Control of Corruption, Political Stability, Foreign Investors, Government Expenditure and Economic Growth Trends in the Southeast Asian Region

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Abstract

Purpose: Corruption and lack of political stability had been affecting economic growth, especially after the 1997 Asian Financial Crisis, with all Asian regions facing an economic downturn. This study aims to examine the influence of the control of corruption, political stability, foreign investors, and government expenditure on economic growth in seven Southeast Asian countries from 1996 to 2018.

Design/Methodology/Approach: This study is undertaken fundamentally within the context of the theoretical arguments of the basic Solow Model and the extended Solow Model which incorporates the element of corruption. To ascertain the outcome of the variables, the researcher employed Panel Data Analysis, comprising Pool Ordinary Least Square Method (POL), Fixed Effects Model (FEM), and Random Effects Model (REM). The Likelihood Test and the Hausman Test were conducted to determine the best models for verifying appropriateness among these models. This study analysed 23 years of data from seven Southeast Asian countries from 1996 to 2018.

Research Limitations: The study was limited to seven Southeast Asian countries. The remaining four countries in Southeast Asia, i.e. Myanmar, Timor-Leste, Cambodia, and Laos were excluded due to non-availability of data.

Findings: The findings revealed that control of corruption and political stability had no significant influence on economic growth in the seven Southeast Asian countries. Foreign investments and government expenditure, on the other hand, have a significant positive relationship with economic growth in those countries.
Practical Implication: Based on the findings, it is recommended that future research would emphasis on subcategories of government expenditures, such as education, agriculture, military, and health. Future researchers may also enhance the number of observations by diversifying the countries studied, while the current study only examined the Southeast Asian region.

Originality/Value: This study adds to the current literature on the knowledge of factors influencing economic growth in the Southeast Asian region.

Keywords: Control of corruption, political stability, foreign investors, government expenditure, economic growth

1.0 Introduction

Economic growth in Southeast Asia was heavily impacted by the 1997 Asian financial crisis, including loss of foreign direct investment (FDI), which strongly influenced the GDP of many of the countries. Consequently, the Southeast Asian economies went through economic reforms and structural changes after the crisis (Hsiao & Hsiao, 2006), by focusing on transparency as it is a driver of economic development, regardless of whether or not an economy was expanding or not (Tiwari & Mutascu, 2011).

Financial crimes have a harmful impact on the economy, security, and social well-being of the people (Okoye & Gbegi, 2013). In fact, corruption remains one of the dominant concerns in modern society (Hakimi & Hamdi, 2017). In the year 2019, Malaysia experienced a critical period when the country’s ranking in the freedom from corruption index was almost at its lowest point, i.e. 61 out of 180 countries (Transparency International, 2020) with its level of corruption perception at a low 47 percent, indicating the existence of corruption in Malaysia. While the factors affecting corruption differ from one country to another, no country, however, is immune to corruption (Transparency International, 2020) as evident in the various corruption scandals, not only in developing countries such as Indonesia, Mexico, and the Philippines, but also in developed countries such as Japan and the United States. Such a situation has made corruption a global priority for international organisations such as Transparency International, Global Witness, and the Anti-Corruption International Association (Ghaniy & Hastiadi, 2017).

Corruption can cause changes to political, cultural, and economic structures (Ghaniy & Hastiadi, 2017), especially as democracy and political stability are regarded as crucial factors in most of these studies. In fact, the means of exposing and penalising those who conduct illegal practices are carried through the protection of civil liberties, an effective and open public administration, an operationally responsive judicial system, transparency, and fair elections (Turedi & Altiner, 2016). Therefore, politicians who do not want to risk their position and prestige are obligated to work efficiently without misusing their authority for private gains. For example, Turedi & Altiner (2016) researched 56 countries from 2002 to 2012 and reported
that democracy reduces corruption in countries where the per capita income is $2,000 or higher, whereas the reverse is true in those countries where the per capita income is less than $2,000.

Several countries have tried to control corruption. For example, the Malaysian government formed an Anti-Corruption Commission (MACC) to curb fraud cases among the public and organisations; however, the corruption perception index in 2019 with 47 percent indicates that corruption is still rampant. According to Freckleton et al. (2012), about US$1 trillion are lost each year as a result of corruption, which approximates 5 percent of the world’s gross domestic product (GDP). This indicates that corruption is the main crucial obstacles to social and economic development. This could happen also when unscrupulous individuals take improper advantage to increase foreign investment regardless of the country’s policies and laws. They may run an underground economy to avoid paying taxes and beating the legitimate market competitors. In certain countries, the public or organisations will try to maximise profits with minimal taxation levels to offer attractive investment opportunities just to gain benefits.

According to Kasasbeh et al. (2018), Jordan had performed several economic systems such as its financial system, investments, and trade liberalisation that had been sustained over the last thirty years as an open economy. However, in the wake of the 2008 financial crisis, political instability in the Middle East had caused foreign investments to drastically decline up to US$1,880.5 million from 2009 to 2011 and up to US$1,665.7 million from 2012 to 2015 compared to the first decade of the millennium when Jordan attracted FDI inflows that increased from US$770.9 million to US$2,767.1 million from 2000 to 2004. They attributed the declining inflows in Jordan to the rise of corruption since 2008. The decline in FDI inflows and the corruption index in Jordan from 2000 to 2016 exemplifies the strong relationship between the level of corruption and foreign investment.

This study is undertaken fundamentally within the context of the theoretical arguments of the basic Solow Model and the extended Solow Model that incorporated the element of corruption. The aim was to examine whether institutional factors (control of corruption and political stability), and economic factors (foreign investors and government expenditure) might have influenced economic growth in the seven Southeast Asian countries in the study. Secondary data, spanning a period of 23 years, from January 1996 to December 2018, comprising a time series of 161 observations for each variable (Control of Corruption, Political Stability, Foreign Investors, Government Expenditure) were analysed.

The following sections of the paper are organised as follows: Section 2.0 reviews the literature and hypotheses development, Section 3.0 discusses the research design, Section 4.0 explains the research analysis and provides a discussion of the findings, while Section 5.0 provides the conclusion and highlights the limitations and directions for future research.
2.0 Literature Review and Hypotheses Development

Economic Growth

Back in the 1960s, the Asian economy was known as the Asian Miracle and classified as following a flying geese pattern of development. This is because, during that era, Asia was experiencing a period of strong economic expansion with great development in Japan, followed by the ‘Four Asian Tigers’: Hong Kong, South Korea, Singapore, and Taiwan (Nakaso, 2015). In the early 1980s, Malaysia and Thailand joined these five nations on the great development path. China also picked up momentum and began recording double-digit growth after entering the World Trade Organisation in the early 2000s to become the driving force of the Asian economy (Nakaso, 2015).

Figure 1: The Trend of Economic Growth in Southeast Asia from the Year 1990 to 2018

[GDP per capita growth (annual %)]

Figure 1 highlights the pattern of economic growth in the seven Southeast Asian countries in the study from 1990 to 2018. It shows that economic growth fluctuated between 1990 and 2015. In 1997, it experienced a huge drop, but the momentum reverted briefly, and then it continued dropping again in 2001. However, the economies rebounded after that, albeit not at the same rate. A period of high growth in the mid-1990s was accompanied by a deep recession which was related to the Asian Currency Crisis, and many Asian economies experienced a huge drop in their GDP as indicated in Figure 1. After the crisis, the Asian economy resumed on a relatively high growth path (Nakaso, 2015).
Control of Corruption and Economic Growth

Corruption is not a new phenomenon; it has existed throughout history even before the birth of recent civilisations (Quazi, 2014). It is, however, significantly crucial to the nation, especially when it involves political instability that affects economic growth. Financial crime occurs in all civilisations and has a huge impact on ethical and social issues due to corruption (Bayar, 2011).

Controlling corruption is a challenging mission because it requires instituting the most suitable and effective systems to combat several types of corruption. Examples of such a system are tightening anti-corruption laws and increasing the penalties to deter individuals from acting corruptly (Graycar & Sidebottom, 2012). In other words, it means the government must manage the reformation of its anti-corruption strategy, which includes increasing the supervision of the judiciary system and the audit system (Liu & Lin, 2012).

A study carried out to investigate the effect of corruption on economic growth in Ghana using the Wald Chi-Square test with lag terms in the independent variables, revealed that when economic growth increased by 1 percent, the control of corruption perception index value increased by 0.287 units (Forson et. al., 2015). Similarly, Abu et al. (2015) examined the effect of corruption on economic development in the Economic Community of West African States (ECOWAS) and they also concluded that corruption negatively influenced the growth of GDP per capita. A recent study by Grundler and Potrafke (2019) conducted in 175 countries from 2012 to 2018 found that corruption had a negative impact on economic growth and caused a significantly high decrease of 17 percent. It would be safe to say that the reverse would also be true, i.e. an increase in the control of corruption perception index would show an increase in economic growth, thereby indicating that corruption can influence economic growth.

Conversely, it has also been argued that corruption negatively affects economic development only in countries with high institutional quality, while the countries with low institutional quality will not experience any impact on economic growth, as suggested in a study on corruption in Indonesia (Ozsahin & Ucler, 2017).

Table 1 presents the corruption perception ranking for the seven countries in Southeast Asia in 2019. From the table, it is obvious that Singapore and Brunei appear to have the lowest level of corruption in Southeast Asia, while Malaysia was perceived to have a high level of corruption in comparison, despite the fact that it performed better than the other countries in the study, i.e., Indonesia, Thailand, the Philippines, and Vietnam. Vietnam was at the bottom of the ranking with the highest level of corruption (Transparency International, 2020).
Table 1: Corruption Perception Index in the Seven Southeast Asian Countries for the Year 2019

<table>
<thead>
<tr>
<th>No.</th>
<th>Country</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Singapore</td>
<td>85</td>
</tr>
<tr>
<td>2</td>
<td>Brunei</td>
<td>63</td>
</tr>
<tr>
<td>3</td>
<td>Malaysia</td>
<td>47</td>
</tr>
<tr>
<td>4</td>
<td>Indonesia</td>
<td>38</td>
</tr>
<tr>
<td>5</td>
<td>Thailand</td>
<td>36</td>
</tr>
<tr>
<td>6</td>
<td>Philippines</td>
<td>36</td>
</tr>
<tr>
<td>7</td>
<td>Vietnam</td>
<td>33</td>
</tr>
</tbody>
</table>

Source: (Transparency International, 2020)

Corruption occurs when power is misused by public officers for private purposes such as when they solicit, accept or extort bribes. Corporate representatives often knowingly manipulate public policies and procedures for competitive advantage and personal advantage through bribery and nepotism, corruption of state assets, or the diversion of state income. In fact, while corruption occurs in many governmental and political institutions, its effects on economic growth may differ from one country to another (Obamuyi & Olayiwola, 2019). According to Bardhan (1997), in order to obtain licenses or government permits to conduct businesses, foreign investors may be solicited to pay extra costs in the form of bribes that would in turn reduce the anticipated profitability of the project. Correspondingly, corruption creates risk because courts will not enforce corruption provisions in contracts. As such, foreign investors tend to avoid investing in highly corrupt countries (Craigwell & Wright, 2011).

As evident in Figure 2, Singapore and Brunei had the highest levels of control of corruption, i.e., the least level of corruption. In 2018, the indicator value for Singapore was at 2.17, the highest for control of corruption, whereas Philippines had the lowest indicator value at -0.54. Unexpectedly, Malaysia scored above the world median even though throughout 2015 to 2017, the Malaysian government was embroiled in the 1 Malaysia Development Fund Bhd (1MDB) corruption scandal, something which would have had the opposite effect in other comparable countries (Jones, 2019).

**Political Stability and Economic Growth**

Abdel-Latif et al. (2018) have suggested that political stability and the quality of the country’s institutions and corruption are interdependent, i.e. a higher level of political stability indicates a lower level of corruption (high control of corruption). Political instability is classified as the tendency of a government to collapse due to conflicts among political parties that lead to negative effects on economic performance (Nazeer & Masih, 2017). Ghaniy and Hastiadi (2017) who conducted a study on the relationship between political stability and corruption by using a cross-country data set found a U-shaped relationship between the two variables, i.e., an inefficient government would be more willing to condone corruption. Therefore, an increase
in the acceptance of corruption activity would increase the level of corruption perception and a decline in political stability (Ghaniy & Hastiadi, 2017).

Meyera (2019) reported on the existence of a consistently significant relationship between economic growth and political stability, suggesting that good governance driven by political stability is a key to advancing economic growth. While most researchers reported that an increase in the control of corruption level and political stability can decrease the number of fraud cases, Meyara (2019) postulated that efficient and independent governance with an increase in freedom of expression will lead to a higher level of economic growth as well.

**Figure 2: Control of Corruption in the Seven Southeast Asian Countries for the Year 2018**

![Control of Corruption Chart](source)

**Figure 3: Political Stability in the Seven Southeast Asian Countries for the Year 2018**

![Political Stability Chart](source)

Not surprisingly, like the control of corruption outcomes (see Figure 2), Singapore and Brunei proved to have the highest levels of political stability, while the Philippines had the lowest level, indicating that political stability contributes to a lower level of corruption. Unexpectedly, as illustrated in Figure 3, Vietnam performed well in terms of political stability compared to Malaysia. This is because Malaysia, as mentioned before, was embroiled in the 1MDB scandal, involving the embezzlement and laundering of billions of US dollars from its bank accounts alongside bribery claims, culminating in investigations, not only in Malaysia, but also
in the other countries where the money laundering activities occurred (Jones, 2019).

**Foreign Investors and Economic Growth**

Foreign direct investment (FDI) can be improved through a backward and forward relationship to balance payments, as well as increase the gross national income, help develop the infrastructure, and expand production for trade (I. U. et al., 2015). Asian countries such as China, Hong Kong, Indonesia, Malaysia, Singapore, South Korea, and Taiwan are known as the first and second generation newly developed economies that have experienced rapid economic growth over the past few decades through successful FDI. Success stories like these contribute significantly to the dialogue regarding the transformation thrust in political economy research (Woo & Heo, 2009).

According to Freckleton, Wright, and Craigwell (2012), FDI increased worldwide from US$55 billion in 1980 to approximately US$1,200 billion in 2010, showing an approximately 50 percent increase in FDI over 30 years. Evidently, it should have a significant impact on the GDP growth in the host countries. Craigwell and Wright (2011) analysed data from 42 developing countries to estimate the relationship between FDI, corruption, and economic growth. Their findings showed a lower level of corruption with an increase in the impact of FDI on economic growth. Freckleton et al. (2012) reported that foreign investors tend to avoid investing in countries with high levels of corruption.

Ofori, Ato-Mensah, and Jinsheng (2015), in a study of 58 countries, showed that corruption has a significant negative effect on the ratio of FDI to GDP, which is consistent with the view that corruption is harmful to economic growth as foreign investors would avoid investing in countries with a high level of corruption. In other words, corruption has a negative impact on the level of investment and economic growth (Ofori et al., 2015).

![Figure 4: Foreign Direct Investment in the Seven Southeast Asian Countries for the Year 2018](source: World Bank, 2020b)

As can be seen in Figure 4, Singapore, one of the most advanced economies in Southeast Asia, was ranked the highest, while, Malaysia was on par with the world median. Generally,
FDI inflows and exports contribute to the growth of an economy, with some countries aggressively offering tax incentives and subsidies to spur their economic growth through FDI (Sultanuzzaman et al., 2018).

**Government Expenditure and Economic Growth**

According to the Keynesian theory of macroeconomics, government spending stimulates economic growth; so for decades, the scale of government spending, including its impact on the long and short terms of the country’s economic development, has been a subject of interest, since it is viewed as an exogenous force that affects aggregate production (Loizides & Vamvoukas, 2005).

![Figure 5: Government Expenditure in the Seven Southeast Asian Countries for the Year 2018](source: World Bank, 2020c)

As evident in Figure 5, Brunei was obviously ranked the highest among the other countries in terms of government spending as its main source of revenue was from its natural reserves of oil and gas, which was used to help small and medium-sized businesses through public procurement and increasing access to financial services (Arapova, 2018). Meanwhile, Malaysia’s expenditure was below that of Thailand, probably due to government budget cuts in 2018.

Government expenditures have different economic effects that can support and promote economic growth (Van & Sudhipongpracha, 2015). This is because the fundamental determinant of public sector development is the expansion of the public and, especially, state activities.

Loizides and Vamvoukas (2005) conducted an empirical analysis on the causal relationship between government expenditure and economic growth in Greece, the United Kingdom, and Ireland. Their findings revealed that government expenditure caused economic growth in all the countries, thus proving that government expenditure increases the overall economic development.
**Basic Solow Model and Extended Solow Model**

*The Basic Solow Model*

The basic Solow model starts with a pure belief that the technology did not consist of progression in the development of the economy as the model believes in a closed-economy by using labour (L) and Capital (K). According to Hernandez (2003), the output is a factor of labour and capital when the function of output experiences constant returns to scale and declining returns to particular factors of production as well as having a unitary elasticity of factor-substitution as follows:

\[ Y = F(K, L) \]  

Where \( Y \) represents output, \( K \) capital stock, \( L \) labour or total employability.

However, since the basic version of the Solow model was developed to predict the growth of the economy in the long term, it focused on the relationship between inputs such as capital, labour, and technology, and output, the dynamic outcome only. It was deemed to be inadequate and it was further modified to factor in population behaviour. As such, the model describes some different ways to deliver output, which can be measured using two different concepts, either disconnected or continuous, in macroeconomics in which these two conditions are applied (Ramanayake, 2019).

The first model equation is based on the function of production that came from equation (1) into a new form as follows:

\[ Y(t) = F(K(t), A(t)L(t)) \]  

Where \( Y \) represents output, \( K \) capital stock, \( L \) labour or total employability, and \( A \) effectiveness of the labour or the level of technology which are the important inputs of this model, whereby \( L \) and \( A \) are specifically believed to expand exogenously, while \( F \) assumes as continues function (Ramanayake, 2019).

Shabbir et al. (2016) had explained that the elements of growth and development, i.e. the growth rates of inputs consisting of capital and labour, would impact economic development. At the same time, the factors of production comprising dynamic social and technological changes can decide the total factor productivity (TFP), when the TFP growth evaluates production differences due to technological advances, increases in performance, and all other non-input growth factors. However, Ramanayake (2019) has argued that this model’s persistent state of the capital-labour ratio within the economy is rejected in Keynesian policies, as lower levels of unemployment and long-term economic growth will not continue to maintain a constant ratio of capital-labour, just as the matching or inconsistency between the creative exploration of new technology and market conditions that can lead to economic changes.
The Extended Solow Model by Incorporating Corruption

The model was subsequently modified and developed to test whether or not corruption might affect economic performance adversely if policy controls were added to examine whenever a growth-boosting or growth-dropping degree of corruption occurs. Mauro (1996) used the theory to extend the Solow (1956) approach to the growth accounting process, whereby the model’s aggregate production function is as follows:

$$Y_{it} = A_{it} F (K_{it}, L_{it})$$

Where \((Y_{it})\) is the aggregate output, \((A_{it})\) the total factor productivity (TFP), \((K_{it})\) the capital stock, \((L_{it})\) the number of workers in the country i.e. labour, F assumes as continues function, \(i\) denotes time, and period is denoted by \(t\).

However, to empirically evaluate the impact of the indicators of institutional quality, corruption indicators, and other economic growth policy variables, the model has to increase productivity through the overall factor and assess corruption and institutional quality within the model. It was also agreed that government expenditures and corruption may contribute to the determination of the per capita growth and stable growth rates. These variables and GDP lag per capita growth (% annual) affect the quality by which an economy remains constant towards its dynamic equilibrium while influencing the growth rate (Ahmad et al., 2012).

The dynamic function of the model resulting from a lagged dependent variable to be included as follows:

$$\alpha_{it} = n_0 + \sum_{j=1}^{n_j} X_{ij} + \sum_{k=1}^{n_k} X_{ik} + n_{t-1} + n_t$$

Where,

- \(a_{it}\) = Total factor productivity
- \(i\) = Time
- \(t\) = Period
- \(n\) = Number of countries
- \(X_j\) = set of \(j\) conditioning variables, consists of:
- \(X_1\) = Foreign direct investment (gross)
- \(X_2\) = Government expenditures (% of GDP)
- \(X_k\) = set \(k\) variables measuring the level of corruption and institutional quality, which consist of:
- \(X_3\) = Control corruption index
- \(X_4\) = Political stability index

Hypotheses Development

Bohara, Mitchell, and Mittendorff (2004) stated that to prevent and curb corruption from spreading, the government must have an incentive to monitor and control the transaction
costs of corrupt practices to promote trade and investment in a clean way. If the result of corruption control is positive and statistically relevant, it would indicate that its regulation has a positive impact on economic development, but if the result is negative, it would prove that the corruption control is ineffective, resulting in inefficient economic growth (Omoteso & Mobolaji, 2014). As such, the following hypothesis was proposed:

**H1:** - There is a positive relationship between the control of corruption and economic growth in the seven Southeast Asian countries.

Countries with a higher degree of political stability have higher economic growth. This is because corruption reduces development, and it becomes more harmful with the deterioration in good governance or political stability. Therefore, in line with higher political instability, the impact on the corruption perception index for that country should be negative (Shabbir et al., 2016) and in regions with political stability and high regulatory quality, economic growth performance should trend in a significantly positive direction (Omoteso & Mobolaji, 2014).

Thus, the following hypothesis was proposed:

**H2:** - There is a positive relationship between political stability and economic growth in the seven Southeast Asian countries.

FDI plays a major role in the development dynamics of developed countries (Quazi, 2014). Zhang (2003) found that FDI inflows from 1992 to 2004 contributed to China’s economic growth by boosting productivity and promoting exports and new advanced technology. The empirical field study by Tiwari and Mutascu (2011) of 23 Asian countries from 1986 to 2008, revealed that FDI and exports had boosted economic growth in the Asian region. Additionally, Sothan (2017) found strong evidence on the causal impact of FDI on the economic growth of Cambodia.

Hence, the following hypothesis was proposed:

**H3:** - There is a positive relationship between FDI and economic growth in the seven Southeast Asian countries.

Additionally, Gupta (2018) revealed a positive correlation between government expenditure and economic growth in Nepal, especially since the expenditure focused on its agricultural, non-agricultural, and industrial and service sectors. Pulok (2012) who conducted a similar study in Bangladesh reported that an increase in government expenditure of 1 percent with a 0.3 percent increase in the GDP. These studies indicate a relationship between government spending and political stability, which is significant to the country’s GDP per capita.
As such, the following hypothesis was proposed:

\[ H4: \text{There is a positive relationship between government expenditures and economic growth in the seven Southeast Asian countries.} \]

Overall, it can be deduced that good governance, effective government spending, corruption control, and political stability are the requirements for economic growth (Meyera, 2019).

3.0 Research Method

Research Framework

The research framework for this study is based on the theories from the basic Solow Model to the extended Solow Model, which incorporates corruption. This framework was adapted from basic solow model developed by Ahmad, Ullah, and Arfeen (2012). The research framework incorporates the independent variables: the institutional factors, comprising control corruption and political stability, and the economic factors, comprising foreign investors and government expenditures. These factors are the key determinants of the dependent variable: economic growth.

Figure 6: Research Framework

**Population and Sample**

In this study, the sample population constituted seven (7) out of a total of eleven (11) Southeast Asian countries, since the four (4) countries that were excluded, viz. Myanmar, Timor-Leste, Cambodia, and Laos had limited viable data. Therefore, the study only focused on seven countries, viz., Malaysia, Singapore, Brunei, Indonesia, Vietnam, the Philippines,
and Thailand. The unit of analysis entailed a sample size of one hundred and sixty-one (161), which comprised data from the seven countries over a twenty-three (23) year period from 1996 to 2018.

**Dependent and Independent Variables**

**a) Dependent Variable**

*Economic Growth*

Economic growth in this study was the cumulative percentage growth in Gross Domestic Product (GDP) per capita over the 23-year period. The GDP per capita can be defined as the gross domestic product divided by the mid-year population of the nation. It represents the percentage of annual per capita GDP growth based on a constant local currency (World Bank, 2020a).

**b) Independent Variables**

*Institutional Factors*

i. *Control of Corruption*

The control of corruption indicator in Southeast Asian countries was proxied by the Control of Corruption Indicator (CCI) (Worldwide Governance Indicator, 2020). The estimation of a country's score on the aggregate metric varies from around -2.5 to 2.5 in units of a standard normal distribution. The CCI values were determined by using information extracted from the Worldwide Governance Indicator 2020.

ii. *Political Stability*

The measurement for political stability includes an absence of Violence or Terrorism. The POL that represents the Political Stability Index extracted from The Global Economy 2020 as the proxy. The test expectations of the possibility of illegality or violence refer to politically motivated violence and terrorism that could destabilise or overthrow the government. The values range from -2.5 (weak) to + 2.5 (strong).

*Economic Factors*

i. *Foreign Investors*

The Foreign Investors is proxied by Foreign Direct Investment (FDI). Foreign direct investment is measured by net inflows as a percentage of gross domestic product (GDP). FDI refers to net inflows, according to the value of the inward direct investment made in the reporting economy by foreign investors. Inward Direct Investment, also referred to as a direct investment in the financial economy, involves all exchanged liabilities and resources between resident direct investment companies and direct investors (World Bank, 2020b). The measures of new
investment inflows entail less disinvestment in the reporting economy from foreign investors and are divided by the GDP.

**ii. Government Expenditures**

The measurement for government expenditures includes the general government final consumption expenditure, which covers all current government expenditures on goods and services (including employee compensation) as a percentage of the GDP. It also covers national defence and security expenditure but excludes military government spending that is part of the construction of state assets (World Bank, 2020c). Table 2 summarises the measurement of the variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
<th>Prevailing Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variable: Control of Corruption [CCI]</td>
<td>Control of Corruption Index. Ranging from approximately (-2.5% to 2.5%).</td>
<td>Worldwide Governance Indicator, 2020</td>
</tr>
<tr>
<td>Independent Variable: Political Stability [POL]</td>
<td>Political stability index is an absence of Violence or Terrorism. Ranging from approximately (-2.5%; weak to +2.5%; strong).</td>
<td>Worldwide Governance Indicator, 2020</td>
</tr>
</tbody>
</table>

### Regression Model

The aim of this study was to examine the effect of control of corruption, political stability, foreign investments, and government expenditures on economic growth. As such, the model consisted of one dependent variable, i.e., economic growth in Southeast Asia (Y), and four independent variables, i.e., Control of Corruption (CCI), Political Stability (POL), Foreign Investors (FDI), and Government Expenditures (GOVEX). These variables were denoted by X1, X2, X3, and X4, respectively, as shown in the equation below.

\[
Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon_i
\]

Where:

- \( Y \) (Dependent Variable) = Economic Growth (GDP)
- \( X_1 \) to \( X_4 \) = Independent Variables
- \( \beta_0 \) = intercept of the slopes
- \( \beta_1 \) = coefficient of \( X_1 \) (CCI)
- \( \epsilon_i \) = stochastic error term
- \( \beta_2 \) = coefficient of \( X_2 \) (POL)
- \( \beta_3 \) = coefficient of \( X_3 \) (FDI)
- \( \beta_4 \) = coefficient of \( X_4 \) (GOVEX)
- \( \beta_1 \) = coefficient of \( X_2 \) (POL)
- \( \beta_3 \) = coefficient of \( X_3 \) (FDI)
- \( \beta_4 \) = coefficient of \( X_4 \) (GOVEX)

**Table 2: Summary of the Description of the Variables**
4.0 Data Analysis and Discussion of Results

Descriptive Analysis

Descriptive Statistics of the Control of Corruption, Political Stability, Foreign Investors, Government Expenditures, and Economic Growth for Seven Countries in Southeast Asia

Table 3 (below) presents the descriptive statistics analysis for the seven Southeast Asian countries in the study.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (%)</td>
<td>2.775104</td>
<td>3.554400</td>
<td>3.480437</td>
<td>-14.35055</td>
<td>12.51431</td>
</tr>
<tr>
<td>CCI (%)</td>
<td>0.447024</td>
<td>0.416667</td>
<td>0.157484</td>
<td>0.166667</td>
<td>0.833333</td>
</tr>
<tr>
<td>POL (%)</td>
<td>0.761648</td>
<td>0.777462</td>
<td>0.122166</td>
<td>0.492424</td>
<td>0.954545</td>
</tr>
<tr>
<td>FDI (%)</td>
<td>5.010717</td>
<td>3.166133</td>
<td>6.119185</td>
<td>-2.757440</td>
<td>28.01695</td>
</tr>
<tr>
<td>GOVEX (%)</td>
<td>12.22263</td>
<td>10.84043</td>
<td>5.503173</td>
<td>5.465202</td>
<td>29.86726</td>
</tr>
</tbody>
</table>

Notes: GDP = Gross Domestic Product per Capita Growth (% Annual); CCI = Control Corruption Index (%); POL = Political Stability Index (%); FDI = Foreign Direct Investment Net Inflows (% of GDP); GOVEX = General Government Final Consumption Expenditure (% of GDP)

As far as the GDP per capita growth is concerned, the mean is recorded at 2.775%, followed by the median at 3.556%, with a standard deviation of 3.480%. The minimum is -14.350% while the maximum is 12.514%. These results indicate huge differences in terms of GDP per capita as a proxy variable of economic growth in the seven Southeast Asian countries. This could be due to the fact that the majority of the selected countries were considered developing economies, with their situation being made worse by the 1997 Asian financial crisis, while some of the other countries had undergone economic reform that resulted in volatile trends of growth (Hsiao & Hsiao, 2006).

With reference to Table 3, the mean and maximum values for Control of Corruption (CCI) stand at 0.447% and 0.833% respectively. The median is approximately 0.416% whilst the minimum value is 0.166% and the standard deviation is 0.157%. These results indicate an output gap in terms of the control of corruption in the seven countries as the highest reported value is 0.833%, with the lowest at 0.166%. This is because many countries in Southeast Asia were grappling with corruption issues, the outcomes, successful or otherwise, depended on the reasons and the actions taken by the governments to combat corruption.
The analysis also illustrates that the average and maximum values of Political Stability (POL) are equal to 0.761% which is within the -2.5%; weak to +2.5%; strong category and 0.954% respectively. The minimum value is 0.492% and the standard deviation is 0.122%. This result highlights the possibility that government reforms had influenced the standard of governance, thereby promoting political stability (Abeyasinghe, 2004).

The average of Foreign Direct Investment (FDI) is equal to 5.01%; the maximum and minimum are 28.016% and -2.757% respectively, while the median is 3.166% and the standard deviation is 6.119%. FDI is the proxy variable of foreign investments in the seven countries. The big difference in results indicates that the 1997 Asian Financial Crisis had a tremendous negative impact on the FDI inflows into Southeast Asia. A crisis occurred in the information and technology industry in the early 2000s, which contributed to a temporary decrease in FDI inflows, which, however, started to grow again in 2003. This was followed by the global financial crisis crash that resulted in a new decrease in the FDI inflows between 2008 and 2009, but they rebounded again in Southeast Asia (Sjoholm, 2013).

**Descriptive Statistical Analysis for Economic Growth**

Table 4 shows a summary of the statistics of GDP per capita as the proxy variable of economic growth in the selected Southeast Asian region.

<table>
<thead>
<tr>
<th>Table 4: Summary of Statistics for Economic Growth from the Year 1996 to 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
</tr>
<tr>
<td>Mean (%)</td>
</tr>
<tr>
<td>Std. Deviation (%)</td>
</tr>
<tr>
<td>Minimum (%)</td>
</tr>
<tr>
<td>Maximum (%)</td>
</tr>
</tbody>
</table>

Notes: GDP = Gross Domestic Product Per capita Growth (% Annual)

The overall average values for Malaysia, Singapore, Brunei, Indonesia, Thailand, Vietnam, and the Philippines are 2.96%, 3.08%, -0.77%, 2.98%, 2.65%, 5.43%, and 3.09% respectively. This indicates that Vietnam and Brunei had the highest and lowest mean GDP per capita level of 5.43% and -0.77% respectively. As per Table 4, Malaysia, Singapore, Indonesia and Thailand reflect higher standard deviation, which is within 3.52% to 4.07%. This indicates that the GDP for the four countries was spread out highly between the period 1996 to 2018.

**Normality Test**

The normality test [Jarque-Bera test] was carried out for skewness and kurtosis on the variables: economic growth, control of corruption, political stability, foreign investors, and government expenditures to determine whether the sample data had been drawn from a normally distributed population. The findings from the normality test illustrate that the skewness value is negative at -0.413, which suggests that the distribution has a long left tail. Meanwhile,
the kurtosis value is less than three at 2.833, which implies a platykurtic distribution or a distribution that is flat relative to normal. The p-value of the Jarque-Bera test is 0.091681, which is greater than 0.05, indicating a normal distribution. The normality of residual refers to a normal result after conducting an adjustment for the standard error test. Based on these results, the data could therefore be considered to be normally distributed. This study used a panel data model starting with correlation analysis, and heteroscedasticity test in the following analysis.

**Correlation Analysis**

The Pearson Correlation matrix is used to measure the presence of a multicollinearity problem among the variables. The results can show either a positive or negative correlation among the variables.

The matrix was used to examine the correlation between the variables: economic growth (GDP), control of corruption (CCI), political stability (POL), foreign investors (FDI), and government expenditures (GOVEX). The results of the analysis for the seven countries are presented in Table 5.

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>CCI</th>
<th>POL</th>
<th>FDI</th>
<th>GOVEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCI</td>
<td>.038389</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POL</td>
<td>-.084494</td>
<td>.476001**</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FDI</td>
<td>.200007**</td>
<td>.738648**</td>
<td>.452343**</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>GOVEX</td>
<td>.415427**</td>
<td>-.037167</td>
<td>.201271**</td>
<td>-.230027**</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Notes: **significant at the 0.05 level.

The values of correlation in Table 5 show a mixed result among the variables. It indicates that FDI and economic growth had a small positive weak relationship ($r = 0.200; p < 0.05$). Meanwhile, government expenditure and economic growth showed a positive moderate relationship ($r = 0.415; p < 0.05$). Only the control of corruption and political stability had no correlation with economic growth.

**Heteroscedasticity Test**

A heteroscedasticity analysis is used to identify the existence of heteroscedasticity. The error variance can be either homoscedastic or heteroscedastic and there will be no consistent difference between the errors (Studenmund, 2014). Studenmund also suggested that to encounter heteroscedasticity, the Generalised Least Squares (GLS) is the alternative method of estimation.
The null and alternative hypotheses are as follows:

Null hypothesis: Homogeneity is present
Alternative hypothesis: Heteroscedasticity is present

The assumption of heteroscedasticity is that the null hypothesis is rejected if the probability (p-value) is significant.

The heteroscedasticity test results are presented in Table 6.

<table>
<thead>
<tr>
<th>Heteroscedasticity Test</th>
<th>F-statistics</th>
<th>Probability</th>
<th>R-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29.82151</td>
<td>0.0000**</td>
<td>0.469102</td>
</tr>
</tbody>
</table>

Notes: **significant at the 0.05 level.

Table 6 shows that the p-value in the seven countries is 0.0000 (p < 0.05). Since the F-statistics is significant at the 5 percent level, the alternative hypothesis is accepted, indicating that heteroscedasticity is present.

Panel Data Analysis

Panel data analysis was used to verify the relationship between the variables: control of corruption, political stability, foreign investors, government expenditures, and economic growth in the seven Southeast Asian countries.

The estimation of regression analysis was tested using the Generalised Least Square (GLS) technique. The time series in this research covered 23 years of annual data from 1996 to 2018, and the total observation was 161. The total balanced panel data of observation was 140 upon the estimation of the regression analysis. This regression included the Durbin-Watson (d) test to detect the existence of autocorrelation in the regression.

The results from the panel data analysis for the seven countries are presented in Table 7.

<table>
<thead>
<tr>
<th></th>
<th>Pooled Regression Model</th>
<th>Fixed Effects Model</th>
<th>Random Effects Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>7.143</td>
<td>-5.438</td>
<td>7.143</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.097)</td>
<td>(0.0001)</td>
</tr>
<tr>
<td>CCI</td>
<td>-3.785</td>
<td>-0.654</td>
<td>-3.785</td>
</tr>
<tr>
<td></td>
<td>(0.173)</td>
<td>(0.820)</td>
<td>(0.115)</td>
</tr>
<tr>
<td>POL</td>
<td>-3.072</td>
<td>3.966</td>
<td>-3.072</td>
</tr>
<tr>
<td></td>
<td>(0.296)</td>
<td>(0.307)</td>
<td>(0.227)</td>
</tr>
<tr>
<td>FDI</td>
<td>0.198</td>
<td>0.329</td>
<td>0.198</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.001)**</td>
<td>(0.002)**</td>
</tr>
</tbody>
</table>
First, the likelihood test was used to test the fixed effects versus the pooled regression models. The assumptions of the hypotheses are as follows:

Null hypothesis: All are dummy parameters, except for the one that has been dropped (μ = 0)
Alternative hypothesis: Fixed effects model is preferred (p < 0.05)

Based on Table 7, the value of the likelihood test in the chi-square statistics is equal to 3.453 with the probability value of 0.003. This result indicates significance (p < 0.05). Consequently, the null hypothesis is rejected at the 5 percent significance level. The result shows that the pooled regression model is not appropriate to evaluate the influence of control of corruption, political stability, foreign investors, and government expenditures on economic growth in seven countries. This result indicates that the fixed effects model is preferred and it can be used to measure suitable valuations of slope coefficients.

Second, the Hausman test was conducted to check the appropriateness of the model selection to choose the best model between the fixed effects and the random effects models. The assumptions of the hypotheses are as follows:

Null hypothesis: Random effects model is appropriate (p > 0.05)
Alternative hypothesis: Fixed effects model is appropriate (p < 0.05)

Table 7 shows that the value of the Hausman test is equal to 20.275 and the probability value is 0.000. This result indicates significance (p < 0.05). Therefore, the null hypothesis is rejected at the 5 percent significance level. The result indicates that the model for random effects is not appropriate to be used. Therefore, both the Likelihood and Hausman tests show that the fixed effects model is the most appropriate model to evaluate slope coefficients.

Table 7 also shows the fixed effects model estimation of the regression results for the variables in this study, i.e., control of corruption (CCI), political stability (POL), foreign investors (FDI), and government expenditures (GOVEX) on economic growth in the seven Southeast Asian
countries. The adjusted $R^2$ in the fixed effects model is 0.425. The value of $R^2$ for the fixed effects model shows an explanatory power of 0.439, indicating that 44% of the variation in economic growth can be explained by the variation in the four variables, i.e. control of corruption, political stability, foreign investors, and government expenditures. The probability value is 0.00 (significant at a 5 percent level), indicating that this model is a good fit.

The assumption of the null hypothesis for the Durbin-Watson test shows that there is no serial correlation. The Durbin-Watson result ($d$) for the fixed effects model is approximately 1.77, which lies between $d_u = 1.633$ and $4-d_u = 2.367$, indicating that the null hypothesis should not be rejected. Therefore, there is no serial correlation detected.

The result of the CCI for the fixed effects model for the seven countries shows a delay in economic growth. It statistically proves that there is an insignificant relationship between CCI and economic growth, with a probability value equal to 0.820 and the coefficient at -0.654. The value of the coefficient for the CCI indicates that, for every 1 unit increase in CCI, the economic growth (GDP) in the seven Southeast Asian countries would decrease 0.65 percent. This finding is supported by Abu, Abd Karim, and Aziz (2015), who mentioned that control of corruption is not significant for economic growth because the Southeast Asian countries are still believed to be in the state of ‘sand in the wheels’ growth, where the economic development can be influenced by the level of corruption. Corruption greatly stimulates economic development in East Asia, especially in industrialising economies, including China, Indonesia, Thailand, and Korea. Conversely, the results indicate that economic growth is the strongest economic factor influencing corruption (Freckleton et al., 2012). Besides, Ishola Mobolaji and Omoteso (2009) have pointed out that the negative value in the control of corruption is due to the government having a huge problem in solving the country’s management. Obamuyi and Olayiwola (2019) agreed that India and Nigeria could be classified as having corruption because their policies and regulations were difficult to control. This is also consistent with the study by Appiah, Yaw Idan Frowne, and Idan Frowne (2019), which mentioned that corruption is out of control when the government’s power is used for personal benefits. The power abuse is across both small and spectacular forms of abuse, and even controlling the nation through insiders and corporate interests. Thus, control of corruption in these circumstances must address the government’s involvement in combating corruption and its related operations. Hence, the H1 hypothesis is not accepted as there is a negative and insignificant relationship between control of corruption and economic growth.

The results of the fixed effects model for the POL of the seven countries shown in Table 7 statistically prove that there is no significant relationship between POL and economic growth. The probability value for this relationship is 0.307, while the coefficient is 3.966. These results indicate that for every 1 unit increase in POL, the economic growth (GDP) in the seven Southeast Asian countries would increase by 3.97 percent.

According to Shabbir et al. (2016), the impact of political stability on economic performance is positive at 0.14 percent in eight developing Muslim countries, such as Nigeria and Pakistan.
The positive direction should be in line with the control of corruption. However, because the majority of the Southeast Asian countries are developing countries, this outcome is not in sync with the results for the CCI. Political stability in a country is very important to influence more investors to invest in their countries. However, according to Awan, Akhtar, Rahim, Sher, and Cheema (2018), political stability in Bangladesh and Nepal had no effect on their economic growth, and the probability value was insignificant. The results in this study are inconsistent with many previous studies. Hence, the H2 hypothesis is not accepted as there is no significant relationship between political stability and economic growth.

The results in Table 7 for the fixed effects model of the FDI indicate that foreign investors have a probability value of 0.001 which is significant at a 5 percent level \( (p < 0.05) \). The value of the coefficient for the FDI indicates that for every 1 percent increase in FDI, the economic growth (GDP) in the seven countries would increase by 0.33 percent. The result proves that the attractiveness of the economic performance would encourage FDI inflows into the Southeast Asian region, which have a huge potential to expand their markets, thus leading to higher levels of economic growth. The result is consistent with the findings by Li and Liu (2005), who researched 63 developed countries from 1970 to 1999 and found that the effect of FDI by domestic or foreign investors on development is very important in order to support economic growth. The finding is also consistent with Lin and Yu (2014), where the panel regression with the fixed effects model in their study also reported that FDI has a positive and significant effect on economic growth. The positive significance at the 5 percent level between FDI and GDP has also received great attention from policymakers in numerous Southeast Asian countries, given that the majority of the sampled Southeast Asian countries are developing countries. Based on the above discussion, the H3 hypothesis is accepted.

The results in Table 7 also indicate that government expenditures (GOVEX) for the fixed effects model have a probability of 0.000, significant at the 5 percent level \( (p < 0.05) \). The value of the coefficient for government expenditures (GOVEX) indicates that for every 1 percent increase in GOVEX, the economic growth (GDP) in the seven countries would increase by 0.34 percent. Thus, it can be pointed out that government expenditure final consumption helps in the allocation of resources for effective expansion of the Southeast Asian economy. The positive direction of political stability leads to government stability, which in turn will encourage foreign investors to invest in Southeast Asia. The reason for the positive direction in the relationship between government spending and GDP is to increase political stability. The absence of violence and terrorism would then spur a higher growth rate as a bigger share of the government spending can be expended on welfare and fiscal expansionary (Barra et al., 2020). Therefore, the H4 hypothesis is accepted since there is a significant positive influence of government spending on economic growth in the seven Southeast Asian countries, even though there is a decline in the CCI.
5.0 Conclusion

This study was conducted to investigate the behaviour and influence of the independent variables of control of corruption, political stability, foreign investors, and government expenditures on economic growth in seven selected Southeast Asian countries within the context of the theoretical arguments of the basic Solow model and the extended Solow model incorporating corruption.

This study found that the countries with the highest and lowest average GDP per capita were Vietnam and Brunei respectively, which is in line with the findings by Huang (2016) regarding Vietnam and Anaman (2004) on Brunei. Vietnam had the largest GDP per capita growth rate because its industrial development accelerated its economic growth and helped over 45 million residents to be pulled out of poverty. Meanwhile, Anaman (2004) attributed Brunei’s the lowest average to the severe recession that had weakened the economy at the peak of the Asian financial crisis and thereafter every year after 1991.

In conclusion, the negative association between control of corruption and economic growth revealed that the extend of control of corruption in Southeast Asia contributes to the discouragement of economic growth. Another reason for decreased control of corruption can be explained by Igiebor (2019), who revealed that the lack of effective corruption in Nigeria was due to behavior of the political leadership that leads to a decline in economic growth. The empirical results revealed a positive relationship between political stability and economic growth, but without a significant influence on economic growth in Southeast Asia. Shabbir et al. (2016) supported that countries with political instability will be increased in corruption with a negative influence on economic growth.

The findings of the present study provide insightful information to the foreign investors in Southeast Asia. FDI have a significant positive relationship with economic growth. The positive significance between FDI and economic growth has received a great deal of attention from policymakers in numerous Southeast Asian countries with majority of SEA regions coming from developing countries (Lin, 2014). Ultimately, in this study found that government expenditures are positively significant to economic growth in Southeast Asian countries. This finding supported by Barra et al. (2020) that increasing government expenditures with positive direction towards GDP would yield a higher growth rate, which tends to increase the share of government expenditure in national income, expanding welfare, and finance.

This study would add to the current literature on the knowledge pertaining to factors influencing economic growth in the Southeast Asian region. Moreover, the findings could motivate policymakers, especially economists in the Central Bank, on the importance of having a new strategy to curb the underground economy by designing additional wide-ranging guidelines.

The study had certain limitations, specifically with data availability. The analysis was carried out using secondary data obtained from the World Bank and World Governance Indicator.
While it was possible to access the data from the database, data pertaining to all the Southeast Asian countries for the years 1996 to 2018 were not fully accessible to be included in this study. Hence only seven out of the eleven Southeast Asian countries were included as the data for the remaining countries, viz., Laos, Myanmar, Timor-Leste, and Cambodia could not be found in the database.

It is recommended that future studies focus on the subcategories of government expenditures, such as expenditures on education, agriculture, military, and health, as this could yield fruitful outcomes concerning which expenditures are mostly correlated with corruption, which has a profound influence on economic growth in Southeast Asia. Besides, future researchers can also increase the number of observations by expanding the selection of countries to make it more diverse as the current study focused only on the Southeast Asian region.

References


