationship between political stability and corruption could form a U-shaped relationship. This means that a less stable government incumbent is more willing to embezzle and higher bribe will be offered to a more stable incumbent. Campante et al. (2007) also stated that there was a turning point in the U-shape relationship and that turning point is around 8 years. This means that for an incumbent government to continue its governance for more than 8 years, it would also increase the level of corruption. Hence, some sort of electoral system that features a re-election incentives and is made with a term limit.

Fisman and Gatti (2002) use a cross country relationship that suggest fiscal decentralization and spending is highly associated with lower corruption. But apparently, their study is lacking on non economic factors attributed to corruption.

3. RESEARCH METHODOLOGY

This study is a quantitative research, which employs cross sectional data for comparative analysis of 46 developing and 46 developed countries with the total of 92 countries for the year of 2014.

The data utilized in this study will be secondary data for all variables that are experimented, including indexes from various organizations and economic development indicators data. CPI as dependent variables are labeled corr and will be taken from Transparency International, which has been a trusted source for measuring a degree of corruption in a country over the years and has been used for various research.

The macroeconomic data and various indexes that act as independent variables, such as GDP per Capita (dv) that reflects level of development and Gini Index (yd) that reflects income distribution and literacy rate (ed) as a measurement of a country's education level, will be taken from the World Bank and Euro-Monitor International. Other independent variables come from indexes published by various international organizations. The economic freedom measurement (ef) will be taken from economic freedom Index by Heritage. Political stability (ps) as a form to measure how stable is the political environment in a particular country will be taken from the World Governance Indicators published by the World Bank. Degree of Democracy (dm) as a way to perceive the governmental system in a country will be taken from Democracy Index published by Economist Intelligence Unit. Lastly, Dummy Religion (risl), (rcath), (rprot) as a major religion of a county will be taken from CIA World Factbook.

The original intention is to have one more additional variables on the model, namely Globalization index measured by the index published by KOF as a measurement of international integration of a country. Government effectiveness is also being considered additional variable to the model. It is used to measure the government's effectiveness in setting up policy and implementing it. The government effectiveness Index is published by the World Bank under the section World governance indicators. However, due to its high multi-Collinearity of both globalization index and government effectiveness upon economic freedom (over 0.8), for the sake of the unbiasedness of the research, it is highly crucial for the variable to be dropped. Upon closer inspection, it turns out that globalization index is measured by the barriers for international trade and government effectiveness is measured by the effectiveness of the international trade policy. Hence, the high multi-collinearity.

This research is intended to observe the social and economic determinants from 92 samples of countries that have been chosen by modifying Shabbir and Anwar's study in 2007. Shabbir and Anwar did not only observe the economic determinants, but also the social and political determinants such as religion and degree of democracy. The model in this research will be constructed based on Shabbir and Anwar's study and are modified by adding and dropping independent variables for both the social and economic determinants. This research also adds a new measurement by regressing the model with two groups of countries, which are the developed and developing country groups. This division of groups is done to measure which independent variables are significant for the two groups and whether there are any differences of significant variables between the two groups.

This research will begin by identifying the problems. In this case, it will analyze the corruption determinants in order to identify which independent variables are significant in determining the level of perceived corruption. Identification process will use the ordinary least squares regression. The model will utilize CPI published yearly by Transparency International as a form to measure corruption in a country. The model will be constructed as follows:

$$\text{CORR} = \beta_0 + \beta_1 \text{ef} + \beta_2 \text{yd} + \beta_3 \text{ed} + \beta_4 \text{dv} + \beta_5 \text{dm} + \beta_6^{\text{rd}} + \beta_7 \text{ps} + \beta_7 \text{risl} + \beta_8 \text{rcath} + \beta_9 \text{rprot} + e$$

CORR = Level of perceived corruption

Ef = Economic freedom

ed = Level of education

dv = Level of development

yd = Income distribution

dm = Degree of democracy

ps = Political stability

risl = Dummy Islam

rcath = Dummy catholic Christianity

rprot = Dummy Protestantism

The dependent variable in the model above denotes CORR or the degree of corruption (CPI) of a country in the year of 2014. A note to remember is that the CPI uses the score range of 0-100. Thus, in the hypothesis of dependent variable CPI, positive relationship means that there will be less corruption.

3.1. The Level of Economic Freedom

In this study, the measurement of economic freedom will use the economic freedom Index by Heritage Foundation and The Wall Street Journal. There have been various studies examining the relationship of economic freedom and the level of corruption. However, the results are still debatable. A study by Herzfeld and Weiss (2003) stated that there was evidence that a higher import share of GDP would cause a decline in the level of corruption. Herzfeld and Weiss implied that when there was a higher import share of GDP, it meant that there were lower tariff and non-tariff for import barriers. The disappearance of export and import barriers will omit the opportunity for government officials to bribe. This statement is also backed by various studies such as those of Knack and Azfar (2003) and Frechette (2001) which stated that the increases level of economic freedom would decrease the level of corruption. Furthermore, studies form Broadman and Recanatini (2000; 2002) showed a positive relationship between level of corruption and entry barriers.

From the literature reviews of the relationship between the level of economic freedom and the level of corruption above, this study will have a hypothesis that the level of economic freedom will have a negative relationship with the level of corruption.

3.2. Level of Education

In this study, the level of education will be measured by the adult (aged 15 years and over) literacy rate in a country. The data of literacy rate is taken from the World Bank. In the study of the determinants of corruption in developing countries, Shabbir and Anwar (2007) found that the level of education in a country had significant and positive impact towards the perceived level of corruption. In their model, the variable education has a positive impact toward corruption. This means that as education increases, so will the perceived level of corruption. They also stated that this was caused by the public sector as the main source of employment in developing countries and that the source of corruption was from the public sector itself. The statement by Shabbir and Anwar (2007) is backed by the findings by Frechette

(2001) suggesting that schooling is positive in all regressions explaining corruption.

From the literature reviews of the relationship between the level of education and the level of corruption above, this study will have a hypothesis that the level of education will have a negative relationship with the level of corruption.

3.3. The Level of Development

In this study, the level of country's development will be measured by GDP per capita. The data of GDP per capita will be taken from the World Bank by using GDP per capita purchasing power parity (PPP). This study will use PPP to compare generalized differences in living standard. It takes into account relative cost of living and inflation rates of each country. The level of development is a commonly used variable in the economic study of the determinants of corruption. Most of studies of corruption use GDP per capita as its proxy to measure the level of development of a country. From the studies of Shabbir and Anwar (2007), Damania et al. (2004) and Persson, et al. (2003) and Shleifer and Vishny (1993) among others, it can be easily concluded that the level of development of a country has a negative relationship to the level of corruption.

From the literature reviews of the relationship between the level of development and the level of corruption above, this study will suggest a hypothesis that the level of development will have a negative relationship with the level of corruption.

3.4. Income Distribution

In this study, income distribution will be measured by Gini index published by the UN and the World Bank. The Gini index score ranges from 0 to 100; 0 represents perfect economic equality, while 100 represent perfect inequality. However, for the sake of interpreting the result, this study will reverse the score range; 0 represents perfect inequality, while 100 represent perfect equality. Empirically, Paldam (2001, 2002) said "A skew income distribution may increase the temptation to make illicit gain." He stated that there was a positive relationship between income disparity and corruption. Paldam's statement is backed by Amanullah and Eatza (2007).

From the literature reviews of the relationship between the level of income disparity and the level of corruption above, this study will have a hypothesis that the level of income disparity will have a positive relationship with the level of corruption.

3.5. Degree of Democracy

In this study, the degree of democracy will be measured by the democracy index published by Economist Intelligence Unit. Almost all the studies published have resulted in the same relationship towards the level of corruption, which is negative. Those studies are by Braun and Di Tella (2004), Paldam (2002), Frechette (2001), Treisman (2000), Wei (2000) and more.

From the literature reviews of the relationship between the degree of democracy and the level of corruption above, this study will have a hypothesis of the degree of democracy will have a negative relationship with the level of corruption.

3.6. Political Stability

In this study, political stability will be measured by political stability index taken from the World Bank's World Governance Indicators. Campante et al. (2007) has conducted a study of the relationship between political stability and level of corruption. Campante et al. found that the relationship between political stability and corruption could form a U-shaped relationship. This means that a less stable government incumbent is more willing to embezzle and higher bribe will be offered to a more stable incumbent. Campante et al. (2007) also stated that there was a turning point in the U-shape relationship, which was around 8 years.

From the literature reviews of the relationship between political stability and the level of corruption above, this study will have a hypothesis that political stability will have a positive relationship with the level of corruption.

3.7. Dummy Religion

In this study, dummy religion will be shown if the majority of population is affiliated with the mentioned religion. The data will be taken from CIA World Factbook. The study of the relationship between religion and the level of corruption is not famous, however there are studies by Treisman (2000) and Chang and Golden (2004) that signify the negative relationship between religion and the level of corruption.

From the literature reviews of the relationship between religion and the level of corruption above, this study will have a hypothesis that all dummy Religion will have a negative relationship with the level of corruption.

4. ANALYSIS

Data processing for this study will be conducted first through descriptive analysis based on statistical interference. In order to find out the significance, relationships and correlation between the independent and dependent variables, series of regression shall be conducted. BLUE tests will be conducted with the first regression. However, the regression and various tests will also be restricted into two parts, which are based on developed and developing countries groups. After completing the proper tests and regressions, analysis and comparison will be done in accordance to each model.

A note to remember in analyzing the regression estimates is that The CPI score ranges from 0 to 100 with 100 being the least corrupt. Thus, the positive relationship means that there will be less corruption.

From the regression estimates in Table 1, it can be concluded that the model has a 0.8816 adjusted R-squared. It means that this model after being adjusted with the number of independent variables is able to explain 88% of all the variability of the effect between independent variables toward the dependent variable, namely the CPI.

The variables that are significant in affecting the perceived level of corruption are economic freedom, development, degree of

democracy, political stability, protestant and education with 99% significance level. The significant variables follow the direction of the hypothesis except for education and political stability.

The variable education has a -9.512 coefficient which means that a 1% increase in education is associated with 9.512 decrease in the CPI. This result is against the hypothesis and follows the direction of the study by Shabbir and Anwar in 2007. They stated that the positive relationship between education and perceived level of corruption is caused by the employment of educated people in private sector. The study by Frechette (2001) also argued that level of education was positively correlated with the level of corruption itself.

The second significant variable is the economic freedom that is following the hypothesis direction. In this model, considering all else constant, the level of economic freedom will increase the CPI by 0.734. Thus, there will be less corruption. The logic behind this result is as a country become more open, there will be less barriers of trade that can be used as a form of bribe, which will result in less corruption. Variable development also follows the direction of the hypothesis with the coefficient of 6.759, meaning that a 1% increase in GDP per capita is associated with 6.759 increase in CPI.

The variable degree of democracy is also significant and follows the direction of hypothesis with the coefficient of 2.403. This signifies that one-unit increase in the Democracy Index is associated with 2.403 increase in CPI. The next variables that is significant is political stability, however it does not follow the hypothesis direction. It has coefficient of 6.218. This means that a one-unit increase in the political stability index is associated with 6.218 increase in the CPI. Hence there will be less corruption. This result follows the study of Filipe et al. (2009). They suggested that as political environment became more unstable, the incumbent government would be more tempted to do embezzlement.

The last variable that is significant is the variable Protestantism with the coefficient of 8.968. This means that Protestant majority countries are associated with the 8.968 increase in CPI. This follows the study of Serra (2006) that indicated prevalent Protestant countries would be associated with the decrease of the perceived level of corruption.

From the regression estimates in Table 2, it can be concluded that the model has an adjusted R-squared of 0.8203, meaning that after being adjusted to the number of independent variables, this model is able to explain 82% of all the variability of the effect between independent variables and the dependent variable, namely the CPI.

The significant variables in this regression are economic freedom, degree of democracy, Islam and Protestantism. Economic freedom, degree of democracy and Islam are significant at 99% level of significance, while Protestantism is significant at the level 90%. All of the significant variable follows the direction of the hypothesis.

The variable economic freedom is significant and has coefficient of 0.9124. Meaning that as economic freedom index increase by one

Table 1: Regression estimates results: All Countries

Independent variables	Coefficient	P-value	Direction (hypothesis)
Economic freedom (ef)	0.734***	0.000	Positive (+)
Income inequality (yd)	0.0711	0.540	Negative (-)
Education (lned)	-9.512***	0.006	Positive (+)
Development (Indv)	6.759***	0.000	Positive (+)
Degree of democracy (dm)	2.403***	0.002	Positive (+)
Political stability (ps)	6.218***	0.000	Negative (-)
Islam (risl)	3.669	0.234	Positive (+)
Catholic	1.02	0.646	Positive (+)
Christianity (rcath)			
Protestantism (rprot)	8.968***	0.004	Positive (+)
Number of observations	92		
R-squared	0.8933		
Adjusted R-squared	0.8816		

***idem, 1%

Table 2: Regression estimates results: Developed countries

Independent variables	Coefficient	P-value	Direction (hypothesis)
Economic freedom (ef)	0.974***	0.001	Positive (+)
Income inequality (yd)	-0.143	0.577	Negative (-)
Education (lned)	1.572	0.898	Positive (+)
Development (Indv)	3.544	0.295	Positive (+)
Degree of democracy (dm)	5.211***	0.002	Positive (+)
Political stability (ps)	1.449	0.700	Negative (-)
Islam (risl)	26.526***	0.007	Positive (+)
Catholic	2.477	0.415	Positive (+)
christianity (rcath)			
Protestantism (rprot)	8.166*	0.052	Positive (+)
Number of observations	46		
R-squared	0.8562		
Adjusted R-squared	0.8203		

*Significant at the 10% level, ***idem, 1%

point, it can be associated with the increase level of CPI by 0.9124. The variable degree of democracy also follows the direction of the hypothesis with the coefficient of 5.211, meaning that a 1% increase in the democracy index is associated with 5.211 increase in CPI. The next significant variable is Islam. It also follows the direction of hypothesis with the coefficient of 26.52. This means that countries with majority religion of Islam in Developed Countries group are associated with 27-point increase in CPI. The last significant variable is Protestantism with coefficient of 8.166. This signifies that countries with majority religion of Protestantism in Developed Countries group are associated with 8.166-point increase in CPI.

From the regression estimates in Table 3, it can be concluded that the model has a 0.3648 adjusted R-squared. This means that after being adjusted with the amount of independent variables, this model is able to explain 37% of all the variability of the effect between independent variables toward the dependent variable, namely the CPI.

The significant variables in this regression are degree of democracy with 99% significance and development with 90% significance. All of the significant variables follow the direction of the hypothesis.

Table 3: Regression estimates results: Developing Countries

Independent variables	Coefficient	P-value	Direction (hypothesis)
Economic freedom (ef)	0.158	0.311	Positive (+)
Income inequality (yd)	0.513	0.669	Negative (-)
Education (lned)	-3.384	0.331	Positive (+)
Development (Indv)	3.167*	0.074	Positive (+)
Degree of democracy (dm)	1.957***	0.009	Positive (+)
Political stability (ps)	1.307	0.440	Negative (-)
Islam (risl)	-0.8204	0.746	Positive (+)
Catholic	-0.811	0.753	Positive (+)
Christianity (rcath)			
Protestantism (rprot)	-1.279	0.745	Positive (+)
Number of observations	46		
R-squared	0.4918		
Adjusted R-squared	0.3648		

*Significant at the 10% level, ***idem, 1%

The variable development is significant and has coefficient of 3.167. This means that as the level of development increases by 1%, it can be associated with the decreased level of CPI by 3.167. The last significant variable is the degree of democracy. It also follows the direction of hypothesis with the coefficient of 1.957. This signifies that one-unit increase in the democracy index is associated with 1.957 increase in CPI.

5. CONCLUSION

Based on the analysis results, several conclusions can be drawn from the study of political, social and economic determinants of the perceived level of corruption for 92 countries in the year of 2014. Henceforth, prior conclusions of this study are not specifically for the sample countries, but also for countries that have experienced corruption. The conclusions are as follow:

1. The government of each sample country must be able to improve their economic development as it is proven that higher economic development could reduce the level of perceived corruption, increase GDP per capita, political stability, economic freedom and degree of democracy.
2. Developing countries should focus on economics development and its degree of democracy, while developed countries should focus on the economic freedom and degree of democracy in battling against the level of corruption referred in the results of this study.

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