Corruption and Economic Development: The Case of Southeast Asia

Tran T.V. Luu

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Corruption and Economic Development: 
The Case of Southeast Asia

by
Tran T.V Luu
An Honors Capstone
submitted in partial fulfillment of the requirements
for the Honors Diploma or Certificate
to
The Honors College
of
The University of Alabama in Huntsville
December 2021

Honors Capstone Director: Dr. Brinda Mahalingam
Clinical Associate Professor of the College of Business

Student (signature) Date

Director (signature) Date

Department Chair (signature) Date

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Corruption and Economic Development: The Case of Southeast Asia

Tran Truong Vinh Luu

The University of Alabama in Huntsville

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Abstract

The purpose of this paper is to analyze the relationship between corruption and economic development in Southeast Asian countries during the period from 1995 to 2019. Using ordinary least square estimations, I find that one-unit increase in the corruption index (a decrease in corruption) increases the rate of growth by 0.07 percentage-point with statistical insignificance. However, adding the transmissions channels such as level of human capital, share of investment, and political stability, one-unit increases in corruption index increases the growth rate by 0.78 percentage-point with a statistical significance. At the same time, level of human capital and share of investment have negative coefficients with statistical significance, which implies an increase in investment and education decreases the growth rate. The data also shows that corruption decreases the level of human capital and share of investment.
Introduction

While the definition of political corruption is still not precisely defined in the academic society, the definition proposed by Oskar Kurer and developed by Bo Rothstein has been gaining ground over the years: Political corruption should be understood as the breach of the norm of impartiality (Sparling, 2017). Economists are still debating the effect of corruption. On the one hand, we have economists argue that corruption has harmful consequences for the economy in the long-run, in which it hampers economic growth and innovation (Kaufmann, Wei, 1999). On the other hand, some theories support corruption as a form of "money grease," which flexes out economies with low economic freedom or overburdened bureaucracies (Leff, 1964).

According to the result of Mauro’s 1995 paper “Corruption and Growth”, corruption is detrimental to economic growth as it lowers investment. Corruption is also found to increase risk of economic crisis in middle income countries by making banks prone to taking risks and giving out non-performing loans (Son et al, 2017). Corruption affects economic growth based on a cross-countries study in 2015, in which higher level of corruption was associated with lower economic growth (Deyshappriya, 2015).

Pak Hung Mo examines the relationship between corruption with its transmission channels and economic growth in 54 countries from 1970 to 1985. This paper will use the same model as the one in Pak Hung Mo’s “Corruption and Economic Growth.” However, this paper will focus on the Southeast Asia region and the time period of inspection is from 2005 to 2019. The paper is organized as follows: Section 2 is a review of corruption in Southeast Asia in general. Section 3 discusses the methodology and also gives a brief overview of the methods
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used to examine the relationship between corruption with transmission channels and growth, section 4 provides the results and section 5 is the conclusion.

Background

Corruption

Citizens tend to support their government if they view its performance as satisfactory. In turn, one of the most important factors affecting satisfaction with government performance is corruption (Habibov et al). Corruption has a long history dating back to ancient civilizations of China, Greece, India and Rome. However, since the 1990s, the public has become less tolerant to corruption, despite its long standing history. The reasons for this change of attitude can be attributed to many causes. One of such cause is the end of the Cold War. The collapse of the communist states in Eastern Europe has opened up the information about the prevalent state of corruption to their citizens. The transition to democracies of many states have also provided a greater degree of transparency and the ability to combat corruption more effectively. In addition, the push to privatization, especially in Latin America and Eastern Europe, has frequently accompanied by corruption, in which state companies were purchased by political insiders at low prices. Globalization has also played a part as businesses become more aware of corruption. In response to the growing public demand in the 1990s, several major institutions such as the Organization of American States, the World Bank, the United Nations, and the Organization for Economic Cooperation and Development (OECD), all took turns in denouncing corruption. The International Transparency was established in 1993 to publish and battle corruption. It published the Corruption Perception Index (CPI) as a way to measure corruption of countries around the world (Lash, 2004).
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Southeast Asia, in particular, has always been a hot spot for corruption, according to International Transparency. In 2017, the most corrupted country in the region was Cambodia, which ranked 161st least corrupted country in the world. Aside from Singapore, which was the bright spot in the area that was the 6th least corrupted country in the world, the second least corrupted country in the region was Malaysia, which stood at the 62nd place in the ranking. All the four countries mentioned in this paper had the CPI below 50 over the data period. Even though the situation has improved, the changes are marginal.

Economic Growth

Theoretically, the literature reaches no agreement about the effect of corruption on economic growth. One common consensus on the matter of corruption is that it undermines trust in institutions and increases tolerance of offering and accepting bribes in public institutions, which would lead to institutional decay in the long term. In his paper “Corruption and Economic Growth,” Park Hung Mo concludes that corruption hurts economic growth mainly through political instability and subsequent the weakening of institutions and reduces the level of human capital and share of private investment. Firms that pay bribes are also pointed out as spending more time under bureaucratic harassment and face higher cost of capital and not less (Kaufmann, Wei, 1999). However, some researchers argue that corruption might be a necessary evil as it reduces bureaucratic delays, especially in countries with often changing regulations. Corruption, in the form of bribe, can act as a piece rate and motivate bureaucrats to work harder, especially in countries where the public services are not well-developed. It can be optimal for less developed countries to allow some form of corruption (Acemoglu, Verdier, 1998).

Southeast Asia, with the exception of Singapore, which is a high income country, and Laos, Cambodia, and Myanmar, which are low-income countries are all middle-income
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countries. The region has seen little conflicts, and have had high economic growth in the recent
decades.

**Methodology**

The methodology of this paper follows the same pattern as Park Hung Mo’s paper ‘Corruption and Economic Growth,’ which was published in the year 2000. The input–output relationship is characterized by a general production function, \( Y = T f(K, L) \), where \( Y \) is the total output level, \( T \) is total factor productivity, and \( K \) and \( L \) are the capital stock and labor, respectively. Total differentiation of \( Y \) and dividing the result by \( Y \) gives

\[
\frac{dY}{Y} = \frac{dT}{T} + Tf_x \frac{dK}{Y} + f_L L \frac{dL}{L}
\]

Where \( \frac{dT}{T} \) is the factor availability and \( Tf_x \frac{dK}{Y} + f_L L \frac{dL}{L} \) is the growth component of capital and labor. \( T \) can also be viewed as the social and technological component that assists in development and affects factor productivity.

The other is the effect of social and technological changes, the development component, which is related to the forces driving total factor productivity growth in the production function. We characterize these components as

\[
GR = F[\gamma, IY, dLL],
\]

Where \( GR \) and \( \gamma \) are the growth rates of real GDP and total factor productivity, \( IY \) is the investment output ratio, and \( dLL \) is the growth rate of labor. In this expression, \( F\gamma \) equals 1, \( FIY \) is the marginal production of capital, and \( FdLL \) is the elasticity of output to labor.
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The paper identifies four variables that are robust in determining growth; these are the share of investment in GDP, the rate of population growth, the initial level of real GDP per capita, and a proxy for human capital. The first two variables belong to the growth component and the last two belong to the development component. Based on this work and the discussions in the Introduction, the rate of productivity growth is determined by

\[ \gamma = \gamma (\text{CORRUPT}, y_0, \text{HUMAN}) \]

Where CORRUPT is an index for the level of corruption, \( y_0 \) is the initial GDP per capita, and HUMAN is an index for human capital stock. The expected sign of the initial per capita output is negative because of the convergence tendency due to the knowledge gap between countries in the literature of endogenous growth. The larger the knowledge gap, the easier it is for a country to raise its productivity by learning, imitating, and adapting technology from the leading economies. The initial per capita output is commonly used to capture this effect. The human capital stock has a positive effect on the growth rate of total factor productivity because an educated labor force is better at learning, creating, and implementing new technologies, which generates a higher rate of productivity growth.

In this paper, data on corruption is represented by the Corruption Perception Index (CPI), data on level of human capital is represented by the average years of education for population older than 25, data on political right is represented by the Political Right Rating created by Freedom in the World, data on Stability is represented by the Political Stability Index from the World Bank.
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Data

The data for the Corruption Perception Index (CPI) is obtained from Transparency International. The data for Political Right Rating is obtained from the Freedom in the World database. The data for the GDP Growth rate, population growth rate, GDP of the initial year (2005), investment share as a percentage of GDP, the average years of education, and the Political Stability Index are obtained from the World Bank database. All the data spans 15 years from 2005 to 2019. Transparency International changed the way to calculate the CPI in 2012. Before 2012, the score was based on the scale from 1 to 10. After 2012, the score was based on the scale from 1 to 100. To bridge the differences in the data, the data before 2012 is adjusted:

\[
\text{New Corruption Perception Index} = 10 \times (\text{Corruption Perception Index})
\]

The countries in the analysis include Vietnam, Thailand, Indonesia, Malaysia, The Philippines, Cambodia, and Myanmar.

Result

The OLS regression in table 1 shows the sensitivity of the effect of corruption to the economic growth rate. Contrary to the initial expectation, B1 indicates that corruption has a no significant negative effect on the growth rate when all the plausible transmission channels are not included in the regression. B2 introduces the share of investment, one of the possible channels, into the model. The coefficient of the newly-introduced variable, however, is negative. This shows that an increase in share of investment decrease the rate of economic growth. B3 introduces the level of human capital, another one of the possible channels, into the model. Again, the coefficient of the new variable is negative. This indicates that an increase in the level of human capital decreases the rate of economic growth. From B4 and B6, the political stability...
variable is introduced and the regression result shows inconsistent result on the effect of the variable to economic growth.

Table 1: Effect of Corruption on Growth Rate

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>B6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td>GR</td>
<td>GR</td>
<td>GR</td>
<td>GR</td>
<td>GR</td>
<td>GR</td>
</tr>
<tr>
<td>Corrupt</td>
<td>0.0719 (0.7123)</td>
<td>0.1719 (0.3966)</td>
<td>0.6132 (0.017)</td>
<td>0.2738 (0.3769)</td>
<td>0.6715 (0.0859)</td>
<td>0.7815 (0.0959)</td>
</tr>
<tr>
<td>Y05</td>
<td>-0.0193 (0.0001)</td>
<td>-0.0191 (0.0000)</td>
<td>-0.0172 (0.0002)</td>
<td>-0.0199 (0.0000)</td>
<td>-0.0192 (0.0001)</td>
<td>-0.0222 (0.0000)</td>
</tr>
<tr>
<td>PRight</td>
<td>-4.6644 (0.0001)</td>
<td>-5.5293 (0.0000)</td>
<td>-5.7486 (0.0000)</td>
<td>-5.7192 (0.0000)</td>
<td>-5.2564 (0.0000)</td>
<td>-6.4776 (0.0000)</td>
</tr>
<tr>
<td>PRightSq</td>
<td>0.4751 (0.0001)</td>
<td>0.5691 (0.0000)</td>
<td>0.5697 (0.0000)</td>
<td>0.5856 (0.0000)</td>
<td>0.5272 (0.0000)</td>
<td>0.6134 (0.0000)</td>
</tr>
<tr>
<td>Human</td>
<td>-0.5608 (0.0016)</td>
<td>-0.5608 (0.0016)</td>
<td>-0.5608 (0.0016)</td>
<td>-0.5608 (0.0016)</td>
<td>-0.5608 (0.0016)</td>
<td>-0.5608 (0.0016)</td>
</tr>
<tr>
<td>Instability</td>
<td>-0.2683 (0.6079)</td>
<td>-0.5463 (0.0087)</td>
<td>-0.2683 (0.6079)</td>
<td>-0.5463 (0.0087)</td>
<td>-0.2683 (0.6079)</td>
<td>-0.2683 (0.6079)</td>
</tr>
<tr>
<td>Investment</td>
<td>-0.1005 (0.0198)</td>
<td>-0.1155 (0.0024)</td>
<td>-0.0952 (0.0452)</td>
<td>-0.0952 (0.0452)</td>
<td>-0.1226 (0.0065)</td>
<td>-0.1226 (0.0065)</td>
</tr>
<tr>
<td>Population GR</td>
<td>0.2576 (0.6816)</td>
<td>0.0519 (0.9273)</td>
<td>-0.0646 (0.91)</td>
<td>0.087 (0.8888)</td>
<td>0.2295 (0.7413)</td>
<td>-0.7395 (0.4503)</td>
</tr>
<tr>
<td>Constant</td>
<td>17.624 (0.0000)</td>
<td>22.0037 (0.0000)</td>
<td>25.9568 (0.0000)</td>
<td>21.7306 (0.0000)</td>
<td>20.5141 (0.0000)</td>
<td>29.2 (0.0000)</td>
</tr>
<tr>
<td>R²</td>
<td>0.2681</td>
<td>0.3016</td>
<td>0.3598</td>
<td>0.2973</td>
<td>0.3156</td>
<td>0.4464</td>
</tr>
<tr>
<td>No obs</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
</tbody>
</table>

However, as possible transmission variables are added, the coefficient of corruption variable increases and become more significant. We examine the relationship between corruption and the possible transmission channels in table 2. The OLS result shows that corruption has significant impact on investment, level of human capital, and political stability. An increase in corruption reduces the level of investment, human capital, and political stability.
### Table 2: Corruption and Possible Transmission Channels

<table>
<thead>
<tr>
<th>Estimations</th>
<th>Dependent variable</th>
<th>Invest</th>
<th>Human</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrupt</td>
<td>0.9949 (0.0000)</td>
<td>0.398   (0.0000)</td>
<td>0.7603 (0.0000)</td>
<td></td>
</tr>
<tr>
<td>Y05</td>
<td>-0.0016 (0.8893)</td>
<td>-0.0028 (0.0029)</td>
<td>-0.0034 (0.0562)</td>
<td></td>
</tr>
<tr>
<td>PRight</td>
<td>-8.6022 (0.0004)</td>
<td>-0.8757 (0.0000)</td>
<td>-0.2259 (0.6736)</td>
<td></td>
</tr>
<tr>
<td>PRightSq</td>
<td>0.8657 (0.0009)</td>
<td>0.1042 (0.0000)</td>
<td>-0.0096 (0.8676)</td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>-2.0454 (0.1533)</td>
<td>0.0896 (0.3746)</td>
<td>-0.1533 (0.3643)</td>
<td></td>
</tr>
<tr>
<td>GR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>43.5586 (0.0000)</td>
<td>-0.1276 (0.8252)</td>
<td>5.8881 (0.0000)</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.1789</td>
<td>0.7351</td>
<td>0.7154</td>
<td></td>
</tr>
<tr>
<td>No obs</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

This shows that increase in investment and human capital have significant negative impact on economic growth rate and political stability have unclear effect on growth rate when corruption is included in the equation. When we omit the possible transmission channels, because of the multicollinearity between the omitted variables and the corruption variable, the initial regression result shows low level of significance for the corruption variable to the economic growth variable. This is because of the negative impact of the possible transmission channels being omitted. However, as the result shows, when we add more transmission variables to the regression analysis, the corruption becomes more significant and the corruption coefficient increases in value. This strongly supports within the context of this research that increases in corruption has significant negative impact on economic growth rate; investment and human
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capital have significant negative effect on the growth rate when corruption is included; and political stability has no clear effect on growth rate.

**Conclusion**

The result affirms that increase in corruption has negative impact to economic growth, investment, and level of human capital, the result of the regression analysis shows that increase in investment and human capital has negative impact on economic growth when corruption is included. Possible further research is needed to take in account the circumstances of the countries and time period of the research.

According to Anderson in the paper ‘Investment and Economic Growth,’ investment accounts for most of a country’s growth. Conversely, when inefficiently applied, it accounts for most of a country’s decline or stagnation. More investment (or capital) is not necessarily good for economic growth and highlight that an “optimal” level of financial development is more crucial in facilitating growth (Law 2014). Southeast Asian countries during the time period studied are mostly developing countries with high percentage of investment in GDP and high level of corruption. It is possible that the level of investment being too high, and mismanagement of investment resulted in a negative impact on economic growth rate when percentage of investment increases.

Ruth Judson in the paper ‘Economic Growth and Investment in Education: How Allocation Matters,’ found that the correlation of human capital accumulation and GDP growth is not significant in countries with poor allocations but is significant and positive in countries with better allocations. As Southeast Asia is a mainly developing region with high level of corruption, it is possible that accumulation in human capital has not been efficiently utilized and thus led to increase in human capital not helping economic growth rate.
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Political stability has been shown to a key factor for economic growth. In countries and time periods with a high propensity of government collapse, growth is significantly lower than otherwise. However, different type of government changes also impact growth differently (Alesina et al). Southeast Asia is a region with a lot of variety in government structures and instability. A single variable for political stability may fail to capture this diversity, and thus leads to inconclusive result.

Other factors such as changes in the global economy, a more comprehensive index/indices for corruption, a better proxy for human capital are all factors that could affect the study and therefore further research is needed in these areas.
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References


