

PUBLIC SECTOR MANAGEMENT AND CORRUPTION IN ASEAN PLUS SIX

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ABSTRACT

Corruption is not a new research topic but is of great concern to every country globally, especially in developing and underdeveloped countries. The thesis analyzed public sector management and corruption in the Association of Southeast Asian Nations (ASEAN) Plus Six. It examined the causes and consequences of corruption in 15 countries in the ASEAN Plus Six group and then analyzed Vietnam as a case study to examine the corruption in more detail for further empirical findings.

The ultimate aim of this study was to identify the effects of corruption on economic development in ASEAN Plus Six. To achieve this goal, other objectives must first be met. The first objective, to examine the causes of corruption, was achieved by focusing on the public sector, especially government expenditure on education, healthcare service and construction. In addition, the performance of the government including six indicators, suggested by the World Bank, were taken into the study. The second objective was to study the consequences of corruption on the development of the economy. This objective was achieved by studying the effect of corruption on tax revenue, GDP per capita, public debt and FDI in the selected countries. The study also aimed to examine whether income was a factor that led to different levels of corruption. To support the outcome of this thesis, a number of control variables such as population, unemployment rate, economic freedom and democracy were added to the study.

Based on the research objectives, the thesis aimed to answer three central research questions. The first one was whether government expenditure and governance indicators affect corruption in ASEAN Plus Six. The results found that higher spending on health and construction increased the level of corruption. It was also found that the level of corruption could be reduced by better governance performance, increased government effectiveness, political stability, and voice and accountability. The second research question was to examine whether corruption had an impact on economic development. The results found that lower levels of corruption and a smaller shadow economy increased tax revenue, public debt, foreign direct investment inflows, and GDP per capita. The last research question was to examine whether income was a factor that led to different corruption levels in the selected countries. The study divided 15 ASEAN Plus Six countries into two groups based on income, high-income and low- to middle-income countries. The results found that income made a significant difference in corruption in the two groups.

The study involved analyzing the causes and consequences of corruption in Vietnam. Some research findings were similar to those of other low- to middle-income countries. However, there were some differences since Vietnam was a socialist republic country. The study used regression analysis to determine the correlations between government expenditure, governance indicator and corruption as well as between corruption and the economic development in selected countries. Data gathered from various sources over 18 years, from 2000 to 2017, were used to answer the research questions. The study uses the corruption perception index and the shadow economy index as proxy variables of corruption. The study's findings were then contributed to the corruption and economic development literature and used to propose a number of recommendations to policymakers and future researchers.

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DECLARATION

This is to certify that:

- The thesis comprises only my original work towards the PhD except where indicated in the Preface,
- Due acknowledgment has been made in the text to all other material used,
- The thesis is fewer than 100,000 words in length, exclusive of tables, maps, bibliographies, and appendices.

A handwritten signature in black ink, appearing to read 'Myba', with a long horizontal flourish extending to the right.

October 12, 2021

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BOT	Build-Operate-Transfer
CC	Control of corruption
CPI	Corruption perception index
CPV	Communist Party of Vietnam
ECR	Euromoney Country Risk
FDI	Foreign direct investment
GCAP	GDP per capita
GDP	Gross Domestic Product
GE	Government effectiveness
GEXP	Government expenditure
GNI	Gross National Income
GST	Goods and services tax
ICRG	International Country Risk Guide
IMF	International Monetary Fund
MENA	Middle East and North Africa
MIMIC	multiple indicators, multiple causes
MoET	Ministry of Education and Training
ODA	Official Development Assistance

OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Square
RL	Rule of law
RQ	Regulatory quality
SE	Shadow economy index
SOE	State-owned enterprise
TPP	Trans-Pacific Partnership
USD	United States dollar
VA	Voice and accountability
VAT	Value-added tax
VCCI	Vietnam Chamber of Commerce and Industry
WGI	Worldwide governance indicators
WTO	World Trade Organization

CHAPTER 1_ INTRODUCTION

1.1 Introduction

Corruption is a widespread phenomenon of great concern in many countries in the world. It is not a new topic in economics but has a long history and been considered in the research of many economists. The early articles studying about corruption include Leff (1964), Huntington (1968), and Rose-Ackerman (1975). Over the time there are more research about this economic issue have been conducted and the scopes of the study have been extended such as corruption and poverty and inequality (Gupta et al. 1998; Husted 1999; Swamy et al. 1999), corruption and investment (Mauro 1995, 1997; Keefer and Knack 1995; Lambsforff 1999), corruption and gross domestic product (GDP) (Hall and Jones 1999; Kaufmann et al. 1999), corruption and government expenditure (Tanzi and Davoodi 1997; Mauro 1995, 1997, 1998), and corruption and foreign direct investments (Hines 1995; Wei 1997). The research about corruption has been improved and advanced from macro- to micro-perspective to analyse the different levels of corruption (Lambsforff and Schulze, 2015). The recent research should be named such as Woo 2010; Blackburn et al 2011; Healey 2015; Fisman and Golden 2017; Merloni 2018; Vu et al. 2018; Warf 2019; Rotberg 2019; Li 2019; Chayes 2020; and Dincer and Johnston 2020. Hence, understanding, controlling and reducing corruption is one of the important targets of many countries in the world, especially in underdeveloped and developing countries.

The corruption perception index presented by Transparency International in the annual reports indicate that most underdeveloped countries have higher levels of corruption than developed countries. This leads to several questions. Why is there a difference in corruption levels between countries? What are the drivers and consequences of corruption? How can corruption be significantly reduced? To find the answers to these questions, the first part of the thesis focuses on the ASEAN Plus Six (excluding Brunei), as they are part of the Asia-Pacific Region. The 15 ASEAN Plus Six countries include Southeast Asian nations (Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam) and six other members (China, Japan, South Korea, India, Australia, and New Zealand). Brunei is excluded due to a lack of data and information to support the analysis in the study. In addition, Australia, New Zealand, Japan and South Korea are included in this study to present contrasting views of corruption issues between high-income nations and low-income ones.

The sample of 15 countries is small enough to be manageable, but the selected countries are diverse in nature.

The study then focuses on Vietnam as a case study to examine corruption in more detail. Vietnam is chosen for a number of reasons. It is a big country in the region with nearly 95 million people (World Bank 2017). It plays crucial economic and political roles not only in Southeast Asia but also in the world due to its geography. Vietnam has experienced rapid economic growth, transforming from one of the poorest countries in the world into a low- to middle-income country in 2008 (World Bank 2008). Since Doi Moi (Reform) in 1986, the economy has grown quickly, supported by export-oriented manufacturing. In addition, Vietnam is reputed to have elevated levels of corruption that may be impeding the economic growth of the country. Lastly, Vietnam is selected as a case study because there has been limited research about corruption in this country thus far.

This study examines the major causes of corruption in selected countries. According to Transparency International, ‘Corruption is the abuse of entrusted power for private gain’ (World Bank 1997, p. 102). Therefore, the research focuses on the public sector as the researcher assumes that government authorities may abuse power for their own interests to a greater degree than those employed in the private sector. The study examines the government budget, especially expenditure on education, health and construction, as the researcher assumes the more money government spends, the more chance for corruption to occur. In addition, six governance indicators—voice and accountability, political stability, government effectiveness, regulatory quality, the rule of law and corruption control—are examined to see whether government performance is a factor influencing levels of corruption. Further, some control variables, such as government revenue, Gross Domestic Product (GDP) per capita, population, unemployment rate, economic freedom, and democracy, are used to extend the scope of the study.

The shadow economy is also included in this study, as it is considered as another proxy variable of corruption. Several empirical studies examined the relationship between corruption and the shadow economy and found that they were substitutes such as Johnson et al. (1997), Choi and Thum (2005), Dreher et al. (2009), and Friedman et al. (2000), while some claimed that they were complements such as Hindrik et al. (1999), Hibbs and Piculescu (2005), and Buehn and Schneider (2012). There is also empirical research have been done to examine the shadow economy and economic development such as Blackburn et al. (2012), Schneider and

Enste (2013), Amendola and Dell'Anno (2015), Dell'Anno (2016), Mazhar and Meon (2017), Farzanegan and Hayo (2018), Canh et al. (2019), Dell'Anno and Davidescu (2019), and Canh and Thanh (2020). In this study, the shadow economy is treated as one of the independent variables that may affect the level of corruption. The causes and consequences of the shadow economy are considered to strengthen the study with respect to identifying the causes and consequences of corruption.

In terms of the research approach, most of the previous studies applied a Multiple Indicators, Multiple Causes (MIMIC) approach to examine the causes and consequences of the shadow economy, such as Dell'Anno et al. (2007), Schneider (2009), Nchor and Adamec (2015), Chancellor and Abbott (2015), Dell'Anno et al. (2018), Chen et al. (2020), while this study uses multiple regression analyses. This approach is applied to test the relationship between dependent variables (the corruption perception index [CPI] and the shadow economy index [SE]) and independent variables (economic factors) to determine the level of impact of independent variables on corruption. In addition, the study also tests the relationship between corruption (the CPI and the SE) and economic development (economic growth, tax revenue, foreign direct investment [FDI] and public debt). It can be seen that the collection of variables included here are different from those considered in most of the empirical studies as mentioned above.

The final goal of this study is to determine the consequences of corruption, particularly its impact on tax revenue, GDP per capita, public debt and FDI. The results of the study may help to clarify the different circumstances of corruption in ASEAN Plus Six, in different groups of countries based on levels of income as well as in Vietnam in particular. In addition, suggestions and recommendations will be made to aid in the elimination of corruption in the studied countries.

1.2 Statement of Problem

The definition of corruption is that it is an action where public people abuse power for self-interest, thus corruption in the public sector is the main focus of this study. There are a number of empirical studies conducted to examine the causes and consequences of corruption in different areas in the public sector. The thesis is based on the study of the empirical literature to find the research gaps. The first problem examined in this thesis is related to government expenditure. Most of the studies in the examination of the relationship between corruption and

government expenditure found that corruption led to a less transparent allocation of the government budget for different sectors (Tanzi 1998, Kawaura 2011), increased expenditure in the military sector (Gupta et al. 2001), reduced education and health expenditure (Mauro 1998, Gupta et al. 2000, and Delavallade 2006). In contrast, not much research had done on the opposite, that corruption can be influenced by the size of the government spending. Research, therefore, should be undertaken on whether a high allocation of government expenditure for a sector would lead to a high potential for corruption. In less developed countries, some sectors such as education, health services, military or infrastructure for transportation often get large government budgets. Therefore, the potential for corruption would be apparent. Attention, therefore, needs to be turned to each of these major sectors of government expenditure.

The second problem is related to government performance. According to the World Bank, there are six dimensions along which government performance can be assessed: voice and accountability (VA), political stability (PS), government effectiveness (GE), regulatory quality (RQ), the rule of law (RL) and corruption control (CC). The better the performance of a government against these indicators, the better control a country likely has over levels of corruption. A number of studies had conducted to examine the relationship between governance performance and corruption. The study of Ray and Das (2015) about the correlation between corruption and governance indicators in a cross country over the period from 1996 to 2012 showed that there was a positive association between CPI and CC in some developed countries such as the UK, France, and Japan, and a negative result in developing countries like China, India, and Thailand. Ray and Das (2015) also found a negative relationship between RL and CPI in countries such as the USA, the UK, Germany, India, Thailand, and South Africa. It can be seen that the governance performance impacts the levels of corruption differently between high-income and lower-income countries. Delavallade (2005) studied the relationships of those six indicators and corruption and found that the socio-political and religious norms are very weak in developing countries and able to affect the level of corruption. Transparency International (2019) stated that Asian Pacific, including Vietnam, Thailand, Philippines, Indonesia, and other ASEAN countries, made little to no progress in combating corruption. Therefore, the thesis examines the relationship between corruption and governance performance to find whether governance indicators are the factors that directly affect the levels of corruption in 15 selected countries in this study.

Another problem, is considered in this study, is income. A number of studies indicated that the levels of corruption were different between high-income and lower-income countries. Shleifer and Vishny (1993) stated in their study about corruption and economic development around the world that corruption was a serious problem for the development of low-income countries. Blackburn et al (2011) found that corruption was varied among middle-income countries. Jetter et al (2015) in their study about the relationship between democracy and corruption in many countries over the world from 1998 and 2012, revealed that income was a key factor, which influenced corruption levels. They also found that democracy only reduced corruption in the countries where GDP per capita was approximately 2,000 US dollars (in 2005) or more. In countries, which had lower levels of GDP per capita the level of corruption was greater. In high-income countries, democracy was unlikely to influence corruption levels. There are many developing and underdeveloped countries, where income levels could be considered as a factor, which leads to corruption. When basic income levels do not meet the demand of people, the chances for corruption may easily occur. It can be explained that people with low income may find ways to increase their budgets and thus find opportunities for corruption. Becker (1974) showed that high incomes meet the needs of people and reduce levels of corruption. This study, therefore, uses GDP per capita as a proxy variable of income to determine whether levels of corruption in low-middle income countries such as Vietnam, Philippines, Thailand, and Indonesia, different from high-income countries such as Australia, New Zealand, Singapore, Japan, and North Korea in the ASEAN Plus group.

The shadow economy is another issue considered in this thesis. The size of the shadow economy is varied among countries in the world. According to Schneider and Klinglmaier (2004), they showed that among ASEAN countries, Thailand had the largest shadow economy in 2000 at 52.6 per cent of official GDP; followed by the Philippines at 43.4 per cent and Singapore had the smallest size at 13.1 per cent. In OECD countries, New Zealand had a small-sized shadow economy at only 12.4 per cent in 2002/2003 and Australia followed at 13.8 per cent. Based on the figures provided by Schneider and Klinglmaier (2004), it can be seen that the low-income countries tend to have a large shadow economy, while high-income countries had a small one. Many studies have been undertaken on corruption and the shadow economy, and the two factors have been considered independently of each other but only a few have been done on examining the relationship between them. Both factors are difficult to measure. Buehn and Schneider (2009) stated in their study about the nexus of the two factors that the shadow economy and corruption had a positive relationship and the shadow economy had a

greater impact on corruption than corruption did on the shadow economy. More recent papers have studied the link between the unofficial economy and corruption in the public sector. Some showed that the shadow economy influenced corruption, while others showed the opposite results. Some found that the relationship between corruption and the shadow economy was a substitute, while others said it was a complement. Johnson et al (1997), Shleifer and Vishny (1993) showed that the shadow economy was a substitute for corruption and there was a positive relationship. Hindriks et al (1999), Choi and Thum (2005) found a complementary relationship between the two. To study the impact of corruption on economic development in 15 selected countries in ASEAN Plus, the shadow economy is considered a proxy variable for corruption in this study.

1.3 Objectives of the Study

The ultimate aim of this study is to identify the effects of corruption on economic development in ASEAN Plus Six. To achieve this goal, other objectives must first be met. The first objective, to examine the causes of corruption, is achieved by focusing on the public sector, especially government expenditure on education, healthcare service and construction. In addition, government performance is measured in relation to the six indicators suggested by the World Bank and listed above. The second objective is to study the consequences of corruption on the development of the economy. This objective is achieved by studying the effect of corruption on tax revenue, GDP per capita, public debt and FDI in the selected countries. The study also aims to examine whether income is a factor that leads to different levels of corruption. To support the outcome of this thesis, control variables such as population, unemployment rate, economic freedom and democracy are added to the study.

Input and output data are collected from several sources, such as Transparency International, the World Bank, the Asian Development Bank and official government portals of the selected countries. To identify the level of corruption, the CPI and the SE are used as proxy variables. The indicators have been collected in a time series over a specific period from 2000 to 2017. Multiple regression analyses are applied as the most suitable methodology for supporting the research. The findings of the study are analysed and presented to provide an understanding of corruption, its main drivers and its consequences on the economic development of the ASEAN Plus Six.

1.4 Research Questions

In order to achieve the objectives of the study stated in the previous section, this research seeks to answer the following questions.:

- I. Do government expenditure and other governance indicators affect corruption in ASEAN Plus Six?
- II. Does corruption have a significant impact on economic development in ASEAN Plus Six?
- III. Does income lead to different levels of corruption in ASEAN Plus Six?

1.5 Research Methodology

Corruption is considered a sensitive social issue; thus, it is not easy to collect information and data. This study uses the ex-post facto research design, which examines causal relationships between dependent and independent variables based on an existing condition (Cohen et al. 2000). Kerlinger (1970, p.360) defined “ex-post facto research as that in which the independent variable or variables have already occurred and in which the researcher starts with the observation of a dependent variable or variables”. The study uses an ex-post facto research design since it involves dependent, independent and control variables to determine if there is a relationship between the variables. It uses the control variables to determine their effects on the corruption of government expenditure and governance indicators, as well as the effects of corruption on economic development. The study also draws on an archival database, collected from reliable sources covering 18 years from 2000 to 2017 (inclusive).

To achieve the objectives, multiple regression analyses are used to determine the effect of corruption on economic development. Multiple regression deals with the dependence of one variable on more than one explanatory variable (Gujarati 1995, p.21). The same method is applied for identifying levels of the shadow economy, which is considered a proxy variable of corruption. The same variables that are used to examine the correlation with corruption are used in the tests.

1.6 Significance of the Study

Through this thesis, a significant contribution is made to corruption and economic development literature. The study is conducted to allow a deeper understanding of the present situation of corruption in ASEAN Plus Six. It provides an overview of corruption in selected countries, including high-income countries and lower-middle-income ones, which helps readers to gain knowledge of the causes and consequences of corruption that lead to the different levels of corruption in those 15 selected countries.

The first research significance is the corruption variable. The Corruption Index (published by the International Country Risk Guide and Transparency International) has been used as a proxy variable of corruption in most empirical research such as Maoro (1998), Tanzi (1998), Wei (2001), Ali and Isse (2003), Cooray and Schneider (2013), Ahmad and Arjumand (2016), Canare (2017), Cooray et al. (2017), Dell'Anno (2019), Li (2019). This study uses not only Corruption Perception Index, published by Transparency International, but also the Shadow Economy Index, compiled by Schneider (1986) and updated by Medina and Schneider (2018), as corruption proxy variables. A number of empirical research has proved that there was a complement relationship between corruption and the shadow economy such as Johnson et al. (1998), Buehn and Schneider (2012), Friedman et al. (2000), Dreher and Schneider (2010), Cooray et al. (2017), and Huynh and Nguyen (2019). The use of the corruption perception index and the shadow economy index as proxy variables of corruption strengthen the results of the research in analysing the causes of corruption as well as the impact of corruption on economic development. Through this contribution to corruption literature, other researchers could apply these two indices to study corruption in other countries around the world.

There is a number of studies conducted to investigate the impact of corruption on economic development including government expenditure such as Mauro (1997), Tanzi and Davoodi (1997), Johnson et al. (1999), Gupta et al. (2001), Delavallade (2005), Dzhumashev (2014b), Arif et al. (2019), and Sahnoun and Abdennadher (2020), however, there is limit research conducted to examine the impact of government expenditure on corruption. In the study of corruption around the world, Tanzi (1998) revealed the factors that directly influence corruption, including the spending decisions of the government. In many countries, the government divided its budgets between different sectors for specific purposes, such as to fund education, health services, roads and pensions. Tanzi stated that the money for these sectors

may come from special accounts, and this spending tended to be less transparent. Kawaura's (2011) study of the relationship between legislation and budget allocation found that politicians used their power to direct government expenditure to their home provinces in order to increase the number of votes they collect in the next election. Once the legislators win the next election, they may continue to use their power for corruption. Therefore, research should be undertaken regarding if a high allocation of government expenditure for a sector leads to a high potential for corruption. In less developed countries, some sectors, such as education, health services, the military or transportation infrastructure, often receive large government budgets. Thus, the potential for corruption would be apparent, and attention needs to be paid to each of these major sectors of government expenditure.

Another significance of this study is the selection of causal variables on corruption, including government expenditure and governance indicators. Empirical studies examined the impact of either government expenditure or governance indicators on corruption such as Tanzi (1998), Delavallade (2005), O'Donnell (2006), Quah (2009), Dreher and Schneider (2010), Torgler et al. (2011), Jamalmanesh et al. (2014), Minocal et al. (2015), Drebee et al. (2020), however, there is limit research used both aspects, government spending and government performance, to examine their impact on corruption. The result in this thesis contributes to corruption and economic development literature and could pave the way for future researchers to have more studies of the impact of public spending and governance indicators on corruption in other countries.

The final significant contribution to corruption and economic development literature is the study of corruption in Vietnam. Vietnam is chosen as the case study in this thesis based on a number of reasons. One of the critical reasons is that Vietnam has a rapid economic growth that transforming what was then one of the world's poorest nations into a lower-middle-income country in 2008 (World Bank 2008), however, it is reputed to have high levels of corruption that may be impeding the economic growth of the country. In addition, there is limited existing research about corruption in this country. By using the same methodology and selected causal and consequence variables as in the ASEAN Plus group, the results of the study may contribute to a limitation of corruption research in Vietnam, as well as serve as an instrument that may give policymakers insights into appropriate policies to control corruption in not only Vietnam but also other developing countries in ASEAN. Besides, future

researchers could conduct more studies examining corruption in Vietnam and also other developing countries around the world.

1.7 Thesis Structure

Chapter 1 provides an overview of the study, so the reader can understand the purpose of the research, the methods of the study and the significance of the research. The chapter provides an outline of the structure and direction of the thesis.

Chapter 2 discusses the corruption theories and provides a review of the empirical literature and relevant studies in corruption, which show the correlation between corruption and the public sector, government expenditure, governance indicators, economic growth and other economic issues. Research gaps are found through this review of the existing literature that helps to form the foundation and direction for this study.

Chapter 3 provides the background of Vietnam, the country that has been chosen as a case study in the thesis. In this chapter, an overview of economic development in Vietnam and its social and political conditions is presented.

Chapter 4 provides an overview of corruption in Vietnam, starting by looking at overall measures of corruption. This is followed by examining the causes of corruption, focused on the public sector (education, healthcare services and construction). Additional main drivers of corruption are also considered, specifically income and culture issues. The chapter also examines the effects of corruption on economic development in Vietnam.

Chapter 5 explains the research methodology of this study. The methods and procedures are described in detail, as they underpin the study's research design. The subject of the study and statistical treatment of data are also examined closely.

Chapter 6 presents, interprets and analyses data focusing on corruption and causal variables of corruption in selected countries. The purpose of presenting this data is to support the first objective of the study, which is to examine the causes of corruption and identify the effects of causal variables on the levels of corruption in the selected countries. Related literature is outlined to support the analysis.

Chapter 7 presents, interprets and analyses data focusing on the consequences of corruption in the selected countries based on a series of data gathered from 2000 to 2017. The chapter explains and interprets how the variables selected support the second objective of the study, which is to examine the consequences of corruption on the development of the economy.

Chapter 8 presents and analyses the results of the analysis, looking at the causes and consequences of corruption in ASEAN Plus Six countries. This chapter aims to answer the first research question about the relationship between governance and corruption, considering whether government expenditure and governance indicators explain the level of corruption in ASEAN Plus Six countries and whether corruption leads to a significant impact on economic development in the selected countries.

Chapter 9 presents and analyses the results of multiple regressions in achieving the second objective of the study, addressing whether income is a factor that influences the different levels of corruption in the countries included in the study. Fifteen ASEAN Plus Six countries are divided into two groups based on income, high-income countries and low- to middle-income countries. This chapter uses the same approach as Chapter 8, which examines the causes and consequences of corruption. However, in this chapter, the groups are analysed in two separate groups for comparison to answer the research question.

Chapter 10 focuses on corruption in Vietnam. The results of the causes and consequences of corruption in Vietnam are presented, analysed and compared to those of other low- to middle-income countries. The findings of corruption in Vietnam support the answer to the three research questions in more detail.

Chapter 11 presents a summary of the study, its findings and conclusions. The contributions of the study are discussed. The recommendations are made for practitioners and policymakers based on the results found in the study. In addition, the limitations of this research are discussed to suggest further research the future researchers

1.8 Conclusion

This introductory chapter provides an overview of the entire research project. It provides information on the research problem, the effects of corruption on the economic development of ASEAN Plus Six countries. The overview of the existing literature provides the rationale for the aim and motivation of the researcher on this topic, particularly in terms of the presented

gaps in the existing research. The chapter also presents the purposes and objectives of the study, drawing out the research questions to clarify the direction of the research.

The introduction of the methodology used in this study is presented. This study uses an ex-post facto research design and various multiple regressions to find the potential drivers of corruption and its consequences to economic development in selected countries. Further, to ensure reliable results, a time series of data from 2000 to 2017 is collected for the tests. Finally, the significance of the study is discussed. This thesis aims to analyse the findings of the study to answer the research questions and propose a number of recommendations for policymakers and researchers who might be concerned about improving the quality methods used to combat corruption and may wish to complete further relevant studies in the future.

CHAPTER 2_ LITERATURE REVIEW

2.1 Introduction

This chapter presented a summary of past empirical studies and sources to support the research thesis. In doing so, it not only summarised past works but also established some of the principal areas in which future work might be undertaken that link corruption to economic development. This chapter was divided into eight main parts. The first section was to discuss the theories of corruption including its causality, consequences, as well as its correlation with the shadow economy. The theories had been outlined and discussed to support the study of the causes and consequences of corruption in 15 selected countries in the ASEAN Plus group. Based on the discussion of the theories of corruption, hypotheses to test the correction between variables and a conceptual framework were developed and presented in the following sections. The fourth section presented an overview of the issue of corruption and its relationship with economic development. This section discussed the critical studies that explained corruption problems and how they affected the growth of the economy and various sectors, such as public debt, tax revenue, GDP per capita and FDI. It was essential to have a broad understanding of the general studies of corruption on economic development.

The fifth part of the chapter reviewed the empirical studies of the main drivers of corruption (one of the main themes of this thesis). The level of corruption in each country was different. This section drew on the published literature to illustrate some leading causes of corruption in different nations, especially as relevant to this thesis. According to the World Bank, corruption was a grave issue of public sector management. Thus, this part summarised the relevant literature with examples relating to government budgets, governance indicators and other relevant issues to reveal the causes that might drive different levels of corruption.

The sixth part of the chapter reviewed the main studies in the literature on the consequences of corruption on the economy. This part focused on tax revenue, GDP per capita, public debt and FDI. The seventh part of this chapter presented the literature on an alternative indicator of corruption, the shadow economy. Countries with high levels of corruption tended to have significant shadow economies. This section summarised the empirical research to provide an overview of the shadow economy, as well as the causes and indicators relating to these illegal activities.

The last part of the chapter provided short literature on corruption in Vietnam to discuss the importance of selecting this country as a case study in the thesis. Further reviews of corruption in the country and its background were presented in the next chapters. This literature review highlighted gaps in the previous literature and demonstrated the need to answer the research questions that this thesis addressed.

2.2 Corruption Theories

Corruption was a subject that had been discussed, researched, and studied by many economists over the years. In the research paper published in 1961, McMullan, based on his observation over a decade, had analysed corruption in the public sector and stated that the levels of corruption were vary among countries. He had pointed out eight main consequences of corruption to the economy and society, which were ‘injustice, inefficiency, mistrust of the government by the citizen, waste of public resources, discouragement of enterprise, political instability, repressive measures and restrictions on government policy’ (McMullan, 1961, p.182-183). McMullan (1961) had provided evidence of his observation of corruption that happened in pre-colonial, colonial, and post-colonial times in West African countries, to indicate that corruption had a long history in human society.

Another theory of corruption was its causes. De Graaf (2007, p. 45-46) had outlined six main group theories of causality of corruption, which were ‘public choice theories, bad apple theories, organizational culture theories, clashing moral values theories, the ethos of public administration theories, and correlation theories’. The public choice theory was that the causal variables explained for corruption were determined at the level of the individual. Public officials were corrupted for their own benefit. This theory was supported by a number of economists such as Rose-Ackerman (1978) and Klitgaard (1988). The bad apple theories were similar to public choice theories in that they looked at the level of the individual to define the causes of corruption, however, the individuals were the ones who had faulty character (so-called bad apples). Organizational culture theories were that if organizational culture was corrupt, people who came in contact with it might also corrupt. Corruption was considered in this theory as contagious. Some economists studied causes of corruption from the culture and structure of an organization such as Klitgaard (1988), Punch (2000), and Caiden and Dwivedi (2001). Clashing moral values theories indicated the direct influence of certain values and norms of society on that of individuals. The ethos of public administration theories was a group

of literature studies political and economic structures as causes of corruption. The last group of corruption theories was correlation theories. The causes of corruption had studied at all levels and from different factors. Some studies examined the causes of corruption using correlation theories such as Holbrook and Meier (1993), and Hurberts (1995; 1998).

Lambsdorff (1999) in the review of corruption literature had focused on the correlation theories and indicated that government involvement, institutional quality, and lack of competition, had a correlation with corruption. The government involvement might be a cause of corruption that the size of the government budget led to an increase in the levels of corruption (LaPalombara, 1994; La Porta et al., 1999). The correlation between corruption and the institutional quality had been considered by researchers that whether the impact of corruption is “greases the wheels” or “sands the wheels” on the quality of public institutions. Some economists had conducted a study to examine this correlation such as Ades and Di Tella (1997), Johnson et al. (1998), Kaufmann and Wei (1999), and Treisman (2000). The low levels of competition might be considered as a cause of that results in lower economic rents, thus, motives the public officials to extort and corrupt to seize parts of the rents. A number of economists studied had conducted research to examine this correlation such as Paldam (2001), and Treisman (2000).

There were also theories about the correlation between corruption and the shadow economy that they were either complements or substitutes. Corruption and the shadow economy were complements because the taxpayers and public officials had colluded for their mutual benefits, that a bribe from taxpayer has been exchanged for a underreport of the tax liability from the public officials (inspectors) (Hindriks et al., 1999). Empirical studies that supported the compliment correlation between corruption and the shadow economy were Johnson et al. (1997; 1998), Friedman et al. (2000), Dreher and Siemers (2009), and Dreher and Schneider (2010). On the other hand, the correlation between corruption and the shadow economy was considered as a substitute, especially in high-income countries. The theory had been explained that high-income countries might have good governance in which the public sectors provided the good exercise of the rule of law, control of corruption, regulatory quality, thus the shadow economy was hidden from tax inspectors and other public officials. Bribery, therefore, was not necessary or possible in exchange for underreporting tax liability of taxpayers (Dreher and Schneider, 2010). A number of economists supported the substitute theory between corruption and the shadow economy such as Choi and Thum (2005), and Dreher et al. (2009).

Based on these theories of corruption, the thesis studied the causes and consequences of corruption in 15 ASEAN Plus countries. It examined whether government expenditure and governance performance were determinants of corruption, as well as the level of impact of corruption on the economic development in the selected countries. Also, based on the theories of the correlation between corruption and the shadow economy, the corruption perception index and the shadow economy index were selected as proxies for corruption. By reviewing the corruption literature, as presented in the following sections, the conceptual framework with a selection of variables using in this thesis, as well as the hypotheses was developed.

2.3 Hypotheses Development

As per discussion of the research statement in Section 1.2, and revision of the corruption theories in Section 2.2, the hypotheses were proposed to test the correlation between corruption and causal variables, as well as corruption and economic development variables to answer the thesis' research questions. Many empirical studies examined the impact of corruption on government expenditure (Tanzi 1998, Kawaura 2011, Gupta et al. 2001, Mauro 1998, Gupta et al. 2000 and Delavallade 2006), however, not much research had done on the opposite, that corruption could be influenced by the size of the government spending. Besides, in less developed countries, budgets allocated for public sectors such as education, health, and construction were larger than the other sectors (World Bank 2019), while the level of corruption in those countries was also higher than in developed ones. This thesis, therefore, examined whether a high allocation of government expenditure for a sector would lead to a high potential for corruption. Besides, a number of studies had examined the relationship between governance performance and corruption. They found that there was a correlation such as Ray and Das (2015) and Delavallade (2006). This thesis used six governance indicators proposed by the World Bank, including voice and accountability (VA), political stability (PS), government effectiveness (GE), regulatory quality (RQ), the rule of law (RL) and corruption control (CC), to examine the impact of governance on corruption. The first hypothesis, therefore, was developed to test the causes of corruption in select countries.

Hypothesis 1: there is a significant effect of government expenditure on selected sectors and governance indicators on corruption in ASEAN Plus Six (H1)

A number of studies examined the relationship between corruption and economic development in different aspects such as economic growth (Tanzi 1998, Habib and Zurawicki 2002),

poverty and inequality (Mauro 1995), foreign direct investment (Drabek and Payne 1999, Habib and Zurawicki 2002), and tax revenue (Tanzi and Davoodi 1997). The results found by the empirical studies were varied depending on the research samples, time series, and the levels of corruption. This thesis was to examine the impact of corruption on economic development, particularly on tax revenue, public debt, foreign direct investment, and GDP per capita of 15 countries in ASEAN Plus Six. The second hypothesis was developed as follow.

Hypothesis 2: there is a significant effect of corruption on tax revenue, public debt, foreign direct investment, and GDP per capita in ASEAN Plus Six (H2)

A number of empirical studies found that the levels of corruption were different between high-income and lower-income countries such as Shleifer and Vishny (1993), Blackburn et al. (2011), Jetter et al. (2015). According to Transparency International (2019), the CPI scores in selected 15 countries were different, that the scores were low (high corruption) in the low-middle-income countries but high (low corruption) in high-income ones. This study, therefore, used GDP per capita as a proxy variable of income to determine whether levels of corruption in low-middle income countries such as Vietnam, Philippines, Thailand, and Indonesia, were different from high-income countries such as Australia, New Zealand, Singapore, Japan, and North Korea in the ASEAN Plus group. The third hypothesis was proposed as follow.

Hypothesis 3: income is a factor that leads to different levels of corruption in low-middle-income and high-income countries (H3)

Vietnam was chosen as a case study in this thesis due to a number of reasons. It could be considered as a representative for low-middle-income countries in ASEAN Plus Six. The country had a fast economic growth that was about seven per cent annually in average from 2000 to 2017 (World Bank 2017), however, it had been listed as being among the most corrupt countries in the world that the average CPI score was about 3.0 out of 10 (0 was the most corrupt and 10 was the least corrupt) (Transparency International 2017). Corruption could be a reason which impeded the economic growth of the country. Therefore, hypotheses four and five were proposed to examine the causes and consequences of corruption in Vietnam.

Hypothesis 4: there is a significant effect of government expenditure on selected sectors and governance indicators on corruption in Vietnam (H4)

Hypothesis 5: there is a significant effect of corruption on tax revenue, public debt, foreign direct investment, and GDP per capita in Vietnam (H5)

Based on the hypotheses proposed to test the causes and consequences of corruption in ASEAN Plus Six as well as in Vietnam, a conceptual framework had been developed and presented in the following section.

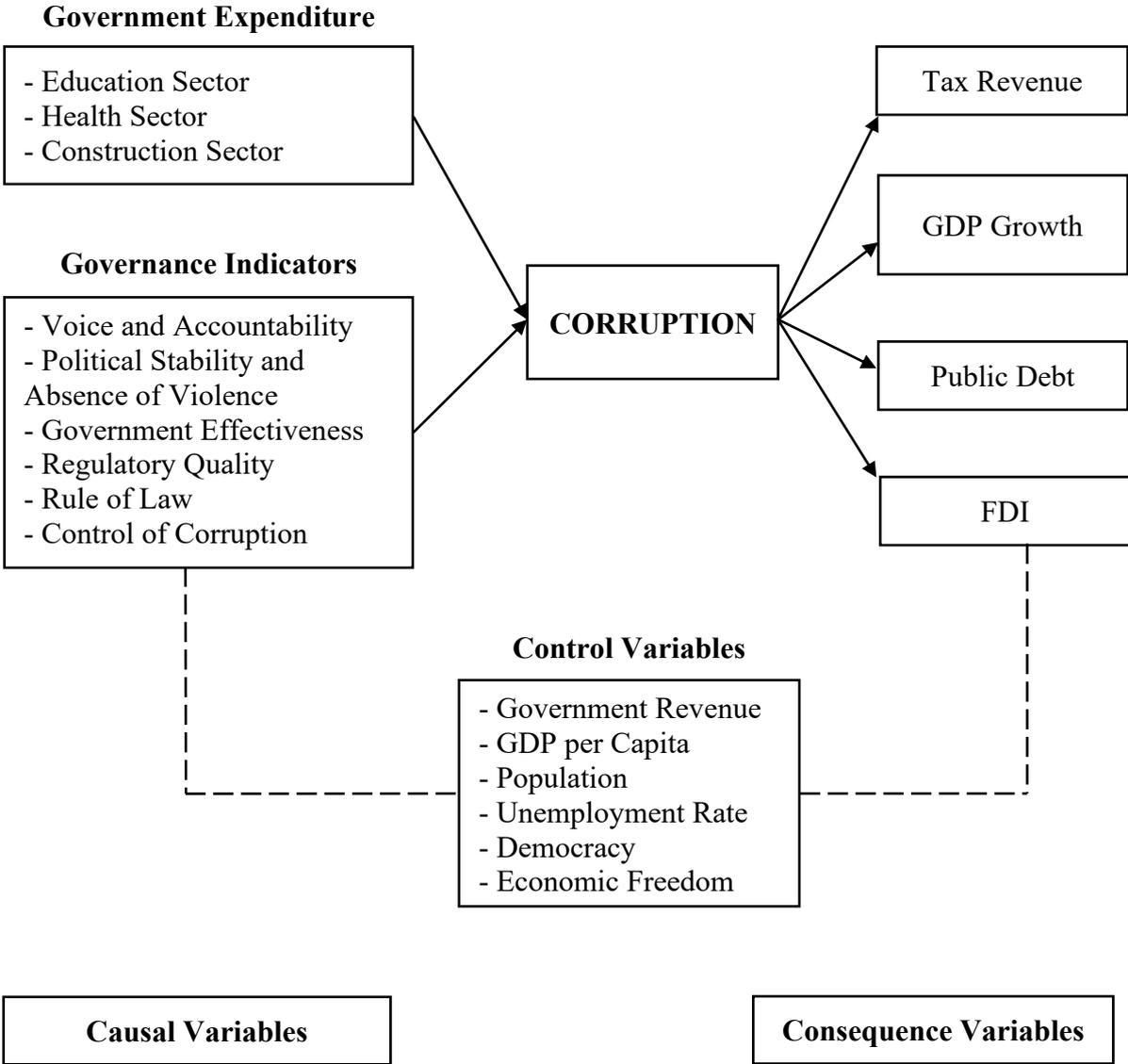
2.4 Conceptual Framework

This study was conducted to determine the causes of corruption and its consequences on economic development. The research examined the relationship between corruption and the following macro-economic variables (see Figure 2.1). To answer the first research question of the study, which was to determine the causes of corruption, corruption was the dependent variable while government expenditure, governance indicators, and control variables were independent variables. To answer the second research question of the thesis, which determined the level impact of corruption on the development of the economy, corruption was taken as the independent variable while tax revenue, GDP per capita, public debt, and FDI were dependent variables. By dividing selected countries into two groups based on income (GDP per capita), the causes and consequences of corruption were examined in each group. The findings might then be compared between two groups to answer the third research question that whether income was a factor that led to different levels of corruption in ASEAN Plus Six.

As can be seen in the framework, the study examined the relationship between corruption and government expenditure in terms of education, healthcare services and construction. It also studied the relationship between corruption and governance indicators. To examine the level impact of these macro-economic variables on corruption, this study had set them all in one regression model. Further, to strengthen the outcome of the test, the thesis studied the level impact of the combination of independent variables on corruption when control variables (population, unemployment rate, economic freedom and democracy) were added. According to David and Sutton (2004), control variables were suspected to have both direct or indirect influence on dependent and independent variables. In this study, some variables such as population, unemployment rate, economic freedom and democracy were controlled for, examining whether the relationship between independent variables (government expenditure, and governance indicators) and the dependent variable (corruption) still existed or disappeared. In addition, this thesis also determined the level impact of corruption on

economic development based on the examination of the relationship between corruption and variables such as tax revenue, public debt, GDP per capita and FDI. The same control variables were used in this case for supporting the outcomes. To examine whether income was a factor that led to different levels of corruption in selected countries, the study examined the causes and consequences of corruption, following the framework provided, in the low-middle-income and the high-income countries, then compared the findings to answer the third research question.

Figure 2.1. Conceptual Framework



The CPI and the SE were taken into the research as proxy variables of corruption. Thus, this research conducted various tests between macro-economic variables and proxy variables of corruption to provide a broad view of the relationship between corruption and economic development in Vietnam particularly, and other selected countries generally.

2.5 Corruption and Economic Development

Corruption was not a new area in economics but was a concerning issue in every country, especially those that were less developed. Various aspects of corruption had been explored over the years. Nevertheless, it was important to have a broad understanding of the general literature on corruption and its effects on economic development. The World Bank (1997, p. 102) defined corruption as being an abuse of public power for personal gain. This view was based on many reported cases of corruption. For example, government officials sometimes took bribes from clients for helping them by going through documentation procedures quickly, such as providing licenses, authorisation or government permits. Shleifer and Vishny (1993) considered these activities as unofficial trading between government officials and individuals. Bribery was something demanded by officials or offered by private agents. Tanzi (1998) indicated that not all acts of corruption can be seen as bribery transactions. The abuse of public power for private gain could be seen using the example of a president of a country who decided to spend government funds for transportation construction on a new airport in their own hometown. This president was therefore involved in an act of corruption, without the payment of a bribe. There were various aspects of different activities involved in corruption, not limited to bribes. Gifts can also be bribes in some ways. The value of gifts can change their nature. Gifts could be sent directly to a person with a clear purpose of asking for support in administrative procedures. There were many observed cases in which gifts were sent indirectly in the people's favour, for example, to their relatives (Tanzi 1998).

The impact of corruption was attracting more attention from governments around the world because it was a widespread phenomenon. Much research on corruption revealed the impact of corruption on economic development, which was apparent in each country at a certain level. By setting out the basic model for determining the level of corruption as well as its consequences, Shleifer and Vishny (1993) concluded that corruption was a serious problem for the development of low-income countries. In the same research area, Mauro (1995) used a range of data sets of subjective indices to investigate the correlation between corruption and

economic growth across countries. His results showed that there is a negative association between higher levels of corruption and lower economic growth rates. Blackburn et al. (2011) found similar results and added further findings that corruption is varied among middle-income countries.

In contrast, some researchers explored the effect of corruption from different perspectives. For example, Leff (1964) and Huntington (1968) explained that corruption may increase the economic growth of nations in two possible ways. First, bribery may reduce the impact of red tape, with the outcome that corruption speeds up economic activities. Second, the officials who received bribes may work harder due to the deals they accepted from the private agents. Hence, corruption might be a factor that increased the growth rate of a country. Although there was a positive side of corruption on the growth of the economy, it seemed the drawbacks of corruption to the economy outweigh its benefits.

In a study about the relationship between corruption and investment, Mauro (1995) found a significant correlation between corruption and private investment in a country, especially in countries with high levels of red tape. In his research, he used a corruption index, the Business International (BI), to explain the level of corruption in each studied country. He found that with one standard deviation increased in the proxy of corruption (BI), investment growth increased by 2.9 per cent in GDP. In a study of the impact of corruption on FDI, Habib and Zurawicki (2002) investigated the different levels of corruption in the host and home countries. They found that corruption was one factor that influenced the decisions of investors. They claimed that foreign investors may consider not invest in the country, which had a high level of corruption. WIR's (2001) research supported this view, finding that most African countries were seriously affected by corruption and consequently received small amounts of FDI. Wei (2000) also found similar results of a negative correlation between corruption and FDI based on an analysis of a series of FDI data collected from 45 countries.

Other issues considered in this thesis were economic development and tax revenue. Based on an International Monetary Fund (IMF) working paper, Ghura (1998) studied the factors influencing tax revenue in 39 sub-Saharan African countries, finding a strong relationship between corruption and low levels of tax revenue. Tax revenue was an important issue due to its close relationship with corruption, evasion and extortion. Knowing how to reduce or minimise dishonesty when paying tax (individuals as well as firms) was of considerable concern to tax inspectors and governments. Hindriks et al. (1999) stated in their study that the

relationship between corruption and tax collection was regressive. The wealthy gained many benefits from evading taxes, while the poor had less chance to avoid taxes. Hwang (2002) found that corruption inversely affected both the total amount of government revenue (excluding grants) and tax revenue, and was significantly and positively associated with taxes on international trade. A possible interpretation of the observed association between corruption and the distortion of government revenue was that corrupt governments found it was easier to collect bribes for some activities than on others, leading them to allow tax evasion to occur.

Government expenditure was another issue that attracted the concern of researchers investigating the relationship between corruption and economic development. A number of studies found that corruption had a significant and negative impact on government expenditure. For example, Delavallade (2005) studied public expenditure in developing countries and found that high-level public corruption reduced the total amount of real public expenditure. In all countries, and more noticeably in developing countries, corruption hampered the balancing of budgets, diminishes expenditure efficiency and distorts the allocation of funds between different budgetary functions (Delavallade 2005). However, the impact of corruption on public spending was controversial (Tanzi and Davoodi 1997; Tanzi 1998; Johnson et al. 1999: positive effect; Mauro 1997: no effect).

Concerning expenditure efficiency, Shleifer and Vishny (1993) showed that for the same level of spending and a given budgetary function, public spending was less efficient in countries with high levels of corruption. Corruption diminished the impact of public spending and altered the quality of public services. Reducing corruption would enable the government to improve human development by reducing infant mortality and improving primary school rates (Gupta et al. 2000).

Past research provided considerable evidence that demonstrated the impact of corruption on the economy. Once the economy was affected by corruption, government budgets could also be affected. Therefore, there were many studies about the relationship between corruption and government expenditure, but not an extensive body of literature about corruption and public debt. Scooray and Schneider (2013) studied this issue in 106 countries and used an applied Ordinary Least Square (OLS) model to test the level of correlation. Using the Transparency International Index as well as the Kaufmann et al. index as proxies of corruption in the regression, Scooray and Schneider (2013) found that corruption had a highly significant

impact on public debt. Liu et al. (2017) reviewed the empirical studies regarding the relationship between corruption and public debt. To fill gaps in previous research, they studied the correlation between corruption and government debt in all states and local governments in the United States. Using an econometric approach and a regression model using a series of data from 1977 to 2008, they analysed the impact of corruption on state and local total debt and found a significant and positive correlation between the two variables. The study also found that there was a significant relationship between corruption and long-term state debt.

Since there was a significant relationship between corruption and economic growth, the consequences of corruption might affect GDP per capita accordingly. According to the IMF, the association between CPIs and economic development measured in real per capita GDP was negative.¹ This meant that the higher the level of corruption in a country, the lower the real per capita GDP. Mauro (1995) also found that the growth of GDP per capita had a significant correlation with corruption based on a regression model using a series of data from 1960 to 1985. Ahmad and Arjumand (2015) used a sample of 94 countries with a series of data from 1996 to 2010 in their study to examine the correlation between corruption and GDP per capita. Based on the data set they gathered, the running of an OLS model and testing multiple regression, they found that countries with high growth rates of GDP per capita suffered from a high level of corruption. They provided examples of countries almost clean of corruption, such as New Zealand, Sweden, Denmark and Finland, where the growth of GDP per capita was low at a maximum of 2.8 per cent over the studied period. In contrast, in countries such as Vietnam, China, Indonesia and India, which had high levels of corruption, there was a high growth of GDP per capita (at a minimum of 6.1 per cent). Therefore, in the study of the relationship between corruption and GDP per capita, Ahmad and Arjumand (2015) found a negative impact of corruption directly and indirectly on GDP per capita.

Considerable research had been conducted on the relationship between corruption and other issues related to economic development such as economic growth, investment, tax revenue, public spending, public debt, and GDP per capita. This thesis, therefore, examines whether there is a correlation between corruption and tax revenue, GDP per capita, public debt and FDI

¹Corruption Perception Index (CPI): According to Transparency International, this index was first launched in 1995 and it is used to review the perceived level of corruption in every country annually. It is scaled from 0 (highly corrupt) to 100 (very clean).

in ASEAN Plus Six. In addition, specific attention is directed towards the case of Vietnam. In the next section of the chapter, the causes and consequences of corruption are reviewed.

2.6 Corruption and Causal Factors

One main focus of this thesis was to identify the main drives of corruption in ASEAN Plus Six. Corruption was not a new phenomenon and had existed for about two thousand years (Tanzi 1998). Its causes had attracted a great deal of attention from economists, scholars and researchers since the 1990s. Many arguments suggested that corruption attracted more concern now than in the past, with many papers written to investigate its causes and consequences (Tanzi 1998; Rose-Ackerman 1999; Treisman 2007; Menocal et al. 2015). In this section of the chapter, the causes of corruption were reviewed.

2.6.1 Government Expenditure and Corruption

Corruption could influence the expenditure of economic sectors as a portion of GDP. It had a negative effect on human capital investment (Ehrlich and Lui 1999) and, more precisely, on education (Mauro 1997) and a positive impact on military spending (Gupta et al. 2001). Arif et al. (2019) in the study of the impact of corruption on military expenditure in 97 countries, found that corruption increased the military budget of high-income countries, while reduced the budget of middle- and low-income countries. A high level of corruption distorted the expenditure structure through the corruption of civil servants and favoured investments in buildings and the creation of new projects rather than the operation and maintenance of existing ones (Tanzi and Davoodi 1997). In his study of corruption around the world, Tanzi (1998) revealed the factors that directly influence corruption, including the spending decisions of the government. In many countries, the government divided its budgets between different sectors for specific purposes, such as to fund education, health services, roads and pensions. Tanzi stated that the money for these sectors may come from special accounts, and this spending tended to be less transparent. Therefore, government expenditure could be one of the critical factors leading to corruption.

It was clear that if corruption negatively affected economic growth, the budget for government spending might also be reduced; therefore, corruption and government expenditure could have a strong negative correlation with each other. The idea that corruption can be influenced by the size of government spending had received little attention from researchers. Therefore,

research should be undertaken regarding if a high allocation of government expenditure for a sector leads to a high potential for corruption. In less developed countries, some sectors, such as education, health services, the military or transportation infrastructure, often receive large government budgets. Thus, the potential for corruption would be apparent, and attention needs to be paid to each of these major sectors of government expenditure.

a. Education

Empirical studies by Fisman and Gatti (2002) and Bonaglia et al. (2001) revealed a negative impact of government spending on corruption. Corruption raised the cost of expenditure and reduced the number of outputs provided by the state (Shleifer and Vishny 1993). Delavallade (2006) found that high-level public corruption reduced the total amount of real public expenditure. The study also showed that corruption reduced education as a part of total public spending and was positively linked with industrial items such as transportation infrastructure. Studies by Mauro (1998) and Wei (2001) found that corruption is influenced not only by an increase in public expenditure but also by changes to the composition of spending on different sectors such as public health services and education.

It is also interesting to analyse how different types of governments behave with respect to the composition of government expenditure. Using data from Barro (1991) and Easterly and Rebelo (1993), Mauro (1993) found that, after controlling for GDP per capita, corrupt, unstable governments spend less on education. This finding was consistent with the suggestion by Shleifer and Vishny (1993) that opportunities for corruption may be less abundant in the education sector than in other components of government expenditure. The empirical findings in their paper suggested a partial explanation for the stylised fact that poor countries tend to have corrupt, cumbersome bureaucracies and to be politically unstable. Sahnoun and Abdennadher (2020) studied the relationship between education and corruption from 35 developed and 40 developing countries over 16 years, found that corruption had a negative impact on education expenditure, especially for the developing countries.

In a study of the higher education sector in Ukraine, Osipian (2007) explained that government budget spending for the sector involved cases of corruption. Aside from paying the bills through electronic and construction stores, students also made payments by cash. Osipian stated that in 2006, there were 210 cases of under the table transactions for registering in higher education institutions. People who held high positions in the universities, such as department

chairs and deputy directors, took cash from students for their personal gain. As discussed in the study of Tanzi (1998), many countries had public funds for specific sectors, such as funds for education. Based on the current circumstances, the government may allocate large or small amounts of funds for the education sector. However, Tanzi (1998) also mentioned that the money seems not to be used transparently for the right purposes.

b. Health Care

In a study of the relationship between corruption and government expenditure, Mauro (1998) determined that the opportunities for corruption in health were various. As governments spent their budgets for the health sector by investing in medical equipment and advanced hospital facilities but spent less on salaries of employees, there could be a motivation for bribery from clients, patients of doctors or nurses in developing or transition countries. Mauro (1998) ran a regression model and tested the correlation between corruption and government expenditure on health and found a significant relationship between them. De Mendonca and Baca (2018) investigated the effect of corruption on public health expenditure and taxation in 75 developing countries from 1995 to 2014. They found that corruption distorted the expenditure in countries with more corrupt governments.

Corruption in the health care sector was not only a problem of government spending in rich countries. Corruption was a challenge for health sectors with large and small government budgets, and the situation seemed more rampant in developing countries. However, in the case of large budget investments for the upgrading of infrastructure, modern machines and equipment for health services, the total amount of funds may not be appropriately allocated and went into personal pockets instead. Conversely, small budgets may drive some hidden activities. For example, medical staff may take unofficial fees to attend to patients or charge money for free medication. There were also cases of low quality or adulterated medicine being sold to patients (Transparency International 2017).

c. Transportation Infrastructure

Kenny (2009) examined transport construction and corruption in developing countries as part of a World Bank study. He found that transport construction was considered a major part of government expenditure and took between 2 to 3.5 per cent of GDP in most countries. Construction was considered one of the most corrupt sectors worldwide. Kenny (2009)

revealed that corruption had a significant impact. Not only did the payment of bribes led to low-quality transport infrastructure, but it also drove low government budgets for maintenance construction. His findings showed that to control corruption, the government should reduce unnecessary activities related to its budget for transport construction.

Tanzi and Davoodi's (1997) study about corruption, public investment and economic growth found that there was a correlation between corruption and capital expenditure. They claimed that there was a "golden rule" in public expenditure in countries that especially had a high level of corruption. That rule had been explained that governments used their budget to invest in new projects such as building roads, hospitals, and schools but not spending on maintenance of those infrastructures. 'White elephants' or 'cathedrals in the desert' could be created that those infrastructures had been built but not been used (Tanzi and Davoodi 1997). These circumstances could be explained as being caused by the corruption of politicians. Corruption involved not only the money the politicians took while constructing the projects but also the abuse of their power to enhance their reputation. Tanzi and Davoodi (1997) provided the example of ribbon-cutting ceremonies for new investment projects, such as new roads, railways, airports and irrigation canals, as corrupt cases that politicians liked to involve themselves in. These cases seemed popular in developing and transitional countries. Tanzi and Davoodi (1997) found a significant relationship between corruption and government expenditure for infrastructure investment, with the more corrupt countries tending to have a lower quality of infrastructure.

Other studies supported the findings of Tanzi and Davoodi (1997). Gillanders (2013) found a negative relationship between corruption and transportation infrastructure at the country level. Gillanders also conducted a study at the regional level using the World Bank's enterprise survey data and found that within countries, corruption had a significant effect on regional infrastructure. Numerous studies illustrated the relationship between corruption and government expenditure on construction (Mauro 1997 & 1998; Del Monte and Papagni 2001; Gillanders 2014; Arif et al. 2019). Most of the studies showed that the more corrupt countries had lower quality transport construction. The empirical findings also pointed out that the more government spending that was directed to construction, the higher the level of corruption that occurred. In ASEAN countries and especially Vietnam, most of the construction firms belonged to the government; hence the opportunities for corruption may increase. Therefore,

this research examined whether state budgets were a factor that led to a high level of corruption in most ASEAN countries.

2.6.2 Other Causes and Corruption

Empirical studies found government revenue, tax revenue, growth of GDP per capita, population, the unemployment rate, economic freedom and democracy had some degrees of correlation with corruption. Thus, to strengthen the results of the study with a focus on the correlation between corruption and government expenditure and governance indicators, those variables were controlled in the study. The literature to date had used these variables in explaining the causes of corruption.

a. Government Revenue

Hwang (2002) found that corruption both inversely affected the total amount of government revenue (excluding grants over GDP and tax revenue over GDP) and had a significant positive association with taxes on international trade over current government revenue. A possible interpretation of the observed association between corruption and the distortion of government revenue was that corrupt governments found it was easier to collect bribes for some activities than for others. Tanzi and Davoodi (2002) examined the effect of corruption on government spending in 68 countries from 1980 to 1995 and found that corruption had a negative impact on government revenue.

b. Tax Revenue

The tax system was constructed by combining direct and indirect taxation. In this study, direct taxation was taken into consideration to support the study, as the researcher understood that it was the main contribution of the tax revenue of a country. Direct taxation was the tax that was collected by the government directly from income, property and capital gains. This meant if a person's income reached over a certain threshold, they might have to pay more tax; thus, tax revenue increased. In contrast, an indirect tax was applied to goods and services at the same rate regardless of income when consumers bought the same product or used the same service. Since the government expected to receive greater contributions from direct taxation, the share of direct tax could be considered a factor influencing corruption. Hindriks et al. (1999) found that when taxpayers lacked honesty, they tried to avoid their legal liabilities and evaded tax. For example, a person with a high income may not expect to pay all their personal income tax.

They might hide information about their real income by reporting a certain amount of income that went to a bank account, but the rest was received in cash. Friedman et al. (2000) found that corruption led to a fall in tax revenues. Similar results had been found by Johnson et al (1997), Schneider et al. (2010), and Cooray et al. (2017).

c. Growth of GDP per Capita

Another factor associated with economic growth was GDP per capita. Per capita GDP can be used as a control variable. According to the IMF, the association between the CPIs and economic development measured in real per capita GDP is -10 . This meant that the higher the level of corruption in a country, the lower the real per capita GDP. In a study that examined the relationship between democracy and corruption in 155 countries from 1998 to 2012, Jetter et al. (2015) revealed that income was a key factor influencing corruption levels. They also found that democracy only reduced corruption in countries where GDP per capita was approximately US\$2,000 (in 2005) or more. In countries that had lower levels of GDP per capita, the level of corruption was greater. In contrast, democracy was unlikely to influence corruption levels in high-income countries. There were many developing and underdeveloped countries where income levels could be considered a factor that led to corruption. When income levels did not meet people's basic needs, corruption might easily occur. People with low incomes may find ways to increase their budgets and thus find opportunities for corruption. Becker (1974) showed that high incomes met the needs of people and reduced levels of corruption.

d. Population

Some authors had observed a positive correlation between corruption and a country's size, measured by total population (Root 1999; Treisman 1999; Fisman and Gatti 2002). Conversely, Knack and Azfar (2003) conducted regressions for a larger sample of countries and observed that the relationship between corruption and population disappeared. In a study of 69 countries, Damania et al. (2004) showed that population density decreased corruption. Some studies concluded that higher trade intensity and small populations were associated with lower corruption levels. Depending on the data set chosen, it was easy to find, as Root (1999) and Fisman and Gatti (2002) did, a strong pattern indicating that smaller countries were less corrupt than larger ones. There was some evidence that there was a significant relationship

between corruption and the population size (Mauro 1995; Knack and Keefer 1995; Hall and Jones 1999).

e. Unemployment

The unemployment rate was taken into consideration as another control variable. Few studies had investigated the impact of unemployment on corruption. Since corruption mainly slowed down the growth of the economy and affected the productivity of many sectors in society, it could result in increasing the rate of unemployment. In addition, several empirical studies showed the relationship between corruption and income. Tanzi (1998) indicated that the wage level was one of the most critical drivers determining the level of corruption. He also showed the trade-off between two factors in which the higher the level of wages, the lower the level of corruption. However, high levels of corruption may be a result of the greed over the need of officials, and Tanzi identified that some officials were involved in corruption regardless of the level of their wages. Other researchers supported these results, such as Van Rijckeghen and Weder (1997) and Haque and Sahay (1996). They applied the same method, using cross-sectional data to support the studies. They also found that to control corruption, wages should be taken into consideration. In many countries, especially Organisation for Economic Co-operation and Development (OECD) countries, public officials received high salaries. Tanzi (1998) mentioned the example of Singapore, where the country aimed to reduce levels of corruption by paying high salaries to people in high positions in the public sector.

f. Economic Freedom

Another control variable was economic freedom. According to the Heritage Foundation (2017), this index measured the impact of state regulation on individuals and businesses in the economy of a country. The index ranged from 0 to 100, representing the lowest to the highest level of economic freedom. According to Schneider (2011), the level of corruption could be controlled by increasing economic freedom, based on the fact that individuals may have more freedom in doing business. Unofficial activities or red tape may occur less often if government interference can be reduced. Goel and Nelson (2005) studied the determinants of corruption in a large sample of countries by examining whether economic freedom or political freedom were factors that influenced corruption. They found that economic freedom yielded a less corrupt society. Some empirical researchers, such as Rose-Ackerman (1999) and Ahlefer and Vishny (1993), argued that political freedom may lead to a reduction in the level of corruption.

Shleifer and Vishny (1993) also showed that both economic and political freedom were principal factors in terms of controlling the level of corruption and that they supported each other. In their study, Goel and Nelson (2005) presented the view that economic freedom was more important than democracy. Singapore and China were found to have a greater level of economic freedom than political freedom, while India had a converse result.

g. Democracy

Several studies found that there was a significant relationship between democracy and corruption. Jetter et al. (2015) found that democracy reduced corruption but only in high-income countries that had a per capita income greater than US\$2,000, whereas corruption increased in lower-income countries. Andvig (2006) studied the relationship between corruption and democracy in transition economies and found that democracy increased corruption because people had more accessibility to public funds and positions in the public sector. However, democracy also decreased corruption due to an increase in competition over the use of public funds and government positions. Mohtadi and Roe (2003) found that corruption may first increase after democratisation but could decrease over time. Most of the empirical studies found that democracy reduced corruption, such as Iwasaki and Suzuki (2012), Billger and Goel (2009), Serra (2006), Chowdhury (2004), Sandholtz and Koetzle (2000) and Treisman (2000).

2.6.3 Governance Indicators and Corruption

According to the World Bank, there were six governance indicators related to corruption, including voice and accountability, political stability, government effectiveness, regulatory quality, the rule of law and corruption control. All these factors indicated that the socio-political and religious norms were very weak in developing countries and could affect the level of corruption (Delavallade 2005).

In terms of political stability and an absence of violence, several indicators measured the perceptions of the likelihood that a government in power might be destabilised or overthrown by possibly unconstitutional and violent means, including domestic violence and terrorism. The no violence index captured the idea that the quality of governance in a country was compromised by the likelihood of abrupt changes in government, which not only had a direct effect on the continuity of policies but also, at a deeper level, undermined the ability of all

citizens to peacefully select and replace those in power (Kaufmann et al. 2003). An interesting case was the United States, which registered a decline in the indicators of political stability and absence of violence, reflecting heightened concerns about terrorism in the aftermath of September 11, 2001 (Kaufmann et al. 2003).

The rule of law included several indicators that measured the extent to which agents had confidence in and abide by the rules of society. These include perceptions of the incidence of crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts. Together, these indicators measured society's success in developing an environment in which fair and predictable rules form the basis for economic and social interactions and, importantly, the extent to which property rights were protected (Kaufmann et al. 2003).

In broad terms, corruption and the rule of law were intricately linked, and there was good reason to believe that efforts to reduce corruption and strengthen the rule of law were mutually reinforcing. Corruption and the rule of law were highly correlated and often described as two dimensions within a broader concept of governance. Both were dependent upon reform at the highest level and shaped by broader societal and market dynamics (O'Donnell, 2006).

The final indicator, corruption control, measured perceptions of corruption, conventionally defined as the exercise of public power for private gain. Despite this clear focus, the particular aspect of corruption measured by the various sources differs somewhat, ranging from the frequency of 'additional payments to getting things done' to the effects of corruption on the business environment, to measuring 'grand corruption' in the political arena or in the tendency of elite forms to engage in 'state capture' (Kaufmann et al. 2003).

The argument in favour of a positive relationship between corruption and political stability was as follows: when a new party came to power, it might have an incentive to reform the corrupt practices of its predecessor (Geddes 1997). Leite and Weidmann (1999) found that corruption was high in unstable polities. In addition, Johnson et al. (1998) found that the unofficial economy accounted for a larger share of GDP when there was more corruption and when the rule of law was weaker. Aside from that, the corruption variable was initially set between -2.5 and 2.5 and reflected corruption control since its maximum value corresponds to the lowest corruption level (Delavallade 2005). As a further illustration, Zimbabwe was a country that had seen a statistically significant increase in the perception of corruption index over the period from 1996 to 2004, according to the World Bank Institute control of corruption

measure (Kaufmann et al. 2005). In a study of the causes of corruption, Tanzi (1998) revealed that transparency of rules, laws and processes helped reducing corruption. He used the example of New Zealand as a country where great efforts were made to make all accounts in the public sector more transparent.

2.7 Effects of Corruption

The idea that corruption was one of the main factors leading to poorer countries being poor had widespread acceptance. If a country's economic development was negatively affected, it influenced the rate at which GDP per capita grew (Mauro 1995; Paldam 2003). According to Buehn and Schneider (2009), corruption had a negative effect on GDP per capita. Their study applied a similar method to that used in this thesis, using equation models and secondary data collected in 51 countries over five years. Their results showed that higher levels of corruption led to lower real per capita GDP per capita and a lower growth rate.

Several studies had investigated the negative and positive impact of corruption on economic growth. Some showed that corruption was not a negative influence on the economy since, in some cases, it could promote growth (Tanzi 1998). Habib and Zurawicki (2002) found the same results that corruption was not a factor deterring FDI. The evidence from China, Brazil, Thailand and Mexico showed that these countries attracted a large amount of FDI even when the levels of corruption were high during the period under consideration. Many possible indicators influenced FDI besides corruption. Drabek and Payne (1999) studied the impact of several proxy variables of corruption on FDI. The results clearly indicated that there was a significant and negative impact of non-transparency variables on FDI. Habib and Zurawicki (2002) examined the relationship between corruption and FDI. Their study used the OLS regression model to test the relationship between corruption and FDI in several host countries. They found that there was a significant negative impact of corruption on FDI. Mauro (1995) showed that corruption reduced investment growth in general and FDI in particular. FDI was one of the most crucial factors in the development of an economy. Many countries faced the problem of a low level of investment from overseas. Foreign investors may not be interested in putting money into a project in a country with a high level of corruption. They may consider corruption as a risk factor to their business. For this reason, a vital part of the analysis included calculating the level of corruption and the effect it had on FDI. The relationship between

corruption and FDI was examined in both the low- to middle-income countries and the high-income countries in the ASEAN Plus Six.

Another aspect of economic development, which might be impacted by corruption, was public debt, which some might interpret as the outcome of unreasonable government expenditure. Numerous empirical studies showed the relationship between corruption and government expenditure, but few were concerned about the effects of corruption on public debt. Cooray and Schneider (2013) tested this relationship in 106 countries based on OSL regression models and running series data from 1996 to 2012. They found that corruption had a significant effect on public debt, which indicated that higher levels of corruption may lead to higher levels of public debt. Their study was one of very few that directly investigated the relationship between corruption and public debt. There was some evidence of a relationship between government expenditure and public debt. Bhatt (2010) presented results from a multivariate time series from 1980 to 2009 to study the relationship between productive government expenditure and debt to GDP ratio over the long run in India. His results found a significant inverse relationship. Several studies had examined the correlation between corruption and government expenditure. The results were broadly similar, which was a significant and negative relationship between the two variables. Tanzi and Davoodi (2002) examined this nexus in 68 countries over 15 years, finding that corruption increased public investment size, leading to higher spending on capital projects and reduced budgets for other projects. Since there was a relationship between corruption and government expenditure and government expenditure and public debt, it followed that corruption could affect public debt.

Tax revenue can also be affected by corruption. Tanzi and Davoodi's (1997) study showed that corruption reduced tax revenue. They also explained that the main reason was the impact of corruption on tax administration and customs. Thus, the government had less ability to allocate reasonable budgets to public expenditure. Gupta (2008) indicated that higher levels of corruption led to a higher tax evasion rate and thus lower tax revenue. There was also some empirical evidence showing the relationship between corruption and illegal activities. The higher level of corruption led to a higher level of hidden activities. Thus, the tax revenues tended to fall (Friedman et al. 2000). Mauro (1995) and other empirical researchers showed a significant and negative impact of corruption on government expenditure. Other studies showed that government spending influenced tax revenue. Sriyana (2009) studied the relationship between government expenditure and tax revenue in Indonesia from 1970 to 2007.

He found that the public budget deficit was raised continuously and resulted in threatened fiscal sustainability and tax revenue over the long term. Any study of the impact of corruption on economic development should, in light of this previous work, look at the effect it had on FDI, public debt and tax revenue, as well as the general growth of real GDP.

2.8 The Shadow Economy

Most past studies had used the CPI or other similar indexes to indicate the level of corruption. Less common was the use of indicators like the shadow economy as a proxy of corruption. The ‘shadow economy’ was a popular term but not easy to define. The shadow economy was understood in different ways, as the unofficial, underground, unobserved or hidden economy. Smith (1994, p.4) defined it as ‘market-based production of goods and services, whether legal or illegal that escapes detection in the official estimates of GDP’. According to Frige (1989), the shadow economy could include all economic activities and incomes that were not going through the tax system. Schneider and Klingmair’s (2004) research on shadow economies worldwide led them to develop Table 2.1 below, which helped illustrate the shadow economy.

Schneider (2014, p.228) narrowly identified the informal economy, which was:

- (1) to avoid payment of income, value-added, or other taxes;
- (2) to avoid payment of social security contributions;
- (3) to avoid having to meet certain legal labour market standards, such as minimum wages, maximum working hours, safety standards, etc., and
- (4) to avoid complying with certain administrative obligations, such as completing statistical questionnaires or other administrative forms.

Table 2.1. The Shadow Economy

Type of Activity	Monetary Transactions		Non-Monetary Transactions	
Illegal Activities	Trade with stolen goods; drug dealing and manufacturing; prostitution; gambling; smuggling; fraud; etc.		Barter of drugs, stolen goods, smuggling, etc. Produce or growing drugs for own use. Theft for own use	
	Tax Evasion	Tax Avoidance	Tax Evasion	Tax Avoidance
Legal Activities	Unreported Income from self-employment; wages, salaries, and assets from unreported work related to legal services and goods	Employee discounts, fringe benefits	Barter of legal services and goods	All do-it-yourself work and neighbour help

Source: Schneider and Klinglmair (2004)

The size of the shadow economy varies between countries. According to Schneider and Klinglmair (2004), among ASEAN countries, Thailand had the largest shadow economy in 2000 at 52.6 per cent of the official GDP, followed by the Philippines at 43.4 per cent. Singapore had the smallest size at 13.1 per cent. In OECD countries, New Zealand had a small-sized shadow economy at only 12.4 per cent in the 2002–2003 year, and Australia followed at 13.8 per cent. Based on the figures provided by Schneider and Klinglmair (2004), low-income countries tended to have a large size of the shadow economy, while high-income countries had a small size.

Many researchers had undertaken studies on corruption and the shadow economy. Both factors had been considered independently of each other. Only a few studies had examined the relationship between the two factors, and both factors were challenging to measure. Buehn and Schneider (2009) examined the nexus between the shadow economy and corruption and identified a positive relationship. However, the shadow economy had a more significant effect on corruption than corruption did on the shadow economy. More recent papers had studied the link between the unofficial economy and corruption in the public sector. Some showed that the shadow economy influenced corruption, while others showed the opposite result. Some authors, such as Johnson et al. (1997) and Shleifer and Vishny (1993), found that the shadow economy was a substitute for corruption, and there was a positive relationship. Conversely, other authors, such as Hindriks et al. (1999) and Choi and Thum (2005), found a complementary relationship between the two factors.

2.8.1 Causal Factors to the Shadow Economy

Empirical studies had identified several drivers of the shadow economy. Schneider and Klinglmair (2004) identified three leading causes: tax and social security contribution burdens, the intensity of regulations and public sector services. They explained that if the total cost of labour was high, while after-tax earnings from work were small, it created a gap that provided opportunities for shadow activities to occur. Schneider's (1994b, 2000) previous work on the shadow economy showed the same results: a significant and positive impact of the tax burden on the hidden economy. In another study, Johnson et al. (1998a, 1998b) showed that a high tax rate was not a cause of the shadow economy itself. However, the problems of government regulations and tax application were the underlying factors. Johnson et al. (1998b) found a significant difference in the effect of direct taxes on the size of the shadow economy. They also found that there was a positive relationship between the shadow economy and corporate tax burdens.

Schneider and Klinglmair (2004) identified the intensity of regulations as the second cause of the size of the shadow economy. The phrase 'intensity of regulations' could be understood to refer to license requirements, market regulations, trade barriers, fiscal regulations and labour restrictions. Johnson et al. (1998b) also found a significant impact of regulations on the shadow economy. They found that for every one per cent increased in regulation, there was an 8.1 per cent increase in the size of the shadow economy. Friedman et al. (1999) found that a one-point increase in the regulation index resulted in a 10 per cent increase in the size of the unofficial economy in 76 developing, transition and developed countries.

Schneider and Klinglmair (2004) considered that public sector services were another cause of the shadow economy. They explained that a higher tax rate was needed to have good quality and quantity of public sector goods and services. A higher tax rate may increase the size of the shadow economy. Johnson et al. (1998b) found a significant relationship between the two, but the level was different across countries. They stated that the OECD and some Eastern European countries had a good equilibrium of low tax and regulatory burdens and a small shadow economy. By contrast, developing and transition countries had a bad equilibrium, which had a consequence in the form of a large unofficial economy.

In one study of the informal economy, which included the informal labour economy, Schneider (2014) stated that self-employment and unemployment were two main factors that led to the

informal economy. In terms of unemployment, the informal labour economy could be controlled by government policy, while the government could only partly control self-employment. He also presented his findings that the informal labour force in developing countries was more substantial than the formal labour force. In another study of the shadow economy and the shadow economy labour force, Schneider (2014) found a negative relationship between the shadow economy and the shadow economy labour force in most countries. Hoyman (1987) investigated the proportion of females participating in the informal economy and found that they were involved either at the same or higher rate than men.

Berrittella (2015) examined the relationship between government expenditure on education and the size of the shadow economy. She found that there was a negative correlation between the two variables. The causes of the shadow economy were the subject of studies such as those conducted by Bovi and Dell'Anno (2009), Cicek and Elgin (2010), Dell'Anno and Schneider (2003) and Scheneider and Enste (2000). These studies showed that government expenditure correlated with the size of the shadow economy. The explanation for this relationship was that if public sector spending did not meet taxpayers' demands, they might search for alternative options involving unofficial activities.

Bayar (2016) studied the relationship between public governance and the shadow economy in 11 Central and Eastern European countries from 2003 to 2014. He found a negative relationship between the two variables, in that good governance performance negatively impacted the size of the unofficial economy. However, only limited research conducted examines the impact of the six governance indicators on the shadow economy.

Some studies had tested factors influencing corruption to see if they may influence the size of the shadow economy in selected countries. Nchor and Adamec (2015) used the MIMIC approach to investigate the causes and indicators of the shadow economy in four countries (Kenya, Namibia, Ghana and Nigeria). They found that GDP per capita was the main factor influencing the unofficial economy's size in Kenya and Namibia. Further, unemployment was a cause of the underground economy in Kenya and Namibia. Vo and Ly (2014) studied the shadow economy in ASEAN countries. They showed that the nexus between the unemployment rate and the shadow economy was ambiguous by applying the MIMIC approach. In a study of the world's shadow economy, Schneider used GDP per capita as a causal control variable and found that it had a negative and significant relationship with the size of the shadow economy. In contrast, the unemployment rate had a positive and significant

sign. Many researchers, including economists, had investigated the causes and indicators of the shadow economy. Previous studies had examined the shadow economy in Asian-Pacific countries or ASEAN nations. However, no study had specifically looked at the ASEAN Group Plus to figure out the gaps between these 15 nations.

2.8.2 Impact of the Shadow Economy

The size of the shadow economy can influence how the economy functions. Bajada and Schneider (2005) suggested the development of monetary indicators, the labour market or the production market may be the factors that reflected the size of the shadow economy. More cash may be used to avoid legal transactions if the size of the unofficial economy increased. In terms of the labour market, workers may be involved in the unofficial economy rather than the official one by taking shorter working hours at their workplace. Lower output of the production market may result. In the study of the relationship between the shadow economy and corruption in ASEAN, Vo and Ha (2016) showed that the money and labour markets were also factors influencing the size of the shadow economy. They also found that tax revenue and GDP growth per capita were other indicators of the underground economy. Buehn and Schneider (2009) also studied the relationship between corruption and the shadow economy. They identified three indicators of the hidden economy: the amount of cash in circulation, the GDP growth rate and the rate of labour force participation. Prinz and Beck (2012) found that the shadow economy influenced the level of public debt. Nikopour et al. (2009) indicated a relationship between the shadow economy and FDI.

a. Tax Revenue

Several empirical studies of shadow economies showed the correlation between the size of the shadow economy and tax revenue, as they were both causes and consequences of each other. Schneider and Klinglmair (2004) tested whether a decrease in the size of the shadow economy resulted in a significant increase in tax revenue and growth in the economy. Several empirical studies developed this hypothesis. According to the study of Buehn and Schneider (2011), the larger the shadow economy, the lower the tax revenue. Individuals or firms tended to extend the size of the shadow economy by avoiding detection, taxation and punishment by bribing bureaucrats. The study of Berger et al. (2013) found that the shadow economy was harmful, not only to the taxation system but to business competition also. The results showed that there was a significant and negative impact of the shadow economy on tax revenue. Tedika and

Mutascu (2013) looked at the issue in African countries and found the same results. In contrast, in a study about the size of the shadow economy in 110 countries, Schneider (2005a) stated that a consequence of the shadow economy was that it could lead to a decrease in government revenue, resulting in a negative impact on public provision of goods and services, which in turn could increase tax rates. Schneider (2005) also stated that if the shadow economy increased in size, the amount of tax revenue would decrease in the short term but grow in the long term.

Friedman et al. (2000) conducted a study about the impact of unofficial activities in 69 countries, evaluating series data for determining the size of unofficial economy, corruption and tax rates. They tested a hypothesis that higher tax rates (both direct and indirect) were associated with a larger unofficial economy. The empirical evidence demonstrated that the relationship between tax rates and the underground economy was reversed. In Duc and Vo's (2015) study about the relationship between corruption and the shadow economy, they argued that tax revenue was one of the most critical government measures to indicate an economy's productivity level. They used tax revenue as a proxy variable for studying the consequences of the shadow economy. They found that tax revenue had a negative and significant relationship with the size of the shadow economy.

b. The Growth Rate of GDP per Capita

Loayza (1996) conducted a study about the informal sector's economics in Latin America and found that with every one per cent increase in the size of the shadow economy, there was a 1.22 per cent decrease in the growth rate of real GDP per capita. Nchor and Adamec (2015) also presented similar results in their study of the unofficial economy in four African countries. They found that the underground economy had a significant negative relationship with the GDP per capita growth rate in Kenya, Namibia, Ghana and Nigeria.

c. Public Debt

In a study about the size of the underground economy and its impact on Greece's fiscal sector, Berger et al. (2014) found no rigorous estimation of the shadow economy in Greece. They also showed evidence that the shadow economy had a positive relationship with public debt, especially since Greece adopted the Euro. In a study examining the high public debt after the financial crisis in many European countries, especially in Greece, Prinz and Beck (2012) found

a positive and significant relationship between the size of the shadow economy and the public debt to GDP ratio. A larger unofficial economy may exhibit a larger debt to GDP ratio.

d. Foreign Direct Investment

Many researchers had raised concerns about the shadow economy and FDI since they both contributed to a country's economic development. Researchers considered the shadow economy an economic problem that may negatively affect a country's economic development. In contrast, researchers considered FDI to be a positive factor that helped increase an economy's growth. However, few studies examined the relationship between both factors together. Davidescu and Strat (2015) used Granger panel causality analysis to test whether FDI impacted the shadow economy or vice versa in Romania from 2000 to 2010. They found that there was a short run negative link between the shadow economy and FDI. They explained that FDI might be an economic factor that influenced the reform of the tax system. This change in the tax system may have led to a positive impact on fiscal regulations, which helped reduce Romania's tax evasion rate. In a study of FDI, Nikopour et al. (2012) studied whether the shadow economy was one factor influencing FDI in 145 countries by using the Granger panel causality test. They found that FDI negatively and significantly impacted the size of the shadow economy in selected countries.

There was a relationship between the two variables of the shadow economy and FDI. However, few studies had attempted to determine the influence of one factor on the other. There was no satisfactory evidence to conclude if the relationship between them was positive or negative. The close relationship between a country's level of corruption and the size of the shadow economy made it possible to use the latter as a proxy of the former. The idea of using the shadow economy as a proxy for corruption was new. However, it allowed for another indicator of corruption to be used besides the CPI.

2.9 Vietnam_ A Case Study

Based on the theories of corruption as presented in section 2.2, Vietnam was selected as a case study in this thesis for examining the causes and consequences of corruption in an individual country. The country was chosen for the following reasons. It was a big country in the region with nearly 95 million people (World Bank 2017). It played crucial economic and political roles not only in Southeast Asia but also in the world due to its geography. Besides, Vietnam

was a fast-growing country that the average growth of the GDP was about 6.3 per cent annually from 2010 to 2019 (World Bank, 2020), however, the country also had a high ranking of the level of corruption at 114/180 (average rate from 2010 to 2019) in the world based on the corruption perception index reported by the Transparency International (2020). The high level of corruption could be the reason for impeding the economic growth of the country. Lastly, there had been limited research about corruption in this country thus far (Bai et al., 2013; Tromme, 2016), that the study of causes and consequences of corruption in Vietnam in this thesis might contribute to the corruption literature of Vietnam.

In the study of the causes of corruption in Vietnam, Bai et al. (2013) had conducted a survey studying the correlation between firm growth and corruption in 13,000 Vietnamese firms in five years from 2006 to 2010. They found that the growth of firms, especially ones which had strong land rights and operated in multiple provinces, reduced the levels of corruption. On an opposite study, Nguyen and Dijk (2012) studied the impact of corruption on the growth of firms by conducting a survey among 741 private firms and 133 state-owned enterprises in 24 provinces in Vietnam in 2005. They found that corruption significantly impeded the growth of private firms but showed low levels of impact on the growth of state-owned ones. They also claimed that corruption might be the factor that reduced the economic growth in Vietnam. Nguyen et al. (2016) found the same results in the study of examining the impact of corruption on the economic growth in Vietnam in the period from 2000 to 2012. They found that the CPI score had a significant positive correlation with the GDP growth rate that if the score of CPI increased from 2.6 to 5.0, the average economic growth rate of Vietnam could be increased from 6.73 per cent to 7.22 per cent. This result indicated that corruption had undermined economic performance in this country.

Vian et al. (2012) studied the risk of corruption in the health sector in Vietnam and found that major problems in the health sector were informal payments (envelope payments), procurement corruption (corruption in the pharmaceutical supply system) and fraud in health insurance. They also indicated that although the government expenditure for health care as a percentage of GDP was high in Vietnam (7.1 per cent) compared with other countries in ASEAN such as Thailand (3.7 per cent), Malaysia (4.4 per cent) and China (4.3 per cent) in 2007, however, out-of-pocket spending took a large proportion of the budget (Vian et al. 2012). They claimed that to control corruption in Vietnam, the government should strengthen enforcement and monitoring its anti-corruption law. Tromme (2016) reviewed the empirical

studies of corruption and Vietnam and indicated that corruption had increased since Doi Moi (the period of economic reform in 1986) due to rapid economic growth but weak governance. He pointed out that marketisation, internationalisation and decentralisation provided opportunities for corruption increased by exchanging bribery for rents.

Gueorguiev and Malesky (2011) studied the correlation between foreign direct investment (FDI) and corruption in Vietnam. They found corruption happened in the process of registration and procurement procedures but did not have a direct association with FDI inflows. Kim (2019) also studied the correlation between FDI and corruption at provincial levels in Vietnam and found that FDI promoted to control of corruption but also hampered it. The former one had been explained that FDI provided resources and incentives to improve governance in provinces that won the projects. However, the leaders of those provinces then used their power to seek and pursue rents. Based on limited empirical research examining corruption in Vietnam, it can be seen that there was a big research gap in determining the causes and consequences of corruption in this country. To understand the corruption in Vietnam, the background of Vietnam and the literature on corruption in Vietnam were presented more in detail in the following chapters, chapters three and four.

2.10 Conclusion

Numerous studies had investigated the causes and consequences of corruption. Some were conducted similarly to the approach used in this thesis and examined the relationship between corruption and government expenditure and governance indicators. However, much research had focused on the impact of corruption on government expenditure, but not the reverse. The studies had focused on either the effect of government expenditure on corruption or the governance indicators of corruption. In contrast, this thesis studied a combination of the effect of government expenditure and governance indicators on corruption.

Voluminous published works examined the existing relationship between government expenditure, governance indicators and corruption, as reviewed in the main body of the chapter. Some studies revealed a positive relationship between them, but some showed a negative relationship. Other studies showed the absence of a relationship between government expenditure, governance indicators and corruption. Government revenue, GDP per capita, population, unemployment rate, and economic freedom were used as control variables in this study to support the results and address some of the gaps in past research.

The shadow economy had been the subject of studies as a factor that related to levels of corruption. This thesis used the shadow economy as a proxy variable for corruption to extend on previous approaches. It also examined the factors that can influence corruption levels (such as government expenditure, governance indicators and other control variables) to establish if they also affected the shadow economy. Other indicators of corruption and the shadow economy (such as tax revenue, GDP per capita growth, public debt and FDI) were also examined.

Many studies had investigated the relationship between the shadow economy and corruption, particularly whether they were substitutes for or complements to each other. In this study, the CPI and the SE were included in the regression models to test the extent to which they influenced corruption. This process broadened the verification of previous research undertaken on both the leading causes of corruption and its impact on economic development.

In light of the past work undertaken on corruption and economic development, it was clear that there was still scope for additional work to clarify the nature of the relationship between the two. In the context of this thesis, it was important to see how corruption impacted more specifically on the ASEAN countries, especially Vietnam and its economic development, and to understand how the country's social, economic and cultural conditions related to the issues surrounding corruption. Besides, there was limited research of the causes and consequences of corruption in Vietnam being conducted. Related to these conditions was the work conducted by Vietnamese researchers who had studied this phenomenon. The following chapters (chapters three and four) provided further literature on the background of Vietnam as well as its corruption status that was to discuss the importance of selecting Vietnam as a case study in this study.

CHAPTER 3_ THE BACKGROUND OF VIETNAM

3.1 Introduction

This study presented Vietnam as a case study. Vietnam was chosen based on its characteristics as a fast-developing country in Southeast Asia with a high level of corruption (Transparency International, 2019). It played important role in economic and political terms in the region as well as in the world. A large population of more than 90 million people may be a factor influencing the level of corruption in Vietnam (World Bank, 2019). To allow a better understanding of the problems of corruption in Vietnam and other ASEAN countries, this chapter first provided an overview of economic development in Vietnam and its social and political conditions. Vietnam's historical development was presented through a succession of phases to outline the development of economic growth.

The first section began with Vietnam's geography—one of the critical factors providing opportunities for economic development (Vietnam Logistics, 2017). The character of the Vietnamese people was discussed in this section, as it was associated with the issue of the labour force, unemployment rate, incomes and democracy in the country. These social and political issues may be linked to the corruption problem in Vietnam.

The background of Vietnam's economy was presented in different periods. The turning point in 1986 was discussed in more detail because it was a time of reform, not only in the economy but also in the politics of Vietnam. Some achievements of Vietnam's economy post-1986, such as economic growth, reduced inflation, international integration, foreign trade, and the attraction of FDI were discussed in the following section.

An overview of Vietnam's political system was presented later in this chapter to provide a better understanding of the roles, functions and operations of the Communist Party of Vietnam, the one-party system and other political organisations and state-owned enterprises (SOEs). The political system of Vietnam had some similarities with other systems in other ASEAN countries, from the highest level (state) to the lowest level (community). At the end of the chapter, some conclusions were provided in the context of the main research focus of this thesis. Providing this description of the economic and social development of Vietnam demonstrated how corruption had developed in Vietnam in its national context.

3.2 Vietnam's Geography: An Important Location

The geography of the Socialist Republic of Vietnam played a vital role in the political and economic development of the country. Vietnam is located on the Indochinese Peninsula in Southeast Asia. Vietnam's territory (including the disputed Hoang Sa Islands and Truong Sa Islands) has an S-shape and runs from north to south for 1,650 kilometres.² Its area is 33,688 square kilometres, including about 327,480 square kilometres of land and more than 4,200 square kilometres of sea. Along the coastline (3,260km) in the east, Vietnam adjoins the Gulf of Tonkin, the South China Sea and the Gulf of Thailand. It has a border with China (1,281 km) in the north and with Laos (2,130 km) and Cambodia (1,228 km) to the west (Government Portal, 2017).

This geography had important locational influences in terms of the economy because the sea territory was rich in natural resources, including fishing grounds,³ minerals⁴ and petroleum.⁵ In addition, Vietnam was located right next to the South China Sea, an important commercial 'bridge' on the world's maritime map that was one of the ten largest maritime routes in the world (Vietnam Logistics, 2017). Regarding strategic geographic location, security, maritime traffic and the economy, the South China Sea was very important to many countries in Asia and globally. Each year, the United States had 90 per cent of its domestic and allied cargo transported through the South China Sea, and 70 per cent of imported oil and 45 per cent of exports from Japan. About 60 per cent of the volume of Chinese imports and exports were transported by this route. In particular, Singapore's economy was vitally dependent on the South China Sea (Vietnam Logistics 2017). It could be seen that Vietnam was located in one of the most dynamic economic regions of the world. This position had provided opportunities for Vietnam to develop its infrastructure and logistics service networks for domestic trade as well as for other neighbouring countries.

²Hoang Sa Islands and Truong Sa Islands are also known as the Paracel Islands and the Spratly Islands, respectively.

³There are more than 2,000 types of fishes that feed millions of people.

⁴There are precious minerals such as tin, titanium, diatom, quartz, aluminium, iron, manganese, copper, nickel and other rare resources.

⁵Vietnam's sea area is more than 1 million square kilometres, of which 500,000 square kilometres has oil prospects. Offshore oil reserves in South Vietnam could account for 25 per cent of the oil reserves under the seabed. It can be exploited for 30–40 thousand barrels per day (about 159 litres per barrel). The estimated oil and gas reserves of the whole continental shelf of Vietnam are about 10 billion tons of oil. Vietnam also has gas reserves of about three trillion cubic metres per year (Vietnam Logistics 2017).

Figure 3.1. Map of Vietnam



Source: Atlas of Vietnam (2017)

As an important geographic location in the region, Vietnam was the land bridge between the largest part of mainland Asia and Europe with Southeast Asia. The Hoang Sa and Truong Sa Islands were positioned on the convenient corridor of the sea, with about 50 per cent of the world's goods flowing through this sea region. Along with the other conditions, such as its abundant resources and large population, Vietnam could be considered one of the most important geopolitical countries in the region and the wider world (Ha 2015).

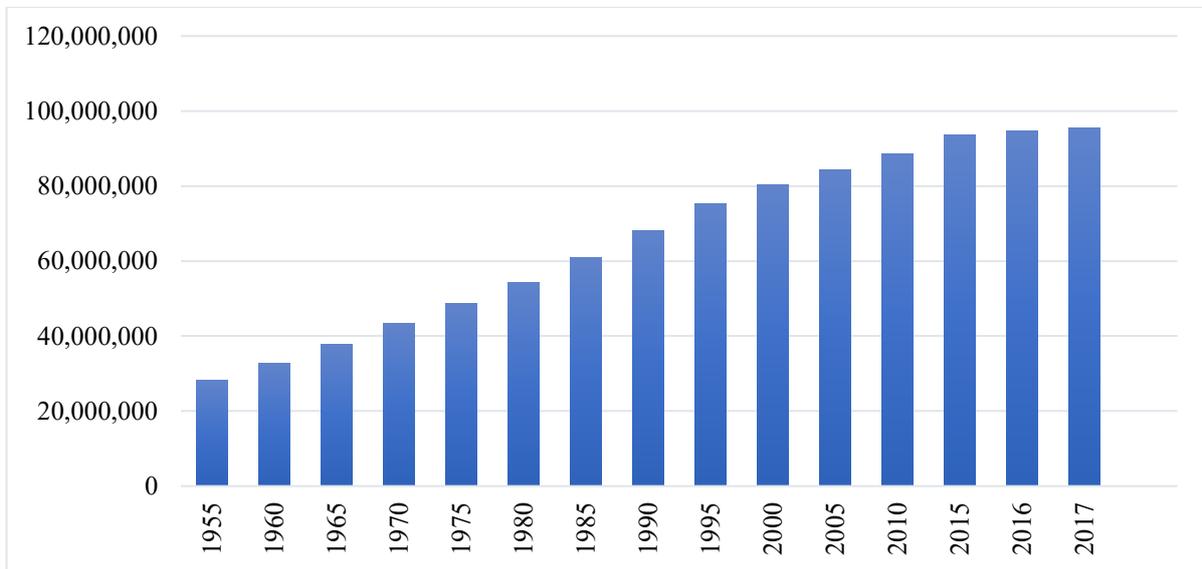
At present, many powerful countries paid great attention to the South China Sea and considered this region as a 'core interest' to them. The South China Sea had become one of the biggest points of conflict between these nations. Throughout the twentieth century, many developed nations recognised the importance of the geopolitical position of Vietnam, and many established friendly relationships and bilateral cooperation with it. However, this was

also a factor that contributed to Vietnam having to confront a number of aggressive wars, and it took time for the country to recover afterwards (Ha 2015).

3.3 The Population of Vietnam

Vietnam had a population of more than 96 million people (World Bank, 217). The population increased by about one million people every year and was predicted to reach 100 million people by 2025 (Worldometers 2017). According to Bao Moi (2017), Vietnam had the third-largest population in Southeast Asia after Indonesia and the Philippines. Figure 3.2 presented the trend of the population in Vietnam from 1955 to 2017.

Figure 3.2. Vietnam’s population



Source: Worldometers (2017)

Along with a growing population, Vietnam was facing the problems of age structure and gender imbalance in society. According to the General Department of Population and Family Planning (2016), the number of boys was greater than girls; there were 112.2 boys to every 100 girls. Both the imbalance in gender and the age structure might lead to social problems, especially in the labour force, in terms of production efficiency and economic growth (Bloom et al. 2011).

Table 3.1. Distribution of Labour Force in Vietnam in Q1/2017

	Total		Male		Female	
	People (m)	Ratio %	People (m)	Ratio %	People (m)	Ratio %
15 years of age and above	54.5	100	28	51.4	26.5	48.6
15 years of age and above distribution in urban areas	18.1	33.2				
15 years of age and above distribution in rural areas	36.4	66.8				
Labour force in working age	47.9	100	25.8	53.9	22.1	46.1
Working-age distribution in urban areas	16.3	34				
Working-age distribution in rural areas	31.6	66				
Unemployment rate		2.3				

Source: General Statistics, 2017

Table 3.1 showed the gender distribution and age structure in the labour market in the first quarter of 2017. The imbalance in sexes might be one of the reasons for the higher rate of male participation in the labour force compared to females. According to the General Statistics Office (2017), the unemployment rate in the first quarter of 2017 was 2.3 per cent, which was higher than in the same period in 2016. The unemployment rate had been slightly decreasing. Although the average monthly income of workers had been increasing (General Statistics Office 2017), the unemployment rate was one of the most important social concerns since it had a direct and indirect impact on society, which was discussed later in the next chapter.

3.4 Vietnam's Economy

Vietnam's economic development since unification could be summarised in two phases: from 1975 to 1986 and from 1986 to the present. Before 1986, the Vietnamese economy was a command economy consisting of only SOEs. There was no private economy and no free trade in the market during this period. The labour force worked for the government and received payments equally. The year 1986 was an important one for Vietnam, marking a significant transition from a command economy to a market economy. This period was called 'Doi Moi'. The inadequacies of the command economy led the National Party Congress to decide that Vietnam needed to change from a closed to open market economy to expand international economic exchanges and cooperation. According to Mac Lam (2010), Vietnam's economy from 1975 to the present can be synthesised that 'the first 10 years was a time of economic crisis, the next 10 years was a time for renovation and transition, and the years forth was a

time for development by integrating into the global economic market'. This section in the thesis briefly provided an overview of Vietnam's economy through the phases of command, transition, and development.

3.4.1 The Command Economy: 1975–1986

After nearly a century of fighting France and the United States, and some other internal wars, on 30 April 1975, Vietnam was completely unified. It was officially named the Socialist Republic of Vietnam. In the same year, the South completely merged with the North and both economies combined in a unique situation. At that time, the North was exhausted after decades of war, while the South had nearly collapsed (Mac Lam 2010).

Vietnam's economy was exhausted with facilities, infrastructure, roads and factories destroyed in the North, while the fields could not be cultivated in the South. Bombs and toxic substances had been dropped during the wars (Mac Lam 2010). Vietnam's economy relied heavily on agriculture, but this had been devastated. Although the North and the South were merged after 1975, the different economic systems of the two parts, combined with the initial post-war turbulence socially, significantly affected the economy. Foreign affairs did not help. In accordance with the United States' policy of embargo on Vietnam, many Western countries were cautious about developing relations with Vietnam. Vietnam still maintained contact with the Soviet Union, Eastern Europe and China. During the post-1975 period, the economy was precarious, falling into a crisis in the late 1970s and early 1980s (Mac Lam 2010).

In the early years after 1975, three-digit inflation occurred. This did not make the new administration anxious initially because no one in the government admitted that inflation existed in the socialist economy. Nobody dared to take the issue seriously or to analyse and discuss it publicly. During this period, stamps played an important role in the economy, so even if people had money, without stamps, they were not allowed to purchase goods. Southern people found it difficult to become accustomed to the regime's food stamps system. The Vietnamese currency was depreciated, and worker salaries were sometimes paid by goods instead of cash. If the wages in 1978 were taken as the baseline, they were valued at only 51.1 per cent of this in 1984. The free market was restricted under the command economy, and the low volume of goods traded on the black market was expensive in price (Mac Lam 2010).

Farmers were most severely affected because their agricultural products could not be sold at reasonable prices. The state purchased all products at low prices not commensurate with the effort that farmers spent in their fields. Vietnam's economy relied mainly on the agriculture sector, but it did not produce sufficient rice. Rice had to be mixed with other agricultural products, such as corn, cassava, sweet potatoes and other products that were feed for cattle. The poverty rate was high during this period. Vietnam's economy was challenged during the wars and became worse after unification. In 1986, the state administration made the decision to establish a new exchange currency. However, this had an impact on the inflation rate, which had become a serious social concern. Economic planners viewed the currency swap as a powerful weapon against inflation. They also assumed that the purchasing power of the new currency may be greater than ten times the current ones; however, the volume of the Vietnamese currency fell sharply. Within three months of swapping the currency, excessive inflation again occurred. It rose to a very high point from two digits to three digits over two years (Beresford 2003). Over a decade of being in crisis, Vietnam's economy was reformed by restructuring and shifting towards a market economy.

3.4.2 Doi Moi (Reform) 1986 to the Present

The sixth Congress of the Communist Party of Vietnam took place in Hanoi in 1986 and decided to undertake a Reform period (or Doi Moi), creating a turning point for Vietnam's economy. The orientation towards a market economy was clearer and more coherent and was reflected in many specific undertakings, including the abolition of bureaucratic subsidies in both social life and production, changes to the distribution of resources, autonomy for SOEs to account for business, and overcoming the status of 'false profits—real losses'.⁶ The limitations placed on business by regulations in the domestic market were eliminated, and international integration with overseas markets was initiated. Pham and Vuong (2009) indicated that from 1986, the state started opening up in the sense that it allowed individuals to go abroad to work and study, goods could be traded across the territory borders, and the United States dollar (USD) was introduced for use in the market (these activities had been prohibited before Doi Moi). The centrally planned economic system was loosened, but some

⁶'False profit—real losses' happens when the inflation rate is high, for example: an investor spends 10 thousand dollars for buying goods for business, after one business term he gets 11 thousand dollars back, the gross profit is 1 thousand dollars, however, it is merely nominal interest. Because of the inflation, he can no longer buy the same products (same amount, type, model and quality) at the same price because the price has increased to 12 thousand dollars in total. Thus, in this case, the investor loses 1 thousand dollars but does not gain 1 thousand as he thought.

principles remained. For example, the state retained monopolised control over banks, import-export activities, the prices of products and the exchange rate.

In 1989, based on the decision of the Sixth Party Congress and Resolution 6th of the Politburo, the government issued numerous important edicts, such as the abolition of the system of ordinance norms; granted full autonomy to business enterprises; waived the right to distribute and reallocate resources to the market; introduced ‘commercialisation’ production, which meant the state allowed a number of large enterprises to directly import and export products; and liberalised the price system. The exchange rate between the Vietnamese Dong and the US dollar was adjusted several times to match the then-current exchange rate in the market. In addition, the state abolished food subsidies that year.

The government system experienced significant changes through the reduction of the management apparatus and the number of state enterprises in the country. Doi Moi shifted the economy to a more homogeneous structure, which was the market economy. From mid-1989, the disorder of prices and the distribution process was ended, inflation was reduced (from 308 per cent in 1988 to 36 per cent in 1990 according to the World Bank [1994]), and the economy stabilised. A market-based financial system was prepared to operate a year later.

3.4.3 Achievements Post-Doi Moi

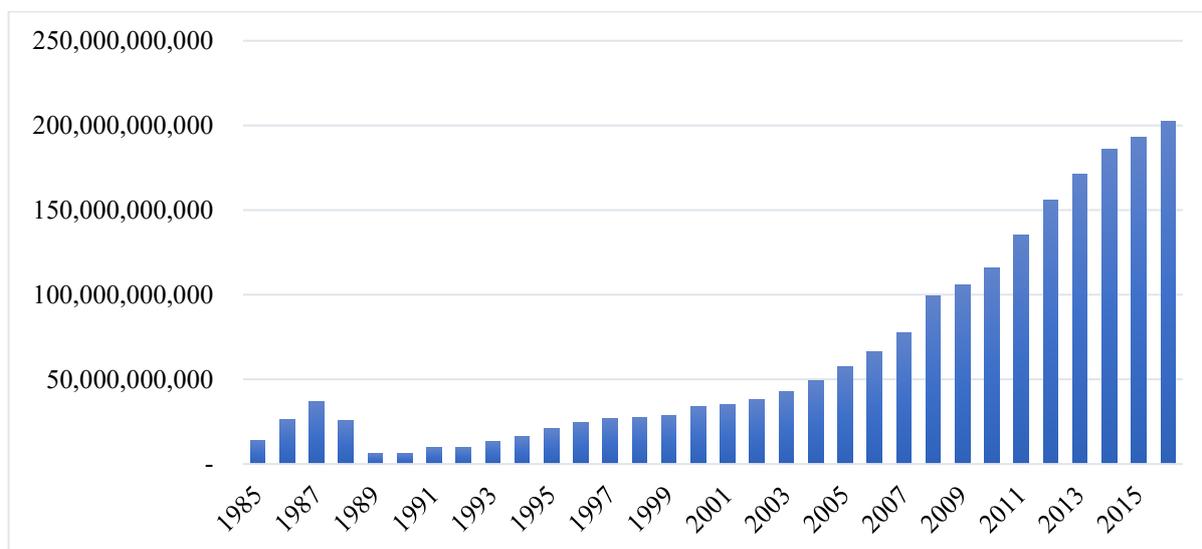
The most important achievement after Doi Moi was the change in people’s living conditions in the country. GDP per capita increased from US\$202 in 1986 to more than US\$400 in 2001. By the end of 2008, Vietnam officially left the list of low-income countries in the world in that GDP per capita rose above US\$1,000 (GSO 2008). In the same year, the statistical data showed that the economic growth increased significantly, inflation reduced, foreign trade expanded in volume, and FDI increased.

a. Economic Growth

According to Perkins (1997) and Sachs and Woo (1994), in 1986, the Doi Moi was described as a ‘big bang’ to the Vietnamese economy. The achievement in terms of economic growth could be seen based on the figures for GDP and GDP per capita. Figure 3.3 showed the growth of Vietnam’s economy from 1986 to the present. At the beginning of the post-Doi Moi period from 1986–1990, the economy suffered from periodic crises and a high rate of inflation; however, it initially achieved GDP growth of 4.4 per cent per year. In the period 1991–1995,

the average GDP growth rate was 8.2 per cent per year. In 1996–2000, despite the impact of the regional financial crisis⁷ and serious natural disasters, the GDP growth rate was maintained at about seven per cent per year. The growth rate was 7.6 per cent per annum from 2001 to 2010 and reached about six per cent per year from 2011 to 2017. The growth rate has slowed down during recent years; however, it remains high compared with other countries in the region (see Figure 3.4). It can be seen that generally, for the whole period, the annual GDP growth rate averaged nearly 7 per cent (Vuong 2016).

Figure 3.3. Vietnam’s GDP (US\$), 1986 to 2016



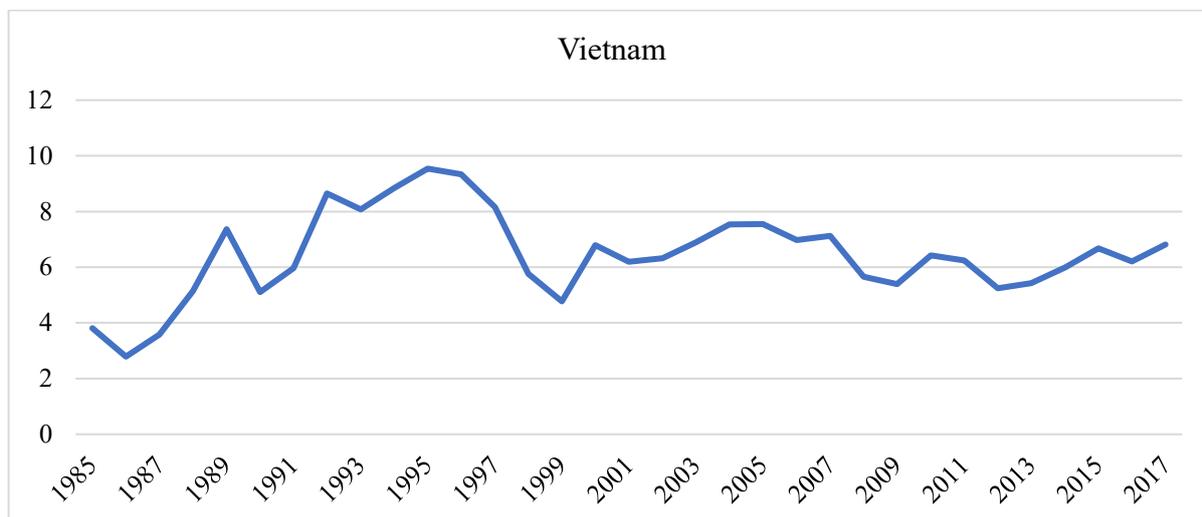
Source: World Bank (2017)

After more than a quarter of a century, Vietnam had moved to stand at the top of Asia in terms of economic growth. It was also one of the most attractive destinations for foreign investors. It had become the second-fastest growing economy in Asia, behind China. In addition, another achievement of Vietnam’s economy was the change of economic structure; that was, it no longer relied mainly on the agriculture sector. The contribution of agriculture to the country’s GDP had dropped from 40 per cent to 20 per cent after 15 years of the reform (Breu and Dobbs 2012). The shift of economic structure from agriculture to industry and services had contributed to the development of Vietnam. Although the agriculture sector had shrunken relative to other sectors, Vietnam still ranked at the top of the world in exporting various agricultural products such as pepper, cashew nuts, coffee and rice. In 2010, Vietnam provided

⁷The regional financial crisis or the Asian Monetary Crisis started in July 1997 in Thailand, then spread not only to countries in Asia but also around the globe. Indonesia, Korea and Thailand were the countries that were the most effected by the crisis, while Vietnam, Taiwan, mainland China and Singapore were also influenced (Dullien et al. 2010).

more than 100,000 tons of spices to the world and became the second-biggest exporter of rice and coffee. In addition, Vietnam ranked fifth in exporting tea and sixth in seafood (Breu and Dobbs 2012).

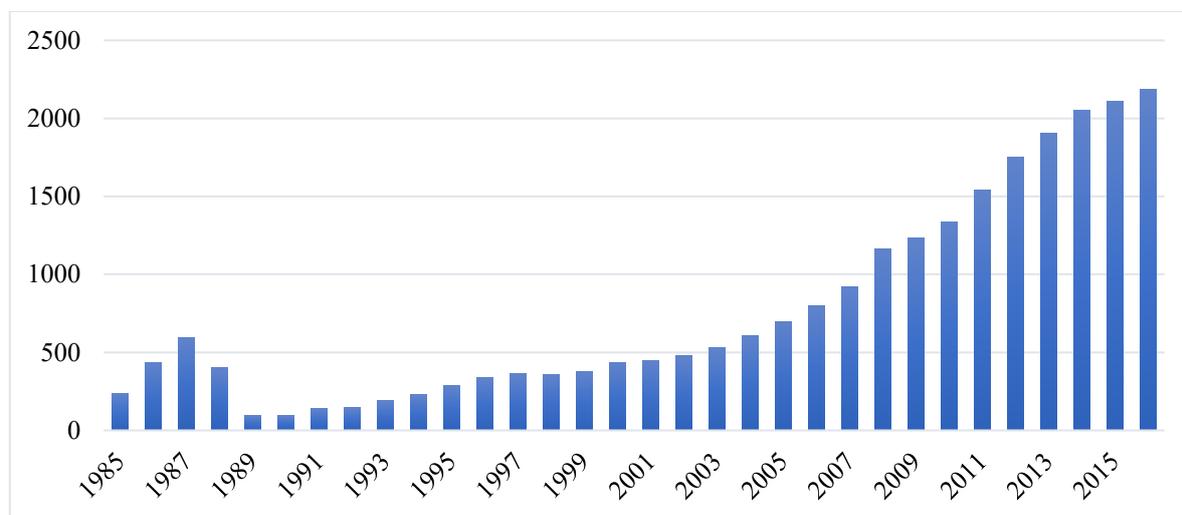
Figure 3.4. Vietnam’s GDP Growth (annual %)



Source: The World Bank (2017)

The GDP per capita in Vietnam also performed well from Doi Moi to the present, which can be seen by an upward trend shown in Figure 3.5. Since the reform, Vietnam had grown quickly and moved from the list of the poorest countries in the world to a middle-income country in 2008. GDP per capita was about US\$240 in 1985 and rose to ten times greater in 2016 at about US\$2,200 (World Bank 2017).

Figure 3.5. Vietnam’s GDP per Capita (current US\$)



Source: The World Bank, 2017

b. Inflation

The trend of the inflation rate of Vietnam was presented in Table 3.2. From the macro-economic view, some main points needed to be mentioned about Vietnam's inflation, such as the period of 1986–1992 (excessive rate), 1998 (Asia Financial Crisis), 2008 (Global Financial Crisis) and present. The period from 1986 to 1992 was a time of hyperinflation, with the inflation rate jumping to its peak point of 453.5 per cent in 1986 (the World Bank 2017). The main reason for this high rate was the adjustment in monetary policy. The state decided to swap the currency, which created a surplus of cash in the market, consequently increasing the price of goods. To stabilise the economy and control inflation, the government applied various policies. One of the most effective solutions was to increase the interest rate for deposit money to 20 per cent per month (compared with four to five per cent previously), equivalent to 240 per cent per year. Within six months of implementing this policy, the State Bank had collected much available cash from the market. The loan interest rate was only 10 per cent annum at this time, which was a half lower than the deposit rate. This encouraged people to deposit their cash in the bank with high-interest rates and borrow money from banks at lower interest rates for doing business. In addition, the government also encouraged exports by having a low currency exchange rate and imports at low tax rates. These policies helped reduce the inflation rate, and it suddenly dropped from three digits to two digits at 36 per cent in 1990, turned back to 81.8 per cent in 1991, and then dropped again to 37.7 per cent in 1992 (Bui 2008).

From 1993 to 2003, inflation remained high but less severe compared to the previous period. It can be seen that the inflation rate had been well controlled at a one-digit level (except the year 1995 when the rate was at 16.9 per cent). In 1998, many countries in Asia suffered from the financial crisis; however, Vietnam was less influenced by it. From 1998, the deflation in Vietnam can be observed through the continuous decline in the CPI, it was even -1.8 and -0.3 in 2000 and 2001, respectively. This was due to the economic downturn and production stagnation; however, the GDP growth rate rose 6.3 per cent in 2002 had helped the inflation rate to return to a positive level of 4.1 per cent (Pham and Vuong 2009).

Table 3.2. Inflation Rate (Consumer Price Index %) in Vietnam from 1986 to 2016

Year	Value	Year	Value
1986	453.5	2001	-0.3
1987	360.4	2002	4.1
1988	374.4	2003	3.3
1989	95.8	2004	7.9
1990	36.0	2005	8.4
1991	81.8	2006	7.5
1992	37.7	2007	8.3
1993	8.4	2008	23.1
1994	9.5	2009	6.7
1995	16.9	2010	9
1996	5.6	2011	18.1
1997	3.1	2012	9.1
1998	8.1	2013	6.6
1999	4.1	2014	4.1
2000	-1.8	2015	0.9
		2016	2.8

Source: IMF (2017)

It can be seen from Table 3.2 that from 2004 to 2011, inflation in Vietnam was maintained at a high level. In the first three years of this period, inflation rose sharply compared to the previous period at 7.9 per cent in 2004, 8.4 per cent in 2005, and 7.5 per cent in 2006. The Global Financial Crisis in 2007 impacted Vietnam's economy. Hence, inflation had risen and was difficult to control in 2007 and 2008. The Consumer Price Index soared from 8.3 per cent in 2007 to 23.1 per cent in 2008. This situation can be explained by the impact of the financial crisis, the devaluation of the US dollar, increasing crude oil prices, rising prices of food and fuel, as well as the impact of natural disasters and epidemics on Vietnam. By a great effort, the government stabilised inflation and took it back to 6.7 per cent in 2009; however, the Consumer Price Index increased rapidly in the following years to 11.8 per cent in 2010 and 18.1 per cent in 2011. The high rate of inflation in 2010 and 2011 can be explained by the government issuing a stimulus package for the economy after the crisis (Tai Chinh 2017). From 2012 to the present, the inflation rate had been subdued based on some drastic policies implemented by the government (monetary and fiscal policies). The Consumer Price Index fell sharply from 18.1 per cent in 2011 to 6.8 in 2012, 6.0 per cent in 2013, 1.8 per cent in 2014 and 0.6 per cent in 2015.

In general, some key features of inflation in Vietnam may possibly be drawn out. A high GDP growth rate was associated with high inflation and macroeconomic instability. In addition, Vietnam's inflation was increasingly dependent on world inflation. The openness of Vietnam's economy was among the highest in the world, with a total import-export turnover of about 180 per cent of GDP. That was why most of the fluctuations in commodity prices in the world market were largely transferred into Vietnam through importation (Tai Chinh 2017).

c. International Economic Integration

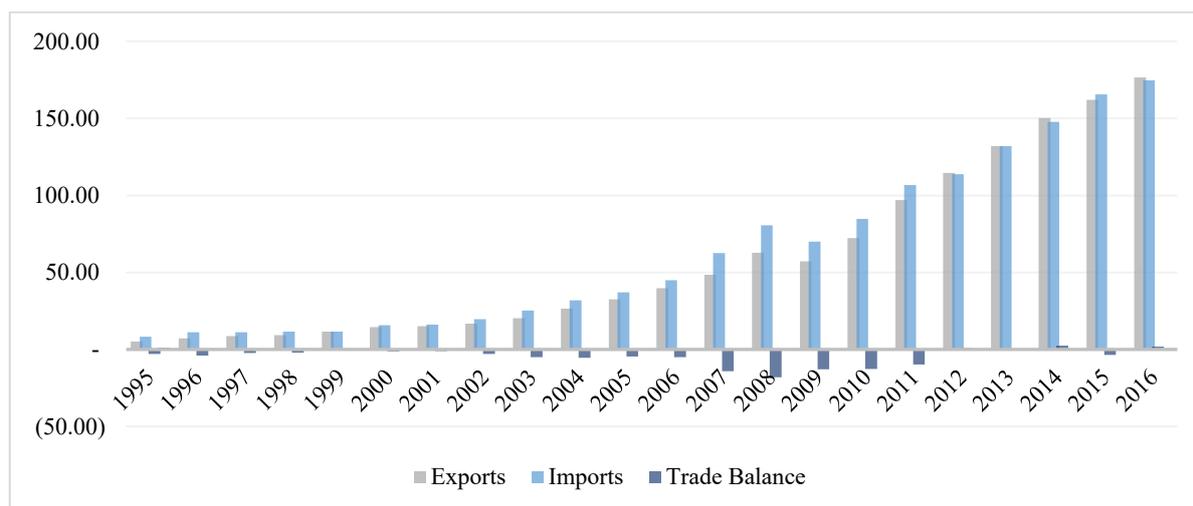
Since 1986, the Communist Party of Vietnam had had international economic integration as a major target, intending to boost overseas trading flows and attract FDI. Since Doi Moi, the strategy of opening the domestic market to the world had led to Vietnam becoming a member of various organisations as well as taking part in various international trading agreements. A number of important milestones had occurred on the journey towards the international economic integration of Vietnam, according to the report of the Central Institute for Economic Management (CIEM 2010). One of the most important milestones was that the country became a member of ASEAN in 1995. This involved agreements on trade liberalisation, eliminating tariffs on almost all types of products and member countries in the ASEAN economic community and setting free the movement of commodities, services, investments, capital and skilled labour (CIEM 2010).

Since 1996, Vietnam has implemented the Common Effective Preferential Tariff Agreement within the ASEAN Free Trade Area. This agreement was implemented between ASEAN member countries and had helped to reduce tariffs to 0 to 5 per cent, based on various tariff reduction plans. In the final year, five years after the 1996 agreement, the member countries removed import quotas and other non-tariff barriers (Hoang 2003). In 2007, Vietnam officially became a member of the World Trade Organization (WTO). Vietnam had agreed to numerous important commitments to participate in the WTO, bringing great benefits to the country regarding economic growth, attracting FDI, strengthening domestic markets, and the consistent and transparent rule of law (CIEM 2010). In addition, up until 2016, Vietnam had signed 12 free trade agreements with 56 countries in the world. Vietnam had signed a free trade agreement between Vietnam and the EU, as well as another agreement called the Trans-Pacific Partnership. These agreements may give Vietnam more opportunities in growing imports and exports, attracting more FDI and further boosting economic growth (Nguyen, 2016).

d. Foreign Trade

Since joining the WTO, Vietnam's foreign trade had grown substantially. Total trade increased from US\$85 billion in 2006 to US\$351 billion in 2016. Figure 3.6 showed that there was a deficit of US\$3.54 billion in 2015, but a surplus of US\$1.78 billion in 2016.

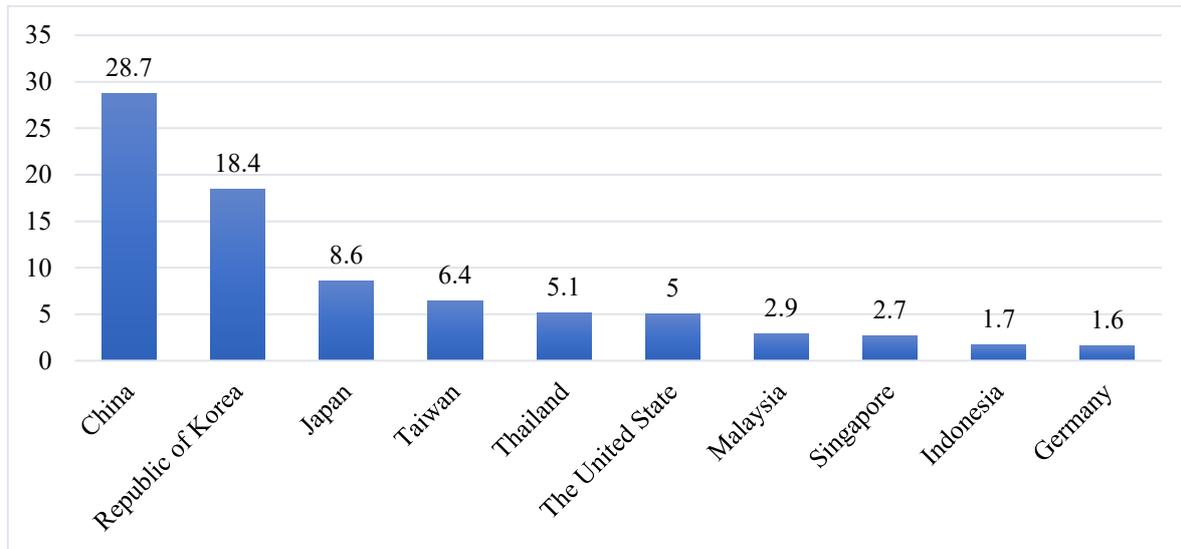
Figure 3.6. Vietnam's foreign trade (US\$ billion), 1995 to 2016



Source: Vietnam Custom, 2017

According to Vietnam Custom (2017) statistics, there were 22 major trading exporting and 22 importing nations. The top ten trading partners with their trading value with Vietnam were presented in Figure 3.7 and Figure 3.8 below. China was one of Vietnam's largest trading partners. In 2016, for the first time in nearly ten years, it became the highest growth exporter with the share in a total of US\$21.97 billion, which increased by 28.4 per cent compared to 2015, followed by the United States and the Republic of Korea at 14.9 per cent and 28.0 per cent, respectively. The United States was the biggest export market of Vietnam with a turnover in 2016 was US\$38.46 billion, and followed by China (US\$21.97 billion), Japan (US\$14.68 billion), and the Republic of Korea (US\$11.42 billion). The Republic of Korea was the country that had the highest growth rate in merchandise trade with Vietnam in 2016 (Vietnam Customs 2017).

Figure 3.7. Vietnam's top 10 Import Markets in 2016 (%)

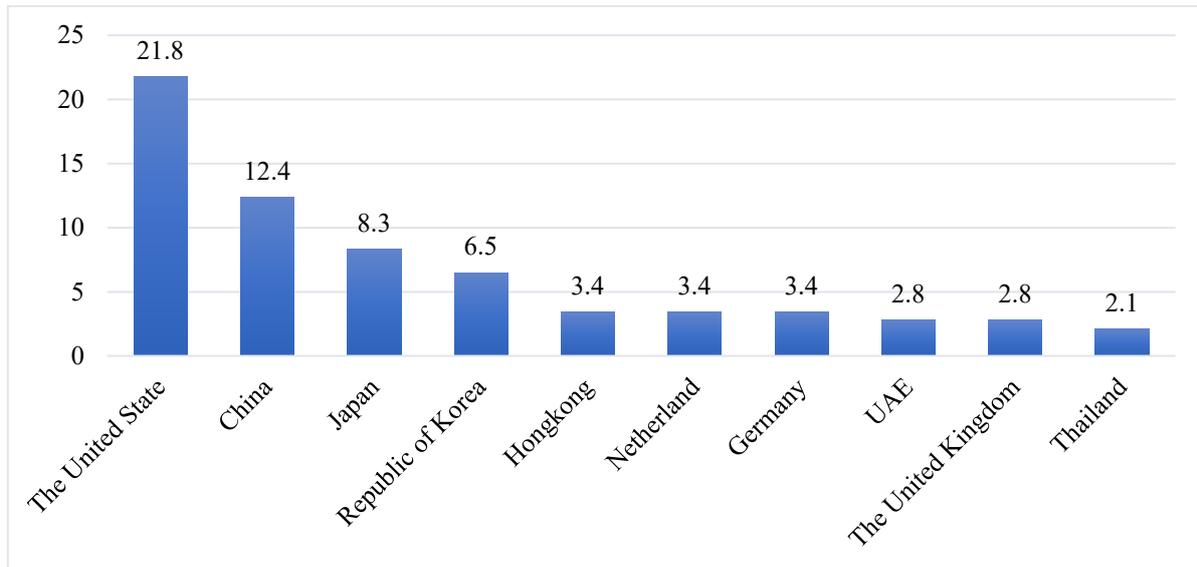


Source: Vietnam Custom (2017)

In terms of export commodities, there were 26 major groups with a total combined value of over one billion US dollars in 2016. The agriculture and fishery products group had an export value of US\$22.15 billion and a share in total exports of 12.5 per cent. The cashew nut trade reached the value of export of US\$2.84 billion, which was higher than rice and ranked at third place in this group. Fruits and vegetables had the highest growth rate of 33.6 per cent, equivalent to US\$2.46 billion of export value (Vietnam Customs 2017).

In terms of fuel, ores and other mineral products, this group still contributed important import value. The export value of this group was US\$3.48 billion in 2016, which decreased by 29 per cent compared to 2015. Coal quantity was 1.24 million tons (the equivalent of US\$139 million), which fell 25 per cent compared to the previous year. Crude oil was the lowest quantity in 12 years that of 6.85 million tons and dropped 25.4 per cent comparing to 2015 (Vietnam Custom, 2017). In contrast, computers, electronic products, spare parts, and components thereof, together with telephone, mobile phone, and parts thereof, were leading contributors to export growth, which reached a value of US\$53.27 billion in 2016. Textiles, garments and footwear had an export value of US\$36.82 billion, which dropped to 5.7 per cent in 2016 from 11.4 per cent in 2015 (Vietnam Customs 2017).

Figure 3.8. Vietnam’s top 10 Export Markets in 2016 (%)



Source: Vietnam Custom (2017)

In terms of import commodities, there were 30 major commodity groups: each had a value of more than one billion US dollars in 2016. Machine, equipment, tools and instruments had the lowest annual growth rate in seven years in 2016. Motor vehicles had the lowest annual growth in three recent years in 2016 (Vietnam Custom 2017).

e. Foreign Direct Investment

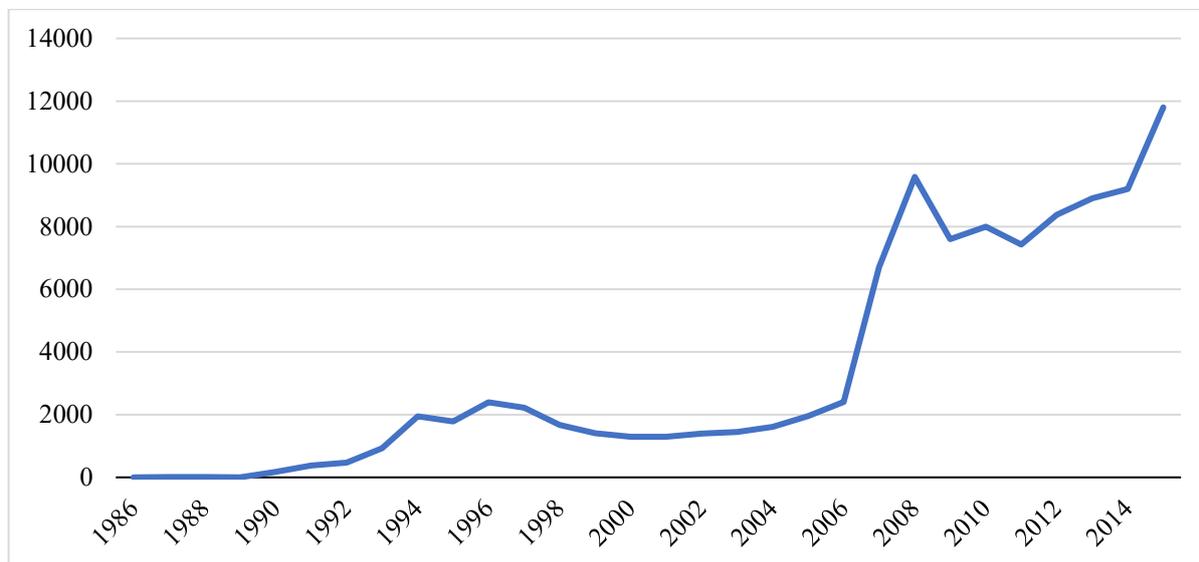
Foreign Direct Investment (FDI) in Vietnam in the three decades from the time of Doi Moi had made some achievements. In 2016, FDI accounted for more than US\$310 billion invested in Vietnam. This capital had greatly contributed to changing the status of Vietnam’s economy as well as its position in the global value chain. In about 10 years, from 2007–2017, foreign investors invested nearly US\$300 billion in Vietnam, which was many times greater than the FDI value of 20 years ago. FDI had become one of the critical driving forces for the socio-economic development of Vietnam (Hoai Anh 2017).

During the first 20 years of FDI attraction (1987 to 2006),⁸ Vietnam initially attracted a considerable amount of foreign investment. In terms of quantity, however, the period after joining the WTO was the most successful in terms of FDI. Between then and 2015, there had

⁸The first 20 years of FDI flows from 1987 - 2006 included the start-up period (1988–1990), followed by the first FDI wave (1991–1997) followed by recession of FDI (1998–2004).

been US\$276/310 billion of FDI invested in Vietnam, which was eight times greater than the figure of the first 20 years (see Figure 3.9) (Hoai Anh 2017).

Figure 3.9. Vietnam FDI (million US\$), 1986 to 2015



Source: World Bank (2017)

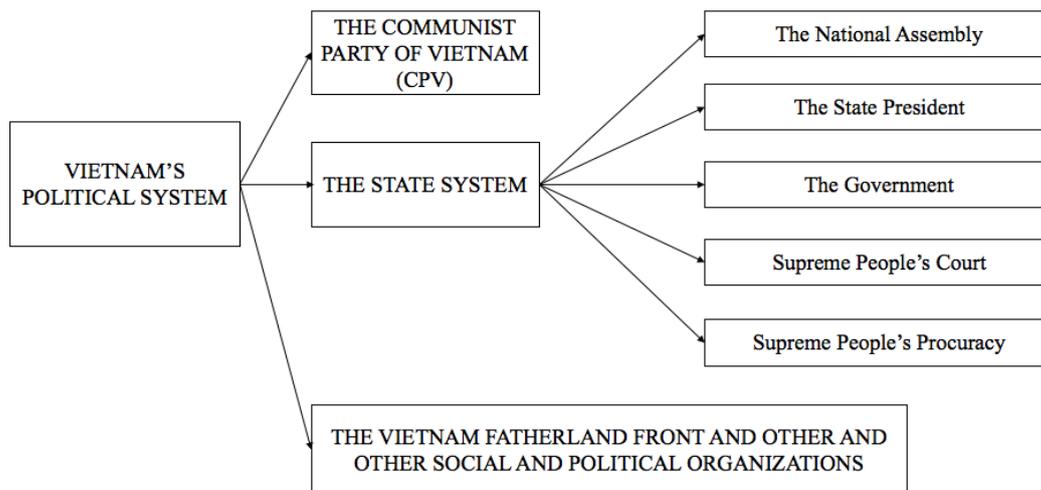
Vietnam now had some conditions that helped attract foreign investors, such as a stable political climate, a constant and improving business investment environment, low labour costs and geographic advantages. These advantages contributed to increasing the FDI inflows into Vietnam. During the 30 years of FDI attraction, Vietnam had attracted many sources of FDI, especially from multinational corporations. Major players in the world, such as Honda, Intel, Samsung, Yamaha, Panasonic, Microsoft and LG, constantly poured capital into billion-dollar projects (Hoai Anh 2017).

By the end of September 2017, there were companies from 124 countries that had invested in Vietnam with more than 24,000 projects worth about US\$310 billion. South Korea was the leading country with US\$55.8 billion, followed by Japan with nearly US\$46 billion, and Singapore with US\$41 billion. In addition, Vietnam also received investment capital from developed countries, such as the United States, France, Britain, Switzerland, Russia and Germany. The most concentrated projects were in the processing industry (over 60 per cent), real estate (nearly 17 per cent), and electricity production (nearly 6.0 per cent) (Foreign Investment Agency 2017). One major contributing factor to this trend had been the political stability of the government.

3.5 The Political System in Vietnam

Figure 3.10 presented Vietnam’s political system, composed of three main functional units: the Communist Party of Vietnam (CPV), the State System and the Vietnam Fatherland Front (Government Portal 2017). These units were internally connected with each other based on certain principles in relations, mechanisms and operations.

Figure 3.10. Vietnam’s political system



Source: Government Portal (2017)

3.5.1 The Communist Party of Vietnam

The Communist Party of Vietnam (CPV) was established in 1930 in the North of Vietnam and led by Ho Chi Minh. Its mission was to control and take sole leadership over the whole country (Pham et al. 2000). It fought against French colonialism in the North and won in 1945. In the same year, it declared independence for the North (CPV 2016). The French colonialists came back a second time in 1946, and the CPV continued fighting until the French withdrew in 1954. Once the CPV won in the North, it continued moving to the South. It fought against the United States, the South’s supporters, as well as the government in the South. That period from 1954 to 1975 was known as Vietnam War (also known as a civil war). In 1975, the CPV won and then officially declared the unification of the entire country. The victory of the CPV in 1975 came at a steep price, in that an estimated 1.5 million people died during the war, and another one million South Vietnamese citizens fled the country after the war (Westcott 2003).

Following the official unification of Vietnam in 1975, the CPV oriented the citizens to carry out the socialist revolution to develop and protect the country. In the context of economic and social difficulties, the CPV actively initiated and led the country to Doi Moi in 1986. In 30 years of reform (1986 to 2016), under the leadership of the Party, Vietnam has overcome poverty and economic backwardness and has integrated internationally into the world economy. Many achievements in economics, politics, culture, society, defence, security and international relations have confirmed the leadership of the CPV (2016).

To date, Vietnam was still one of the five communist countries remaining in the world besides China, Laos, Cuba and North Korea. However, there were some unique points about communism in Vietnam. As described above, the CPV decided to open the country's economy to the free market in 1986 (after only 11 years of unification). The free-market reforms in the 1980s had boosted the country's economy from what used to be an underdeveloped country to a middle-income country. It showed that although Vietnam was a communist country led by a sole communist leadership in the form of the CPV, it had adopted some capitalist principles. Under the leadership of a single party, the country's citizens can only vote for one party. Thus, there was no conflict over the powers or authorities, such as that of multiple parties, leading to stable politics in Vietnam. Political stability was one of the factors that attract foreign investors to Vietnam.

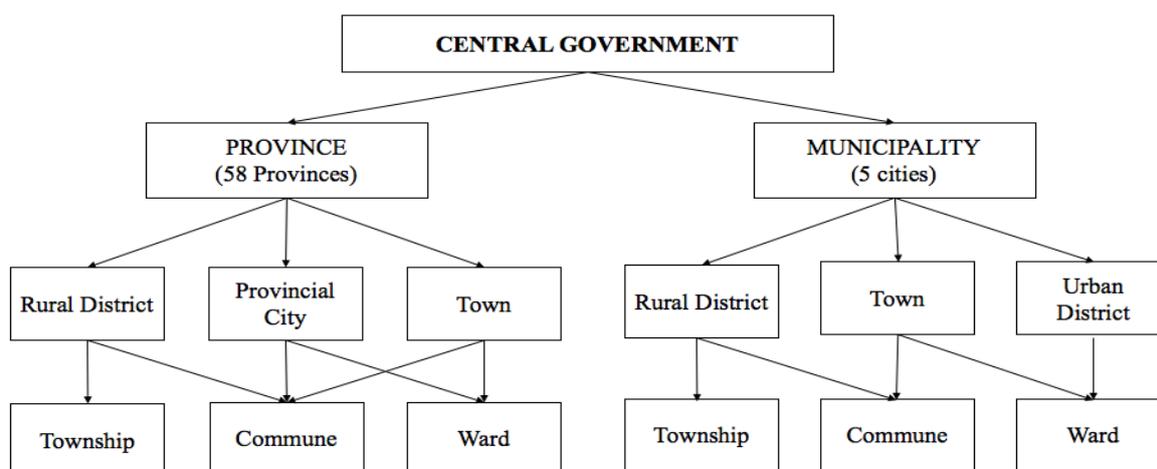
3.5.2 The State System

The state system included the National Assembly, the state president, the government, Supreme People's Court, Supreme People's Procuracy and Local Authorities (Government Portal 2017). The National Assembly was the highest unit in the state system. It decided the most important macro issues that related to the economy, politics and society in the country. The National Assembly had three main functions: legislation, decision-making, and supreme state supervision. All members of the National Assembly were also members of the CPV (Government Portal 2017).

The state president was the head of the country, who was elected by the National Assembly members and the representative of the country internally and externally. The government was 'the executive organ of the National Assembly and the supreme state administrative agency of the Socialist Republic of Vietnam. It was in charge of tasks assigned by the State' (Government Portal 2017).

Under the government were local authorities, including People’s Councils (municipalities and provinces, districts, provincial level of cities/towns and communes), People’s Committees (provincial level, district level and communal level), local People’s Committees (provincial-level people’s court, and district level people’s court), and local people’s procuracy (provincial and district levels) (Government Portal 2017). The different levels of the Vietnamese government were presented in Figure 3.11 below.

Figure 3.11. Administrative hierarchy of the Vietnamese government



Source: General Statistics Office of Vietnam (2017)

Figure 3.11 showed that there were three administrative levels in the central government. The first tier was the provincial level, the second tier was the district level, and the third tier was the communal level. According to the General Statistic Office of Vietnam (2017), there were 63 units in the provincial level (provinces and municipalities), 713 units in the district level (68 provincial cities, 50 towns, 49 urban districts, and 546 rural districts), and 11,162 units in the communal level (1,582 wards, 603 townships, and 8,978 communes) in 2017. At each level of the administrative authorities, there were People’s Councils and People’s Committees. At the provincial level, there were Provincial People’s Councils and Provincial People’s Committees.

At the district and communal levels, there were the People’s Councils and People’s Committees at the equivalent levels. Under the Law on Organization of Local Government No. 77 issued by the National Assembly, the responsibilities of the administrative authorities at district and communal levels were similar to the provincial level but limited within their scopes. The People’s Council at each level had duties and powers within its level in organising and ensuring the implementation of the constitutions and laws, administration, economy,

natural resources and environment, education and training, science, technology, culture, information, physical training and sports, health, labour, ethnic and religion, national defence and security. In addition, the People's Council also supervised compliance with other authorities. The People's Committee at each level had duties and powers to present proposals to the People's Council (at the equivalent level) regarding policies related to economic, political, social, cultural, educational, health and defence issues.

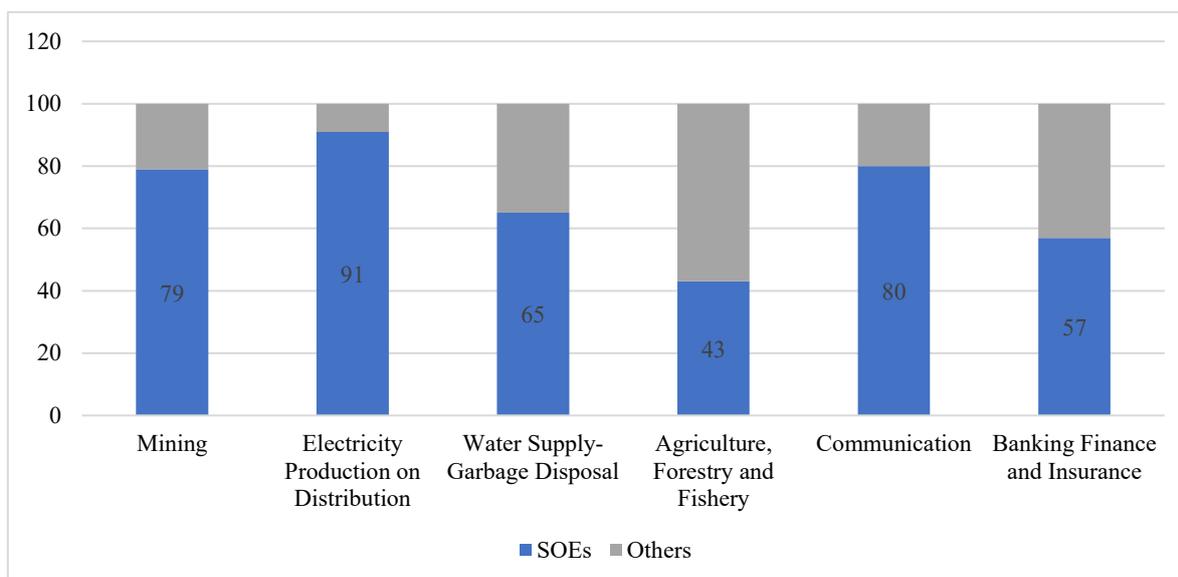
Presenting and analysing the hierarchy of authorities of the political system in Vietnam showed that the CPV took the most power and the prominent position in the system. Under it, there were many levels of delegated authority from the government to the local. The complicated hierarchy of authorities and the monopoly leadership of a single party might be a cause of corruption and bribery in this country, especially budget and expenditure in the public sectors.

3.5.3 State-Owned Enterprises

In addition to central, provincial and local government administration, the government in Vietnam played a vital role in the running of important State-owned Enterprises (SOEs). Although these were far fewer in number today than in 1986, they still played a central role in the country's economic development. There were about 6,000 SOEs in 60 areas in 2001, then it was cut down to about 1,400 SOEs in 2011, and about 720 SOEs in 19 major areas by the end of 2016. Due to the reorganization, SOEs had fallen sharply in number, especially small-scale enterprises, inefficient enterprises, and enterprises in the State sectors that did not need to be held (Thu Huyen 2016).

According to a report by the Ministry of Planning and Investment, SOEs dominated or had a considerable influence on many important sectors. Specifically, in terms of capital in 2015, the SOE sector accounted for 79 per cent of the mining sector; 91 per cent of electricity production and distribution; 65 per cent of water supply and garbage disposal; 43 per cent of agriculture, forestry and fishery; 80 per cent in communication; and 57 per cent of banking, finance and insurance (N. Manh 2017).

Figure 3.12. SOEs Categorised into Major Sectors (%)



Source: Report by the Ministry of Planning and Investment (2016)

SOEs with 100 per cent capital dominated in 11 sectors: (1) surveying maps for national defence and security purposes; (2) producing and trading industrial explosive materials; (3) transmitting, regulating the national power system and managing the distribution grid, multi-purpose nuclear power plants and nuclear power plants of special socio-economic importance in association with national defence and security; (4) managing the system of national railway infrastructure and urban railways invested by the state, operating national railway and railway transport, which were invested by the state; (5) air traffic services, aeronautical information services, search and rescue services; (6) marine security (excluding dredging, maintenance of public navigable channels); (7) public postal service; (8) lottery business; (9) publication; (10) printing, minting, making gold pieces and souvenir items in gold; and (11) policy credit for socio-economic development and ensuring safety of the banking system and credit institutions (N. An 2016). Many of these enterprises, although still state-owned, operated more commercially than was once true; however, a number were still heavily state-subsidised.

3.6 Conclusion

For this thesis, Vietnam was chosen as a representative of ASEAN countries because it had many similar characters with other ASEAN countries in terms of social, economic and political conditions. This overview provided a background understanding in preparation for the analysis of corruption issues in the next chapter. The first section of this chapter provided

an overview of Vietnam's geography, being in an important location regarding economic opportunities and political strategies. The s-shaped country had borders with China, Campuchia and Laos in the north and west and had a long coastline adjacent to the South China Sea. Vietnam was considered a commercial bridge connecting the largest part of mainland Asia and Europe to Southeast Asia. This location was one factor that helped the country to boost its economic growth and open its markets globally. In addition, the population of Vietnam was discussed in the second part of this chapter, with an increasing population creating several social issues for the government, especially in terms of the contribution of the labour force, the gender imbalance of the population, the unemployment rate and income levels. These social conditions may be linked with corruption problems, not only in Vietnam but also in other ASEAN countries, which were discussed in the following chapters.

The next section of Chapter 3 provided an overview of Vietnam's economy over three eras, divided into three sub-sections. The first era, the command period, was described, offering insight into the economic context of Vietnam from 1975 to 1986. The second sub-section discussed the economic development of Vietnam from 1986 to the present. The year 1986, known as Doi Moi, was a milestone in the development history of Vietnam, not only in economic growth but also in political stability. This sub-section also discussed some achievements following the reform, especially in economic growth, inflation, international integration, foreign trade and FDI. These aspects are incorporated into the research as dependent and independent variables to corruption, which will be discussed in the following chapters.

The final section provided an overview of the political system in Vietnam. In this section, the CPV, the state system, and other socio-political organisations were discussed. This section defined the functions of each political unit in the system to provide a better understanding of the operation of the system from the national authority to the communal ones. Further, the political system may provide a link to the relationship between levels of corruption and government performance that were studied in the following chapters of this thesis.

From the background of the country's economic development, the social issues and the political system of Vietnam, this chapter had provided a foundation for a discussion of the corruption issues in Vietnam and other selected countries that formed the rest of the thesis. Rapid economic growth, social change, increasing foreign investment, inflation and the still-dominant role of a single political party all helped to create conditions that promote corrupt

relations. Determining the extent to which each of the factors was most important, however, was difficult to judge given the complex relations in Vietnam between the government and private sector. These issues were taken up in the following chapter.

CHAPTER 4_ CORRUPTION IN VIETNAM

4.1 Introduction

This thesis focused on the issue of corruption, using the case study of Vietnam as a representative country of the ASEAN group. This chapter provided an overview of the level of corruption in Vietnam. In particular, the causes of corruption were examined, especially in the public sector (education, health and construction). Vietnamese culture and income levels were also considered as major factors that cause corruption. In addition, this chapter looked at some serious consequences of corruption, not only in Vietnam but also in other ASEAN countries.

In recent years, the incidence of corruption in Vietnam had attracted attention in the Vietnamese media and government investigations and academic researchers. This chapter reviewed the nature of corruption in Vietnam. Sources in the literature published in the Vietnamese language were cited and reviewed in order to provide further context. Corruption in the public sector was examined in Vietnam, where corruption had occurred in educational institutions, public hospitals and many construction projects. In the next part of the chapter, the unique characteristics of Vietnamese culture were discussed, as well as some similarities with other ASEAN countries that influenced the level of corruption. Culture may be one of the main drivers that influenced the different levels of corruption among ASEAN Plus Six countries. It may also help to explain why the level of corruption in developing countries was high, while low in the other countries in the ASEAN Plus Six.

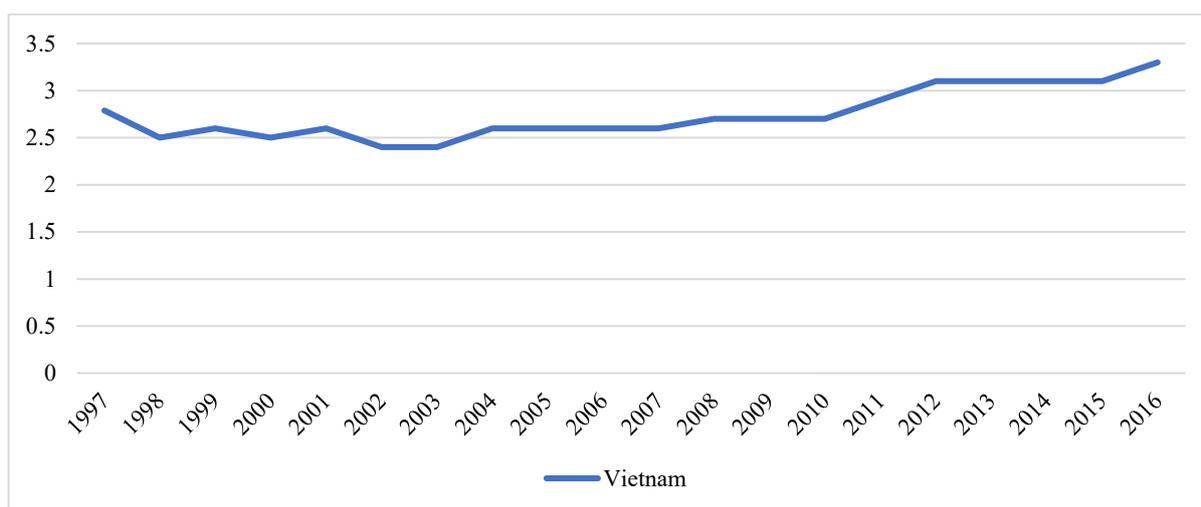
4.2 Corruption in Vietnam

As shown in Figure 4.1, Vietnam's CPI had been increasing over the last two decades. Vietnam had been listed as being among the most corrupt countries in the world: the CPI score in 2016 was 3.3 out of 10, where 0 was the most corrupt and 10 was the least corrupt (or clean).⁹ According to Gupta (2017), Vietnam was one of the five most corrupt countries in Asia, with a bribery rate of 65 per cent, while India had the highest bribery rate among five

⁹Corruption Perception Index was scaled from 0 (highly corrupt) to 10 (very clean) from 1995 to 2011, then the scale changed from 0 (highly corrupt) to 100 (very clean) from 2012 (Transparency International, 2017). In the time series data from 1995 to present, the researcher has converted the current scale (0–100) to the previous one (0–10) for comparison purposes.

countries at 69 per cent, Thailand was at 41 per cent, Pakistan was at 40 per cent, and Myanmar was at 40 per cent. This figure indicated that for every 100 Vietnamese people who were being interviewed, 65 people responded that they had to use bribery for public school, hospital admission, public administration, police or court fees (To Di 2017).

Figure 4.1. CPI in Vietnam, 1997 to 2016



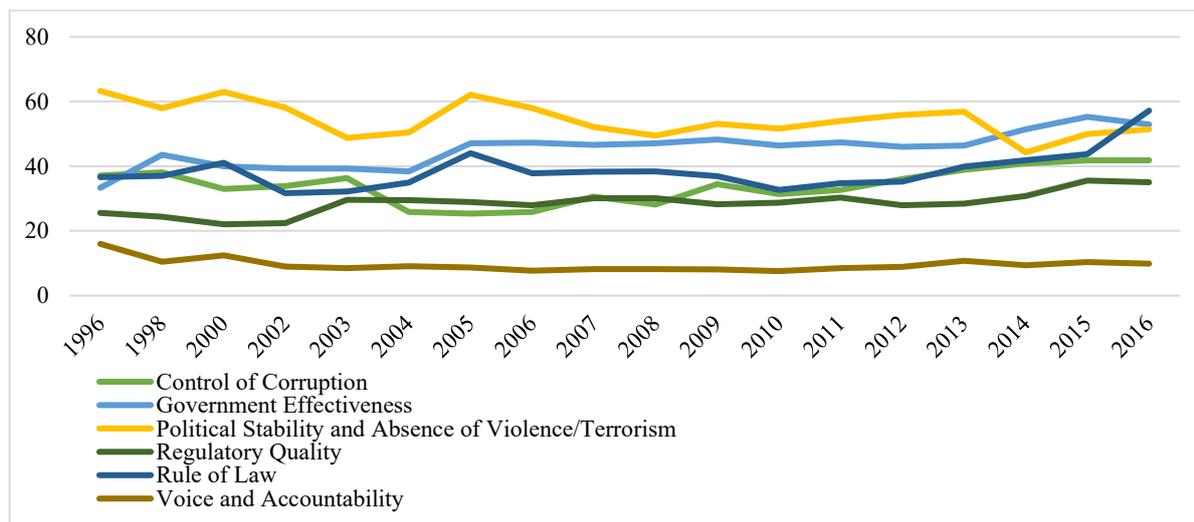
Source: Transparency International (2017)

According to Transparency International (2017), Vietnam increased its score on the CPI in 2016 to 3.3 after being around 2.5 in the 2000s. The index showed that Vietnam was doing well in combating corruption. However, progress was slow, and the score indicated that corruption continued to be an ongoing problem. The Vietnamese government had issued various anti-corruption programs and laws, but these had not been exercised well. Transparency International (2016) ranked Vietnam’s corruption level at 113th out of 176 countries worldwide, 21st out of 28 countries in the Asia-Pacific region, and 7th out of 10 countries in the ASEAN group, demonstrating that Vietnam had serious corruption problems.

Corruption in Vietnam (as in other ASEAN countries) could be seen as an iceberg phenomenon that the rate of corruption was evaluated based on reported cases only. There might be more serious cases of bribery in Vietnam that had not been reported. Based on their corruption survey results in the Asia-Pacific region, Transparency International found that 56 per cent of Vietnamese respondents said that corruption in Vietnam was worsening. In addition, 53 per cent of respondents provided negative opinions of the anti-corruption programs in Vietnam (Transparency International 2017). The 2017 corruption report findings of Transparency International indicated that bribery in the Asia-Pacific region occurred mainly

in the public sector, particularly in police enforcement, education, health services, with official documents and the courts. Age and gender were factors influencing involvement in different levels of bribery (Transparency International 2017).

Figure 4.2. Vietnam’s Governance Indicators, 1996 to 2017



Source: World Bank (2017)

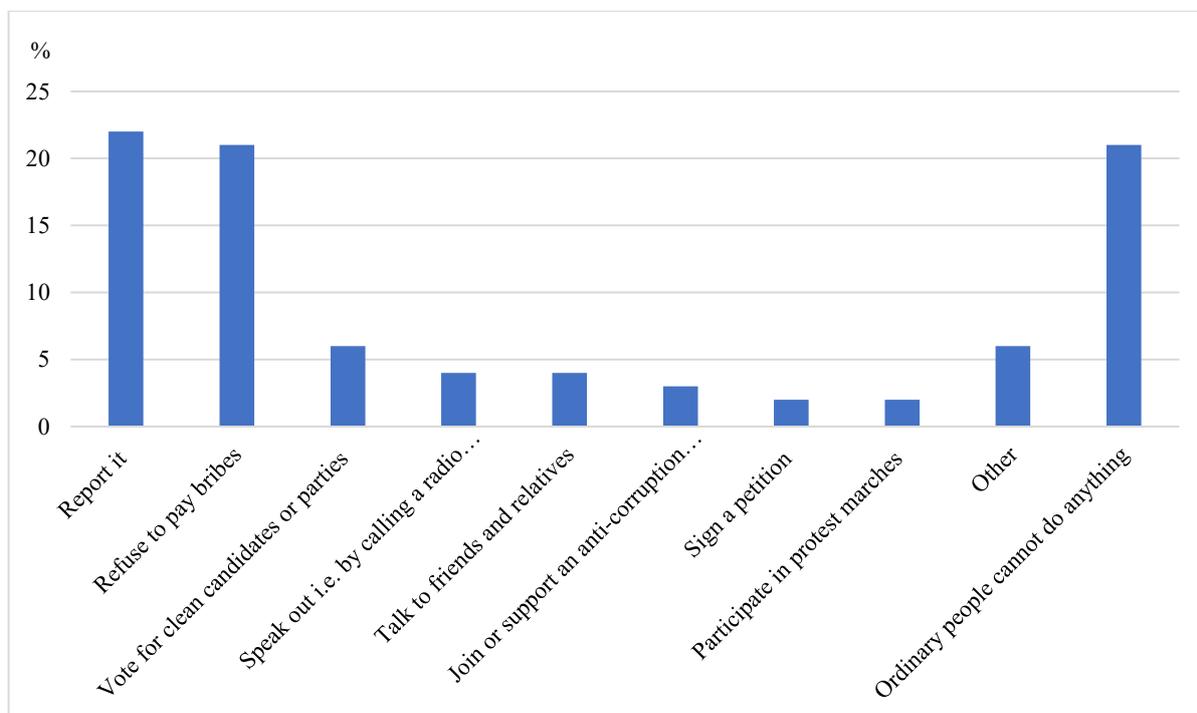
In addition, the annual reports of the World Bank’s Worldwide Governance Indicators from 1996 to 2016 (see Figure 4.2) showed poor performances in all six dimensions reported for Vietnam (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption) (World Bank 2017).¹⁰ Over the period, each governance indicator showed little change and improvement (see Figure 4.2). For instance, the control of corruption was at 37.1 in 1996 and at 41.83 in 2016 (the scale was from 0 to 100, in which the higher score, the better governance outcomes) (World Bank 2017).

Looking at Figure 4.2, it can be seen that the voice and accountability indicator in Vietnam performed the worst. Transparency International’s annual report in 2016 showed that 53 per cent of Vietnamese citizens agreed that their voice in fighting corruption was the lowest rate among ASEAN countries (Global Corruption Barometer 2017). The report also showed that ordinary people in Asia-Pacific countries thought that reporting bribery and refusing to pay

¹⁰According to the World Bank, ‘Governance consists of the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them’. See more at the World Bank website (at <http://info.worldbank.org/governance/wgi/#home>).

bribes were the most effective actions in combating corruption, (22 per cent and 21 per cent, respectively); however, 21 per cent of respondents felt they had no empowered voices in fighting corruption in their country (see Figure 4.3) (Global Corruption Barometer 2017). In explaining the low rate of reporting corruption, the report found that respondents mainly were afraid of the consequences (36 per cent) or they thought there would not be any remedial actions from the government (15 per cent) (Global Corruption Barometer 2017). There were many factors encouraging corruption in Vietnam, including government expenditure, governance performance, culture and income. The following part of this chapter discussed these factors in more detail.

Figure 4.3. Views on the Most Effective Actions People Can Take Against Corruption in the Asia-Pacific Region in 2016



Source: Global Corruption Barometer 2017

4.3 The Public Sector

According to the Annual Report in 2016 of Transparency International, their figures showed that corruption in Vietnam mainly occurs in the public sector. More than 61 per cent of respondents said they had to pay bribes for police, 46 to 60 per cent for education and health services and 16 to 30 per cent for official documents (Global Corruption Barometer 2017). In

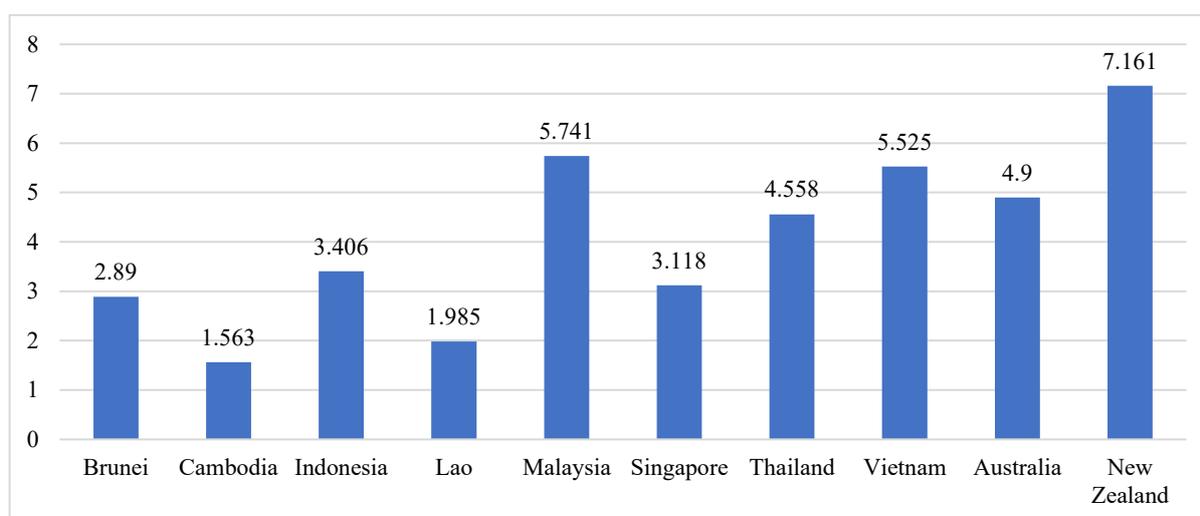
the scope of this study, this chapter will focus mainly on corruption in the education, health and construction sectors.

4.3.1 Education Sector

According to Transparency International in 2016, education was the second most corrupt sector in Vietnam. Education was a priority public sector of the Vietnamese government and the governments of other ASEAN countries. The Vietnamese Government considered education and training was one of the most important national sectors to focus on and develop sustainably in the long term. The government aimed to improve the quality of education and therefore spent a significant amount of money on this sector annually (approximately 20 per cent of its budget equivalent to 5 per cent of GDP) (Dinh 2017). This ratio of government expenditure on education to GDP in Vietnam was high compared to other countries in the ASEAN group. Figure 4.4 showed that the proportion of government spending on education was 5.5 per cent of GDP in Vietnam, even higher than Australia (4.9 per cent), Brunei (2.8 per cent), Thailand (4.5 per cent) and Singapore (3.1 per cent) in 2012 (World Bank 2017).

Vietnam's government considered an investment in education to improve the quality of human resources and further economic development in the country. A large amount of government spending on education had resulted in the sector reaching many important achievements, such as eradicating illiteracy, universalising education and raising the Human Development Index (Toward Transparency 2013). However, there were many challenges that the education sector in Vietnam was still confronting, especially corruption. In education, corruption had been seen in various forms, such as in the construction of buildings, teaching supplies, bribery for achieving a school's reputation, high scores of accreditation, or bribery for the high marks of students (Martini 2012). Educational institutions, teachers, lecturers, students and parents had all been engaged in corruption. Many cases of corruption in education had been reported in the mass media in Vietnam in recent years. For example, the principal of a school reduced the payment for teachers in Thanh Hoa, school administrative staff took money from a support fund for poor children in Dong Nai, students' parents had been forced to raise funds unwillingly in Da Nang, and bribery was paid for high marks for students in Bac Lieu (Toward Transparency 2008). These examples of corruption in Vietnam were merely a small part of the problem because there were cases of bribery in this sector that had not been reported. Corruption in education seemed to be a serious but familiar theme in Vietnam (Towards Transparency 2008).

Figure 4.4. Government Expenditure on Education (% of GDP) in 2012



Source: World Bank (2017)

The structure of investment in education and training in Vietnam seemed unusual. The proportion of spending on operating and capital expenditures was far different from each other (see Table 4.1). The operating expenditures accounted for more than 80 per cent of the total state budget on education, and this was mainly spent on teaching activities and improving quality and curriculum development. Capital expenditure took about 20 per cent from the budget for improving school facilities, procuring teaching equipment and laboratories.

Table 4.1. Allocation of Government Budget on Education and Training (%)

	2008	2009	2010	2011	2012	2015
Total Spending	100.0	100.0	100.0	100.0	100.0	100.0
Capital Expenditure	23.1	17.1	18.4	18.0	17.7	18.1
Operating Expenditure	76.9	82.9	81.6	82.0	82.3	81.9

Source: Ministry of Finance (2017)

As Table 4.1 showed, the budget allocated for operating expenditure was about four times greater than capital expenditure, while the facilities and infrastructure of schools and classes were run down, insufficient in both quantity and quality to support the teaching and learning of teachers, lecturers and students. However, while the amount for capital spending was smaller than operating spending, according to the study of Toward Transparency in Vietnam, it was also the most corrupt area (Toward Transparency 2013).

a. Corruption in Educational Construction

There had been many examples of corruption cases in construction projects reported in recent times. For instance, many schools and classrooms had been built but failed to meet quality and standard requirements and were downgraded after being set into use. Based on government inspections in all provinces, it was found that many problems had occurred in almost all construction projects, such as fraudulent accounts, poor construction design and inappropriate contractors chosen for the job (Viet Anh 2006). The government had spent a large amount of its budget of VND24,900 billion (Vietnamese Dong, the equivalent of US\$1.3 billion) for these projects from 2008 to 2012, aiming to build good quality modern schools throughout the country. The government's target for education had not been met, while approximately VND28 billion went missing (Toward Transparency 2013).

One of the reasons for these losses, including waste of facilities and equipment, was the use of inappropriate contractors or suppliers who were assigned by higher-level administrative authorities. According to the regulations, schools and universities had the right to use 35 per cent of their regular expenditure budget for purchasing new equipment, repairing facilities or building small constructions. However, they rarely made their own choices. To have these activities approved, the schools and universities had to make a proposal to the higher-level staff at the Department of Education and Training. At this level, the head of departments may suggest or assign contractors or suppliers (who might be their relatives) to carry out new construction or supply equipment for schools and universities (Kien Trung 2017).

b. Corruption in Printing and Publishing Books

There were two major forms of corruption in this area: the exclusive publishing and printing of textbooks and commissions between publishers and schools. According to the Education Law issued in 2005, the Ministry of Education and Training was the only authority that can approve textbooks for officially taught courses at all educational levels in Vietnam. In addition, the National Publishing House was the sole publisher authorised to print and publish textbooks nationwide (Toward Transparency 2013).

According to Cam (2006), the number of textbooks released each year accounts for 70 to 80 per cent of the total volume of books published in Vietnam (about 160 to 170 million textbooks annually). Printing such a high volume of books delivered great benefits to the National

Publishing House. According to Cam (2006), the higher the volume of books printed, the lower the cost of each item. However, the National Publishing House set the price of each textbook at two to four times higher than its actual cost. The National Publishing House could not print all the required textbooks itself, therefore, cooperated with other publishers that were nominally selected through a bidding process. The use of under-the-counter payments was common for winning these bids (Cam 2006). Conversely, the National Publishing House had subsidiaries in 63 provinces and cities nationwide that connected as a publishing chain from the government to local communities for the monopoly distribution of textbooks. These sub-publishers had a strong link with the Department of Education and Training in the provinces and cities. The Department of Education and Training may use its power to link these publishers with schools and universities. The schools, universities and teachers may receive commissions from selling textbooks (Toward Transparency 2013).

c. Corruption in Fake Recognition, Achievement and Titles

According to the study of Transparency International, problems of fake recognition and achievement existed in the education system of Vietnam. Schools and teachers paid bribes for achieving titles such as ‘national standard’ or ‘excellent teaching performance’. These titles helped schools to attract more students as well as more investment from the government budget. If schools improved their reputation, parents tried to send their children to those schools, which may lead parents to bribe teachers or administrative leaders for their children’s enrolment. Corruption related to enrolment into selected schools happened in early learning centres, primary schools, high schools and colleges (Toward Transparency 2013).

In addition, teachers may pay bribes for fake titles or degrees to gain promotion or to be able to teach additional classes at home to earn more money. The schools also benefited by attracting more students if they had many ‘excellent teachers’. Conversely, students and parents bribed teachers for high grades. These ‘excellent’ or ‘outstanding/first-class’ transcripts were used for obtaining good jobs as well as raising the reputation and prestige of parents. Corruption related to grades had been reported and observed in various ways. For example, students bribed teachers with money before they had exams or parents bribed administrative officers to amend grades (Toward Transparency 2013).

d. Corruption in Higher Education

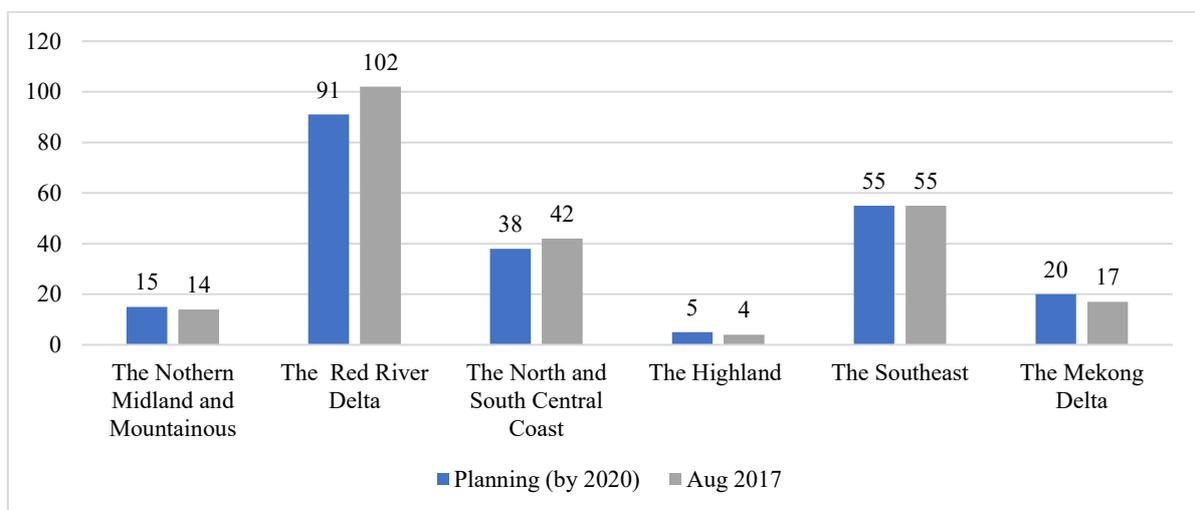
One of the Vietnamese government's priorities was to develop the education and training sector, especially with a focus on higher education. In doing so, the Ministry of Education and Training (MoET) had issued the Higher Education Reform Agenda 2006–2020 (known as the 911 project), which aimed for at least 60 per cent of lecturers to have master's degrees and 35 per cent to have PhDs by 2020. The budget for this package was about VND14,000 billion (US\$700 billion), with 94 per cent of funding provided by the government, 5 per cent by foreign and private investors, and one per cent from candidates' tuition fees or contributions from universities (Ha Anh 2017).

The purpose of this agenda was to improve the quality of the education system in Vietnam, as well as human resources in the long term. The lecturers trained in this program were expected to have better skills at doing research, which may help to improve the quality of teaching and expand research capacity in their universities after they finished their PhD programs. The MoET planned to train 10,000 PhDs domestically, contributed to 3,000 joint training programs between Vietnam and foreign institutions, and had 10,000 PhDs earned overseas (Da Thao 2017). Before 2016, the number of lecturers who registered and enrolled in PhD programs domestically was 2,050, and 2,500 candidates studied overseas. The agenda for joint training programs had the most difficult challenge, attracting 27 candidates (reaching only 2 per cent of the target) (Da Thao 2017).

By 2016 (the last year of offering scholarships for candidates in the 911 project), the number of PhDs had not met the target, and the budget still had VND10,200 billion left (about US\$500 billion). In late 2017, the MoET announced a new agenda as an extension of the 911 project to cover 2018–2025. This new project aimed to spend the remaining money from the 911 project to train more than 9,000 PhDs by 2025. The MoET was demonstrating a focus on quantity but not on quality. For instance, the number of published papers by PhD holders in high-quality journals was negligible compared to that of graduates in other ASEAN countries. Ngoc Ha (2017) stated that within 10 years, from 1996 to 2005, Vietnamese researchers had published only 3,456 articles in scientific journals listed on the International Scientific Indexing. The number of published papers was only one-fifth compared to that of Thailand, one-third compared to that of Malaysia, and one-third compared to that of Singapore. In addition, from 2006 to 2010, Vietnam had only five patents registered in the United States, one patent each year on average (Ngoc Ha 2017).

According to the MoET statistics, 235 universities and institutes (including 170 public, 60 private and 5 universities with 100 per cent foreign investment) were established by the end of the 2016–2017 school year (Le Van 2017). By August 2017, many universities and institutions had been opened (see Figure 4.5). According to the statistics of the MoET, by 2017, the number of universities in the Red River Delta and the North and South-Central Coast regions exceeded that planned by the government. The number of new or upgraded colleges to universities had increased over time, 307 new universities opened between 1998 and 2009. The conditions and facilities provided by these universities were substandard. Each new university opened had to meet basic requirements regarding the property, facilities and the number of professors, lecturers and staff. Corruption had occurred in terms of bribery for quick processing to open new universities, recruit new lecturers and staff and fabricate the expenses of buying facilities (Minh Giang and Tran Huynh, 2011).

Figure 4.5. The Number of Universities and Institutions in Vietnam Allocated by Region in August 2017



Source: MoET (2017)

4.3.2 Healthcare Sector

Healthcare was another top priority sector of the Vietnamese government. The government budget for this sector increased from VND40,000 billion (US\$2 billion) in 2009 to VND70,000 billion (US\$3.5 billion) in 2012. From 2005 to 2012, the budget increased from 1.6 per cent to 2.6 per cent of GDP (Minh Anh 2017). While the education sector made up about 20 per cent of government expenditure, the healthcare system took a proportion of 9 per

cent. The level of spending on health as a percentage of GDP was higher than most low- to middle-income countries in Asia (Minh Anh 2017).

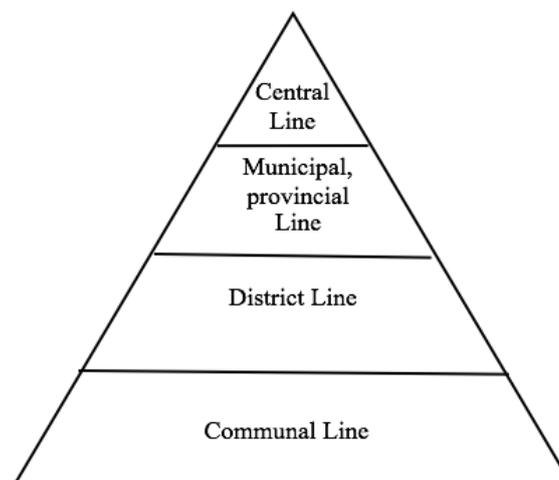
According to Ha et al. (2011), corruption in the healthcare sector in Vietnam was diverse and occurred in three major areas which were sectoral management, health services provision and health insurance management. The problems in sectoral management in healthcare included licensing, procurement, recruitment and promotion, and financial management. Provision of services at health facilities was also vulnerable to corruption, for example, relationships with officials, which may involve informal payments, abuse of professional knowledge, over-prescription of drugs and altered treatment attitudes towards patients. The last area was in the health insurance system, which commonly took place when providers created fake bills to increase their informal income from this system.

Although the healthcare sector received a sizeable proportion of the government budget in Vietnam, this sector still had many other serious issues that can be explained as by-products of corruption. One of the issues related to corruption was hospital overload, which occurred most often in the central/state medical lines. This situation could be explained by the poor quality of services and facilities, or the lack of specialised doctors in the bottom/communal medical lines (see Figure 4.6). A number of sick people skipped visiting local medical lines and directly registered into the top-line facilities for treatment, even when their illness could be handled at local facilities. Many hospitals in Hanoi and Ho Chi Minh cities, such as Bach Mai hospital, Central Obstetrics, Cancer Hospital, Cho Ray Hospital and Pediatrics 1 Hospital faced the problem of overload with three or four patients sharing one single bed or even having to sleep in the hallways (Dao 2016). The greater the overloading of patients, the greater the likelihood of bribery. Patients bribed doctors or healthcare officials to jump queues, took advantage of services at hospitals or had more careful treatment from doctors. Conversely, officials or doctors may suggest to patients or their relatives to pay extra fees for extra care to sick people (Ha et al. 2011).

Another issue was the inefficiency of facilities, equipment and human resources in many hospitals, especially in the bottom medical lines provided by provincial and district healthcare providers. The government divided its budget for building or upgrading infrastructures as well as facilities and equipment for healthcare services at all medical lines, which raised the demand for providers, however, corruption problems occurred during auctions for the selection of contractors or suppliers of facilities and equipment. In addition, in terms of human resources,

there were problems with recruitment (e.g., the buying and selling of positions) and bribery for promotion (Toward Transparency 2009). It was also reported that bribery occurred in licensing and issuing certifications for medical practitioners, and those certifications went through unclear processes or untrusted accredited authorities (Vian et al. 2012). Moreover, many health staff, including doctors, abused facilities and equipment in public hospitals to treat their private patients (Transparency International 2009).

Figure 4.6. The Organisational System of the Medical Apparatus of Vietnam



Source: Ministry of Health (2017)

Drug management was another area in which serious corruption problems occurred in Vietnam. It was reported that there had been bribery in the auctions of selecting suppliers to provide drugs to hospitals, as well as for pharmacy stores. To win the bids, some pharmaceutical companies bribed tender committees to gain confidential information. It was also reported that every day a large number of drugs were stolen (Martini 2013). Moreover, doctors wrote prescriptions for patients and direct patients to specific drug stores to purchase their medicines. The doctors cooperated with drug stores and received commissions for every prescription. In 2017, a severe recent case of importing thousands of boxes of low-quality anti-cancer drugs by the VN Pharma Company, the largest pharmaceutical company in Vietnam, was revealed. The company had agreed to pay a commission to doctors for prescribing and asking patients to visit pharmacies that worked as distributors for VN Pharma to buy the products (Doan 2017).

Table 4.2. Value of Bribe by Type of Services and Regions

Type of Services	District Hospital	Provincial Hospital	Central Hospital
Surgery	50,000–500,000 VND (2.50–25 USD)	200,000–2,000,000 VND (10–100 USD)	500,000–5,000,000 VND (25–250 USD)
	400,000–500,000 VND average (20–25 USD average)	500,000–1,000,000 VND average (25–50 USD average)	1,000,000–3,000,000 VND average (50–100 USD average)
	Obstetrics	100,000–600,000 VND (5–30 USD)	200,000–3,000,000 VND (10–150 USD)
	200,000–500,000 VND average (10–25 USD average)	500,000–1,000,000 VND average (25–50 USD average)	1,000,000 VND average (50 USD average)
Emergency and Recovery	No data	No data	200,000–300,000 VND (10–15 USD)
Laundry and Cleaning	No data	No data	5,000–20,000 VND (.25–1.00 USD)

Source: Ha et al. (2011)

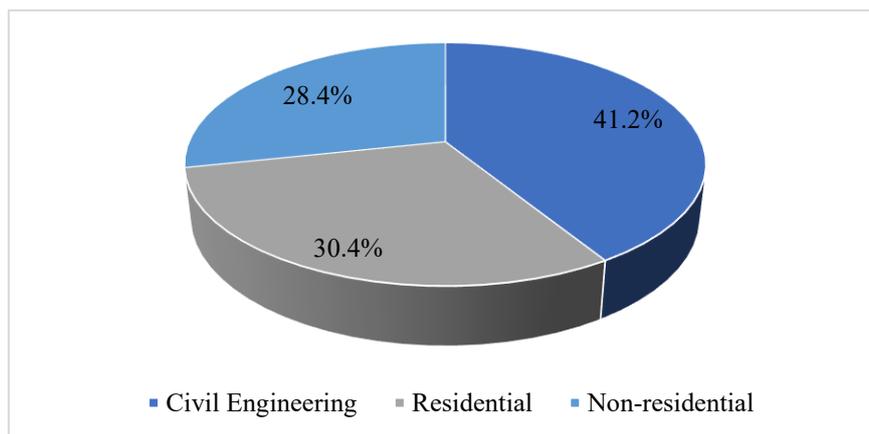
In terms of forms of informal payments, there were various ways to bribe doctors, such as gifts, cash or ‘opportunities’ (Ha et al. 2011). Ha, et al. (2011) reported that most interviewees in their study responded that they bribed doctors or healthcare workers for different purposes, such as giving money to express their thanks, receive more attention from doctors, speed up services and create relationships. The bribery could be in the form of gifts that they bought from doctors or health workers. However, the gifts were not given on their own but enclosed with an envelope containing cash. In some cases, patients gifted doctors or nurses with brand name items such as lipsticks, bags and cell phones. The amount of money that patients put in envelopes could vary depending on the situation whether common illnesses or complex cases such as emergencies and surgery (see Table 4.2). Ha, et al.’s (2011) survey found that 100 per cent of patients expressed their thanks to doctors or health officials by giving cash in envelopes.

4.3.3 Construction Sector

In Vietnam, construction was one of the most corrupt sectors. It is reported that the growth rate of this sector was always higher than the average growth of the economy. However, the more fast-growing an industry was the greater chance of corruption (Hanh 2009). According

to Marketline (2016), there were three main segments of Vietnamese construction, including civil engineering, residential and non-residential.¹¹ Civil engineering contributed the largest value in this sector and accounted for 41.2 per cent, while the residential and non-residential segments accounted for more than 30 per cent and 28 per cent, respectively (see Figure 4.7).

Figure 4.7. Vietnam Construction Sector Category Segmentation: Percentage Share by Value in 2015

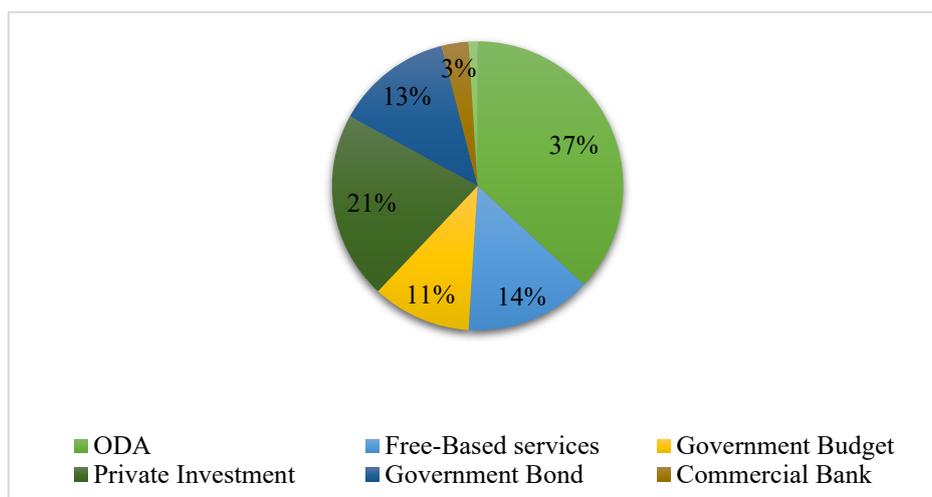


Source: Marketline (2016)

According to Nguyen (2015), the Vietnamese construction industry depended heavily on the growth of the economy and government policies. Growth in the construction industry depended on urbanisation, FDI, bank lending rates and inflation. The development of the construction industry contributed to the growth of the economy as well as the development of other sectors; thus, the Vietnamese government maintained involvement in the construction sector including infrastructure. There were various investment sources in this field, such as the Official Development Assistance (ODA), private investment and state bonds. In comparison with other sectors, the infrastructure area received a high proportion of government expenditure of more than 10 per cent of the annual budget. Based on the data in Figure 4.8, the sector's capital was mainly from ODA sources.

¹¹Civil engineering covers infrastructure for transportation, telecommunications, energy and other purposes. Residential segment covers houses, dwellings and similar work. Non-residential segment covers commercial, industrial, social and similar work (see Marketline 2016).

Figure 4.8. Structure of Investment Capital for Infrastructure



Source: Nguyen (2015)

Aside from ODA capital, Vietnam had other sources for supporting the construction sector, especially infrastructure, such as public-private partnerships (PPP), Build-Operate-Transfer (BOT), and joint ventures. The demand for capital for various areas could be seen in Table 4.3. It showed the number of projects on infrastructure that accounted for nearly US\$50 billion (Nguyen 2015).

Table 4.3. The Requirement for Investment Capital by Areas

Area	Number of Projects	Capital Requirement (Billion USD)
Engineering Infrastructure	51	41.9
Social Infrastructure	20	5.1
Agriculture	44	2.2
Preservation and Processing	8	0.3
Services	4	8.6
Total	127	58.1

Source: Nguyen (2015)

Most of the projects financed from foreign investment were focused on highways, railways, airports, metros, bridges, power stations, drainage and oil refineries. According to Nguyen (2015), the amount of ODA disbursed annually was about US\$3 to US\$5 billion, equivalent to US\$60,000 to US\$100,000 billion per year. It was one of the most important sources of capital to support government investment each year. According to Nguyen and Chileshe's (2015) study examining the failure of construction projects in Vietnam, 50 per cent of respondents agreed that corruption was a factor causing these failures. Many serious cases of

bribery had occurred in the construction industry in Vietnam in a wide range of areas, from civil engineering, non-residential to the residential sectors (Nguyen and Chileshe 2015).

a. Corruption in Engineering Construction

Most of the serious cases of bribery occurred in engineering construction projects that generally require a large budget, calling for financial investment from the government and foreign investors. In recent years, many standard transport infrastructure projects had been undertaken, such as highways from the north to the south (1,811 km), city railway (Hanoi), highway projects (Hanoi-Hai Phong, Bac Giang – Lang Son, Da Nang – Quang Ngai, Nha Trang – Phan Thiet, Tan Son Nhat – Binh Loi, and others), metros and bridges (My Thuan bridge 2). Some typical power infrastructure projects had also been executed, for example, Lai Chau and Huoi Quang hydroelectric, Mao Khe and Cong Thanh thermals in the North; Vung Ang, Nghi Son, Quang Trach 1 and Binh Dinh thermals, Nghi Son and Nhon Hoi refineries in the Central; Ninh Thuan 1 and 2 nuclear stations, Phu My, Long Phu, Song Hau 2, and Vinh Tan1, 2, 3, 4 thermal stations in the South (Nguyen 2015). Most of the projects in this industry were joint partnerships between foreign investors and Vietnamese companies. Foreign investors had the advantages of strong financial and technological capabilities, while Vietnamese companies had the advantage of knowing the market and culture well; thus, both parties could support each other and meet their mutual goals (Le-Hoai et al. 2010). The major foreign partners were from China, Korea, Japan, Taiwan, Singapore and the USA (Nguyen 2015).

Many infrastructure projects had been accomplished successfully, such as the Nhat Tan Bridge, Hanoi – Lao Cai Highway, and Hanoi Airport – Terminal 2, however, there were some serious cases of corruption in this sector. All ministries and provinces throughout the country had inspectors, but serious bribery was widespread in Vietnam. Cases of corruption were often reported by local people, not by inspection agencies. In 2015, the South Korean press reported that an internal audit at POSCO (a Korean contractor) found that the branch of POSCO Engineering and Construction in Vietnam had set up a black fund of about KRW10 billion (Won, about US\$8.9 million) by inflating the cost of building a highway from Hanoi to Lao Cai. They claimed that they had to spend money on bribes for Vietnamese officials and collusion with subcontractors between 2009 and 2012 (Doan 2015). In another 2015 corruption case, the World Bank decided not to allow the Louis Berger Group (LGB, a United States constructor) to engage in projects using its capital because of corruption in two projects

in Vietnam. The two projects were the Rural Transport 3 and Prioritised Infrastructure Investment in Da Nang City¹² (Thanh and Nguyen 2015). Another case related to railway construction involved a Japanese construction company. The director of the Transport Consulting Corporation was arrested after committing bribery of Vietnamese officials of more than US\$700,000 for winning a consultancy package in an urban railway project (Thanh and Nguyen 2015).

Some of the biggest partners in the construction industry were Chinese construction companies. They implemented many large infrastructure projects in Vietnam. However, many problems were reported primarily in terms of their slow process. Most of the recent important projects had been undertaken by Chinese construction companies, such as the urban railway Cat Linh – Ha Dong, highway Hanoi – Hai Phong, highway Noi Bai – Lao Cai, and Lao Cai Steel Factory. It was reported that Chinese construction companies won most of the projects in Vietnam due to their low bids. However, because of the low price, they had used small subcontractors for carrying out the projects or using cheap materials. That was the reason why many projects had been running down quickly. For instance, My Dinh National Stadium was a project with a total value of US\$69 million and was constructed by a Chinese company in 2003. Notably, under the contract, all equipment and supplies had to originate from Western Europe and the United States. However, the Government Inspectorate found that 94 per cent of the equipment used in the project was changed to unknown origins. The Chinese company contracted with subcontractors at a meagre price, then shared the difference (Quang 2017).

b. Non-Residential and Residential Construction

Bribery in the non-residential and residential construction areas was not new and happened in most stages of projects. The corruption cases may occur at the beginning of projects, which was from the selection of contractors. It was reported that in most projects, the contractors had been secretly selected. Still, they went through the process of auction legally. Unofficial money may be worth up to 20 per cent of the value of the consultancy, supervision or design

¹²*Rural Transport Project 3* was implemented in September 2007 and ended in June 2014 with initial investment of US\$257.224 million. Of this amount, the World Bank IDA loan was US\$203.25 million, while the non-refundable aid from the United Kingdom (DFID) was US\$53.97 million (Thanh and Nguyen 2015). *Prioritized Infrastructure Investment* in Da Nang city started in 2008 and completed in 2013, funded by the World Bank and domestic reciprocal capital. The project has a total investment of US\$218.471 million. Of this total, the World Bank IDA budget was US\$152.438 million and the domestic counterpart fund was US\$66.033 million (Thanh and Nguyen 2015).

contracts. In the case of a construction contract, bribery may cost about 4 to 10 per cent of the contract's value (Journalists 2005).

The corruption may involve the contractors making up a cost estimate, for example, with many works listed and an inflated cost, replacing good quality materials for poor ones, and underwork the foundations. The foundation part of civil construction was one of the easiest ways to exercise corruption due to its great value and difficulty to detect after completion (Journalists 2005). The issue of foundations had been revealed in the project of the 12 storey building at resettlement area Ha Dinh – Kim Giang, Hanoi. Sixty per cent of the piles had been cut off in materials, and other parts of the project did not follow the design (Anh 2005). Many cases of corruption in the construction of schools and hospitals were revealed, resulting mainly in terms of low quality and shortage of materials. For example, the problem related to the foundation of the school project at Tan Hoi A in Hanoi contributed seriously to the poor quality and high cost of the construction (Thai 2010).

4.4 Income

One of the factors that might explain the different levels of corruption in different countries was income. In the study of a relationship between democracy and corruption, Jetter et al. (2015) found that if a country had a GDP per capita of under US\$2,000, democracy increased corruption levels and vice versa. As presented in the previous chapter, the economy in Vietnam had experienced significant growth since the reforms in 1986. It had moved from one of the poorest nations in the world to a low-middle-income country. GDP per capita was about US\$2,200 in 2016 (World Bank 2017).

According to Table 4.4, the GDP per capita of the 15 countries in ASEAN Plus Six can be categorised into two groups. The well-off group of countries included Australia, Singapore, Japan, South Korea, and New Zealand, while the middle-income group contained the remaining countries. According to International Transparency in 2016, the rich countries had low levels of corruption based on the CPI score. Australia, New Zealand and Singapore had a CPI score of 79, 90 and 84, respectively. The rest of the countries in the ASEAN group that had just reached the level of low- to middle-income were very corrupt in terms of their CPI score (International Transparency 2017). Thus, it can be seen that income might be one of the factors that contributed to reducing levels of corruption.

In Vietnam, the basic wages paid to employees in the public sector were extremely low, while the living cost was high, especially in urban areas. The salary of employees working in the public sector only meets 50 to 60 per cent of their basic needs. That was one reason why teachers, doctors, nurses and officials find other ways to increase their income, and thus may accept bribes easily (Vu 2012).

Table 4.4. GDP per Capita of ASEAN Countries Plus Six

GDP per capita	2008	2009	2010	2011	2012	2013	2014	2015	2016
Brunei	37,951.3	27,965.5	35,268.1	47,017.0	47,651.2	44,597.3	41,530.7	30,967.9	26,939.4
Cambodia	745.8	738.2	785.7	882.5	950.0	1,028.4	1,098.7	1,163.2	1,269.9
Indonesia	2,300.4	2,400.4	3,113.5	3,634.3	3,688.0	3,620.7	3,491.6	3,336.1	3,570.3
Laos PDR	899.5	948.1	1,141.1	1,304.4	1,588.6	1,838.8	2,017.6	2,159.4	2,353.1
Malaysia	8,513.6	7,326.7	9,071.3	10,405.1	10,779.5	10,882.3	11,183.7	96,485.6	9,508.2
Myanmar	644.0	741.1	987.7	1,186.4	1,175.6	1,171.4	1,260.4	1,139.0	1,195.5
Philippines	1,919.5	1,825.3	2,129.5	2,352.5	2,581.8	2,760.3	2,842.9	2,878.3	2,951.1
Singapore	39,721.0	38,577.6	46,569.7	53,166.7	54,431.2	56,029.2	56,336.1	53,629.7	52,962.5
Thailand	4,378.7	4,212.1	5,075.3	5,491.2	5,859.9	6,171.3	5,941.8	5,814.9	5,910.6
Vietnam	1,164.6	1,232.3	1,333.6	1,542.7	1,754.5	1,907.6	2,052.3	2,107.0	2,214.4
Australia	49,664.7	42,743.0	51,874.1	62,245.1	67,677.6	67,792.3	62,214.6	56,554.0	49,927.8
New Zealand	31,287.8	28,200.9	33,691.3	38,426.6	39,970.3	42,889.9	44,503.2	38,201.6	39,416.4

Source: World Bank (2017)

Although they received low wages, many people still wanted to work in the public sector because they knew there were other opportunities to gain additional income. In the education sector, people paid a large amount of money for getting jobs in schools or universities, even for temporary labour contracts. In Vietnam, the Vietnamese Teacher Day (20 October) was one of the important days for teachers and students that students had a chance to express their thanks to their teachers for their effort of teaching and working at schools or universities. Traditionally, students only tributed their thanks to the teachers by sending a bouquet together with their wishes, however, this tradition had been transformed. Both students and teachers took advantage of that occasion to exchange their benefits. Teachers might have additional income from receiving envelopes of money from students for letting them pass their exams, and officers might accept money for adjusting grades. The money that educators in

kindergarten received from parents on Vietnamese Teacher's Day was often greater than their one month's salary, and the amount of money that lecturers at university received was greater than their one year's salary (Kenhtuyensinh 2011).

In the healthcare sector, doctors, nurses and other healthcare workers also accepted bribes. According to the report *Toward International Transparency* (2013), a young doctor responded to the survey that the monthly salary that he received was very low and that he hardly could support his cost of living in the city. He graduated from the University of Pharmacy and worked at a hospital for a couple of years, but he still had to ask his parents for financial support. The basic salary that doctors or nurses received was not worth the effort that they had made in six years at university (education in pharmacy took a longer time than other fields), as well as the high pressure of working in hospitals. That was why many doctors, nurses and staff working in this sector accepted bribes. They may request or accept an envelope of money from patients for providing better care, services and treatment.

4.5 Gift-Giving Culture

Another factor that should be considered regarding the different levels of corruption between rich and poor countries was culture. Unofficial activities, such as the giving and taking of an envelope of money for special treatment at hospitals, for good grades at universities and no traffic penalties from police, were prohibited in developed countries, but happened regularly and were considered a part of the culture in other countries in the ASEAN group, especially in Vietnam.

The gift-giving culture was common not only in Vietnam but in other ASEAN countries as well. Giving gifts could be understood as an expression of gratitude, and it was used to show respect and spiritual value. However, over the years, this tradition had become more material and can even be considered a transaction (Ha 2013). The Vietnamese abused of the culture of gift-giving was difficult to identify corruption because it might be merely an expression of gratitude. The World Bank conducted a survey of about 2,600 Vietnamese citizens in both the private and public sectors about the gift-giving culture in Vietnam. The study found that gifts should be understood as a form of a bribe. Only 16 per cent of government officials thought of gifts as a form of culture, and 12 per cent of citizens and enterprises had the same opinion. In contrast, up to 65 per cent of citizens and enterprises claimed that giving or taking gifts was bribery and 56 per cent of government officials admitted this (Vnexpress 2017).

The culture of gift-giving on special occasions in Vietnam originally had a good meaning, which was very similar to giving presents at Christmas time in Western countries, through which people expressed their friendship, love and gratitude to each other. However, in Vietnam, gifts were being abused and transformed into other ways with specific purposes, such as buying a higher position, receiving a promotion or receiving favours at work. Employees gave gifts not only to their managers but maybe also give to a manager's wife/partner and their children (Thanh 2015). Gifts could be everything from small to great value, such as iPhones, iPads, laptops, European tours, cars and apartments. Another form of gift-giving culture that was well known in Vietnam was called the 'envelope culture'. It was a form of a gift used that people find more convenient for giving and taking. Instead of wondering about choosing suitable presents or being concerned about the value of gifts, people sometimes preferred giving an envelope of money (Thanh 2015).

Bribery occurring in the form of gift-giving or envelopes of money could be considered a part of the culture in Vietnam because it happened regularly, so it was being accepted as a part of the culture. Nguyen (2012) showed that corruption stemmed from a relationship between a provider (who had less power) and a receiver (who had power). The receiver accepted gifts or an envelope of money maybe because of his or her greed, the feasibility and undetected capability, while the provider bribed with the purpose of 'having something done'. The money spent on bribery was considered an opportunity cost that the provider was willing to give to have their needs met. For example, if a provider was going to buy a new house and had already made the deal and deposited funds, they might confront two options. The first option was that if they did not bribe government officials for processing documents that transferred property, then the procedure could take a long time to complete, and they could lose the chance to buy the house they liked. The second option was that they bribed officials, and the procedure could be sorted out promptly, saving them time.

Although people might acknowledge the benefit of bribery, they might refuse to participate in bribery if they believed in the principles of justice and their country's legal system. This was the point that made the difference in corruption levels between rich and poor countries. For instance, in Australia (and also other countries that had a high CPI score) people rarely thought of bribing officials for processing documents or receiving gifts or money from providers under any circumstances for any purposes. They had trust in the public administration system. Besides, they might not want to be involved in any legal problems. In contrast, in Vietnam and

many countries in the ASEAN group that had low CPI scores, people might not care much about the moral aspect as they had been aware of shadow transactions happening regularly (Nguyen 2012).

4.6 Conclusion

This chapter discussed the social issue of corruption in Vietnam—as a representative of the ASEAN countries—in detail. According to the report of Transparency International (2017), Vietnam scored 33 out of 100 in terms of the CPI, which meant Vietnam stood at the bottom group of corrupt countries in the world together with other countries in the ASEAN group, except Singapore. Australia, New Zealand and Singapore were the cleanest countries in the general region in terms of corruption. Based on the survey by Transparency International, a high percentage of Vietnamese respondents (56 per cent) answered that corruption in Vietnam was increasing, and 53 per cent said they were pessimistic about the anti-corruption programs in Vietnam (Transparency International 2017). In addition, based on the annual reports of the World Bank’s Worldwide Governance Indicators from 1996 to 2016, the six dimensions of governance indicators (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption) had poor performance in Vietnam (World Bank 2017).

This chapter provided a study of some leading causes of corruption, especially in the public sector, and other major factors such as income and culture. Empirical studies suggested there could be a relationship between government expenditure and levels of corruption; thus, this study focused on education, health and construction since they had the largest proportion of government expenditure in the public sector (answering the first research question of the thesis). A high proportion of government funds were spent on education (about 20 per cent). The Government of Vietnam aimed to change the education system and improve its quality. It used large amounts of money for training future higher education providers, both domestically and overseas. Education was treated as the top government priority in Vietnam, which led to significant spending in the area. Subsequently, many people, organisations and institutions abused this agenda by opening new schools and universities, expanding educational areas or calling for increased budgets for upgrading facilities. The consequences of corruption occurred from top to bottom in this sector, including in construction, printing

and publishing and achieving fake titles and certificates, and occur among students, teachers, lecturers and educational officials.

In the healthcare sector, the government spent about nine per cent annually from its budget for upgrading facilities, buying new equipment and training doctors and nurses. However, corruption was one of the serious problems in this sector. Bribery occurred mainly in three areas, which were sectoral management, health services provision and health insurance management. Bribery happened when buying licensing, recruiting employees, processing documents, selling free drugs to patients, sharing commissions with private drug stores and creating fake bills for free medication.

In the construction sector, the government spent about 10 per cent of its budget annually on upgrading and building infrastructure and public construction. This sector had a growth rate higher than GDP; thus, there was possibly a chance for corruption to occur. Most of the construction projects were joint cooperation projects between Vietnam and other foreign partners. Corruption took place in the selection of contractors, buying materials and bribing government officials for the approval of documents. In addition, this chapter discussed income as another factor causing corruption. Incomes and basic wages in Vietnam were very low and can only support around 50 to 60 per cent of living costs. This factor drove public officials, employees and staff to find ways to increase their income. This factor was one of the causes that may explain the different levels of corruption between rich and low- to middle-income countries in the study.

The culture was also a factor that might lead to different levels of corruption in the studied countries. The give-take culture, especially gift-giving and envelopes of money, was a part of Vietnamese culture. People abused this culture regularly for bribery by buying positions, promotions or having favour from managers in Vietnam as well as other ASEAN countries. In contrast, Australia, New Zealand and Singapore had a strong respect for their justice and administrative systems, and people in these countries mostly refused to engage in unofficial activities. With these economic and social conditions in mind, it was possible to clarify which factors were the most important in creating conditions for corruption in Vietnam and what the economic effects of this corruption might be. In the following chapter, the broad methodology employed to carry out this analysis was discussed.

CHAPTER 5_ METHODOLOGY

5.1 Introduction

This chapter dealt with the method and procedures used in the study to answer the research questions. To be more specific, the structure of this chapter was formed as follows. The first section of the chapter presented the research design. Since the study aimed to examine the relationships between dependent and independent variables, an ex-post facto research design was applied. Further, the study used time series of secondary data and examined the causes and consequences of corruption in a number of countries. Thus, a panel data regression model was another approach for solving the research questions in this study.

The second part of this study was data analysis. This part of the chapter presented the methods for using and analysing collected data. Overviews of the growth of different macro-economic variables used in the study, as well as the changes in the score of corruption in selected countries, were presented in graphical form. In addition, a number of multiple regressions were proposed in this part of the chapter. SPSS software was applied to run these models.

The following part of the chapter was an explanation of the data collection. In this part, the various data sources used by the researcher were presented. The researcher also assumed that all data gathered and used in this study was reliable and that the statistical tools used in analysing the data were appropriate by accessing reliable sources such as government websites, organizational websites, libraries, official reports, books and journal articles. Lastly, for a better understanding of all variables taken into the analysis, this chapter provided identification of the variables used. In this part, the general definitions of all studied variables were given, followed by their application in the study.

5.2 Research Design

Corruption was considered a sensitive social issue; thus, it was not easy to collect information and data. This study used the ex-post facto research design, which examined causal relationships between dependent and independent variables based on an existing condition (Cohen et al. 2000). Kerlinger (1970, p.360) defined “ex-post facto research as that in which the independent variable or variables have already occurred and in which the researcher starts with the observation of a dependent variable or variables”. The study used an ex-post facto

research design since it involved dependent, independent and control variables to determine if there was a relationship between the variables. It used the control variables to determine their effects on the corruption of government expenditure and governance indicators, as well as the effects of corruption on economic development. Moreover, this study applied a panel data regression model¹³. According to Gujarati (2003, p. 562), this model ‘combines time series and cross-section observations’. Since the study used a secondary database, which was collected from reliable sources covering 18 years from 2000 to 2017, and examined the level of corruption based on time series and in cross countries of 15 ones (ASEAN Plus Six), this research design was the most appropriate approach to the study for solving the research questions.

The research questions that were identified in the introduction chapter were:

- Do government expenditure and governance indicators have an effect on corruption in ASEAN Plus Six?
- Does corruption have a significant effect on economic development in ASEAN Plus Six?
- Does income lead to different levels of corruption in ASEAN Plus Six?

To achieve all these objectives, this study ran multiple regression to determine the effect of corruption on economic development. According to Gujarati (2003), multiple regression examined the relationship between one dependent variable and more than one explanatory independent variable.

5.3 Data Analysis

To test the hypotheses and answer the research questions of the study, different statistical tools were utilised. First, a graphical presentation was used to show both the trend of corruption in all studied countries and also some macroeconomics factors, such as government expenditure, governance indicators and other variables, including population, the unemployment rate, economic freedom and democracy. The graphic presented the status of those factors in ASEAN Plus Six from 2000 to 2017. Secondly, SPSS software was used in the study for

¹³Panel data can be referred in other names such as pooled data, longitudinal data, combination of time series and cross-section data (Gujarati, 2003).

running multiple regression to determine the effect of those macroeconomics on corruption, and the effect of corruption on economic development in studied countries. Based on the development of hypotheses presented in Chapter Two, the regression equations used for this study were listed in Table 5.1 as follows.

Table 5.1. List of Regression Equations

Regression Equation	Model Number
Causes of Corruption in ASEAN Plus Six	
$CPI = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 POP + \beta_5 GCAP + \varepsilon$	(1)
$CPI = \alpha + \beta_1 CC + \beta_2 GE + \beta_3 PV + \beta_4 RQ + \beta_5 RL + \beta_6 VA + \varepsilon$	(2)
$CPI = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4$	(3)
$CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8 RL + \beta_9 VA + \beta_{10} GCAP + \beta_{11} POP + \beta_{12} U$	
$NEMP + \beta_{13} INV_FD + \varepsilon$	
$SE = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 POP + \beta_5 GDP + \beta_6 GCAP + \varepsilon$	(4)
$SE = \alpha + \beta_1 CC + \beta_2 GE + \beta_3 PV + \beta_4 RQ + \beta_5 RL + \beta_6 VA + \beta_7 POP + \beta_8 GCAP +$	(5)
$\beta_9 DEM + \varepsilon$	
$SE = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8 RL$	(6)
$+ \beta_9 VA + \beta_{10} GCAP + \beta_{11} DEM + \beta_{12} UNEMP + \varepsilon$	
Consequences of Corruption in ASEAN Plus Six	
$TAXR = \alpha + \beta_1 CPI + \beta_2 POP + \beta_3 GEXP + \beta_4 INV_FD + \beta_5 FIN_FD + \beta_6 PR$	(7)
$OP + \varepsilon$	
$DEBT = \alpha + \beta_1 CPI + \beta_2 GEXP + \beta_3 FIN_FD + \beta_4 PROP + \beta_5 TAXR + \varepsilon$	(8)
$FDI = \alpha + \beta_1 CPI + \beta_2 GEXP + \beta_3 INV_FD + \beta_4 GDPG + \beta_5 PV + \varepsilon$	(9)
$GCAP = \alpha + \beta_1 CPI + \beta_2 GEXP + \beta_3 INV_FD + \beta_4 FIN_FD + \beta_5 GDPG$	(10)
$+ \beta_6 TAXR + \beta_7 FDI + \varepsilon$	
$TAXR = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 DEBT + \beta_4 RL + \varepsilon$	(11)
$DEBT = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 TAXR + \beta_4 RL + \varepsilon$	(12)
$FDI = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 GDPG + \beta_4 PV + \beta_5 UNEMP + \beta_6 ECO_FD +$	(13)
ε	
$GCAP = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 ECO_FD + \beta_4 POP + \beta_5 TAXR + \varepsilon$	(14)
Causes of Corruption in LMICs and HICs	
$CPI = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8$	(15)
$RL + \beta_9 VA + \beta_{10} DEM + \beta_{11} GCAP + \varepsilon$	
$SE = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8 RL$	(16)
$+ \beta_9 VA + \beta_{10} GCAP + \varepsilon$	
$CPI = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8$	(17)
$RL + \beta_9 VA + \beta_{10} GCAP + \varepsilon$	
$SE = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8 RL$	(18)
$+ \beta_9 VA + \beta_{10} GCAP + \beta_{11} UNEMP + \varepsilon$	
Consequences of Corruption in LMICs and HICs	
$TAXR = \alpha + \beta_1 CPI + \beta_2 DEBT + \beta_3 UNEMP + \beta_4 FIN_FD + \beta_5 GEXP + \beta_6 G$	(19)
$DPG + \beta_7 POP + \varepsilon$	
$TAXR = \alpha + \beta_1 SE + \beta_2 DEBT + \beta_3 UNEMP + \beta_4 FIN_FD + \beta_5 GEXP + \beta_6 GD$	(20)
$PG + \beta_7 POP + \varepsilon$	

Regression Equation	Model Number
$DEBT = \alpha + \beta_1 CPI + \beta_2 GEXP + \beta_3 TAXR + \beta_4 FDI + \beta_5 UNEMP + \beta_6 GDPG + \varepsilon$	(21)
$DEBT = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 TAXR + \beta_4 FDI + \beta_5 UNEMP + \beta_6 GDPG + \varepsilon$	(22)
$FDI = \alpha + \beta_1 CPI + \beta_2 PV + \beta_3 DEBT + \beta_4 UNEMP + \beta_5 INV_FD + \beta_6 FIN_FD + \beta_7 GDPG + \varepsilon$	(23)
$FDI = \alpha + \beta_1 SE + \beta_2 PV + \beta_3 RL + \beta_4 TAXR + \beta_5 DEBT + \beta_6 UNEMP + \beta_7 INV_FD + \beta_8 FIN_FD + \varepsilon$	(24)
$GCAP = \alpha + \beta_1 CPI + \beta_2 FDI + \beta_3 POP + \beta_4 GDP + \varepsilon$	(25)
$GCAP = \alpha + \beta_1 SE + \beta_2 FDI + \beta_3 POP + \beta_4 GDP + \beta_5 GEXP + \varepsilon$	(26)
$TAXR = \alpha + \beta_1 CPI + \beta_2 DEBT + \beta_3 UNEMP + \beta_4 FIN_FD + \beta_5 GEXP + \varepsilon$	(27)
$TAXR = \alpha + \beta_1 SE + \beta_2 DEBT + \beta_3 UNEMP + \beta_4 FIN_FD + \beta_5 GEXP + \varepsilon$	(28)
$DEBT = \alpha + \beta_1 CPI + \beta_2 GEXP + \beta_3 TAXR + \beta_4 UNEMP + \beta_5 GDPG + \varepsilon$	(29)
$DEBT = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 TAXR + \beta_4 FDI + \beta_5 GDPG + \varepsilon$	(30)
$FDI = \alpha + \beta_1 CPI + \beta_2 PV + \beta_3 RL + \beta_4 TAXR + \beta_5 UNEMP + \beta_6 GDPG + \varepsilon$	(31)
$FDI = \alpha + \beta_1 SE + \beta_2 RL + \beta_3 TAXR + \beta_4 DEBT + \beta_5 UNEMP + \beta_6 FIN_FD + \beta_7 GDPG + \varepsilon$	(32)
$GCAP = \alpha + \beta_1 CPI + \beta_2 POP + \beta_3 GDP + \beta_4 GEXP + \varepsilon$	(33)
$GCAP = \alpha + \beta_1 SE + \beta_2 FDI + \beta_3 POP + \beta_4 GDP + \varepsilon$	(34)
Causes and Consequences of Corruption in Vietnam	
$CPI = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 RL + \beta_7 POP + \beta_8 TAXR + \varepsilon$	(35)
$TAXR = \alpha + \beta_1 CPI + \beta_2 DEBT + \beta_3 POP + \varepsilon$	(36)
$TAXR = \alpha + \beta_1 SE + \beta_2 DEBT + \beta_3 POP + \varepsilon$	(37)
$DEBT = \alpha + \beta_1 CPI + \beta_2 TAXR + \beta_3 POP + \varepsilon$	(38)
$DEBT = \alpha + \beta_1 SE + \beta_2 TAXR + \beta_3 POP + \varepsilon$	(39)
$FDI = \alpha + \beta_1 CPI + \beta_2 DEBT + \beta_3 POP + \beta_4 TRA_FD + \beta_5 INV_FD + \varepsilon$	(40)
$GCAP = \alpha + \beta_1 CPI + \beta_2 POP + \beta_3 FDI + \varepsilon$	(41)

LMICs: Low- to middle-income countries

HICs: High-income countries

Where CPI was the corruption perception index; SE was the shadow economy index; α was intercept coefficient; β was the slope of independent variable; EDU was government expenditure on education; HEA was government expenditure on healthcare; GFCF was government expenditure on construction; VA was voice and accountability; PS was political stability no violence; GE was government effectiveness; RQ was regulatory quality; RL was rule of law; CC was corruption control; GEXP was total government expenditure; TAXR was tax revenue; DEBT was public debt; GCAP was GDP per capita; POP was population; UNEMP was unemployment rate; FDI was a foreign direct investment; ECO_FD was economic freedom; INV_FD was investment freedom; FIN_FD was financial freedom; PROP

was property rights; GDP was gross domestic product; DEM was democracy; ϵ was an error term.

The multiple regression was used to determine the significance of the p-value of F-stat, t-stat, and coefficient of independent variables. The study also included the analysis of the coefficient of determination (R-squared) to know if the model had a good fit and to measure the percentage of the variance in the dependent variable explained by the independent variable. The value of R-squared ranged from zero to one. Zero indicated the selection of variables in the model was not good that the independent variable could not explain collectively to the dependent variable. One indicated 100 per cent of the variation in the dependent variable explained by the independent variable. Also, the value of the t-statistic of each variable was analysed to identify whether the variable had a significant or insignificant relationship to the dependent variable being tested. It followed that if the t-statistic had a value greater than two (2) and a p-value that lay at the 0.05 level of significance, the null of no significant effect should be rejected. Further, the F-test was used to show if the model was reliable and consistent and provided solid evidence of the hypotheses.

5.4 Data Collection

Various sources had been utilised for the purpose of data collection. First, the library at the Swinburne University of Technology provided much information, and data about corruption and studied variables were gathered from journals, articles and books. Second, various websites had been utilised for international sources where the secondary data were obtained, such as the World Bank, Asian Development Bank (ADB), Transparency International, International Country Risk Guide and the IMF. From these sources came the data on corruption and government expenditure, governance indicators, data of control variables, and data of other macro-economic variables (GDP, FDI, public debts, and tax revenue). Lastly, many different websites had been logged in for additional information regarding the study like official government websites of studied countries and other sources. Table 5.2 provided a summary of the data sources of each variable. The researcher assumed that all data gathered and used in this study were reliable and that the statistical tools used in analysing the data were appropriate based on the reliable sources that had been accessed as listed in Table 5.2. For a better understanding of all the variables taken into the analysis, their identification was provided in the following section of this chapter.

Table 5.2. Sources of Data Collection

Variable	Sources
CPI	Transparency International (from 1995–2017) https://www.transparency.org/research/cpi/cpi_early/0
Shadow Economy	IMF (from 1995–2017) https://www.imf.org/~media/Files/Publications/WP/.../wp1817.ashx
Government Expenditure on Education (% of GDP)	The World Bank (from 1995–2017) https://data.worldbank.org/indicator/SE.XPD.TOTL.GB.ZS
Government Expenditure on Health (% of GDP)	OECD (from 1995–2017). Data are available for Australia, China, India, Indonesia, and New Zealand World Health Organization http://apps.who.int/nha/database (https://www.indexmundi.com/facts/australia/health-expenditure#SH.XPD.TOTL.ZS)
Government Expenditure on websites, organizational websites, libraries, official reports, books and journal articles	Asia Development Bank https://www.adb.org/ Various national websites
Construction (% of GDP)	
Governance Indicator in selected functions (six indicators)	World Bank-Worldwide Governance Indicators http://info.worldbank.org/governance/WGI/#home
Tax Revenue	World Development Indicators https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS?view=chart
GDP growth	World Development Indicators https://data.worldbank.org/indicator/NY.GDP.MKTP.CD
Public Debt	World Development Indicators https://data.worldbank.org/indicator/GC.DOD.TOTL.GD.ZS?view=chart
FDI (% of GDP)	World Development Indicators https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS
Government Revenue	World Development Indicators https://data.worldbank.org/indicator/GC.REV.XGRT.GD.ZS?view=chart
GDP per Capita	World Development Indicators https://data.worldbank.org/indicator/NY.GDP.PCAP.CD
Population	World Development Indicators https://data.worldbank.org/indicator/SP.POP.TOTL
Unemployment Rate	IMF http://www.imf.org/external/datamapper/LUR@WEO/OEMDC/ADVEC/WEOWORLD
Economic Freedom	Heritage https://www.heritage.org/index/about
Democracy	Our World in Data https://ourworldindata.org/democracy

5.5 Identification of Variables in the Study

5.5.1 Corruption Variable

Corruption was an abuse of public funds and/or office for private or political gain (World Bank 1997). In this study, corruption was studied in two directions. The first direction was to

examine the causal factors that drove different levels of corruption in selected studied countries. The second direction was to examine the consequences of corruption on economic development. The first was studied by examining the factors that cause corruption, namely, government expenditure on the selected areas of education, healthcare and construction, and six dimensions of governance indicators. To verify the results of these factors, various control variables were included in the study. In this direction, corruption was taken into the model as a dependent variable, while other macro-economic variables were independent variables. The second direction was studied by examining the impact of corruption on tax revenue, public debt, GDP per capita, and FDI. In this direction, corruption was taken into models as an independent variable, while other factors were dependent variables.

5.5.2 Causal Variables

Government Expenditure. The total spending by all levels of government (Smith 1986). In this study, government expenditure on education, healthcare, and construction were examined to determine their impact on levels of corruption. The reason for choosing these areas in this study was because they received a large proportion of the government budget in most of the studied countries.

Education. Total public expenditure on education (current and capital) was expressed as a percentage of total government expenditure in a given financial year (UNESCO 2008). This study referred to government spending on building schools, purchasing textbooks, supplies, materials, equipment and apparatuses for school use, paying the salary of teachers and non-teaching staff, and related expenses.

Construction. Total public expenditure on health was expressed as a percentage of total government expenditure in a given financial year. This study referred to government expenditure spending on new projects, such as ports, airports, roads, hospitals, schools and other public infrastructure.

Health. Total public expenditure on health care was expressed as a percentage of total government expenditure in a given financial year (WHO 2006). This study referred to government expenditure spending on medical products, appliances, equipment, hospital services, R&D health, public health services, and related expenses.

Governance. ‘Governance consists of the traditions and institutions by which authority on a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them’ (World Bank 2018). For this reason, in this study, all six dimensions of governance (voice and accountability, political stability, government effectiveness, regulatory quality, the rule of law and corruption control) were added in the tests for examining whether the different levels of effectiveness of governance are factors that drove different levels of corruption in selected countries.

Corruption Control. It measures ‘the exercise of public power for private gain, including both petty and grand corruption’ (Kaufmann et al. 2006, p. 56).

Government Effectiveness. According to Kaufmann et al. (2006, p. 56), government effectiveness was to measure ‘the competence of the bureaucracy and the quality of public service delivery’.

Political Stability No Violence. It measured ‘the likelihood of violent threats to, or changes in, government, including terrorism’ (Kaufmann et al. 2006, p. 56).

Regulator Quality. According to Kaufmann et al. (2006, p. 56), regulator quality was to measure ‘the incidence of market-unfriendly policies’.

Rule of Law. It measured ‘the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence’ (Kaufmann et al. 2006, p. 56).

Voice and Accountability. ‘captures perceptions of the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media’ (World Bank 2018). In other words, it ‘measures the political, civil and human right’ (Kaufmann et al. 2006, p. 56).

5.5.3 Consequence Variables

Foreign Direct Investment. According to IMF (2006, p.3), FDI referred to ‘an international investment made by a resident entity in one economy (direct investor) with the objective of establishing a lasting interest in an enterprise resident in an economy other than that of the investor (direct investment enterprise)’. In this study, the FDI inflow data was gathered for the

purpose of examining the relationship between corruption and foreign investment in selected countries. According to OECD (2018), FDI flows ‘record the value of cross-border transactions related to direct investment during a given period of time’.

Gross Domestic Product (GDP). According to OECD (2018), GDP was ‘the expenditure on final goods and services minus imports: final consumption expenditures, gross capital formation, and export fewer imports’. In this research, to study whether corruption was a factor that impacted the growth of the economy, the growth rate of GDP in selected countries was taken into the test as an independent variable.

GDP per capita. The World Bank (2018) had defined GDP per capita as ‘gross domestic product divided by midyear population’. The thesis had used GDP per capita as a proxy variable of income to separate selected countries into two groups, lower-middle-income and high-income.

According to the World Bank (2019), it classified the world’s economies into four income groups, which are high, upper-middle, lower-middle, and low, based on Gross National Income (GNI) per capita (current US\$). The high-income countries were those with a GNI per capita of \$12,375 or more, while the lower-middle-income countries were those with a GNI per capita of more than \$1,026 but less than \$3,995.

Public Debt. The general government debt data was taken into this study to determine whether corruption was a factor that caused different levels of government debt in selected countries. According to OECD (2018), the general government debt to GDP ratio was the amount of a country’s total gross government debt as a percentage of its GDP. It was an indicator of an economy’s health and a key factor for the sustainability of government finance’.

Tax Revenue. According to the OECD (2018), ‘total tax revenue as a percentage of GDP indicates the share of a country’s output that is collected by the government through taxes. It can be regarded as one measure of the degree to which the government controls the economy’s resources’. In this study, corruption was examined to determine whether it was a factor causing lower tax income in studied countries.

5.5.4 Control Variables

Economic Freedom. According to Heritage (2017), ‘economic freedom is defined as the fundamental right of every human to control his or her own labour and property’

Democracy. ‘A democracy is a political system with institutions that allows citizens to express their political preferences, has constraints on the power of the executive, and provides a guarantee of civil liberties’ (Roser 2019)

Population. ‘For census purposes, the total population of the country consists of all persons falling within the scope of the census. In the broadest sense, the total may comprise either all usual residents of the country or all persons present in the country at the time of the census’ (OECD 2018). In this study, this was used as one of the control variables.

Unemployment Rate. ‘Unemployment rate is the number of unemployed people as a percentage of the labour force, where the latter consists of the unemployed plus those in paid or self-employment. Unemployed people are those who report that they are without work, that they are available for work and that they have taken active steps to find work in the last four weeks’ (OECD 2018).

5.6 Conclusion

This chapter had provided an explanation of the research methodology and design that were applied to solve the research questions. The main research questions were stated again in the second part of this chapter. To solve them, an ex-post factor research design was applied since the research had involved numerous dependent, independent and control variables in the regression models. In addition, the study also used panel data regression models since it had used time series collected for a period of 18 years (from 2000 to 2017) in 15 ASEAN Plus Six countries.

This chapter also presented how data was collected from various sources and how it was used and analysed in the following chapter. A number of multiple regressions were presented. The statistical tool SPSS was used for running all tests. For a better understanding of the variables used in the study, their definitions were also provided in this chapter. The next chapter provided a presentation, interpretation and analysis of these data sources.

CHAPTER 6_ DATA PRESENTATION: CORRUPTION AND CAUSAL VARIABLES

6.1 Introduction

This chapter focused on presenting and analysing the data gathered about corruption and causal variables in selected countries. The purpose of doing this was to support the first objective of the study that to examine the causes of corruption and identify the impact of causal variables on different levels of corruption in selected countries. To interpret corruption, two proxy variables were used, the CPI and the SE were used. Various factors cause different levels of corruption, however, government expenditure and governance indicators were considered the major causes in this study. By interpreting and analysing data gathered from 2000 to 2017, the trends of corruption scores, the different proportions of government spending, and the different levels of government performance in selected countries might support the results of the study.

In the first part of this chapter, the CPI and the SE were presented. The CPI data was gathered from Transparency International and showed the different levels of corruption in various countries. The CPI score ranged from 0 to 100, where 0 indicated the highest level of corruption, and 100 indicated the lowest level of corruption. The data for the SE was collected based on the study of Medina and Schneider (2018). The SE scores presented the size of the shadow economy by calculating the levels of hidden economic activities over GDP. The greater percentage of the SE, the higher the level of the shadow economy.

In the following part of the chapter, the major causes of corruption (government expenditure and governance indicators) were presented and analysed. In terms of government expenditure, this study focused on education, health, and construction sectors as they were the largest spending areas of the government in selected countries, especially the developing ones. In terms of governance indicators, the World Bank identified six major components of governance, which were voice and accountability, political stability and lack of violence, government effectiveness, regulatory quality, rule of law and control of corruption. The scores of six indicators indicated the efficiency of government management in each studied country in different aspects. They were considered major causes of different levels of corruption. In this study, the last indicator, control of corruption, was not covered as its assessment and

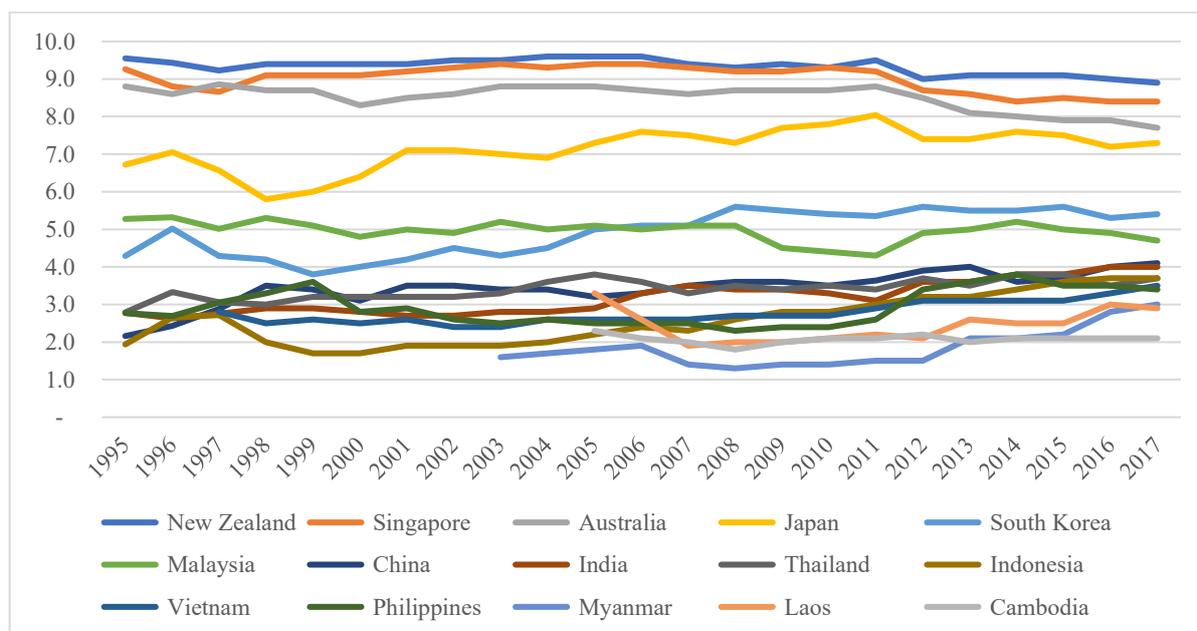
measurement were quite similar to the CPI in some respects. Thus, to avoid biased results in the relationship between governance indicators and corruption, this indicator was dropped.

6.2 Proxy Variables of Corruption

6.2.1 Corruption Perception Index

This section of the chapter presented and explained the levels of corruption in the public sector in selected countries based on the Corruption Perception Index (CPI) provided by Transparency International. The indexes were ranged from 0 to 10 pre-2012, then revised from 2012 to the present to range from 0 to 100. In this study, the CPI after 2012 was converted to a scale of 10 for a consistent examination. The series of data from 2000 to 2017 were presented in Figure 6.1. in which it could be seen that the levels of corruption in selected countries were divided into three different groups, those with a high score (New Zealand, Singapore, Australia, and Japan), those with an average score (Malaysia, and Korea), and those with a low score (Laos, Vietnam, Thailand, India, Philippines, Cambodia, China, Indonesia, and Myanmar). Figure 6.1 also showed that there had been no big change or improvement of corruption scores in the studied countries over 18 years.

Figure 6.1. CPI, 1995 to 2017



Source: Transparency International (2018).

a. The High Score Group

For over 18 years, New Zealand had performed well as one of the cleanest countries in terms of corruption in the region as well as in the world. In 2017, New Zealand scored 89 and was followed closely by Singapore, Australia and Japan, with scores of 84, 77 and 73 (scale 100), respectively. The four countries had quite similar CPI trends, and the scores dropped in 2012 due to the revised methodology of evaluating levels of corruption by Transparency International. In this group, Japan performed impressively in fighting against corruption by moving from the average-scoring group during the 1990s to the high score group in the mid-2000s. Japan had the lowest CPI score in 1998 of 5.8 (scale of 10) due to the sex and money scandals of two Ministry of Finance officials, as well as the problem of the Central Government spending a large budget on public construction (Hays 2009). In 2012, the score dropped from 80 to 74 (scale of 100) due to a series of disasters happening in that country in the same year, which were major earthquakes, tsunami and nuclear disasters. Conversely, Australia had slipped from 2012 due to bribery and the diversion of public funds (Ryan 2018). It was reported that many politicians, advisers and senior government officials decided to leave the public sector to become lobbyists and then bribe political parties (their mates) millions of dollars in the way of making donations for favourable policy outcomes (Ng 2018).

b. The Middle Score Group

In the middle range of the CPI (score from 4.0 to 6.0), South Korea and Malaysia were the only two of the studied countries categorised into this group. Figure 6.1 showed that South Korea performed better than Malaysia in combating corruption in its public sector. There was an upward trend of the CPI from 1999 to 2015 in South Korea. The CPI of 3.8 in 1999 would be the lowest score in the studied period in South Korea. Major reasons for that low score might include the impact of the 1997–1998 Asian financial crisis on the economy. The 1999 collapse of Daewoo (the second-largest company in South Korea) revealed a series of at least one billion dollars of bribery and corruption for concealing the company's debts (Dowling 2008). Also, there was a significant case of wives of senior government officials spending bribery money of about 165 million dollars on expensive clothes and handbags (Blechinger 2000). In 2016, the corruption scandal of South Korea's president Park Geun-Hye might be the major case that made the CPI score slipped from 5.6 to 5.3 in one year. The scandal could be named 'pay to play' that forced big companies to donate millions of dollars to funds that were managed by the president's very close friend (BBC 2016). Figure 6.1 showed a slight

improvement in fighting corruption in Malaysia. The CPI scores were the lowest in 2009, 2010 and 2011 at 4.5, 4.4 and 4.3, respectively. During that time, a noteworthy corruption case in Malaysia was revealed, considered the world's biggest corruption scandal. The scandal involved a major wealth fund, 1Malaysia Development Berhad (1MDB), which was owned by the government and had the former Prime Minister, Najib Razak, as the chair of the advisory board. It was reported that more than US\$700 million had been transferred from 1MDB to the prime minister's personal bank accounts. The investigation went further and found evidence of corruption and money laundering from several countries, including Switzerland, Singapore, the United Kingdom and the United States, to 1MDB (Ramesh 2016).

c. The Low Score Group

This group included nine countries which were China, India, Thailand, Indonesia, Vietnam, the Philippines, Myanmar, Laos and Cambodia. These countries had low CPI scores under 4.0 on the scale of 10 (or 40 on the scale of 100). There were obvious changes over 20 years, however, the scores were still very low. Most of the countries in the Asia-Pacific region (except countries in the top and middle-score group mentioned above) were making little progress in combating corruption (Transparency International 2019). These countries had set a number of campaigns for fighting against corruption, but there was still a large percentage of the population who had little trust in the public administration. The survey conducted in 2017 by Transparency International showed that many governments in the Asia-Pacific failed to stop corruption, and approximately 900 million people living in these countries experienced paying a bribe to access public services (Transparency International Secretariat 2017).

According to Figure 6.1, China seemed to perform anti-corruption better than other countries in this group based on the CPI scores. The CPI score increased from 36 in 2014 to 41 in 2017. However, three-quarters of Chinese people surveyed responded that corruption had increased in their country over three years from 2014 to 2017 (Transparency International 2017). According to Zuniga (2018), corruption was exercised in different forms in China, however, bribery and giving gifts were the most common ones that 26 per cent of people interviewed answered that they had paid a bribe to access public services, such as hospitals, schools, the police and the courts (Zuniga 2018). At the bottom of this group was Cambodia. The country was facing a serious problem with high corruption occurring in every aspect of the Cambodian social fabric (Rahman 2016).

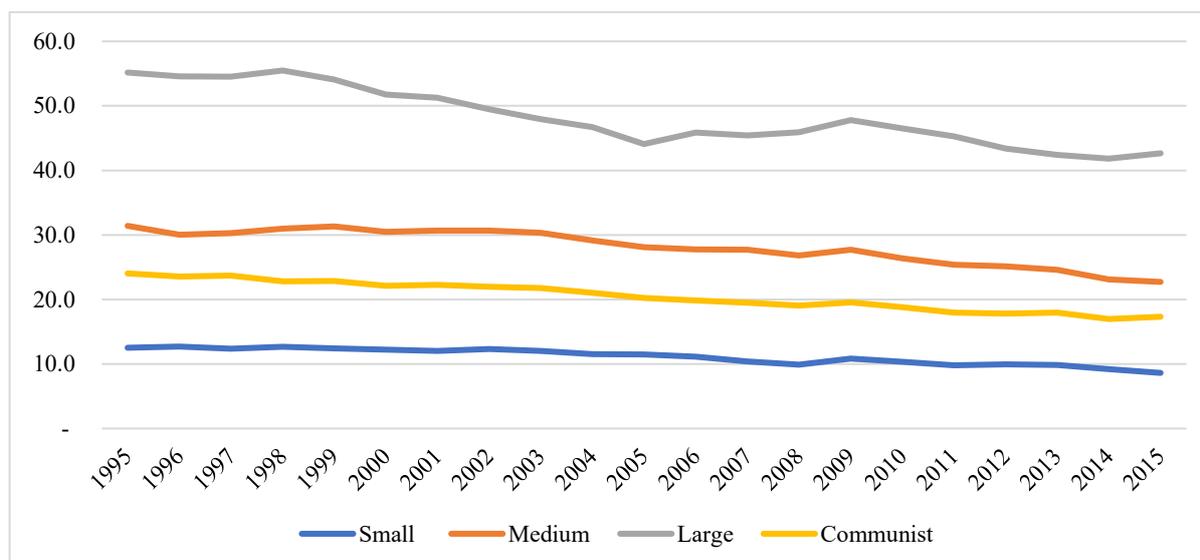
The CPI scores in Vietnam had improved to a slight extent over the years. The country had taken a strong approach towards the prosecution and punishment of corruption and bribery, however, it did not work effectively due to weak democratic institutions and political regulations (Transparency International 2019). The CPI score was 35 in 2017, then dropped two points to 33 in 2018. An explanation for this falling score was Vietnam's involvement in several corruption scandals connected to Denmark and Japan. The Japanese companies that were involved claimed that they bribed Vietnamese government officials in exchange for government contracts on railway projects and gave 'envelopes of money' as a 'thank you' to officials after the contracts had been made (Do 2014). In 2017, the World Bank banned a Danish consultant company for bribery the Vietnamese government officials (Transparency International 2019).

6.2.2 Size of the Shadow Economy

The size of the shadow economy could also be considered a way to estimate the level of corruption. Most past studies had used the CPI or other similar indexes to indicate the level of corruption. Less common was the use of indicators like that of the 'shadow economy' to proxy levels of corruption. In the literature reviewed in Chapter 2, Table 2.1 showed the activities defined as part of the shadow economy, providing the argument for using the shadow economy as a proxy variable of corruption in this study. This chapter presented and explained the size of the shadow economies in the selected countries based on the study of Medina and Schneider (2018).

The size of the shadow economy was divided into four groups which were a small size, medium size, large size, and communist group. The average shadow economy of each group was presented in Figure 6.2. The small size, medium size, and communist groups had similar trends of the size of the shadow economy generally, while the large size group had slightly different trends from the others. The detail of the size of the shadow economy of each group was explained in the following section.

Figure 6.2. The Average Shadow Economy (% of GDP) by Groups, 1995 to 2015



Source: Medina and Schneider (2018), and Author.

a. The Small Size Group

This group included Australia, Japan, New Zealand and Singapore, all of which had shadow economies below 15 per cent of the GDP. According to the data in Table 6.1, the average size of the shadow economy in this group decreased from 2005 to 2008; however, it increased by almost one percentage point in 2009 then gradually reduced over the following years. This expansion of the shadow economy size could be explained by the impact of the Global Financial Crisis. The size of the shadow economies of this group was generally similar and small. A gradually decreased average shadow economy of this group over two decades showed that the performance of this group in controlling underground activities was increased. Australia made the greatest improvement in reducing the size of the shadow economy by more than six per cent, while other countries in this group reduced their shadow economies by about three per cent over 20 years from 1995 to 2015.

Table 6.1. The Small Size of the Shadow Economy Group (% of GDP)

Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	95/15	14/15
Australia	14.42	13.10	12.25	11.66	9.32	8.96	9.39	9.14	8.87	9.83	9.95	8.90	8.10	6.32	0.80
Japan	10.85	11.20	10.91	10.35	10.14	9.21	10.39	9.93	9.89	9.73	9.28	8.69	8.19	2.66	0.50
New Zealand	12.70	11.50	11.53	11.72	10.57	10.76	11.66	11.62	10.19	10.33	10.09	9.33	8.97	3.73	0.36
Singapore	12.17	13.10	11.13	10.88	11.51	10.72	11.87	10.72	10.13	9.90	10.15	9.90	9.20	2.97	0.70
Average	12.54	12.23	11.46	11.15	10.39	9.91	10.83	10.35	9.77	9.95	9.87	9.21	8.62	3.92	0.59

Source: Medina and Schneider (2018) and Author

Looking at each country, the size of the shadow economy of Australia was the smallest of 8.10 per cent of GDP in 2015 compared with other countries in the group. This size decreased by nearly one percentage point from 2014 (8.90 per cent). Japan had the second smallest size of the shadow economy in 2015 of 8.19 per cent of GDP which was 0.50 percentage points decreased compared to 2014. The size of the shadow economy in New Zealand was 8.97 per cent of GDP in 2015, which decreased 0.36 percentage points from 2014 (9.33 per cent). Singapore had the largest size of the shadow economy in this group at 9.20 per cent in 2015, decreasing by 0.70 percentage points from 2014.

b. The Medium Size Group

This group included India, Korea, Indonesia, Malaysia and the Philippines, which had the size of the shadow economy in the range from 15 to 30 per cent of GDP. The size of the shadow economy of countries in this group was presented in Table 6.2.

Table 6.2. The Medium Size of the Shadow Economy Group (% of GDP)

Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	95/15	14/15
India	26.67	26.70	23.44	22.06	21.03	21.68	22.27	20.65	19.71	18.99	18.11	18.33	17.89	8.78	0.44
Korea	27.48	27.50	26.03	26.37	24.89	23.86	23.13	22.97	20.81	20.96	21.27	20.36	19.83	7.65	0.53
Indonesia	24.62	23.70	24.82	24.87	25.13	23.40	24.29	23.44	22.65	22.22	21.92	21.05	21.76	2.86	-0.71
Malaysia	33.22	31.10	29.77	29.21	31.23	30.03	31.71	30.17	29.82	29.78	29.84	26.41	26.07	7.15	0.34
Philippines	45.04	43.30	36.50	36.18	36.37	35.08	37.02	34.63	33.90	33.61	31.71	29.30	28.04	17.00	1.26
Average	31.41	30.46	28.11	27.74	27.73	26.81	27.68	26.37	25.38	25.11	24.57	23.09	22.72	8.69	0.37

Source: Medina and Schneider (2018) and Author.

According to the data in Table 6.2, the average size of the shadow economy in this group gradually decreased over 20 years from 31.41 per cent in 1995 to 22.72 per cent of GDP in 2015, which was a decrease of 8.7 percentage points over two decades. Looking at individual countries for 2015, the Philippines had a shadow economy of 28.04 per cent of GDP, which was the largest size compared with other countries in the group. However, it had an impressive improvement in reducing the shadow economy by 17 percentage points over 20 years. India had the smallest size in the group of 17.9 per cent of GDP, which dropped almost 9 per cent from 1995 to 2015. The median countries were Korea, Indonesia, and Malaysia, with the size of the shadow economy of 19.83 per cent, 21.76 per cent, and 26.07 per cent of GDP, respectively. The size of the shadow economy of Indonesia seemed not to change significantly

over the years but even got worse by increasing the size by almost one percentage point from 2014 to 2015.

c. The Large Size Group

This group included Cambodia, Thailand and Myanmar, which had a size greater than 30per cent of GDP. The size of the shadow economy of this group was presented in Table 6.3. The average shadow economy of this group was up and down unstably, as seen in Figure 6.2; however, it decreased overall by almost 13 percentage points over two decades.

Table 6.3. The Large Size of the Shadow Economy Group (% of GDP)

Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	95/15	14/15
Cambodia	54.55	50.10	43.69	40.92	41.76	41.02	42.88	42.31	40.30	38.08	36.56	34.92	33.85	20.70	1.07
Thailand	51.84	52.60	48.70	48.24	48.11	47.84	51.22	48.65	47.88	46.67	46.74	47.25	43.12	8.72	4.13
Myanmar	59.12	52.60	39.86	48.41	46.38	48.89	49.30	48.60	47.56	45.49	43.96	43.30	50.99	8.13	-7.69
Average	55.17	51.77	44.08	45.86	45.42	45.92	47.80	46.52	45.25	43.41	42.42	41.82	42.65	12.52	-0.83

Source: Medina and Schneider (2018), and Author.

According to Table 6.3, Cambodia had the smallest sized shadow economy in the group at 33.85 per cent of GDP in 2015, reduced by more than 20 per cent from 1995. Myanmar had the largest size of 51per cent of GDP in 2015, which decreased by about eight per cent compared with 59.12 per cent in 1995. The size of Myanmar’s shadow economy increased by almost eight percentage points in 2015 over the previous year. Thailand had a median sized shadow economy for this group with 43.12per cent of GDP in 2015, reducing by about four per cent over 2014 and almost nine per cent over two decades.

The average size of this group was considerably larger than the shadow economies of the first group discussed in 6.2.2a above. One of the explanations for this great difference was GDP, one of the factors used to measure the size of the shadow economy. The four countries in the small size group (Australia, Japan, New Zealand and Singapore) were highly developed, while the other three countries in the large size group (Cambodia, Thailand, and Myanmar) were still developing. According to Medina and Schneider (2018), tax burdens were not particularly important an issue in determining the size of the shadow economy, but the low living wage was a factor that led people in developing countries (including Asia and African countries) to prefer working in the shadow economy achieve a minimal standard of living.

d. Communist Countries

The shadow economies of three communist countries (China, Vietnam and Laos) were separated and presented in Table 6.4. The explanation for this separation was due to the political system in these three countries, led by a single and centralised party (communist party) that might lead to a difficulty of interpreting the shadow economy in this group. According to Medina and Schneider (2018), the shadow economy in these countries was difficult to interpret because of the economy's structures (partly market structure and planning socialist economy). That was why they should be separated and be compared parallel to countries that had similar systems.

Table 6.4. The Shadow Economy of Communist Countries (% of GDP)

Country	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	95/15	14/15
China	15.86	16.50	14.14	13.86	13.82	12.79	12.83	12.13	12.03	12.41	12.25	11.74	12.11	3.75	- 0.37
Vietnam	21.23	19.20	17.18	17.64	17.13	16.99	17.40	17.80	16.09	15.79	15.82	15.06	14.78	6.45	0.28
Laos	35.00	30.60	29.31	28.08	27.52	27.37	28.33	26.53	25.78	25.29	25.73	24.10	25.00	10.00	- 0.90
Average	24.03	22.10	20.21	19.86	19.49	19.05	19.52	18.82	17.97	17.83	17.93	16.97	17.30	6.73	- 0.33

Source: Medina and Schneider (2018), and Author.

According to Table 6.4, the average size of the shadow economy slightly decreased over two decades. The average size was 17.30 per cent in 2015, which was decreased by almost seven percentage points compared with 24.03 per cent in 1995. In 2015, China had the smallest size at 12.11 per cent, while Laos had the largest size at 25 per cent of GDP. However, these points in China and Laos were increased by 0.37 and 0.90 percentage points by 2014, respectively. Vietnam had a size of 14.78 per cent of GDP in 2015, which was an insignificant improvement from 2014 with a size of 15.06 per cent.

6.3 Government Expenditure

In this study, government expenditure was assumed as being one of the factors that led to different levels of corruption in different countries. Empirical studies showed that corruption had a significant impact on government expenditure, however, no study had been conducted the other way around to examine whether government expenditure had an impact on corruption. This study assumed that the bigger the public budget for any sector, the more possibilities for corruption. Public officers might abuse their positions or power to get approval on a big budget for different projects that gave opportunities for corruption. For example,

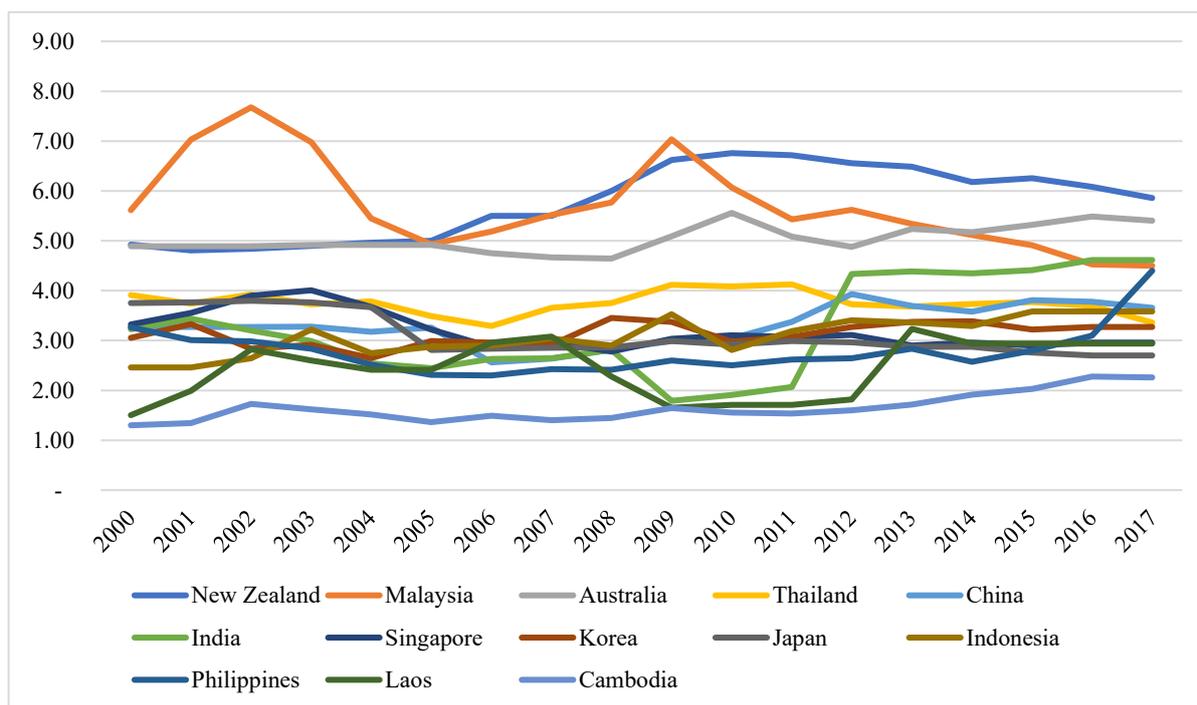
Vietnam directed 20 per cent of government expenditure, amounting to about 5 per cent of GDP, for education. This money was intended for use for textbooks, facilities for teaching and studying, new schools, upgrading or maintaining buildings, and education training, however, most of the activities were overpriced. Money was assumed to be lost to corruption, and some individuals benefit from those projects (Nguyen 2017). Thus, this thesis asked whether the level of government expenditure influenced the level of corruption, especially public spending on the education, health care and construction sectors, as budgets allocated for these sectors were large in selected countries, particularly the developing countries.

6.3.1 Government Expenditure on Education

The education budget was mainly allocated for three pillars, which were primary schools, secondary schools and higher education. In most studied countries, these three areas consumed nearly 80 per cent of the government budget, while the remaining 20 per cent of the budget was allocated for early childhood education, preschool, diplomas, advanced diplomas, vocation education and training certificates (Rice et al. 2019). Figure 6.3 showed that New Zealand, Australia and Malaysia had the biggest budget allocations on education at average rates of more than five per cent of GDP. According to the OECD (2019), New Zealand and Australia spent more on education than most OECD countries and above the average of five per cent in 2015. According to the ADB (2018), Malaysia spent a large proportion of its budget on education. Figure 6.4 showed that the average spending of Malaysia of 5.71 per cent was almost equal with New Zealand of 5.77 per cent and higher than the average spending of Australia of 5.04 per cent of GDP from 2000 to 2017.

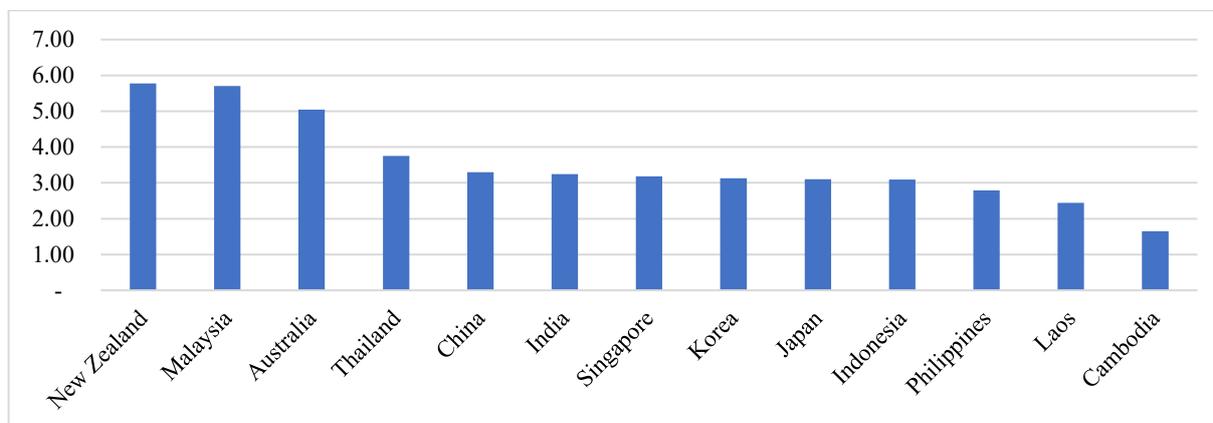
Figure 6.4 also showed that developed countries, such as Singapore, Korea and Japan had education budgets that accounted for only about three per cent of their GDP (the average rates were 3.18, 3.13 and 3.11 per cent of GDP, respectively), which was similar to some developing countries in the study, such as China, India and Indonesia, that spent their budget on the education of 3.30, 3.25 and 3.09 per cent, respectively. Laos and Cambodia were two countries that had the lowest rate of government expenditure on education (2.44 and 1.65 per cent of GDP, respectively on average). Vietnam and Myanmar were not taken into consideration as their data on government expenditure for education were not fully provided.

Figure 6.3. Central Government Expenditure on Education (% of GDP), 2000 to 2017



Source: ADB (2018), the World Bank (2019) and Author.

Figure 6.4. Average Expenditure on Education (% of GDP), 2000 to 2017



Source: ADB (2018), the World Bank (2019), and Author

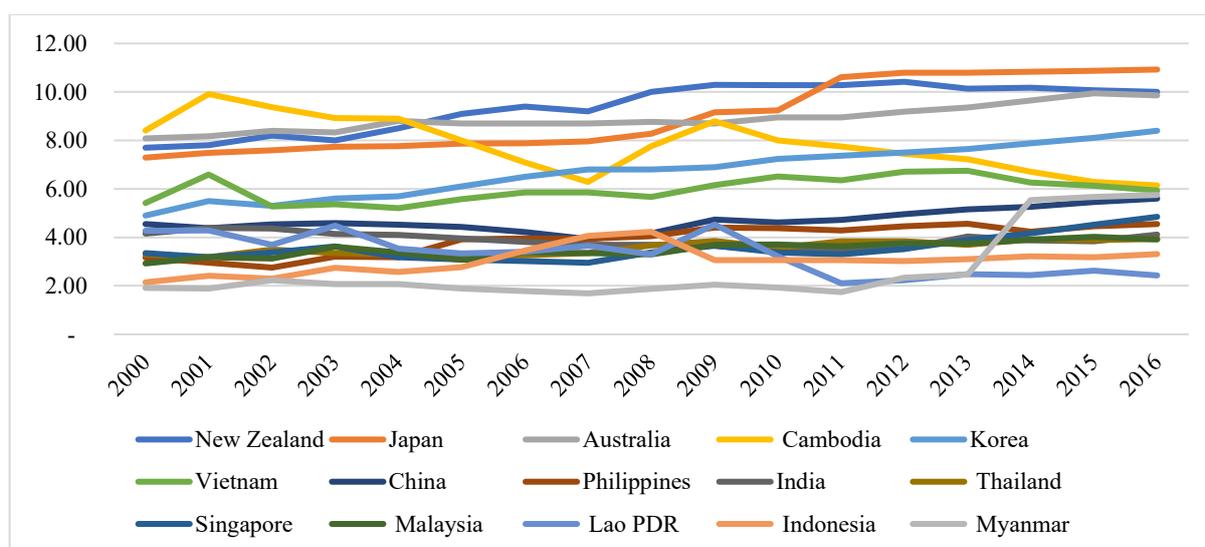
6.3.2 Government Expenditure on Health

In most of the comparisons at the cross-country level, current health expenditure as a share of GDP was often a preferred indicator. According to the WHO (2019), the current health expenditure was estimated based on healthcare goods and services consumed each year. This indicator excluded capital health expenditures, such as healthcare construction, machinery and technologies. In this study, to examine the impact of government expenditure on health care

on corruption, capital health expenditure (or gross fixed capital formation in the health care sector, or investment in health care system) was also considered a part of total health expenditure that each country spent from their budget on hospitals, machinery, ambulances, and so forth. The trends of total health expenditure (includes current and capital expenditure) as a proportion of GDP in studied countries from 2000 to 2016 were presented in Figure 6.5.

Figure 6.5 showed that New Zealand, Japan, and Australia had the highest ratios of expenditure on the healthcare sector as a percentage of GDP, with upward trends. Japan increased budget spending on health over the period. Total health expenditure as a share of GDP in Japan in 2016 was 10.93 per cent, which was the highest among the selected countries in this study and also the sixth-highest among OECD countries (OECD 2017). The major cause of this increase in health expenditure in Japan was the aging of the Japanese population. Life expectancy at birth was 84.1 years in 2017 (World Bank 2019). More than 70 per cent of healthcare expenditure was spending on this elderly population (Nippon 2018). Japan had the highest capital health expenditure in health at 1.1 per cent of GDP, which was double the OECD average of 0.5 per cent for investing in building communities, new technologies, and hospital services for health and long-term care systems for elderly people (OECD 2017). New Zealand and Australia also spent about ten per cent of GDP on the healthcare sector in 2016, as seen in Figure 6.5. The money was spent mainly on hospitals and primary health care, which accounted for about 70 per cent of total expenditure (AIHW 2018).

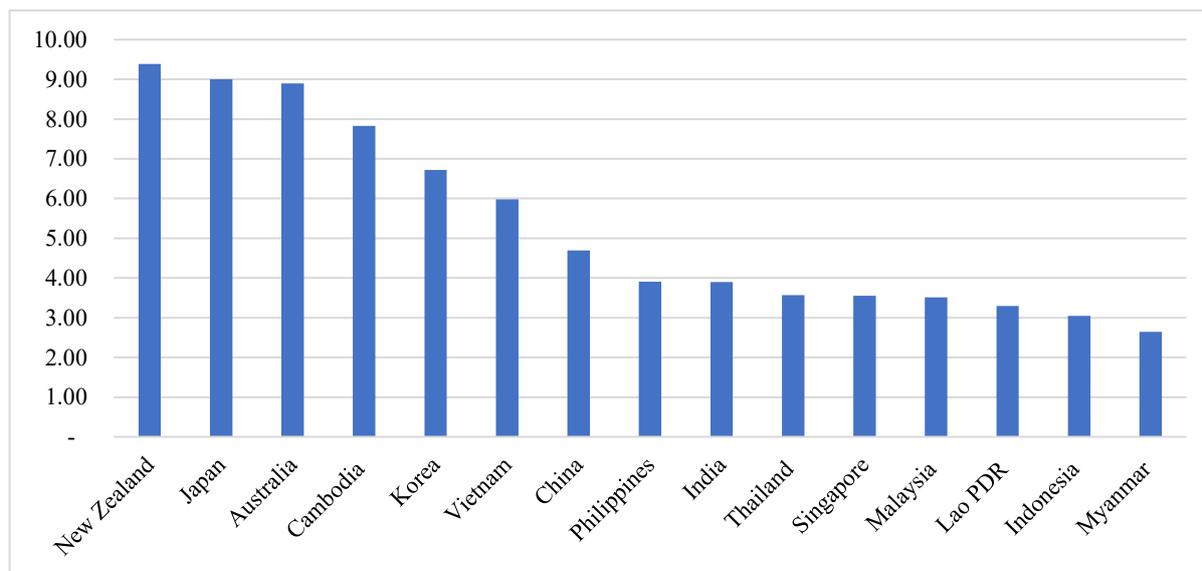
Figure 6.5. Total Health Expenditure (% of GDP), 2000 to 2016



Source: WHO (2019), OECD (2019), and Author.

Figure 6.5 showed that Korea had a continuous upward trend of total government expenditure on health as a share of GDP. The major contributory factors in the overall increased in spending were pharmaceuticals and long-care insurance (OECD 2015). In Korea, health expenditure was below the average in OECD countries because the private health sector played an important role and contributed almost 50 per cent of health funding (OECD 2015).

Figure 6.6. Average Total Health Expenditure (% of GDP), 2000 to 2016



Source: WHO (2019), OECD (2019), and Author.

Among Southeast Asia countries in the study, Cambodia and Vietnam were the two countries with the highest proportion of expenditure as a share of GDP on the healthcare sector. Figure 6.5 showed that Cambodia’s health spending fluctuated over the years from 2000 to 2016. However, on average, Cambodia’s spending (7.83 per cent) was only lower than New Zealand (9.39 per cent), Japan (9.00 per cent), and Australia (8.90 per cent), and was even higher than Korea (6.72 per cent) and other countries in the study (as seen in Figure 6.6). This fluctuating trend could be explained by the proportion of finance sources of health expenditure. In Cambodia, the largest source of health financing was from individuals’ out-of-pocket payments for receiving health services (about 60 per cent of total health expenditure), then the government’s general revenues (about 20 per cent), and donors’ development assistance (about 20 per cent). The trend had declined since 2008 due to a slight decrease in external donor funding and may continue falling (Health Policy Project 2016).

Vietnam had an average total health expenditure as a share of GDP of six per cent, which was greater than developed ASEAN countries such as Thailand, Singapore and Malaysia (3.57,

3.55 and 3.51 per cent of GDP, respectively). The proportion of government expenditure on health increased over time due to the growth of the economy, demographic changes and growth of population that led to an increase in demand for healthcare services. There was a high demand for upgrading facilities, replacement and new health and medical equipment, upgrading or new hospitals that even Vietnam had an increase of the total budget for the healthcare sector, but it had not met the demands yet (US Embassies Abroad 2018). Other countries in the study had slightly increased trends over the years, and health expenditure as a proportion of GDP was in the range of three to five per cent.

6.3.3 Government Expenditure on Construction

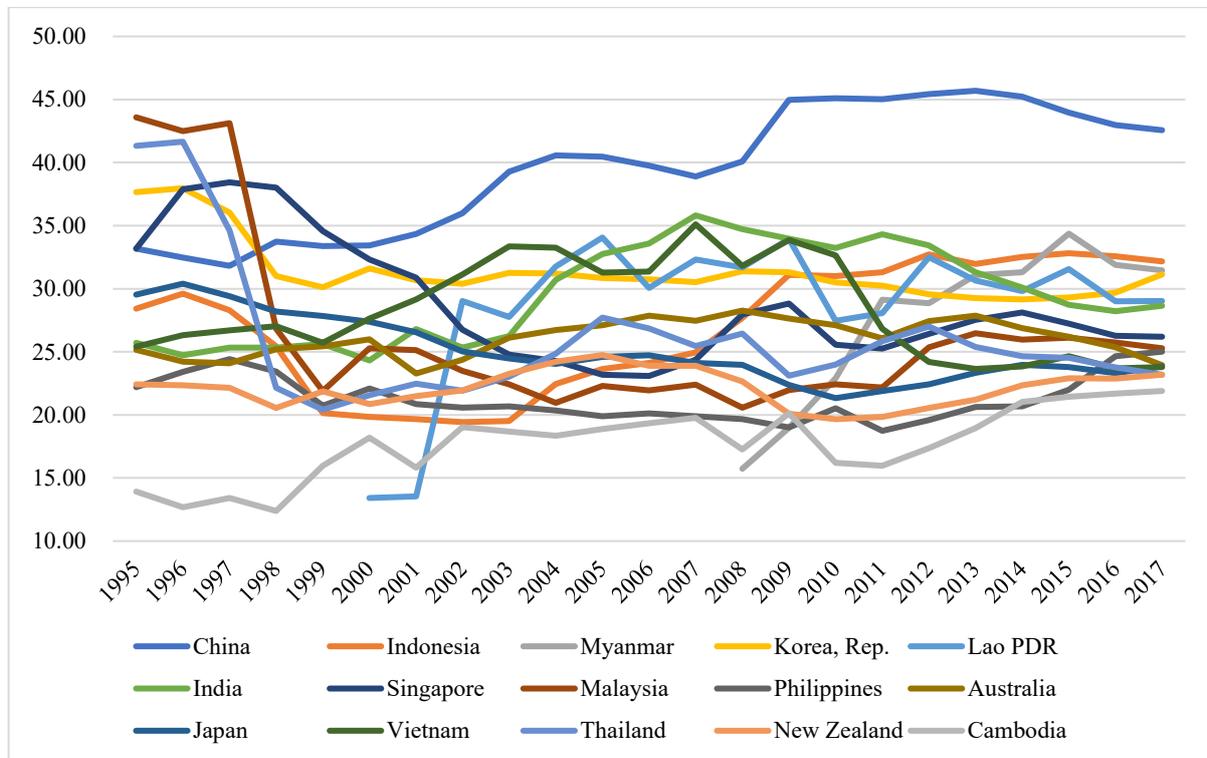
In this study, the government expenditure on gross fixed capital formation, which included construction expenditure, was preferred. According to the World Bank (2019), the construction sector included expenditure on building roads, railways, schools, offices, hospitals, private residential dwellings, commercial and industrial buildings, was a major part of the fixed capital formation along with other investments such as land improvements (fences, ditches, drains, and so on), plants, machinery and equipment purchases. The trends of gross fixed capital formation as a share of GDP of selected countries were presented in Figure 6.7, and the average expenditure over 20 years was presented in Figure 6.8.

Figure 6.7 showed that China had had an upward trend of gross fixed capital formation as a proportion of GDP. In 2017, the gross fixed capital formation of China was 42.6 per cent of GDP, which was the highest ratio among the selected countries. Following China were Indonesia, Myanmar and South Korea, with ratios of 32.2, 31.5 and 31.1 per cent, respectively. Australia, Japan and New Zealand spent only about 23 per cent of GDP on fixed capital formation in 2017. Figure 6.7 also showed that a group of ASEAN countries, including Malaysia, Thailand and South Korea, spent a large budget on the fixed capital formation of about 40 per cent of GDP prior to the Asian financial crisis in 1997.

Chinese gross fixed capital formation had increased significantly over the years, taking a large share of GDP of about 40 per cent on average. This large proportion of investment was mainly spent on the construction sector, the key focus of the Chinese government for supporting economic growth. Besides, construction investment, especially in infrastructure, significantly increased to support the growing population and the plan of urbanisation in China (Wilkins and Zurawski 2014). The rapid growth of infrastructure investment was in various areas such

as municipal infrastructure, utilities, transportation and social infrastructure (Wilkins and Zurawski 2014).

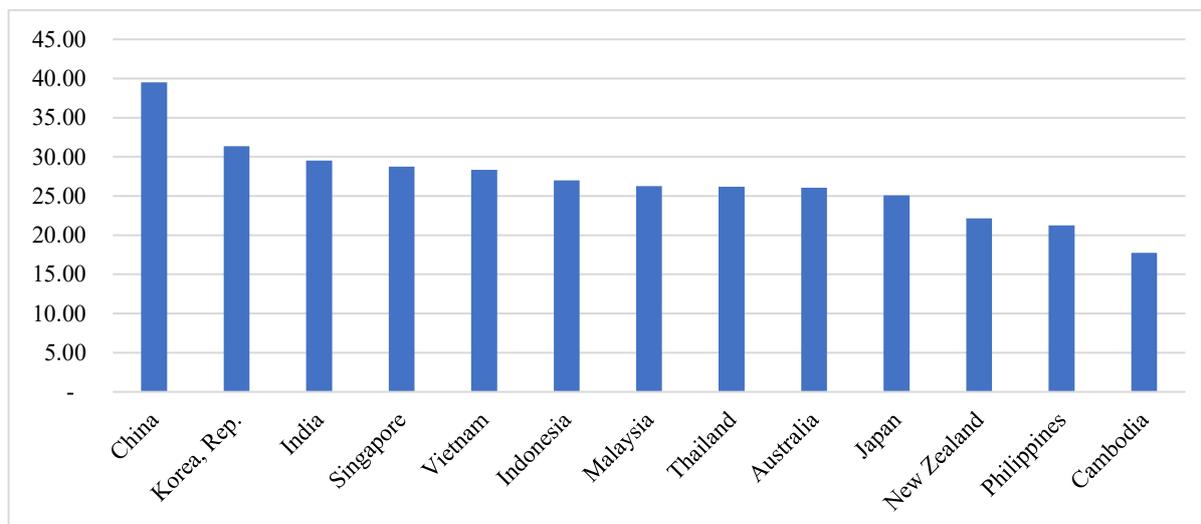
Figure 6.7. Gross Fixed Capital Formation (% of GDP), 1995 to 2017



Source: World Bank (2019), and OECD (2019).

Following China were countries such as Indonesia, Myanmar, Laos and India investing about 30 per cent of GDP on fixed capital formation, as seen in Figure 6.7. These countries also spent a large budget in the construction sector to boost their economies. Developed countries, such as Australia, New Zealand and Japan, spent about 25 per cent of GDP on average on investment. The construction sector in these countries was as important for economic development as other countries. However, this industry had been well-established in good quality and quantity for a long time. Thus, it was understandable the proportion of gross fixed capital formation in Australia, New Zealand and Japan was lower at the average rates of 26.1, 22.13, and 25.1 per cent, respectively (as seen in Figure 6.8).

Figure 6.8. Average Gross Fixed Capital Formation (% of GDP), 1995 to 2017



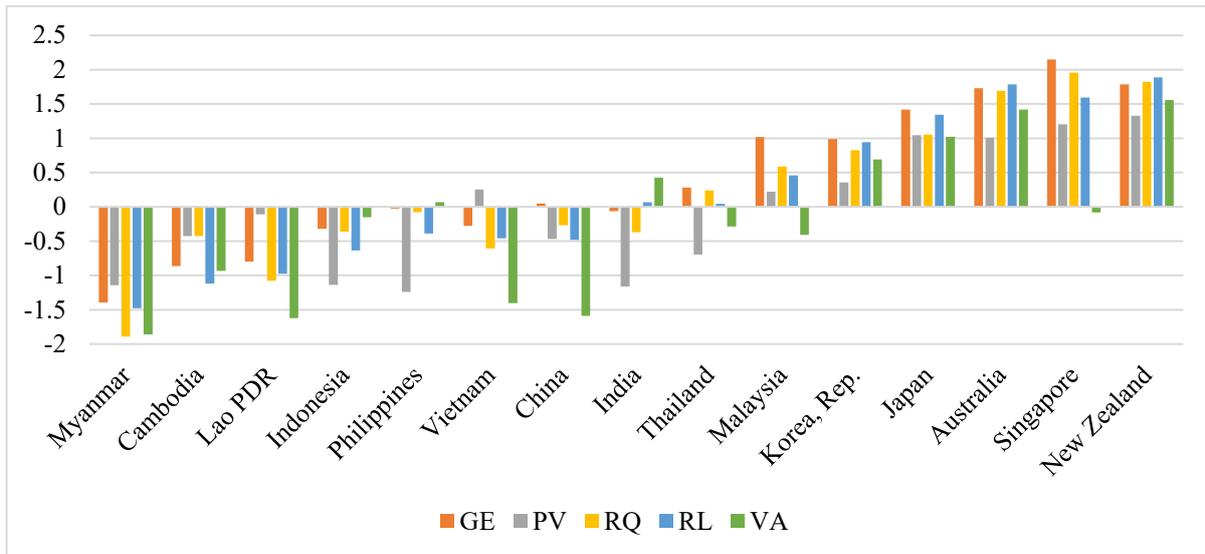
Source: World Bank (2019), OECD (2019), and Author.

6.4 Governance Indicators

According to the World Bank, there were six major dimensions to measure good governance, which were voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law and control of corruption. The scores of worldwide governance indicators (WGI) indicated the levels of performance of governance and ranged from -2.5 to 2.5 , where higher scores corresponded to better institutional outcomes. In this study, only the first five indicators were analysed. Control of corruption was excluded as a variable for running a regression in this study because the sources used to conduct this indicator by the World Bank were quite similar to some of the sources used to construct the CPI by Transparency International. Thus, this governance indicator was dropped to avoid an inaccurate result in running a regression. The average scores from 1996 to 2017 of five indicators in selected countries were presented in Figure 6.9.

According to the data in Figure 6.9, the developed countries, including New Zealand, Singapore, Australia, Japan and South Korea, had good governance structures such that the scores of five dimensions were positive, followed by Malaysia, which had positive scores in most of the indicators except voice and accountability. In contrast, the other selected countries had less effective governance structures resulting in the average scores of the five indicators being very low or negative.

Figure 6.9. Average Scores of Governance Indicators, 1996 to 2017



Source: The World Bank (2018), and Author.

6.4.1 The Voice and Accountability

According to Figure 6.10a, New Zealand, Australia and Japan had a high average score of voice and accountability of 1.56, 1.42, and 1.02, respectively. The following were Korea, India, and the Philippines, which had an average score of 0.70, 0.43, and 0.07. Surprisingly, Singapore had a negative average score of -0.09 . Other countries such as Indonesia, Thailand, and Malaysia had a similar rate of voice and accountability as Singapore that the average scores were below and close to zero. At the bottom of poor governments in terms of voice and accountability were Cambodia, Vietnam, China, Laos, and Myanmar, which had average scores of -0.94 , -1.40 , -1.58 , -1.63 and -1.81 , respectively.

The voice and accountability indicator showed the levels of freedom of citizens in a country, including freedom of participation in voting for their government, expressing their voices, free social association and public media activities (Kaufmann et al. 2010). People living in developed countries, such as New Zealand, Australia and Japan, had high levels of freedom to raise their voices in almost all aspects, including politics, economics, culture and religion, as they were living in strong democratic systems. In addition, these countries had a ‘well-established public management system with strong accountability foundations’ (Provost 2016, p. 4).

In contrast, to account for low scores on the voice and accountability indicator of the poorest governance countries, including China, Vietnam, Laos, Cambodia and Myanmar, the politics

and government systems could be a key issue. People living in China, Vietnam and Laos had low levels of freedom in most respects, which might be due to having a single, centralised communist party that had tight control over media ruling the country. Citizens in these countries had no choice to vote for other governments. In Cambodia, the government was a constitutional monarchy with the prime minister as the head of government and the King as the head of state. The Cambodian People's Party was the sole political party in a one-party system that was currently ruling the political system in the country. The single-party system was abandoned in the early 1990s, with the former party being a communist party. However, Cambodian citizens lacked political freedoms in voting or raising their voices. Cambodia had been described as a 'relatively authoritarian coalition via superficial democracy' (Roberts 2015, p. 145). Myanmar had the lowest score of voice and accountability due to the military dictatorship controlling the country's political system.

6.4.2 The Political Stability and Absence of Violence/Terrorism

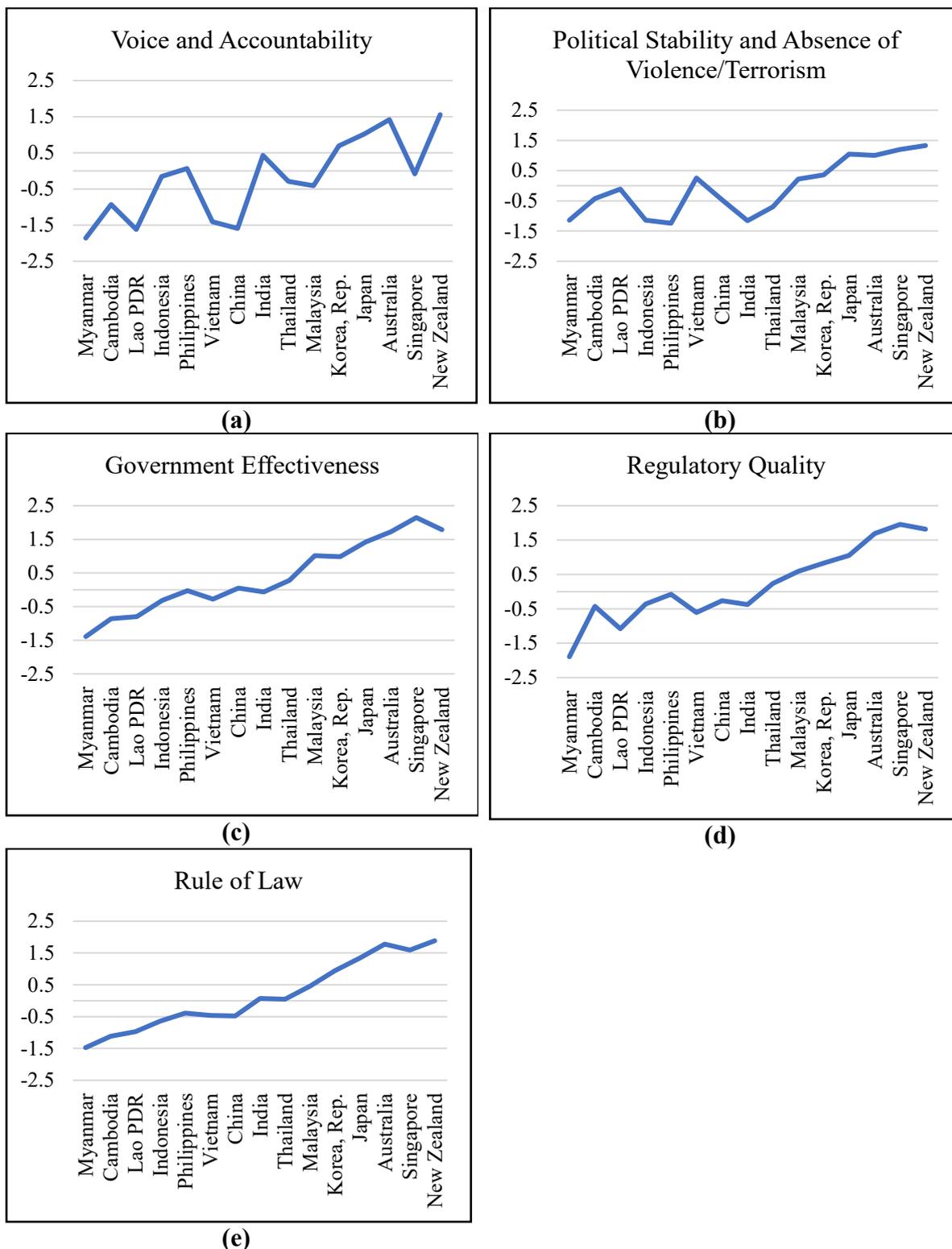
According to Kauffmann et al. (2010), the scores of political stability and absence of violence were measured based on the perceptions of the levels of destabilisation in a country, including politically motivated violence and terrorism. Figure 6.10b showed that New Zealand, Singapore, Japan and Australia were countries that had a high average score of political stability and absence of violence/terrorism of 1.33, 1.20, 1.04 and 1.01, respectively. These countries had experienced a small number of terrorist incidents in their history. During the period from 1995 to 2019, New Zealand had experienced only one major terror attack by a gunman in Christchurch whose shootings killed 51 people in early 2019. Singapore had experienced one incident of terrorism—attacks on the embassies of the United States, Australia, the United Kingdom and Israel in Singapore in 2001. Three major terrorist incidents occurred in Japan—the attack at Tokyo subway Sarin in 1995, the Neomugicha hijacking of a Japanese bus in 2000 and a series of 23 attacks of the group called the Volunteer Army Unit for Punishing Traitors from late 2002 to late 2003. Australia had experienced ten major incidents—Perth French Consulate bombing in 1995, an abortion clinic attack in 2001, Endeavor Hills police station stabbings in 2014, Sydney hostage crisis in 2014, Parramatta shooting in 2015, Minto stabbing in 2016, Queanbeyan stabbing and Brighton siege in 2017 and Mill Park and Melbourne stabbing attacks in 2018.

South Korea, Vietnam and Malaysia had an average score of 0.36, 0.25, and 0.22. Laos, Cambodia, China and Thailand had negative average scores but close to zero. The bottom of

poor governance in terms of political stability and absence of violence were Indonesia, Myanmar, India and the Philippines, which had the lowest average scores of -1.14, -1.14, -1.16 and -1.24, respectively. Political stability was a significant concern of Southeast Asia countries. Ethnic tensions, religious conflicts and regional stability were major issues that these nations were dealing with. A series of political crises happened internally in these countries due to weak democracy, high corruption, conflicts between governments, and the transition from old to new governments through elections. For instance, Thailand had experienced a series of political crises since 2005–06 that led to a military coup and the removal of Thaksin Shinawatra, the former prime minister, from power. The crisis continued as Thailand's population engaged in several demonstrations and protests against the government of Samak Sundaravej in 2008, the government of Abhisit Vejjajiva in 2009–10, and the government of Yingluck Shinawatra (Thaksin's sister) in 2013–2014. The military had to intervene to end a violent and disruptive period of political conflict in 2013–2014. There was hope that with a new government elected in early 2019 that the transition might bring democracy back to the country and end all violence and political confrontation. However, when the elder sister of King Vajiralongkorn, Princess Ubolratana, announced her candidature for prime minister under a party that had been supported by Thaksin Shinawatra, an exposure of the Thai elite occurred (Vatikiotis 2019). It seemed 'Thailand is headed for another crisis and it can't stop itself' (Saturusayang 2019). In contrast, Vietnam could be considered one of the most politically stable countries in Southeast Asia. Internal conflict rarely happened in the country, and dissent was not welcomed and encouraged due to the dictatorship of the CPV. The threat of terrorism was low (Gov.UK 2019).

In terms of terrorism, Southeast Asia faced two major waves of attacks from terrorists. The first one was in 2002, starting with the devastating bombings in Indonesia and the Philippines that caused 274 and 301 deaths, respectively. That wave lasted until 2008 and had been associated with the Al Qaeda group. The second wave was started in 2016 by the Islamic State. The Islamic State became the top threat to Southeast Asia's security as a series of bomb and gun attacks targeted foreign tourists in Indonesia and Thailand in 2016 (Chen 2017). There were 348 terror attacks, which led to 292 deaths in 2017 in Bangladesh, Indonesia, Malaysia, Myanmar, the Philippines and Thailand (Mokhrar 2019). For example, there was a bomb attack on a mass at a Roman Catholic cathedral in the southern Philippines in January 2019 (Mokhrar 2019). Other countries in Southeast Asia faced the same terrorist threat but lacked the ability to track the return of foreign fighters (Chen 2017).

Figure 6.10. Average Scores of Individual Governance Indicators, 1996 to 2017



Source: The World Bank (2018) and Author.

6.4.3 The Government Effectiveness

According to Kauffmann et al. (2010), the scores of government effectiveness were measured based on ‘the perceptions of the quality of public and civil services and its independence from political pressures, the quality of formulation and implementation, as well as the credibility of the government’s commitment to such policies’. Figure 6.10c showed that the selected countries could be divided into two groups of government effectiveness. The first group included Singapore, New Zealand, Australia, Japan, Malaysia and Korea, which had high average scores of government performance of 2.15, 1.78, 1.73, 1.42, 1.02, and 0.99, respectively. The second group included Thailand, China, the Philippines, India, Vietnam, Indonesia, Laos and Myanmar, which had low scores of 0.28, 0.05, –0.02, –0.06, –0.28, –0.32, –0.80, and –1.39, respectively. To construct this measure of government effectiveness, a number of issues were taken into consideration, such as bureaucratic delays, government ineffectiveness and institutional failures, red tape, the competence of the public sector, political pressures on civil servants, time spent with bureaucrats, the efficiency of government in delivering services and predictability of rules (Kaufmann et al. 1999). Certainly, political stability was also one of the aspects that reflects the competence of a government.

The levels of government effectiveness had a significant relationship with the levels of economic growth of a country, in that it could offer a higher quality of public services, allocate resources efficiently, attract more investment and increase the productivity of government spending (Burnside and Dollar 2000; Brunetti 1998; Asteriou and Price 2005; Ayal and Karras 1996; Kaufmann and Kraay 2002; Rajkumar and Swaroop 2008; Hall and Jones 1999). On average, public services such as education and health care had better quality in countries that had high scores of government effectiveness than the ones with low scores (Lewis 2006; Baldacci et al. 2008). In addition, countries with effective governments tended to have lower levels of corruption (Rauch 2001). This evidence from the previous studies might significantly explain the different scores of government effectiveness indicators in selected countries in some way.

6.4.4 The Regulatory Quality

According to Kauffmann et al. (2010), scores of regulatory quality were measured based on ‘the perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development’. In other words, this

indicator conveyed the levels of openness of the government for carrying on economic activities. Figure 6.10d showed that the scores of regulatory quality can be categorised into two groups, which were high scores and low scores. The first group included Singapore, New Zealand, Australia, Japan, Korea and Malaysia, and had high average scores of regulatory quality indicators of 1.96, 1.82, 1.69, 1.06, 0.83 and 0.59, respectively. The second group included Thailand, the Philippines, China, Indonesia, India, Cambodia, Vietnam, Laos and Myanmar, which had low scores of 0.24, -0.08, -0.27, -0.36, -0.42, -0.61, -1.08 and -1.89, respectively.

According to the World Bank (2019), the different scores of this indicator were measured based on an aggregation of a number of variables such as the fairness of competitive practices, price controls, levels of the burden of government regulations, trade barriers, the intensity of local competition, investment freedom, financial freedom, tax consistency and other variables from various sources. It was straightforward to understand the different average scores of regulatory quality indicators in selected countries. For instance, based on Heritage (2019), in terms of economic freedom that included investment freedom and financial freedom, Singapore, Australia, New Zealand, Korea, Japan and Malaysia were always on the top of high levels of freedom that the scores were ranged above 70 in the scale of 0 to 100 (where 0 was not free and 100 was totally free). In contrast, some countries, such as Thailand, Indonesia and the Philippines, were moderately free (economic freedom ranged from 60 to 69.9), and other countries, such as China, Cambodia, Laos, Vietnam, India and Myanmar, were mostly unfree (so that the scores ranged from 50 to 59.9).¹⁴ One of the issues that could explain the different levels of economic freedom in different countries was government effectiveness, as presented earlier in this chapter. Different political systems were another factor that led to different levels of other factors being used to measure the regulatory quality indicator.

6.4.5 The Rule of Law

According to Kauffmann et al. (2010), rule of law ‘captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of

¹⁴ Economic freedom (scale of 80 to 100): Singapore (89.4), New Zealand (84.4) and Australia (80.9). Economic mostly freedom (scale of 70 to 79.9): Malaysia (74.0), South Korea (72.3) and Japan (72.1). Economic moderate freedom (scale of 60 to 69.9): Thailand (68.3), Indonesia (65.8) and Philippines (63.8). Economic mostly unfreedom (scale of 50 to 59.9): China (58.4), Cambodia (57.8), Laos (57.4), Vietnam (55.3), India (55.2) and Malaysia (53.6)
Source: Heritage (2019)

contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence'. This indicator was measured based on the combination of various variables, such as violent and organised crime, cost of crime fairness of the judicial process, the enforceability of contracts, speediness of judicial process, intellectual property rights protection and reliability of police services (World Bank 2019). Figure 6.10e showed that New Zealand had the highest average score at 1.89, followed by Australia, Singapore, Japan and South Korea, which had average scores of 1.78, 1.60, 1.34 and 0.94, respectively. In contrast, other selected countries had low average scores, especially Indonesia, Laos, Cambodia and Myanmar, which had the lowest scores of -0.64, -0.97, -1.12, and -1.48, respectively.

Countries such as New Zealand, Australia, Singapore, Japan, and South Korea had a strong legal system and an independent judiciary. New Zealand, for example, had independent judges who were not elected but appointed by the Governor-General on the advice of the Attorney-General. Judges were expected to act independently to protect the independence of the judiciary (New Zealand Immigration 2019). Most of the legal issues in relation to criminal and civil matters were dealt with by general courts, while other issues, such as employment matters, family issues and youth offending, were usually solved at specialist courts (New Zealand Immigration 2019). The judiciary system in New Zealand was very similar to that in Australia. The strong and independent judiciary in developed countries could help to explain the high scores of the rule of law in these countries.

Conversely, most of the countries in Southeast Asia had fast-growing economies and significant opportunities for investors to invest. However, there were also significant challenges, such as the weak rule of law and unreliable judiciary, to doing business in these countries. In Myanmar, for instance, due to the military dictatorship that interfered heavily in every aspect of the country, especially prior to 2010, rule of law was very weak and still remained one of the biggest issues facing the country. According to O'Neil (2015), the judiciary was not independent, was unreliable and was influenced by the military directly or indirectly in some respects. The regulations were commonly arbitrary. The weak rule of law and the unreliable judiciary were also issues of concern in communist countries such as China, Vietnam and Laos, and even in countries that had democratic systems, such as Thailand, Philippines, India and Indonesia.

6.5 Conclusion

This chapter presented and analysed the data on corruption and its major causative variables based on the series of data gathered from 1995 to 2017. The purpose of this presentation and analysis of the collected data was to provide an in-depth understanding of the different levels of corruption (based on the trends of the CPI and the SE), as well as the different proportions of government budget spending on various sectors, and the different levels of government performance (based on five governance indicators) in selected countries. These interpretations and analyses supported achieving the first objective of the study.

To interpret corruption in selected countries, the CPI and the SE were considered two proxy variables of corruption. The scores of the CPI in selected countries were divided into three groups, which had a high score (New Zealand, Singapore, Australia and Japan), average score (Malaysia and Korea), and a low score (Laos, Vietnam, Thailand, India, Philippines, Cambodia, China, Indonesia and Myanmar). The trends of the CPI of each group showed that there was no significant change or improvement of corruption scores in the studied countries over 18 years.

Conversely, countries could be divided into four groups based on the size of the shadow economy, which were small size (Australia, Japan, New Zealand and Singapore), medium size (India, Korea, Indonesia, Malaysia and the Philippines), large size (Cambodia, Thailand and Myanmar), and communist countries (China, Vietnam, and Laos). The small size, medium size, and communist groups had similar trends of the size of the shadow economy generally, while the large size group had slightly different trends from the others.

This chapter also provided an analysis of the major causes of corruption, particularly government expenditure and governance indicators as the major ones. In terms of government expenditure, this study focused on education, health, and construction sectors as they were the areas that the governments in the selected countries spent the most on, especially the developing countries. In terms of governance indicators, voice and accountability, political stability and lack of violence, government effectiveness, regulatory quality and rule of law were selected to analyse different aspects of the efficiency of government management in each studied country. The control of corruption indicator was excluded in this study to avoid biased results between the relationship between governance indicators and corruption as its measurement and evaluation overlapped somewhat with that of the CPI. This study also

examined the impact of corruption by using two proxy variables, the CPI and the SE, on various aspects of the economy, such as GDP growth, public debts, tax revenue and FDI. Therefore, the consequence variables were analysed and interpreted in the next chapter. Some control variables were also selected and analysed to support the results of the study.

CHAPTER 7_ DATA INTERPRETATION: CONSEQUENCES OF CORRUPTION

7.1 Introduction

This chapter aimed to present and analyse the data on the consequences of corruption based on the series of data gathered from 2000 to 2017. The chapter contained an explanation and interpretation of how the variables were selected to support the second objective of the study, which was to examine the consequences of corruption on the development of the economy. This objective was achieved by studying the effect of corruption on tax revenue, public debt, FDI and GDP per capita in selected countries. In addition, some variables such as population, economic freedom, unemployment rate and democracy were also presented as control variables in the study.

Reviewing the literature and the hypotheses proposed earlier in this study, it was necessary to analyse these consequence variables to have a better understanding of the different levels of economic development in relation to different levels of corruption (as seen in the analysis of the CPI and the SE presented in Chapter 6) in selected countries. There was a debate among economists because some found corruption had a positive impact on economic development, while others claimed the opposite results. This study analysed and examined the impact of corruption on economic growth in two groups of countries, based on their income per capita. The results may contribute further evidence to the debate above.

This chapter was structured by first presenting and analysing data of determinant variables of economic development, including tax revenue, public debt, FDI and GDP per capita. The following section presented control variables, which were used to obtain an unbiased estimate of a causal effect on the dependent variable (economic development factors) in multiple regressions. A summary of the analysis was presented in the conclusion of the chapter.

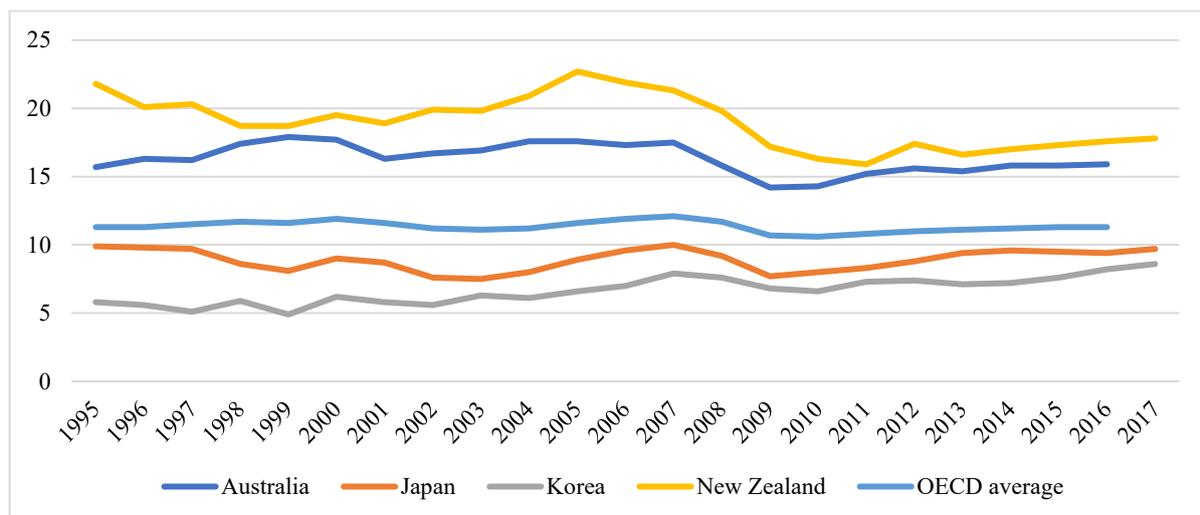
7.2 Consequence Variables

7.2.1 Tax Revenue

Tax revenue was the primary source of income that was gained by governments through taxation. The revenue was raised in various ways, but tax collection from income, expenditure

and capital or wealth were the three most common sources (Abbott 2018). Income tax was generally referred to as direct taxes on the basis that they were levied directly on individual income, corporate income on businesses and capital gain. Consumption taxes were typically referred to as indirect taxes and levies on transactions such as the goods and services tax (GST), and other forms such as charges on tobacco, alcohol and fuel excises, and the customs tariff on imports. Capital or wealth taxes were regarded as being forms of direct taxation that was levied on properties (Abbott 2018). Among the selected countries, Australia and New Zealand were the two countries that had the highest tax collection from personal income. Figure 7.1 showed that their tax revenues from personal income of about 16 per cent of GDP were higher than the OECD average of about 11 per cent of GDP (OECD 2019). Table 7.1 also indicated that these two countries charged a high-income tax rate compared with other countries in ASEAN Plus.

Figure 7.1. Tax on Personal Income (% of GDP), 1995 to 2017



Source: OECD (2019) statistics

Table 7.1 below provided an overview of the standard rates of corporate income tax, personal income tax, tax on goods and services (GST) or value-added tax (VAT) and capital gains tax in selected countries.

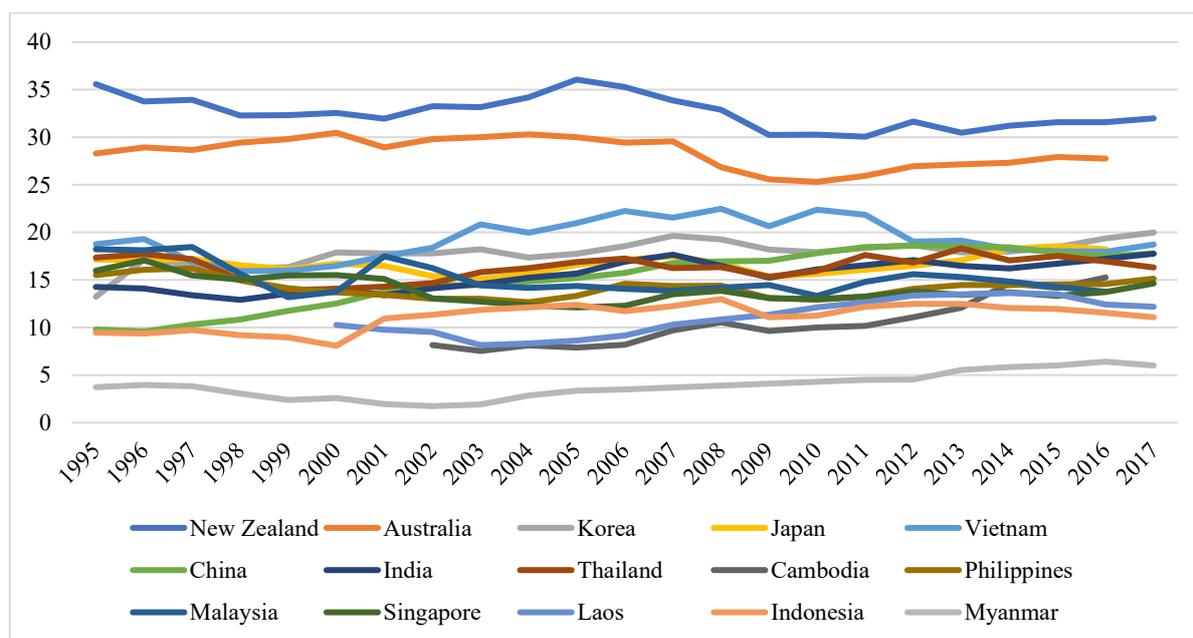
Table 7.1. Overview of Tax Rate

Countries	The corporate income tax rate	The personal income tax rate	Indirect tax (VAT/GST) standard rate	Capital gains
Australia	27.5–30 per cent	0–45 per cent	10 per cent	No separate capital gains tax. Capital gains are treated as taxable income
Cambodia	20 per cent	0–20 per cent	10 per cent	No separate capital gains tax. Capital gains are treated as taxable income and subject to 20 per cent profit tax
Indonesia	25 per cent	0–30 per cent	10 per cent	Subject to tax
Laos	24 per cent	0–24 per cent	10 per cent	Subject to tax
Malaysia	24 per cent	0–28 per cent	6 per cent	No capital gains tax other than Real Property Gains Tax (RPGT) on the disposal of interests in Malaysia real property or shares in a Real Property Company
Myanmar	25 per cent	0–25 per cent	5 per cent	Capital gains tax is levied on gains from the sales, exchange, or transfer of capital assets exceeding a certain amount
New Zealand	28 per cent	0–33 per cent	15 per cent	No capital gains tax
Philippines	30 per cent	0–32 per cent	12 per cent	Capital gains imposed on the disposal, sale, or exchange of shares, land, and buildings
Singapore	17 per cent	0–22 per cent	7 per cent	No capital gains tax
Thailand	20 per cent	0–35 per cent	10 per cent	Capital gains tax is applied to both corporate and individual investors
Vietnam	20 per cent	0–35 per cent	10 per cent	Capital gains tax is applied to both corporate and individual investors

Source: Adapted from KPMG (2016) and others.

Based on the summary in Table 7.1, it can be seen that taxes levied on corporate income, personal income, goods and services, and capital gains were almost at the same rates in the selected countries, but the efficiency of tax collection was a concerning issue, especially in Southeast Asian countries. The main function of tax collection was to finance the vital expenses of public sectors, but corruption was one factor that causes the inefficiency of tax collection. Arif and Rawat (2018) found that corruption had a significantly positive impact on tax revenue collection in emerging and growth-leading economies. They also found that most emerging countries faced severe issues in trying to establish an operational and well-organised tax system.¹⁵ Developing countries required substantial budgets for government spending on education, health and public construction, such as roads, bridges, airports, public buildings, housing, schools and hospitals. Still, the financial resource of the government of these countries was barely sufficient for providing basic social services (Alabede 2018).

Figure 7.2. Tax Revenue (% of GDP), 1995 to 2017



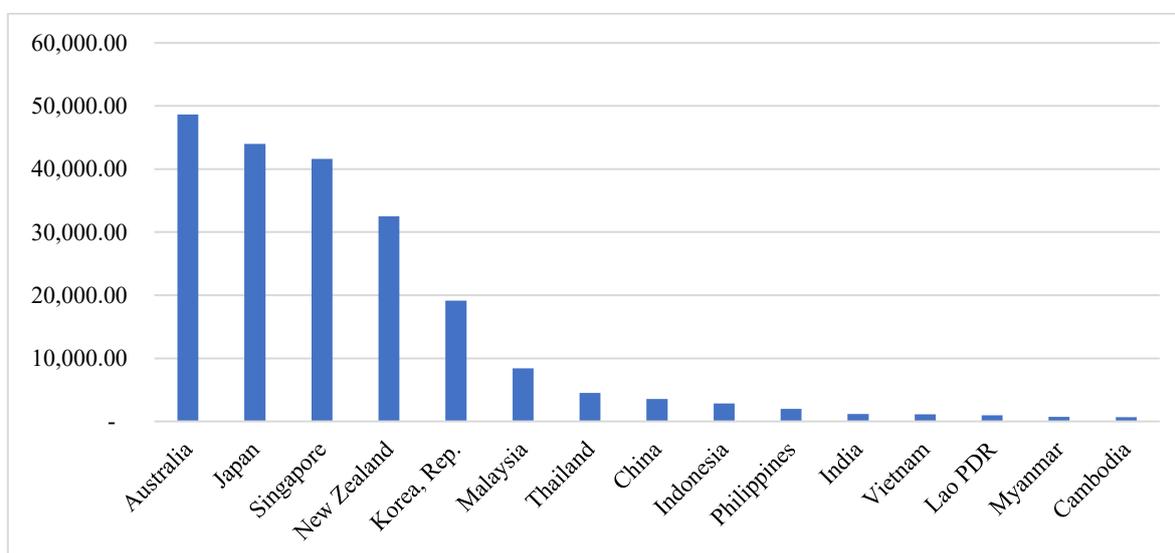
Source: IMF (2019), and Author

To measure the levels of economic resources, the tax to GDP ratio was used. A number of countries aimed to increase the tax to GDP ratio to address deficiencies in their budgets. Figure 7.2 presented the tax revenue as a percentage of GDP from 1995 to 2017 in selected countries.

¹⁵These severe issues are ‘(1) the structure of the economy, which makes it hard to execute and gather taxes; (2) the scarce capability of tax management; (3) the inappropriate quality of essential data and; (4) in numerous developing nations, the political system is less changeable to balance the tax procedure than it is in advanced countries’ (Arif and Rawat 2018, p. 120).

According to Figure 7.1, tax revenue as a percentage of GDP in selected countries could be divided into two groups, high and medium to low rates. According to Besley and Persson (2014), low- to middle-income countries generally collected taxes of between 10 to 20 per cent of GDP, while the average for high-income countries was more than 40 per cent. In this study, the tax revenues of the ASEAN Plus countries were examined. The figures presented in Figure 7.2 seemed to support the finding of Besley and Persson (2014) that New Zealand and Australia were high-income countries that had high tax revenue of more than 25 per cent of GDP. The rest of the selected countries fell in the middle range, with tax revenues ranging from 10 to 20 per cent of GDP. Myanmar had the lowest rate, below five per cent.

Figure 7.3. Average GDP per Capita (constant 2010 US\$), 1995 to 2017



Source: The World Bank (2019), and Author.

Among selected countries, Japan, Singapore, and Korea were high-income countries with average GDP per capita of US\$44.0, US\$41.6 and US\$19.1 thousand per year, respectively (as seen in Figure 7.3). These countries had income as high as Australia and New Zealand, but their average tax revenue was only about half of that of Australia and New Zealand (see Figure 7.2). China’s GDP in 2017 was the second-largest in the world (US\$10,132 billion), about 35 times greater than New Zealand’s (136.65 billion), however, its tax collection was about 15 per cent of GDP, less than half of New Zealand’s.¹⁶ Several factors led to a lower proportion of tax collection in developing countries. Besley and Persson (2014) indicated that most of the aspects of an economy, including economic structure, political factors, and sociological and

¹⁶The value of GDP is constant in 2010 in US\$ (source: World Bank 2019).

cultural factors, could be the reasons for low tax revenue. These political issues in the developing countries were part of the shadow economy, leading to tax avoidance.

7.2.2 Public Debt

This part of the chapter clearly defined public debt, as well as the relationship between public debt and economic growth, and further examines whether there was a relationship between corruption and public debt in selected countries. According to Webster-dictionary as cited in Cottarelli (2017, p. 7), 'public debt is the total of nation's debts; debts of local and state and national governments; an indicator of how much public spending is financed by borrowing instead of taxation'. The reason why the definition of public debt was important was that there was confusion between the terms of public debt and public or government deficit. According to the definition, public debt could be understood clearly as the debt from borrowing by a government, while the public deficit or government deficit was the imbalance between government spending and its revenue (mainly from taxation). To raise capital, the government sourced its funds by selling securities, which were treasury bills, and government bonds, to investors (Cottarelli 2017). Two terms were different by definition, but they did have a correlation to each other. Once the spending from the government exceeded its income, then the government needed to borrow from investors to cushion its public expenditure. Public debt could be understood as a result of a public deficit. In addition, the public deficit might also cause economic problems such as increasing public debt, increasing debt interest payments, increasing yields on government securities, potentially rising inflation, rising future tax and losing confidence from investors (Pettinger 2017).

Too much public debt was bad for an economy and could cause a financial crisis, as well as reduced the economic growth of a country (Cottarelli 2017). If a government kept borrowing money by issuing more securities or offers high yields bonds for rollover, it might reach a point where investors started having doubts about the capability of the government to repay its debt and then stop buying government paper. When the public debt was high, the government could no longer access borrowing from the wholesale market. While it had to pay for its debt, the situation forced the government to decide whether to cut its expenditure or to raise taxes quickly. Either way might hit the economy immediately. Once the economy collapsed, GDP declined, and unemployment rose. This situation reminded the situation of the European debt crisis in late 2009, which started in Iceland, followed by Hungary, Greece, Ireland, Portugal, Italy and Spain (Cottarelli 2017). The second issue was that too much public

debt might harm an economy by reducing its growth. If a country had high public debt, in the short term, it might constrain the possibility of using fiscal policy to manoeuvre the economy, such as increasing spending and tax cuts, especially in case of a recession. In most countries (not all), high public debt went along with a high public deficit or fiscal deficit. To reduce the public deficit by either increasing taxation, decreasing public spending or both results in a slow production capacity and aggregate demand of products and services across the whole economy. Thus, it slowed down the growth of the economy and led to a lower GDP level over time. In the long run, increased taxation might result in discouraging investment and labour supply, while a decrease in public spending might result in a decrease in investment and maintenance of the public sectors, such as education, health and construction. Therefore, high public debt reduced the growth of an economy in the long run, although there were arguments over this issue, particularly over how much debt might potentially reduce economic growth.

Empirical studies showed interesting results regarding this topic. Some economists found that when public debt got above 40 to 50 per cent of GDP, the economic growth started slowing down, while others showed this threshold was from 80 to 90 per cent of GDP. Kumar (2010) found that a country with a public debt ratio of 120 per cent had a potential growth rate of one per cent lower than a country with a public debt ratio of 60 per cent. Based on the statistical data provided by the IMF (2018), countries with high public debt had lower growth over a long period. Cottarelli (2017) pointed out that among advanced economies, Japan, Italy and Greece had the lowest growth over the past 25 years (1.9, 1.7 and 1.5 per cent, respectively, in 2017), but also had the highest public debt on average over the same period (236.4, 131.5, and 181.9 per cent of GDP, respectively in 2017). Italy and Greece faced a financial crisis in late 2009 due to their very high debt, but Japan did not. One of the reasons that Japan could avoid the risk of financial crisis despite its large debt was that all the increase in public debt had been purchased by the Bank of Japan, and more than 90 per cent of primary shares were held by Japanese investors (residents) (Cottarelli 2017). The high public debt of Japan was mainly held from within the country rather than abroad. Among the selected countries in this study, following Japan was Singapore, which had a public debt ratio of 110.9 per cent to GDP and was ranked 13 in the world in 2017 (IMF 2018). India was ranked at 47 in the world with a public debt ratio of 70.2 per cent of GDP in 2017. It was the third-largest public debt ratio to GDP among selected countries, only after Japan and Singapore.

Table 7.2. Ranking of Public Debt to GDP of ASEAN Plus Countries in 2017

Rank	Country	Public debt (% of GDP)	GDP growth (annual %)
1	Japan	236.4	1.93
13	Singapore	110.9	3.70
47	India	70.2	7.17
59	Laos	62.8	6.85
73	Vietnam	58.2	6.81
84	Malaysia	54.2	5.90
103	China	47.8	6.76
116	Thailand	41.9	4.02
117	Australia	41.6	2.34
124	Korea	39.8	3.06
131	Philippines	37.8	6.68
141	Cambodia	35.1	7.02
146	Myanmar	34.7	6.76
155	Indonesia	28.9	5.07
161	New Zealand	26.4	3.13

Source: IMF (2018), World Bank (2018)

According to Table 7.2, the countries that had high public debt were also countries that had slow economic growth. Countries in Southeast Asia, such as Laos, Vietnam, Malaysia and Thailand had a lower public debt in the range of 42 to 63 per cent to GDP compared with Japan and Singapore, but they had a good growth rate of GDP from six to seven per cent annually. Indonesia had the lowest ratio of public debt to GDP of 28.9 per cent among ASEAN countries and was ranked at 155 in the world in 2017. China and Australia had a public debt of 47.8 and 41.6 per cent of GDP and were ranked at 103 and 117 in the world, respectively. New Zealand had the lowest public debt ratio to GDP among studied countries, with debt at 26.4 per cent and ranked at 161 in the world.

The risks of public debts were different in different countries in the study sample. The increase of Japan's public debt was mainly due to an increase in demand for government services and social security, while the country experienced an aging population that led to slow income growth. Unlike other selected countries in Southeast Asia, they mostly belonged to the group of developing countries in which they had demand for capital for investing in their infrastructure and public services, however, their income (revenues from taxation) was unmatched with their high demand for expenses. Japan had high debt, but it was mainly

domestic, while most of the developing countries in this study had a high rate of borrowing from foreign countries. Vietnam, for instance, had a public debt to GDP of nearly 60 per cent in 2017, in which about 45 per cent was domestic debt, and 55 per cent was foreign debt (Asia News Monitor 2018). Thus, developing countries such as Vietnam that had lower levels of public debt might have higher levels of sovereign risk than developed countries, such as Japan.

To evaluate the riskiness of the levels of public debt, various factors needed to be considered, such as the ratio of domestic and foreign debt, the creditworthiness of the government bonds (this was basically long-term issue credit rating from AAA to D based on SandP Global Ratings), and the levels of country risk or sovereign risk. According to the Euromoney Country Risk (ECR), it rated the sovereign risk of more than 180 countries based on various factors, especially economic and political ones, and scored the levels of risks from 0 to 100 (0 was the highest risk; 100 was no risk). The range of risk scores was divided into five tiers. ECR tier-one countries had a score between 80 and 100 (equivalent to a credit rating of AA and above); tier-two countries had a score between 65 to 79.9 (equivalent to a credit rating of A- to AA); tier-three countries had a score between 50 to 64.9 (credit rating of BB+ to A- equivalently); tier-four countries had a score between 36 to 49.9 (equivalent to a credit rating of B- to BB+); and tier -five countries had a score between 0 to 35.9 (equivalent to a credit rating of D to B). In this study, New Zealand, Australia, Japan, Singapore were in tier one, while most of the ASEAN countries were in tier three (ECR 2019). Based on a number of ways of evaluating the risks of public debts, as well as the sovereign risk of a country, the scores, ratios and ratings might indicate the levels of the riskiness of public debts to the economy of a country.

According to ECR (2019), corruption was considered one of the political factors that contributed to the country's risks. In addition, many empirical studies found the relationship between corruption and public deficit, corruption and economic growth (GDP growth); however, only a few studies had been conducted on the impact of corruption on public debt. Grechyna (2012) and Cooray et al. (2017) found that corruption increased public debt levels in developed countries. Benfratello et al. (2018) found that there was a significant impact of corruption on studied countries, included high-income and low- to middle-income countries. When studying the impact of corruption on the levels of public debt in selected countries, some external factors might need to have consideration, such as the ODA, and the public-private partnerships (PPPs), as they seemed the factors that helped these countries to reduce levels of borrowings. The ratios of public debt to GDP in most Southeast Asia countries were

in the range from 30 to 70 per cent. One of the factors that might help to explain these figures was that these countries had received a large ODA fund annually. They used this source of funds for public investment instead of increasing borrowing. Conversely, some developed countries, such as Australia and New Zealand, had relatively low levels of public debt. One of the factors that might result in the low levels of public debt in these countries was the PPPs. Instead of financing its budget for public infrastructure investment, the government purchased services from the private sector to access this infrastructure.

7.2.3 Foreign Direct Investment

Foreign Direct Investment (FDI) was one of the key elements for economic development. For recipients, FDI was an additional source of funds for investment (OECD 2016). Attracting FDI was especially important to low- to middle-income countries, as it was not only a source of investment capital, but it also helped to enhance the economic growth in different aspects, such as employment growth, technology transfer, human capital formation, tax revenue and public debt (Anwar and Nguyen 2010). At the same time, foreign investment activities were also important to host countries to escape appreciating home currencies and to have new opportunities to acquire local companies and to gain access to the local market (OECD 1999). According to Magnier-Watanabe and Lemaire (2018), based on the statistical data reported by OECD, the share of FDI inflows over global one to developed countries was declined from 87 per cent in 2000, to 60 per cent in 2008, and then to 55 per cent in 2015, while the inflows to developing and transition economies were increased.

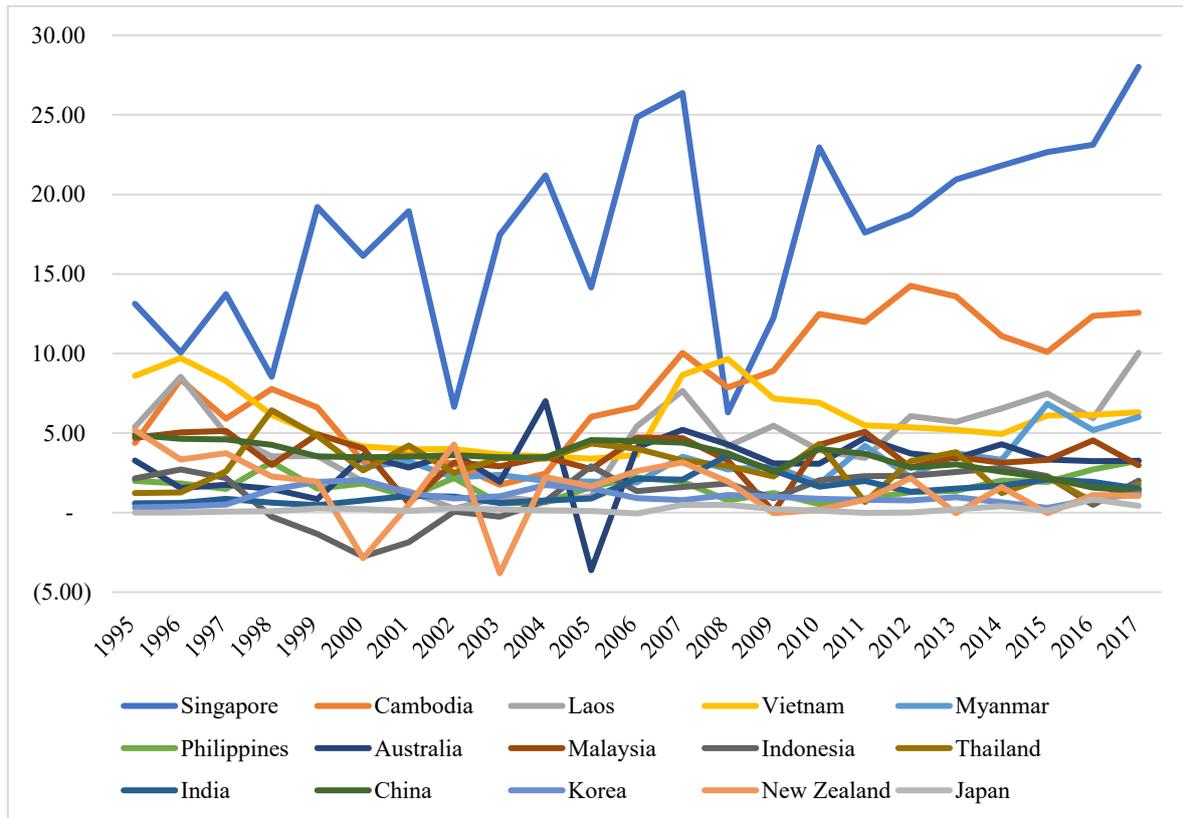
To remove the effect of market size, inflation and the change of currency, the FDI inflows of studied countries over two decades were taken as a percentage of GDP and presented in Figure 7.4. Singapore was the largest recipient among selected countries with an inward FDI of 28.02 per cent of GDP in 2017. Following Singapore were the remaining Southeast Asian countries, including Cambodia, Laos, Vietnam, Myanmar, Philippines, Malaysia, Indonesia and Thailand. India, China, Korea, New Zealand and Japan had FDI inflows of less than 1.5 per cent (per share of GDP). FDI inflows of most Southeast Asian nations were on downward trends from 1995 to early the 2000s, as their economies were affected by the Asian financial crisis in 1997–1998. The inflows of FDI slightly increased from 2005 to 2007, then dropped again as they were impacted by the Global Financial Crisis in 2008. Some countries recovered quickly after the crisis and had a high rate of inflow, such as Singapore, Cambodia and Laos (28.02, 12.57, and 10.05 per cent, respectively, in 2017), while other countries also had an

increase of FDI inflows significantly over time (as seen in Figure 7.4). The least developed countries in ASEAN, including Cambodia, Laos and Vietnam, had recently been one of the most attractive investment destinations for foreign investors around the world (Xaypanya et al. 2014).

As seen in Figure 7.4, Singapore was the country that had the highest rates of FDI inflows as a percentage of GDP and followed by Cambodia and Vietnam, while China was one of the countries that had the lowest rate of FDI. The rates of FDI inflows as a share of GDP in China were not as high as other countries and were getting smaller (as its GDP increased steadily and the capital was invested overseas significantly over the years); however, the value of FDI inflows in dollars was one of the largest in the world. According to Table 7.3, the FDI inflows in China in 2017 was more than 160,000 million dollars, which was one-third of the total FDI inflows in selected countries. The total value of FDI inflows in China from 1995 to 2017 was more than three trillion dollars, which was half of the total inflows in selected countries. In 2017, the FDI inflows in China was nearly twice greater than in Singapore, and more than ten times greater than in Vietnam, and 60 times greater than in Cambodia.

Japan had the lowest rate of FDI inflows as a percentage of GDP compared with other selected countries in this study, as seen in Figure 7.4; however, the Japanese government had been trying to make the Japanese companies more attractive to foreign investors by new corporate government regulations (Magnier-Watanabe and Lemaire 2018). The FDI inflow as a share of GDP in 1990–2015 was only 0.14 per cent, then increased to 0.42 per cent in 2017 (World Bank 2017). In contrast, Japan was well known as one of the biggest home economies for FDI outflows. The country's direct investment was mainly to the United States and Europe that began in the mid-1980s through new-plant investments and acquisitions of local firms. One-tenth of its total FDI was going to Southeast Asian countries, in which about 30 per cent of the capital going to China.

Figure 7.4. FDI, net Inflows (% of GDP), 1995 to 2017



Source: World Bank (2019)

The total FDI inflows in ASEAN in 2017 was about 137 billion dollars, which was mainly from intra-ASEAN with 19.4 per cent of the total inflows, followed by Japan and China with 9.6 and 8.2 per cent, respectively. Netherlands, Hong Kong, Ireland, United States, Korea, the United Kingdom and Germany were the other top ten biggest investors in ASEAN in 2017 (UNCTAD and the ASEAN Secretariat 2018). Due to its policy of openness, ASEAN had successfully achieved rapid economic development and had acted as a ‘growth centre’ in the global economy, occupying a central position in the production networks that had been organised in East Asia (Ambashi 2017). The region attracted FDI flows into two major economic sectors—finance and manufacturing—based on the openness policies, low-wage bases (in Indonesia, Vietnam, Philippines, Laos and Cambodia), and the potential of value-added manufacturing, especially in Singapore, Malaysia and Thailand (Oxford Analytica 2011).

Table 7.3. Total FDI Inflows by Countries, 1995 to 2017 (US\$ at current prices in millions)

Country name	FDI inflows	Total FDI inflows
	2017	1995–2017
China	166,083.76	3,065,380
Singapore	94,811.16	808,521
Australia	43,394.83	654,189
India	39,966.09	446,552
Japan	20,419.90	228,204
South Korea	17,912.90	202,272
Indonesia	20,510.31	191,693
Thailand	8,045.51	156,137
Malaysia	9,368.47	153,468
Vietnam	14,100.00	125,167
Philippines	10,256.44	63,491
New Zealand	2,144.47	35,657
Myanmar	4,002.42	26,344
Cambodia	2,788.08	21,161
Laos	1,693.08	8,074
Total	455,497.43	6,186,309

Source: World Bank (2019)

Based on the statistical data and information of FDI inwards collected, it showed that ASEAN countries were attractive markets for investors to gain low cost and value-added manufacturing; however, there were some issues, such as corruption, that investors took into consideration when investing their capital funds into these recipient countries. Some studies showed that corruption had a positive influence on economic development in a way that it could help to get around inefficiencies in the bureaucracy (Huntington 1969; Leff 1964; Leys 1965) and minimising the social cost of taxation in countries that had weak taxation collector systems (Flatters and Macleod 1995). Conversely, some empirical studies showed that corruption reduced economic growth and development, including FDI inflows. It could cause an additional social cost to investors and reduce the projects' productivity (Rose-Ackerman 1996; Shleifer and Vishny 1993). A number of studies examined the relationship between corruption and FDI inflows, finding that corruption had a significant negative impact on FDI inflows (Habib and Zurawicki 2002; Egger and Winner 2006; Wei 2000a; Zhao et al. 2003; Amarandei 2013). Similar to this study, Canare (2017) used panel data of 46 Asia and Pacific

countries from 2006 to 2013 to examine the relationship between corruption and FDI inflows. He found that the countries that had low levels of corruption or implemented reforms and decreased the levels of corruption received more FDI inflows. He also found that low- and middle-income countries experienced a significant decrease in FDI inflows by corruption. To answer the research question regarding whether corruption had a negative impact on economic growth in selected countries, FDI inflow was taken into consideration as a consequence variable in the study.

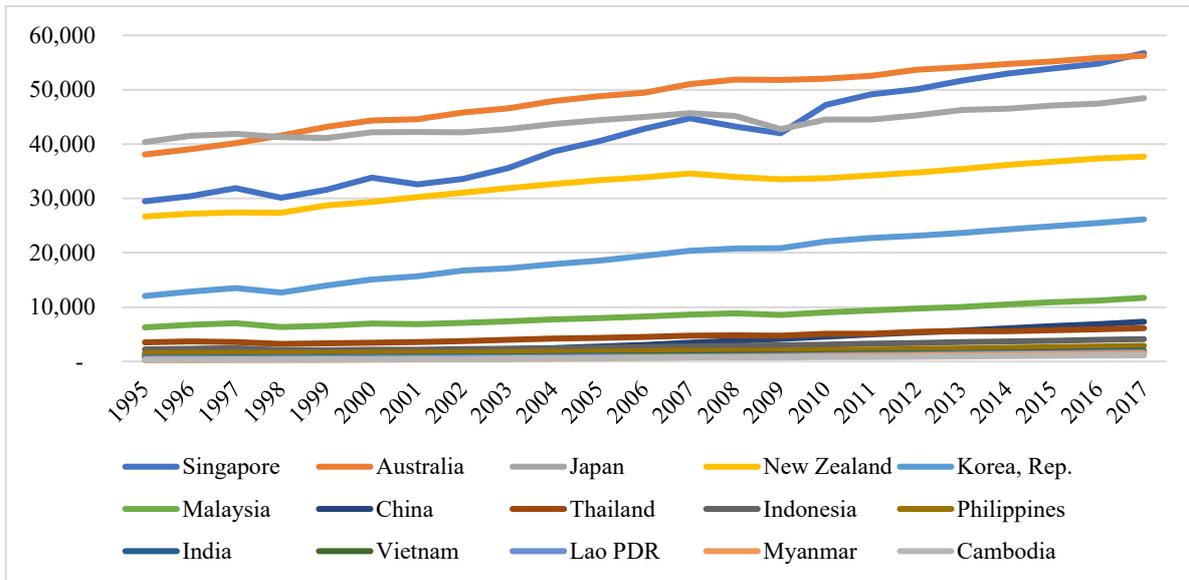
7.2.4 GDP per Capita

Another proxy variable of economic growth that was chosen in this study was GDP per capita. According to the World Bank (2019), the GDP per capita of a country was calculated based on the gross domestic product divided by the mid-year population. Figures 7.5 and 7.6 presented the trends of GDP per capita and total values of selected countries over two decades from 1995 to 2017. It can be seen that the trend of GDP per capita in each country followed closely its trend for the total GDP.

As seen in Figure 7.5, GDP per capita in selected countries dropped between 1997 and 98 as an impact of the Asian Financial Crisis, but then recovered and grew strongly from 2002 to 2008. Another decline was observed in 2009, as a result of the 2008 to 2009 Global Financial Crisis, followed by another period of growth. Figure 7.5 also clearly showed two groups of nations that have high and low- to middle-income per capita. The high-income per capita countries included Singapore, Australia, Japan, New Zealand and South Korea, with a GDP per capita of above US\$20,000 in 2017. Malaysia, China, Thailand and Indonesia were upper-middle-income countries that had GDP per capita in a range of US\$4,000 to US\$12,000. The other countries included the Philippines, India, Vietnam, Laos, Myanmar and Cambodia as low- to middle-income countries that had a GDP per capita in the range of US\$1,000 to US\$4,000¹⁷.

¹⁷High-income countries include Singapore, Australia, Japan, New Zealand and South Korea with GDP per capita in 2017 were US\$56,741, US\$56,229, US\$48,439, US\$37,678 and US\$26,152, respectively. Upper-middle income countries include Malaysia, China, Thailand and Indonesia with GDP per capita in 2017 were US\$11,721, US\$7,308, US\$6,129 and US\$4,120, respectively. Lower-middle income countries includes Philippines, India, Vietnam, Laos, Myanmar and Cambodia with GDP per capita in 2017 were US\$2,884, US\$1,987, US\$1,853, US\$1,706, US\$1,489 and US\$1,138, respectively. (World Bank, 2019).

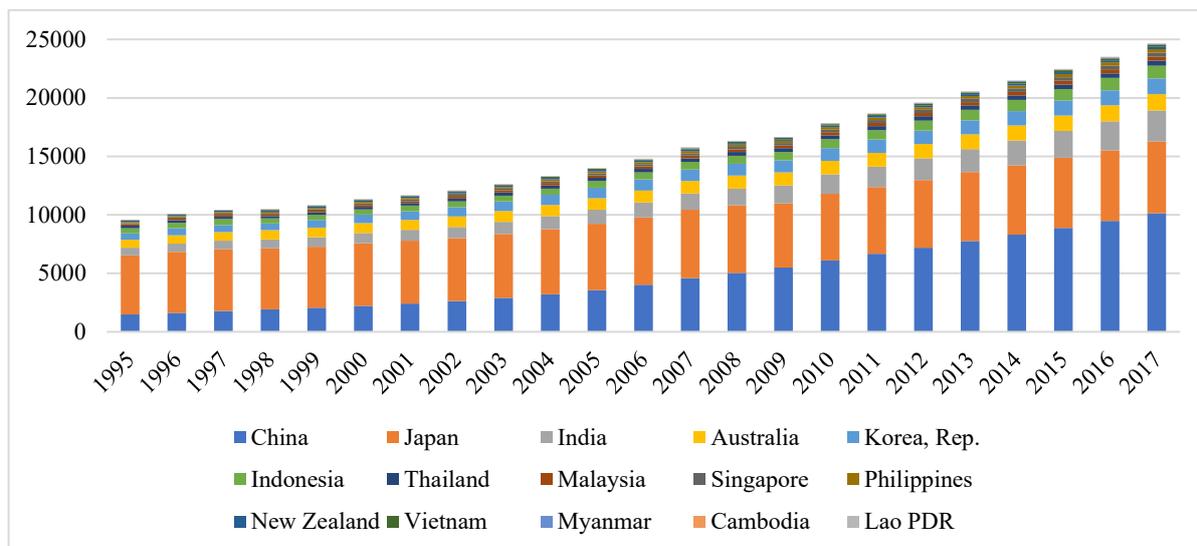
Figure 7.5. GDP per Capita (constant 2010 US dollar), 1995 to 2017



Source: World Bank (2019)

Figure 7.6 showed the GDP values of selected countries over the years. It can be seen that China had the largest GDP (US\$10,131 trillion) among selected countries in 2017, followed by Japan (US\$6,141 trillion) and India (US\$2,660 trillion) (World Bank 2019). It can be assumed that the large populations in China in 2017 (1.38 billion people) and India (1.33 billion people) provided these countries with good labour forces that helped to contribute to an increase in the level of productivity, but it might also be a factor that limited the levels of income per capita. In this case, although China and India had the largest values of GDP, their GDP per capita had not reached the range of high income yet but ranked in the middle range. Singapore and New Zealand had GDP of about 30 and 55 times smaller than China in 2017 (US\$318 and US\$181 trillion, respectively); however, their GDP per capita was the highest amount among selected countries. According to the World Bank (2019), Singapore was in the top 10 countries with the highest income per capita in 2017 in the world.

Figure 7.6. GDP in Selected Countries (constant 2010 US\$ trillion), 1995 to 2017



Source: World Bank (2019)

A number of factors could explain the different levels of GDP per capita in selected countries. The size of the population might be one of the elements, as assumed above. In addition, corruption might be another factor that needed to take consideration, as many empirical studies showed that it had a significant relationship with economic growth. Based on the data collected in this study, it was noticeable that countries with low to middle incomes had higher levels of corruption than those with high GDP per capita. According to the findings from previous studies, there were arguments over the impact of corruption on economic growth. Most of the studies showed that corruption had a negative effect on economic growth and development (Murphy et al. 1993; Mauro 1995; Mobolaji and Omoteso 2009; Anh et al. 2016; Obamuyi and Olayiwola 2019). Conversely, some studies showed that bribery was used as an approach to grease the bureaucratic procedures (Leite and Weidmann 1999; Leff 1964; Huntington 1968), and achieve an efficiency of time management, as well as help to select efficient firms to carry out the projects through a bidding procedure (Lui 1985; Beck and Maher 1986; Lien 1986). Therefore, this study examined the effect of corruption on GDP per capita as a factor of economic growth in the ASEAN group and the countries with which it had trading agreements. The outcomes might be a new contribution to this debate of the arguments among economists.

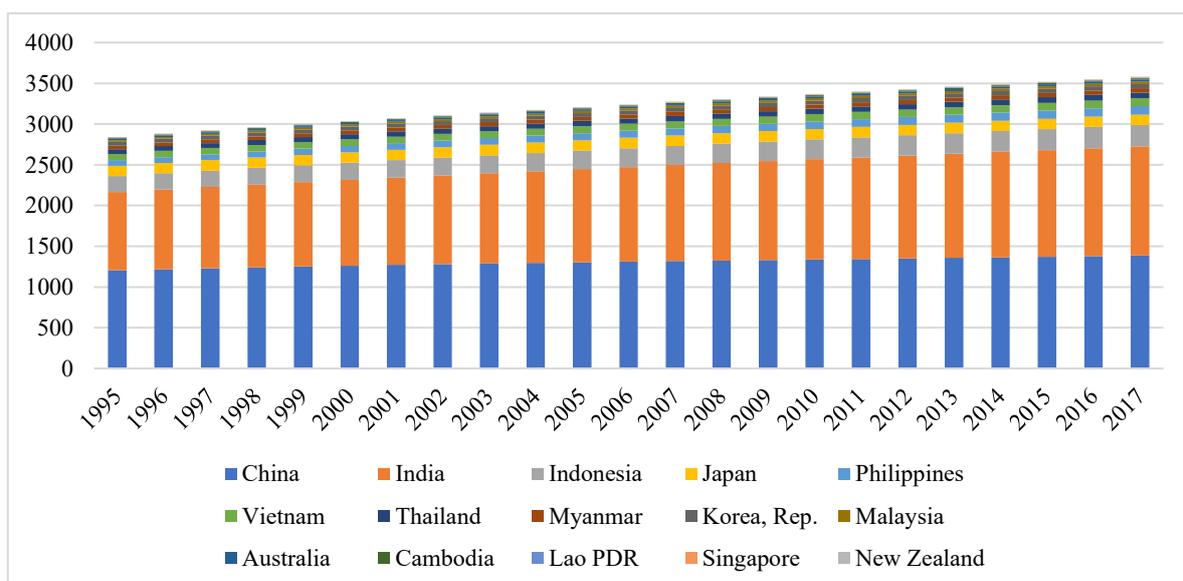
7.3 Control Variables

In this part, the control variables of population, economic freedom, unemployment rate and democracy were presented. These variables had some degrees of correlation with the main focus variables (government expenditure, governance indicators, tax revenue, public debts, FDI and GDP per capita). To obtain an unbiased estimate of a causal effect on the dependent variable, these variables were controlled in the multiple regressions, which were conducted in the following chapters.

7.3.1 Population

Figure 7.7 presented the trends of the population in selected countries over two decades. China and India had the largest population of about 1.4 and 1.3 billion people, respectively, in 2017, while Singapore and New Zealand had the smallest size population of 5.6 and 4.8 million people, respectively, in 2017. Overall, the total population of selected countries slightly increased, but their annual growth rates were gradually decreased over the years. Australia and New Zealand attracted a large number of immigrants into the countries, caused the populations to increase about 1.5 and 2.0per cent annually, respectively. China and India had the largest populations in the world. Still, the annual growth rate of India (about 1.0 per cent) was double that of China (about 0.5 per cent) (World Bank 2020).

Figure 7.7. Population in Selected Countries (million people), 1995 to 2017



Source: World Bank (2019)

The population was one of the variables that needed to be controlled for in the test, as it correlated with economic productivity and the nation's revenue. For instance, mass populations with an abundant labour force in China and India might be a factor that boosted the economic productivities in those two countries, while a country like Japan, an older population, might not support economic growth and even slowed it down.

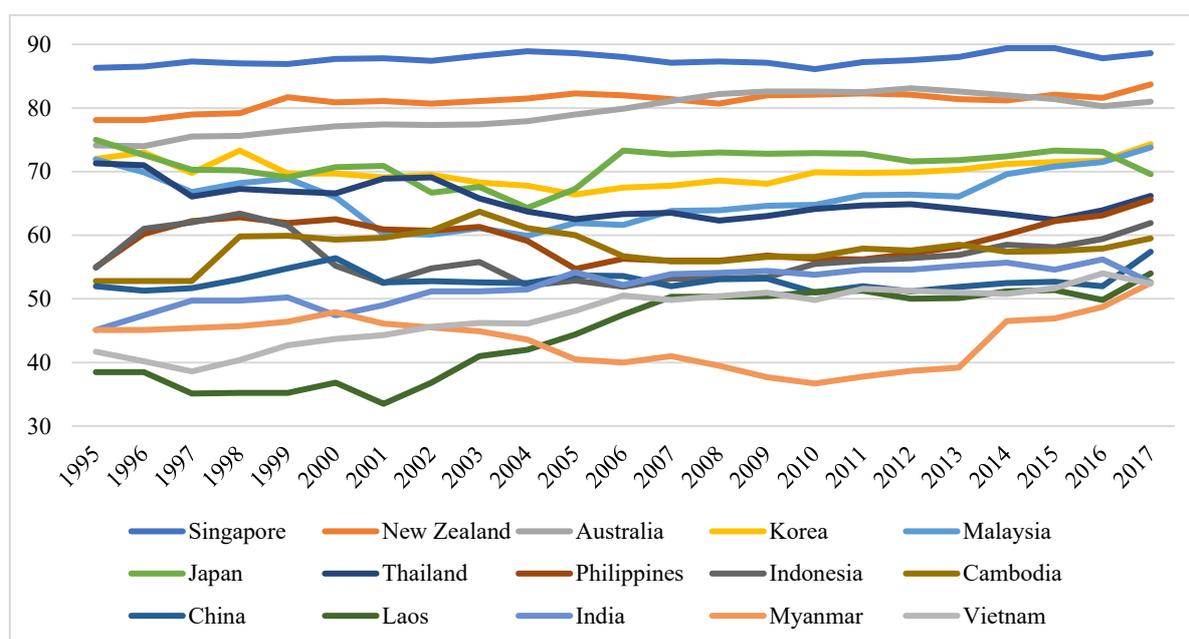
In another aspect of the economic research, empirical studies also found that population had a positive correlation with corruption (Root 1999; Treisman 1999; Fisman and Gatti 2002), while Damania et al. (2004) found population decreased corruption. Some studies concluded that higher trade intensity and small populations were associated with lower corruption levels. Root (1999) and Fisman and Gatti (2002) found that smaller countries were less corrupt than larger ones. Mauro (1995), Knack and Keefer (1995) and Hall and Jones (1999) also found that there was a significant relationship between corruption and the size of the population. Therefore, as the population might have a correlation with both dependent and independent variables, it was used to control in this study for unbiased results.

7.3.2 Economic Freedom

Another control variable was economic freedom. According to the Heritage Foundation (2019), this index measured the impact of state regulation on individuals and businesses in the economy of a country. The index ranged from 0 to 100, representing the lowest to the highest levels of economic freedom. Figure 7.8 showed the levels of economic freedom in selected countries over two decades. This total index of economic freedom included the freedom in doing trade, investment and business. It could be seen clearly that Singapore, New Zealand and Australia were countries that had the most economic freedom, while Laos, Myanmar and Vietnam had the least freedom.

According to Heritage (2019), the score of economic freedom was measured based on several factors, including trade freedom and investment freedom, which were considered the major components for estimating the level of open markets of a country. The different levels of market openness may result in different levels of foreign investment's attractiveness to a country. In addition, regulatory efficiency, another category for measuring economic freedom, which included business freedom and labour freedom, may also have had an influence on economic development.

Figure 7.8. Economic Freedom Scores in Selected Countries, 1995 to 2017



Source: Heritage (2019)

Conversely, economic freedom may also have a correlation with corruption. According to Schneider (2011), the level of corruption could be controlled by increasing the level of economic freedom, based on the fact that individuals may have more freedom in doing business. Unofficial activities or red tape may occur less if government interference can be reduced. Goel and Nelson (2005) studied the determinants of corruption by examining whether economic freedom or political freedom were factors that influence corruption in a large sample of countries. They found that economic freedom yielded a less corrupt society. Some empirical researchers, such as Rose-Ackerman (1999) and Ahlefer and Vishny (1993), argued that political freedom was an important factor that may lead to a reduction in the level of corruption. Shleifer and Vishny (1993) also showed that both factors were important in terms of controlling the level of corruption, and they supported each other. Goel and Nelson (2005) presented in their study the view that economic freedom was more important than democracy. Singapore and China were the two countries that had a level of economic freedom greater than political freedom, while India had a converse result. Thus, economic freedom was used as another control variable in this study.

7.3.3 Unemployment

Many studies showed a relationship between unemployment and economic development (Chang, 2009; Blomstrom et al., 1997; Scahaik and Groot, 1998; Sogner, 2001; Apergis and

Rezitis, 2003). For this reason, in this study of the impact of corruption on economic development, the unemployment rate was being controlled. A few studies found a relationship between the unemployment rate and FDI inflows, such as Pearson et al. (2012). They used a sample of 50 states over the period from 1984 to 2007 in the United States and found that the unemployment rate caused a negative impact on FDI. Explaining that result, they addressed that a high unemployment rate was positively associated with the crime ratio, thus discouraged investors. Aydin and Esen (2017) studied the relationship between unemployment and economic growth in Turkey from 1980 to 2014. They found that unemployment and economic growth had a negative relationship and inflation played a significant role in the relationship between the two factors.

In addition, several empirical studies showed the relationship between corruption and income. Tanzi (1998) indicated that the wage level was one of the most important drivers determining the level of corruption. He also showed the trade-off between two factors in which the higher the level of wages, the lower the level of corruption. High levels of corruption may be a result of the greed over the need of officials, and Tanzi identified that some officials were involved in corruption regardless of the level of their wages. These results were supported by other researchers, such as Van Rijckeghen and Weder (1997) and Haque and Sahay (1996). They applied the same method, which used cross-sectional data to support the studies. They also found that to control corruption, wages should be considered. In many countries, especially OECD countries, public employees received high salaries. Tanzi (1998) mentioned the case of Singapore, where the country aimed to reduce levels of corruption by paying high salaries to those in high positions in the public sector.

7.3.4 Democracy

Democracy could be considered a political factor that needed to be controlled for in the tests as it might impact the levels of corruption in each country. Table 7.4 demonstrated the democracy scores in selected countries from 1995 to 2017. The scores were ranged from –10 (full autocracy) to 10 (full democracy) (Our World in Data 2017).

Table 7.4. Democracy Score in Selected Countries 1995 to 2017

	1995	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017
Australia	10	10	10	10	10	10	10	10	10	10	10
Japan	10	10	10	10	10	10	10	10	10	10	10
New Zealand	10	10	10	10	10	10	10	10	10	10	10
India	9	9	9	9	9	9	9	9	9	9	9
Indonesia	-7	6	8	8	8	8	8	9	9	9	9
South Korea	6	8	8	8	8	8	8	8	8	8	8
Philippines	8	8	8	8	8	8	8	8	8	8	8
Malaysia	3	3	3	6	6	6	6	5	5	5	5
Cambodia	1	2	2	2	2	2	2	2	2	2	2
Singapore	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Myanmar	-7	-7	-8	-6	-3	-3	-3	-3	-3	-3	-3
Thailand	9	9	9	4	7	7	7	-3	-3	-3	-3
China	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7
Laos	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7
Vietnam	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7

Source: Our World in Data (2017)

Australia, New Zealand and Japan were full democracies, while China, Vietnam, and Laos were full autocracies.¹⁸ Over two centuries, many countries that once used to be autocracies changed to democracies. In the selected countries in this study, Thailand moved in the opposite direction to become an autocracy from a democratic regime. India, Indonesia, and the Philippines even had high democracy scores, although the levels of corruption in those countries were relatively high.

Several studies found that there was a significant relationship between democracy and corruption. Jetter et al.'s (2015) study of the effect of democracy on corruption found that democracy reduced corruption but only in high-income countries that had an income higher than US\$2,000 and increased corruption in lower-income countries. Andvig (2006) studied the relationship between corruption and democracy in transition economies and found that democracy increased corruption as people had more accessibility to public funds and positions in the public sector. Besides, democracy decreased corruption due to an increase in competition over the use of public funds and government positions. Mohtadi and Roe (2003) found that corruption may first increase after democratisation but could decrease over time.

¹⁸ China, Vietnam and Laos together with Cuba are the only four communist countries left in the world.

Most of the empirical studies found that democracy reduced corruption, such as Iwasaki and Suzuki (2012), Billger and Goel (2009), Serra (2006), Chowdhury (2004), Sandholtz and Koetzle (2000), and Treisman (2000).

7.4 Conclusion

To support the second objective of the study and examine the impact of corruption on economic development, the data on the consequence variables of corruption were presented and analysed. These data were gathered from 2000 to 2017 from various sources. The development of an economy was looked at through tax revenue, public debt, FDI and GDP per capita. To support the results of the study, control variables were considered, including population, economic freedom, unemployment rate and democracy.

In explaining and interpreting the consequence variables, tax revenue was considered one aspect of economic development. Tax revenue can be viewed as the primary source of income gained by the governments through taxation. The main function of tax collection was for financing the vital expenses of public sectors; however, corruption was one of the factors that caused tax collection to be inefficient. Based on data collection from 2000 to 2017, tax revenue as a percentage of GDP in selected countries can be divided into two groups that had high and medium/low tax rates. The literature in relation to tax revenue and corruption was also reviewed.

Public debt was considered the second aspect of economic development. The chapter presented the data collected over 18 years of public debt in selected countries, analysing the importance of public debt to an economy, and also presented the downside of having too much debt and the relationship between public debt and corruption. Several empirical studies on the relationship between public debt and corruption were outlined.

FDI was one of the key elements for economic development. The chapter had presented and analysed the importance of FDI to the economic development of recipient countries as well as host countries. FDI data collected from 2000 to 2017 had been presented in graphs to show the trends of the FDI inflows in each country as well as the volume of the inflows. However, the inflows of FDI might be impacted by corruption. Several empirical studies were outlined to support the assumption that corruption might have an impact on FDI inflows.

The last consequence variable was GDP per capita. Based on 18 years of collected data, GDP per capita in selected countries were divided into two groups, high-income countries and lower-middle-income countries. Several factors can explain the different levels of GDP per capita in selected countries, and corruption may be one of them. Empirical studies were reviewed to show the possible relationship between corruption and GDP per capita.

In terms of control variables, population, economic freedom, unemployment rate and democracy were presented. The purpose of controlling these variables was to obtain an unbiased estimate of corruption on consequence variables. The same method of analysing and presenting the data collected of these control variables was applied as to consequence variables. The empirical research was also reviewed to support the theory. Once all the data and information collected for corruption, causal variables and consequences variables were presented and analysed, this data pool was used in multiple regressions to find the results. The following chapters presented the results found in this study.

CHAPTER 8_ CAUSES AND CONSEQUENCES OF CORRUPTION RESULTS IN ASEAN PLUS SIX

8.1 Introduction

This chapter presented and analysed the results of multiple regressions to achieve the objectives of the study and to answer the research questions. The first objective, to examine the causes of corruption, was discussed in the first part of the chapter, along with the results. The research question of whether government expenditure and governance indicators explained the level of corruption in ASEAN Plus countries was answered in this part. The second objective, to examine the impact of corruption on economic development, was presented in the second part along with the results. The research question of whether corruption led to a significant impact on economic development in selected countries was also analysed and answered. Several multiple regressions were conducted to test hypotheses one and two to answer the research questions.

In the first part of the chapter, the results of the level impact of causal factors on corruption were analysed. In this study, government expenditure and governance performance were examined to see if they were the causes of corruption. Government expenditure on the education, health and construction sectors was the focus. Governance performance was looked at using six indicators which were voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law and control of corruption. Empirical studies and results were outlined to support the findings of the study.

In the second part of the chapter, the consequences of corruption on economic development were examined. Tax revenue, public debt, FDI and GDP per capita were considered determinants of economic development. The results of the impact of corruption on consequence variables were analysed and presented. The relevant literature was outlined in relation to the findings. This study used a number of economic variables, such as economic freedom, unemployment rate, democracy and population as control variables to support the results of the regressions. The impact of those control variables on corruption and economic development were also taken into consideration as a further contribution to the empirical literature.

This chapter focused on presenting and analysing the results of the causes and consequences of corruption using a sample of 15 ASEAN Plus countries over the period from 2000 to 2017. In Chapter 9, this sample of 15 countries was divided into two groups, low- to middle-income and high-income countries. Chapter 9 provided a comparison of the different levels of impact of causal variables on corruption as well as corruption on economic development between two groups based on the different levels of income. Chapter 10 then focused on presenting and analysing the results of the causes and consequences of corruption in Vietnam in particular. The results presented in Chapters 8, 9 and 10 helped to contribute to the empirical literature on the causes and consequences of corruption in selected countries. Also, they provided a general overview of the impact of corruption on economic development in different countries based on different levels of income.

8.2 Causes of Corruption Results

To achieve the first objective of the study and determine the causes of corruption, multiple regressions were conducted to examine the impact of government expenditure, governance indicators, and both government expenditure and governance indicators on corruption. In this study, the CPI and the SE were used as proxy variables for corruption. In addition, to justify the significance of the tests' results, three significance levels one per cent, five per cent, and ten per cent were used. The results of the tests were then described as being statistically significant at the one per cent, or five per cent, or ten per cent significance level.

8.2.1 Causes of Corruption: Using the CPI as a Proxy of Corruption

In this section, the CPI was considered a proxy variable of corruption. A couple of multiple regressions were conducted to test the relationship between government expenditure, governance indicators and the CPI. The purpose of this was to examine whether government expenditure and governance indicators were the causes of different CPI levels in 15 studied countries.

a. Impact of Government Expenditure on the CPI

This regression was conducted to examine whether there was a significant correlation between government expenditure and the CPI. The regression was formed as follows:

$$\text{CPI} = \alpha + \beta_1 \text{EDU} + \beta_2 \text{HEA} + \beta_3 \text{GFCF} + \beta_4 \text{POP} + \beta_5 \text{GCAP} + \varepsilon \quad (1)$$

Where, CPI_ corruption perception index; EDU_ government expenditure on education as a percentage of GDP; HEA_ government expenditure on the health sector as a percentage of GDP; GFCF_ gross fixed capital formation as a percentage of GDP; POP_ population; GCAP_ GDP per capita.

Table 8.1. Summary of the Multiple Regression Results: The Effect of Government Expenditure on the CPI

Model		Unstandardised Coefficients		Standardised Coefficients		t	Sig.	Verbally Interpretation
		B	Std. Error	Beta				
1	(Constant)	-.279	6.011			-.046	.963	NS
	EDU	6.662	.853	.389		7.814	.000	HS
	HEA	4.705	.556	.424		8.463	.000	HS
	GFCF	-.053	.188	-.013		-.282	.778	NS
2	(Constant)	20.525	2.778			7.387	.000	HS
	EDU	4.701	.357	.275		13.177	.000	HS
	HEA	-.059	.277	-.095		-.823	.000	HS
	GFCF	-.241	.100	-.059		-.405	.017	HS
	POP	5.819E-	.000	.094		3.774	.000	HS
	GCAP	.001	.000	.900		36.007	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.686 ^a	.471	78.839	.000 ^b	
2	.955 ^a	.913	551.061	.000 ^c	1.974

a. Dependent Variable: CPI

b. Predictors: (Constant), GFCF, EDU, HEA

c. Predictors: (Constant), GFCF, EDU, HEA, POP, GCAP

The summary results of the regression (1) were presented in Table 8.1. Model 1 tested the impact of government expenditure on selected sectors on the CPI without control variables. The results showed a correlation between government expenditure and the CPI score; however, only 47.1 per cent (R-square) of the variation in CPI scores was explained by the independent variables. In addition, the relationship between gross fixed capital formation and CPI scores was insignificant. By adding control variables, which were population and GDP per capita, R-square was 0.913, as seen in Model 2. It indicated a high correlation between

dependent and independent variables, in that 91.3 per cent of the variation in the CPI scores could be explained by the government expenditure variables. In addition, by adding control variables, the p-values (sig.) of the t-tests were close to zero, which meant selected independent variables had a statistically significant correlation with the CPI. Thus, there was a relationship between government expenditure on selected sectors on the CPI.

Using the regression coefficient, the econometric model (1) was given by:

$$\text{CPI} = 20.525 + 4.701 \text{ EDU} - 1.059 \text{ HEA} - 0.241 \text{ GFCF} + 5.819 \text{ POP} + 0.001 \text{ GCAP} + \varepsilon$$

Table 8.1 presented the coefficient results of the regression. The coefficients indicated how much the dependent variable varies with an independent variable when all other independent variables were held constant. The coefficient of government expenditure on education was positive of 4.701, which meant each one per cent increase in government spending on education may lead to a 4.701 score increase in the CPI (assuming all other independent variables are held constant). The negative coefficients of government expenditure on health and gross fixed capital formation showed an inverse relationship with the CPI, in that each one per cent increase in government spending on health care and fixed capital formation may reduce 1.059 and 0.241 scores in the CPI, respectively. The results showed that the level of corruption might be smaller if the government spent more on the education sector but bigger if the government spent more on health care and fixed capital formation, including public construction.¹⁹

b. Impact of Governance Indicators on the CPI

This second regression was conducted to examine whether there was a significant correlation between governance indicators and the CPI. The regression was formed as follows:

$$\text{CPI} = \alpha + \beta_1 \text{ CC} + \beta_2 \text{ GE} + \beta_3 \text{ PV} + \beta_4 \text{ RQ} + \beta_5 \text{ RL} + \beta_6 \text{ VA} + \varepsilon \quad (2)$$

Where, CPI_ corruption perception index; CC_ control of corruption; GE_ government effectiveness; PV_ political stability and absence of violence; RQ_ regulatory quality; RL_ rule of law; VA_ voice and accountability.

¹⁹The CPI scores range from 0 to 100, where 0 means highly corrupt and 100 means very clean.

Table 8.2. Summary of the Multiple Regression Results: The Effect of Governance Indicators on the CPI

Model	Unstandardised Coefficients		Standardised Coefficients		t	Sig.	Verbally Interpretation
	B	Std. Error	Beta				
1	(Constant)	43.167	.347		124.234	.000	HS
	CC	22.634	.838	1.064	27.020	.000	HS
	GE	4.009	1.267	.164	3.163	.002	HS
	PV	1.623	.502	.060	3.235	.001	HS
	RQ	-2.864	.920	-.121	-3.111	.002	HS
	RL	-4.306	1.457	-.180	-2.955	.003	HS
	VA	.220	.528	.009	.417	.677	NS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.990 ^a	.980	2098.068	.000 ^b	

a. Dependent Variable: CPI

b. Predictors: (Constant), VA, PV, GE, CC, RQ, RL

The summary results of regression (2) were presented in Table 8.2. The results of the p-value of the F-test were 0.000, which meant there was a significant correlation between governance indicators and the CPI. The determinant of coefficient (R-square) was 0.98, which indicated the independent variables (governance indicators) helped to explain 98 per cent of the variation of the CPI. The p-values (sig.) of the t-tests were close to zero, except VA, which meant CC, GE, PV, RQ and RL had a relationship of statistically high significance with the CPI. The p-value of the t-test of the effect of VA on the CPI was 0.677, which was greater than 0.10 (90 per cent confidence interval). Thus there was no significant relationship between the voice and accountability indicator and the CPI.

The econometric model (2) was given as:

$$\text{CPI} = 43.167 + 22.634 \text{ CC} + 4.009 \text{ GE} + 1.623 \text{ PV} - 2.864 \text{ RQ} - 4.306 \text{ RL} + 0.220 \text{ VA} + \varepsilon$$

Based on the regression coefficient, control of corruption, government effectiveness, political stability and absence of violence, and voice and accountability had a positive significant impact on the CPI, while regulatory quality and the rule of law had a negative impact on the

CPI. Based on the coefficients of independent variables, the governance performance on control of corruption had the greatest impact on the levels of corruption. The coefficient of control of corruption was 22.634, which meant every point increase in control of corruption led to an increase of about 22 scores of the CPI. The government effectiveness and political stability also had a positive impact on the CPI that every point increase in the indicators resulted in an increase of about 4.0 and 1.6 scores, respectively, in the CPI. These results indicated that the better governance (better scores of governance indicators), the lower levels of corruption (higher scores of the CPI).²⁰ Conversely, the indicators of rule of law and regulatory quality had a significant but negative correlation with corruption.

c. Impact of Government Expenditure on Selected Sectors and Governance Indicators on the CPI

This multiple regression was conducted to examine whether there was a significant correlation between government expenditure and governance indicators and the CPI. The regression was formed as follows:

$$\text{CPI} = \alpha + \beta_1 \text{EDU} + \beta_2 \text{HEA} + \beta_3 \text{GFCF} + \beta_4 \text{CC} + \beta_5 \text{GE} + \beta_6 \text{PV} + \beta_7 \text{RQ} + \beta_8 \text{RL} + \beta_9 \text{VA} + \beta_{10} \text{GCAP} + \beta_{11} \text{POP} + \beta_{12} \text{UNEMP} + \beta_{13} \text{INV_FD} + \varepsilon \quad (3)$$

Where, CPI_ corruption perception index; EDU_ government expenditure on education as a per cent of GDP; HEA_ government expenditure on the health sector as per cent of GDP; GFCF_ gross fixed capital formation as per cent of GDP; CC_ control of corruption; GE_ government effectiveness; PV_ political stability and absence of violence; RQ_ regulatory quality; RL_ rule of law; VA_ voice and accountability; GCAP_ GDP per capita; POP_ population; UNEMP_ unemployment; INV_FD_ investment freedom.

The summary results of regression (3) were presented in Table 8.3. Model 1 tested the impact of government expenditure on selected sectors and governance indicators on the CPI, without control variables, while in Model 2 control variables were added. The results of the p-values of the F-tests of the two models were close to zero, which meant there was a significant impact of both government expenditure and governance indicators on the CPI. The determinant of coefficient (R-square) was 0.981, which indicated the variation of corruption was strongly

²⁰Governance indicator index ranges from -2.5 to 2.5, with higher values corresponding to better governance.

explained by selected independent variables. Thus, there was a significant relationship between independent variables and the CPI.

Table 8.3. Summary of the Multiple Regression Results: The Effect of Government Expenditure and Governance Indicators on the CPI

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Verbally Interpretation	
	B	Std. Error	Beta				
1	(Constant)	43.932	1.472		29.840	.000	HS
	EDU	-.372	.214	-.022	-1.742	.083	S
	HEA	.120	.151	.011	.791	.430	NS
	GFCF	-.008	.039	-.002	-.212	.832	NS
	CC	22.071	.889	1.038	24.813	.000	HS
	GI_GE	4.406	1.310	.180	3.363	.001	HS
	PV	1.553	.552	.057	2.810	.005	HS
	RQ	-3.028	.931	-.128	-3.253	.001	HS
	RL	-3.547	1.530	-.148	-2.318	.021	HS
	VA	.076	.581	.003	.131	.896	NS
2	(Constant)	39.298	2.732		14.384	.000	HS
	EDU	.650	.337	.038	1.925	.055	S
	HEA	-.234	.181	-.021	-1.295	.196	NS
	GFCF	-.043	.054	-.011	-.799	.425	NS
	CC	21.398	.961	1.006	22.273	.000	HS
	GE	5.178	1.393	.212	3.716	.000	HS
	PV	1.662	.608	.061	2.734	.007	HS
	RQ	-3.500	1.192	-.148	-2.936	.004	HS
	RL	-7.516	1.828	-.314	-4.111	.000	HS
	VA	.801	.642	.034	1.248	.213	NS
	GCAP	.000	.000	.138	3.664	.000	HS
	POP	2.069E-9	.000	.033	2.146	.033	HS
	UNEMP	-.398	.200	-.027	-1.989	.048	HS
INV_FD	.048	.026	.043	1.869	.063	S	

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.990 ^a	.980	1402.357	.000 ^b	
2	.990 ^a	.981	1015.653	.000 ^c	2.059

a. Dependent Variable: CPI

b. Predictors: (Constant), VA, GFCF, PV, EDU, HEA, GE, CC, RQ, RL

c. Predictors: (Constant), VA, GFCF, PV, EDU, HEA, GE, CC, RQ, RL, UNEMP, POP, INV_FD, GCAP

The econometric model (3) was given as:

$$\text{CPI} = 39.289 + 0.65 \text{ EDU} - 0.234 \text{ HEA} - 0.043 \text{ GFCF} + 21.389 \text{ CC} + 5.178 \text{ GE} + 1.662 \text{ PV} - 3.500 \text{ RQ} - 7.516 \text{ RL} + 0.801 \text{ VA} + 0.000 \text{ GCAP} + 2.069 \text{ POP} - 0.398 \text{ UNEMP} + 0.048 \text{ INV_FD} + \varepsilon$$

This multiple regression tested the impact of both government expenditure and governance indicators on the CPI when GDP per capita, population, unemployment rate and investment freedom were used as control variables. Looking at Table 8.3, the p-values of the t-tests of EDU were significant at 90 per cent of the level of confidence. The positive coefficient of EDU was 0.65 indicated that a one per cent increase in government budget on education increased the CPI by 0.65 points. In other words, a one per cent increase in government expenditure on education reduced the level of corruption by 0.65 points. Conversely, the p-values of the t-tests of HEA and GFCF were insignificant in that they were greater than 0.1 (90 per cent confidence interval). In the regression, their coefficients were negative 0.234 and 0.043, respectively, which indicated the more a government spends its budget on these two sectors, the higher levels of corruption it might have.

The results of the impact of governance indicators on the CPI in this regression were similar to the second (regression 2). CC, GE and PV statistically had a positive relationship with the CPI, while RQ and RL had a negative impact on the CPI. Based on the coefficients of independent variables, the governance performance on control of corruption had the greatest impact on the levels of corruption. The coefficient of control of corruption was 21.398, which meant every point increase in control of corruption increased the CPI by 21.4 points. Government effectiveness and political stability also had a positive impact on the CPI in that every point increase in the indicators resulted in an increase of about 5.178 and 1.662 scores, respectively, in the CPI. These results indicated that the better governance in corruption control, government effectiveness and political stability, the lower levels of corruption. Conversely, the indicators of the rule of law and regulatory quality had a significantly negative relationship with the CPI. The coefficients of RQ and RL were -3.5 and -7.516 , indicating that a one-point increase in these indicators reduced the CPI by 3.5 and 7.5 points (i.e., more corrupt). The p-value of the t-test of VA was insignificant in that the value of 0.213 was greater than 0.05 (95 per cent level of confidence). The positive coefficient of VA of 0.801 indicated there was a positive impact of VA on the CPI, that improvements in voice and accountability may help to reduce the levels of corruption.

Looking at the coefficients of control variables, there was a significant correlation between GCAP, POP, and the CPI. However, both variables did not make a significant impact on the CPI as the coefficient was almost zero. The negative coefficient of UNEMP indicated that a one per cent increase in unemployment increased levels of corruption by a reduced CPI of 0.4

points. INV_FD had a positive relationship with the CPI as the coefficient was 0.048, which indicated that a one-point increase in investment freedom reduced levels of corruption by increasing the CPI scores by 0.048 points.

8.2.2 Causes of Corruption: Using the SE as a Proxy of Corruption

In this section, the shadow economy was considered a proxy variable of corruption. A couple of multiple regressions were conducted to test the relationship between government expenditure, governance indicators and the shadow economy. The purpose of doing this was to examine whether government expenditure and governance indicators were the causes of the shadow economy.

a. Impact of Government Expenditure on the Shadow Economy

This regression was conducted to examine whether there was a significant correlation between government expenditure and the shadow economy. The regression was formed as follows:

$$SE = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 POP + \beta_5 GDP + \beta_6 GCAP + \varepsilon \quad (4)$$

Where, SE_ the shadow economy index; EDU_ government expenditure on education as a per cent of GDP; HEA_ government expenditure on health as per cent of GDP; GFCF_ gross fixed capital formation as a per cent of GDP; POP_ population; GDP_ gross domestic productivity; GCAP_ GDP per capita.

The p-value of the F-test, as presented in Table 8.4, indicated that there was a significant impact of government expenditure in selected sectors on the size of the shadow economy. R-squared in Model 1 was only 0.254, which indicates only 25.4 per cent of the SE's variation was explained by the independent variables. By adding control variables in Model 2, the determinant of the coefficient was changed but not too much at 0.342, indicating that 34.2 per cent of the variation in the SE can be explained by government expenditure on selected sectors. Based on the p-values of the t-tests, the coefficients were statistically significant at the 90 per cent confidence level. Thus, there was an impact of government expenditure on selected sectors on the shadow economy.

Table 8.4. Summary of the Multiple Regression Results: the Effect of Government Expenditure on the SE

Model	Model	Unstandardised Coefficients		Standardised Coefficients		t	Sig.	Verbally Interpretation
		B	Std. Error	Beta				
1	(Constant)	41.064	3.670			11.188	.000	HS
	EDU	3.819	.521	.434		7.337	.000	HS
	HEA	-2.206	.339	-.386		-6.499	.000	HS
	GFCF	-.731	.115	-.345		-6.370	.000	HS
2	(Constant)	30.752	4.089			7.521	.000	HS
	EDU	3.753	.523	.426		7.180	.000	HS
	HEA	-.729	.421	-.128		-1.734	.084	S
	GFCF	-.397	.146	-.187		-2.708	.007	HS
	POP	-4.432E-9	.000	-.139		-1.750	.081	S
	GDP	-9.073E-13	.000	-.133		-1.740	.083	S
	GCAP	.000	.000	-.337		-4.702	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.504 ^a	.254	30.177	.000 ^b	
2	.585 ^a	.342	22.811	.000 ^c	2.487

a. Dependent Variable: SE

b. Predictors: (Constant), GFCF, EDU, HEA

c. Predictors: (Constant), GFCF, EDU, HEA, GDP, GCAP, POP

The econometric model (4) was formed as follows:

$$SE = 30.752 + 3.753 \text{ EDU} - 0.729 \text{ HEA} - 0.397 \text{ GFCF} - 4.43 \text{ POP} - 9.073 \text{ GDP} + 0.000 \text{ GCAP} + \varepsilon$$

Looking at the coefficients in the econometric model, the results indicated that higher spending of the government on the education sector increased the size of the shadow economy, that every one per cent increase in government expenditure on education resulted in a 3.753 per cent increase in the size of the shadow economy. In contrast, higher spending on the health care sector and fixed capital formation reduced the size of the shadow economy by 0.729 and 0.397 per cent, respectively.

b. Impact of Governance Indicators on the Shadow Economy

This regression was conducted to examine whether there was a significant correlation between governance indicators and the shadow economy. The regression was formed as follows:

$$SE = \alpha + \beta_1 CC + \beta_2 GE + \beta_3 PV + \beta_4 RQ + \beta_5 RL + \beta_6 VA + \beta_7 POP + \beta_8 GCAP + \beta_9 DEM + \varepsilon \quad (5)$$

Where, SE_ shadow economy index; CC_ control of corruption; GE_ government effectiveness; PV_ political stability and absence of violence; RQ_ regulatory quality; RL_ the rule of law; VA_ voice and accountability; POP_ population; GCAP_ GDP per capita; DEM_ democracy.

Table 8.5. Summary of the Multiple Regression Results: The Effect of Governance Indicators on the SE

	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Verbally Interpretation
		B	Std. Error	Beta			
1	(Constant)	23.624	1.092		21.628	.000	HS
	CC	-15.882	2.633	-1.452	-6.031	.000	HS
	GE	-3.715	3.984	-.295	-.932	.352	NS
	PV	3.232	1.577	.232	2.049	.041	HS
	RQ	19.345	2.893	1.592	6.686	.000	HS
	RL	1.219	4.581	.099	.266	.790	NS
	VA	-1.805	1.661	-.149	-1.087	.278	NS
2	(Constant)	30.558	2.023		15.104	.000	HS
	CC	4.804	2.559	.439	1.877	.062	S
	GE	-12.773	3.139	-1.015	-4.070	.000	HS
	PV	2.438	1.240	.175	1.966	.050	S
	RQ	15.867	2.143	1.306	7.405	.000	HS
	RL	15.417	3.569	1.254	4.320	.000	HS
	VA	-21.000	3.229	-1.731	-6.504	.000	HS
	POP	-1.050E-8	.000	-.329	-7.185	.000	HS
	GCAP	-.001	.000	-1.451	-13.435	.000	HS
	DEM	2.024	.347	1.037	5.839	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.485 ^a	.235	13.494	.000 ^b	
2	.772 ^a	.595	42.488	.000 ^c	2.233

a. Dependent Variable: SE

b. Predictors: (Constant), VA, PV, GE, CC, RQ, RL

c. Predictors: (Constant), VA, PV, GE, CC, RQ, RL, POP, GCAP, DEM

The p-value of the F-test, as seen in Table 8.5, indicated that there was a significant impact of governance indicators on the size of the shadow economy. The correlation between the six governance indicators and the shadow economy in Model 1 was not strong as R-square was only 0.235 (23.5 per cent of the variation in the SE could be explained by the independent variables); however, a stronger correlation occurred when control variables were added. The R-square in Model 2 was 0.595, which indicated the independent variables helped to explain

59.5 per cent of the variation of the shadow economy. Looking at the p-value of the t-tests in Model 2, the coefficients were statistically significant at the 90 per cent confidence level.

The econometric model (5) was formed as follows:

$$SE = 30.558 + 4.804 CC - 12.773 GE + 2.438 PV + 15.967 RQ + 15.417 RL - 21.000 VA - 0.000 POP - 0.001 GCAP + 2.024 DEM + \varepsilon$$

Looking at the econometric model (5), the negative coefficients of GE and VA indicated that the better governance in these two indicators, the smaller size of the shadow economy. In particular, every point increased in GE and VA may reduce 12.7 and 21 per cent the size of the shadow economy, respectively. Conversely, the positive coefficients of CC, PV, RQ and RL indicated that the better governance performance in these indicators, the larger the size of the shadow economy. The results showed an adverse relationship between governance indicators and the shadow economy. Two assumptions might explain these results. First, two-thirds of the selected countries in this study were in the ASEAN group with low-middle GDP per capita and low governance performance. Thus, increasing governance indicator indexes might not result in changing or reducing the size of the shadow economy. The second assumption was the more the government tried to improve its governance systems to reduce the size of the shadow economy, the more people and organisations may try to find ways to avoid paying taxes. The following section presented the results of the study of the impact of governance indicators on the shadow economy, comparing the two groups of countries.

c. Impact of Government Expenditure on Selected Sectors and Governance Indicators on the Shadow Economy

This multiple regression was conducted to examine whether there was a significant correlation between government expenditure and governance indicators and the shadow economy.

The regression was formed as follows:

$$SE = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8 RL + \beta_9 VA + \beta_{10} GCAP + \beta_{11} DEM + \beta_{12} UNEMP + \varepsilon \quad (6)$$

Where, SE_ shadow economy index; EDU_ government expenditure on education as a per cent of GDP; HEA_ government expenditure on health as a per cent of GDP; GFCF_ gross fixed capital formation as a per cent of GDP; CC_ control of corruption; GE_ government

effectiveness; PV_ political stability and absence of violence; RQ_ regulatory quality; RL_ the rule of law; VA_ voice and accountability; GCAP_ GDP per capita; UNEMP_ unemployment; DEM_ democracy; ε _ error.

Table 8.6. Summary of the Multiple Regression Results: The Effect of Government Expenditure and Governance Indicators on the SE

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Verbally Interpretation
		B	Std. Error	Beta			
1	(Constant)	42.839	3.765		11.377	.000	HS
	EDU	4.188	.547	.476	7.662	.000	HS
	HEA	-2.452	.387	-.429	-6.332	.000	HS
	GFCF	-.766	.100	-.362	-7.696	.000	HS
	CC	-11.428	2.275	-1.045	-5.024	.000	HS
	GE	-11.305	3.351	-.898	-3.374	.001	HS
	PV	4.403	1.413	.316	3.116	.002	HS
	RQ	22.438	2.381	1.847	9.425	.000	HS
	RL	-.629	3.913	-.051	-.161	.872	NS
	VA	-2.340	1.486	-.193	-1.575	.117	NS
2	(Constant)	52.158	4.449		11.723	.000	HS
	EDU	1.214	.623	.138	1.948	.052	S
	HEA	-1.338	.364	-.234	-3.674	.000	HS
	GFCF	-.606	.093	-.286	-6.542	.000	HS
	CC	2.327	2.520	.213	.923	.357	NS
	GE	-11.689	3.121	-.928	-3.745	.000	HS
	PV	5.149	1.213	.370	4.243	.000	HS
	RQ	19.154	2.054	1.576	9.326	.000	HS
	RL	6.849	3.883	.557	1.764	.079	S
	VA	-14.070	3.222	-1.160	-4.366	.000	HS
	GCAP	-.001	.000	-1.066	-7.563	.000	HS
	DEM	1.479	.340	.758	4.348	.000	HS
	UNEMP	-1.771	.426	-.234	-4.158	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.708 ^a	.501	28.989	.000 ^b	
2	.801 ^a	.642	38.454	.000 ^c	2.122

a. Dependent Variable: SE

b. Predictors: (Constant), VA, GFCF, PV, EDU, HEA, GE, CC, RQ, RL

c. Predictors: (Constant), VA, GFCF, PV, EDU, HEA, GE, CC, RQ, RL, UNEMP, GCAP, DEM

The summary results of the regression (6) were presented in Table 8.6. Model 1 tested the impact of government expenditure on selected sectors and governance indicators on the SE, without control variables, while in Model 2, the same test but with control variables were added. The results of the p-values of F-tests of the two models were smaller than 0.05 (95 per cent confidence interval), which meant there was a significant impact of both government

expenditure and governance indicators on the SE. The determinant of coefficient (R-square) in Model 2 was 0.642, which indicated that 64.2 per cent of the SE variation was explained by selected independent variables. In addition, the p-values (sig.) of the t-tests were less than 0.1, which meant the selected independent variables had a statistically significant relationship with the SE. Thus, there was a significant impact of independent variables on the SE.

The econometric model (6) was formed as follows:

$$SE = 52.158 + 1.214 \text{ EDU} - 1.338 \text{ HEA} - 0.606 \text{ GFCF} + 2.327 \text{ CC} - 11.689 \text{ GE} + 5.149 \text{ PV} + 19.154 \text{ RQ} + 6.849 \text{ RL} - 14.070 \text{ VA} - 0.001 \text{ GCAP} + 1.479 \text{ DEM} - 1.771 \text{ UNEMP} + \varepsilon$$

Looking at the results presented in the econometric model (6), the p-values of the t-tests of the relationship between EDU, HEA, and GFCF and the SE were highly significant. These results were similar to that of Model (4). The coefficient of EDU was positive of 1.214, which indicated that a one per cent increase in spending of the government on the education sector will increase the size of the shadow economy by 1.214 per cent. The negative coefficients of HEA and GFCF of 1.338 and 0.606, which meant increased spending on these two sectors may reduce by 1.338 and 0.606 per cent the size of the shadow economy.

The p-values of the t-tests of the impact of six indicators on the SE were highly significant (except CC), as seen in Table 8.6. The coefficients of GE and VA were negative of 11.689 and 14.070, respectively, which indicated that the better governance in these two indicators, the smaller the size of the shadow economy. These two indicators had a significant impact on the size of the shadow that each point increase in the two indicators may reduce the size of the shadow economy by 11.6 and 14 per cent, respectively. The positive coefficients of governance indicators indicated that the better the governance performance, the larger the size of the shadow economy. In this regression, RQ had the most impact on the SE, as its coefficient was 19.154, which indicated that each point an increase in RQ will increase the size of the shadow economy by 19 per cent. Following RQ was PV with a coefficient of 5.149. The p-value of the t-test of CC was insignificant as it was greater than 0.1 (90 per cent level of confidence). The positive coefficient of CC of 2.327 indicated that each point increase in CC increased the size of the shadow economy by 2.3 per cent. The reasons explained for these positive relationships between CC, PV, RQ, and the SE were assumed and presented as same as in section 8.2.2b above.

Looking at the p-values of the t-tests of the control variables, they had a highly significant correlation with the size of the shadow economy. The coefficient of GCAP of -0.001 showed that the change of GDP per capita may not impact the change of the size of the shadow economy; however, this variable was important in predicting the relationship between independent variables and the SE due to its t-value. It was interesting to look at the coefficient of UNEMP of -1.771 , which indicated that a one per cent increase in unemployment may reduce the size of the shadow economy by 1.77 per cent. To explain this situation, an assumption was proposed that an increase in unemployment in a country might result in lower tax payments and tax avoidance. Thus, the rate of SE was small. In addition, the coefficient of DEM of 1.479 showed a positive relationship with the shadow economy. This result indicated that countries that were very democratic also had a larger shadow economy. Explaining this result, the assumptions were proposed as follows. First, a possible reason for this result may come from the data collection for running this regression. A sample of very democratic countries selected in this study included not only high-income countries with good institutional quality, such as Australia, Japan, Korea and New Zealand but also countries with low- to middle-income, such as Indonesia, the Philippines and Malaysia. Thus, the result may be biased. Second, in democratic countries such as Australia, Japan and New Zealand, high taxes and social security contributions might be the reason for taxpayers' unwillingness to pay tax. People may have a high intention of avoiding paying taxes.

8.2.3 Summary Results of the Causes of Corruption and Empirical Studies

The detailed results of the multiple regressions to examine the causes of corruption in ASEAN Plus Six were summarised and presented in Table 8.7 below. The results showed that there was a correlation between government expenditure on selected sectors (education, health, and construction) and governance indicators and the corruption in ASEAN Plus Six. Thus, hypothesis one (H1) had been accepted. Relevant empirical studies to support the findings of the study had been reviewed and presented in the following parts.

a. Impact of Government Expenditure on Corruption

A number of empirical studies had been conducted to examine the impact of corruption on government expenditure (Shleifer and Vishny 1993; Mauro 1998; Wei 2001; Bonaglia et al. 2001; Fisman and Gatti 2002; Tanzi and Davoodi 2002; Delavallade 2005; Dzhumashev 2014b; Sahnoun and Abdennadher 2020), however, only a small number of studies had done

the opposite, examining whether corruption can be influenced by the size of government spending. By using CPI and the SE as proxy variables of corruption, both regression (3) and (6) showed the same results that there was a significant impact of government expenditure on selected sectors and governance indicators on corruption (both on the CPI and the SE).

Table 8.7. Summary Results of Causal Variables in CPI and the SE in ASEAN Plus Six

Variables	CPI	SE	Interpretation
EDU	(+)	(+)	Increase EDU → reduce the level of corruption, increase the size of the shadow economy
HEA	(-)	(-)	Increase HEA → increase the level of corruption, reduce the size of the shadow economy
GFCF	(-)	(-)	Increase GFCF → increase the level of corruption, reduce the size of the shadow economy
CC	(+)	(+)	Improve CC → reduce the level of corruption, increase the size of the shadow economy
GE	(+)	(-)	Improve GE → reduce the level of corruption, reduce the size of the shadow economy
PV	(+)	(+)	Improve PV → reduce the level of corruption, increase the size of the shadow economy
RQ	(-)	(+)	Improve RQ → increase the level of corruption, increase the size of the shadow economy
RL	(-)	(+)	Improve RL → increase the level of corruption, increase the size of the shadow economy
VA	(+)	(-)	Improve VA → reduce the level of corruption, reduce the size of the shadow economy
GCAP	(+)	(-)	Increase GCAP → reduce the level of corruption, reduce the size of the shadow economy
UNEMP	(-)	(-)	Increase UNEMP → increase the level of corruption, reduce the size of SE
INV_FD	(+)		Increase INV_FD → reduce the level of corruption
DEM		(+)	Increase DEM → increase the size of the shadow economy

(+) positive relationship; (-) negative relationship.

Source: Author

Tanzi (1998) examined the factors influencing corruption and found that the allocation of the government budget for different sectors tended to be less transparent. Kawaura's (2011) study of the relationship between legislation and budget allocation found that politicians used their power to direct government expenditure to their home provinces in order to increase the number of votes they collected in the next election. Once the legislators win the next election, they may continue to use their power for corruption. These findings supported the results of this study that an increase in government budget on health and construction increased levels of corruption.

Government expenditure on sectors such as education, health and construction were selected for this study as they had the largest budget allocation in 15 studied countries. The results of the causes of corruption as presented above showed that the significant impacts of government expenditure on health and construction on corruption were supported by the studies of Tanzi (1998) and Kawaura (2011). These findings were also relevant to Mauro (1998), who argued that politicians intended to spend public budget on items that were easy to levy large bribes on but were also hard to reveal. Those items were normally purchased in markets where the

degree of competition was low, such as oligopoly and monopoly markets. The exact value of those items was also hard to monitor. In the health sector, the highest spending was on advanced medical equipment and hospital facilities. The purchases of those items involved more opportunities for bribery and corruption than the case of paying salaries for doctors and nurses. In the construction sector, there were more chances for corruption to occur when big projects such as roads, airports, railways, seaports and infrastructure may be given to assigned constructors for mutual benefits between involved parties.

In contrast, the impact of education expenditure on corruption was found to be negative in this study that the larger size of the education budget may reduce the levels of corruption. This finding was against the results of Tanzi (1998) and Kawaura (2011). Mauro (1998) stated in his study that there were fewer opportunities for bribery and corruption in the education sector compared to other sectors due to a relatively large number of suppliers for education technology and equipment. In addition, it was an assumption that may support this result of the study, that an increase in government spending on education may increase the levels of knowledge and awareness of citizens about corruption, as well as increasing salaries for teachers, and hence the levels of corruption might be reduced. Sahnoun and Abdennadher (2020) studied the relationship between education and corruption from 35 developed and 40 developing countries over 16 years, found that corruption had a negative impact on education expenditure, especially for the developing countries.

In terms of the shadow economy, this study found that there was a significant relationship between government expenditure and the shadow economy. Based on the summary results presented in Table 8.7, education expenditure had a positive impact on the size of the shadow economy. This result aligned with the finding of Torgler (2004). He found a positive relationship between education and the size of the shadow economy in Switzerland. Conversely, this result was opposite to the finding of Berrittella (2015). In her study of the relationship between government expenditure on education and the shadow economy in 70 countries, Berrittella (2015) found that the government expenditure on education reduced the size of the shadow economy. Huynh and Nguyen (2020) studied the relationship between fiscal policy and shadow economy in 24 Asian developing countries from 2002 – 2015 and found that government expenditure reduced the size of the shadow economy. Fedotenkov and Schneider (2018) found a link between government expenditure, including the military, education and health, and the shadow economy in central and Eastern Europe. They found that

there was an insignificant impact of government expenditure on education on the shadow economy. They also found that there was a positive impact of health expenditure on the shadow economy, in that increasing the spending on the health sector raised the size of the shadow economy. That finding was opposite to the result found in this study that an increase in health spending reduced the size of the shadow economy.

Chancellor and Abbott (2015), in their study of the relationship between the shadow economy and the productivity of the construction sector in Australia, found that the shadow economy in this sector had grown over time from 1985 to 2012, although there was no convincing evidence of the causes of the growth of the shadow economy. In this study, government spending on construction was considered one of the causes of the shadow economy. The result from the regression showed a negative impact, in that an increase in the size of the budget for this sector reduced the size of the shadow economy. This result could be explained because the more construction projects, the more capital inputs were added, such as building materials, tools and vehicles. Those major capital inputs were normally hard to conceal from the public authorities for tax avoidance as they were usually purchased through legitimate channels (Chancellor and Abbott 2015).

b. Impact of Governance Indicators on Corruption

The results of the study showed that there was a significant impact of governance indicators on corruption (both on the CPI and the SE). The details of the results and interpretation were presented in Table 8.8. Quah (2009) conducted a study about the connection between governance and corruption and found a significant relationship between the two issues. He provided two examples of well and poorly governed countries and showed the correlation between governance and levels of corruption. The first example was the poorly governed countries, including Somalia, Myanmar, the Democratic Republic of Congo, Sudan, Zimbabwe, Afghanistan and Iraq. He showed that low levels of governance led to high levels of corruption in those countries. The second example was Singapore, which was transformed from a Third World country into a First World one within four decades by improving the governance performance (in all six governance indicators and anti-corruption laws). Minocal et al. (2015) also found the same result that weak governance was one of the major causes of corruption. In his book studying the syndromes of corruption, Johnston (2005) mentioned that different political systems, as well as the strength and effectiveness of states and institutions, may provide political and economic opportunities for exercising corruption.

The results found in this study showed that better governance in control of corruption, government effectiveness, political stability and absence of violence, and voice and accountability significantly reduced the levels of corruption (see the summary results in Table 8.8). Buehn and Schneider (2009) suggested that increased voice and accountability can help to reduce the scope of bribery. Conversely, regulatory quality and the rule of law showed a negative impact on CPI, in that improving governance performance in these two indicators may not help to reduce the levels of corruption but increase its level instead. This finding was opposite to the one found by Tanzi (1998) that transparency of rules, laws and processes helped to reduce the level of corruption. Dreher and Schneider (2010) also found that the rule of law had a negative impact on corruption, in that the level of corruption was lower with a better rule of law.

In terms of the effect of governance on the shadow economy, this study found that an increase in governance performance in government effectiveness and voice and accountability helped to reduce the size of the shadow economy. This finding was similar to the results found by Jamalmanesh et al. (2014) that increased government effectiveness led to a smaller informal economy in 37 countries in Asia. Dreher and Schneider (2010) found the same result that government effectiveness reduced the size of the information sector. In a study of the effect of voice and accountability on the shadow economy, Torgler et al. (2011) suggested that if citizens perceived high voice and accountability in political institutions, their trust in the government increased and thus their willingness to contribute also increased.

Friedman (2014) conducted a similar study, examining the relationship between governance and the size of the informal economy across 149 countries from 2002 to 2007. He also used the six governance indicators introduced by the World Bank as independent variables and the size of the information economy as a share of GDP recommended by Schneider et al. (2010) as a dependence variable in the regression. His study was similar to this research but different in that it used a different size of country sample and period. The findings of the two studies were interestingly opposite to each other. Friedman found that control of corruption, political stability, regulatory quality and the rule of law had a negative association with the size of the shadow economy, while voice and accountability had a positive impact on the informal economy. Jamalmanesh et al. (2014) also found the same result that the rule of law decreased the size of the informal economy.

c. Impact of Control Variables on Corruption

In the multiple regressions conducted to examine the impact of government expenditure and governance indicators on corruption (both on the CPI and the SE), GDP per capita, unemployment rate, investment freedom and democracy were selected as control variables. Based on the summary results presented in Table 8.8, GDP per capita had a positive relationship with corruption, meaning an increase in GDP per capita reduced corruption levels. The same results were found by Rose-Ackerman (2004), Svensson (2005) and Goel and Ram (2013). Jetter et al. (2015) found that democratic nations that had GDP per capita greater than US\$2,000 had lower levels of corruption. Gundlach and Paldam (2009) examined the causes of corruption and found that the long-run causality was entirely from income that corruption vanished as countries get rich. Braun and Di Tella (2004) found that GDP per capita had a negative relationship with corruption in cross-section but a positive one in the panel regression. Kaufmann (2003) also found a positive relationship between GDP per capita and corruption.

The results of the study also found that the levels of investment freedom had a positive impact on corruption. Higher levels of investment freedom increased the levels of corruption. This finding was opposite to the results found by Ades and Di Tella (1999), Sandholtz, and Koetzle (2000) that the openness of markets (including investment freedom and trade freedom) and levels of competitiveness (market structures) may reduce the levels of corruption.

The unemployment rate had a negative impact on both the CPI and the SE, which meant an increase in the unemployment rate might increase high levels of corruption (CPI) but reduce the size of the SE. A number of studies found that corruption was the cause of the unemployment rate; however, there were no findings of an inverse relationship. In the correlation between unemployment and the shadow economy in this study, the findings were also different from the results found by Boeri and Garibaldi (2002), Dell'Anno and Solomon (2008), Dobre et al. (2010) and Mauleon and Sarda (2017). Sahnoun and Abdennadher (2019) conducted a study of the causality between the unemployment rate and the shadow economy in 38 developing and 40 developed countries from 2000 to 2015. They found that increase in the unemployment rate increased the size of the shadow economy in 78 countries and reduced the size in the developed countries particularly.

Democracy was found to be one of the factors that increased the size of the shadow economy as it had a positive impact on SE. This finding was in contrast to the results found in Teobaldelli and Schneider (2012). They conducted research to examine the influence of direct democratic institutions on the shadow economy in 57 democratic countries and found that the degree of direct democracy reduced the size of the informal sector. There were a few studies focused on the relationship between direct democracy and tax avoidance, such as Schneider and Enste (2013), Torgler (2005), and Hug and Sporri (2011). The findings were similar to Teobaldelli and Schneider (2012) in that direct democracy increased public trust in political institutions and thus increased tax morality. As a result, it helped to reduce the size of the shadow economy.

8.3 Consequences of Corruption Results

In this part of the chapter, the results of multiple regressions that were conducted to examine the impact of corruption on economic growth in 15 ASEAN Plus countries were presented and analysed. As before, the CPI and the SE were used as proxy variables of corruption. Thus, the results of the impact of corruption on consequence variables were presented in two different sections according to corruption proxies. Section 8.3.1 presented the findings of the impact of the CPI on proxy variables of economic growth, while in section 8.3.2, the results of the impact of the SE on economic growth proxy variables were presented. Tax revenue (as major income of a government), levels of public debt, the inflow of foreign investment and GDP per capita were selected as proxy variables of economic growth. A summary of results and relevant literature in line with the findings of the study were outlined in the last section.

8.3.1 Impact of Corruption Using the CPI as a Proxy on Economic Development

a. Impact of the CPI on Tax Revenue

This regression was conducted to examine whether there was a correlation between CPI and the tax revenue. The regression was formed as follows:

$$\text{TAXR} = \alpha + \beta_1 \text{CPI} + \beta_2 \text{POP} + \beta_3 \text{GEXP} + \beta_4 \text{INV_FD} + \beta_5 \text{FIN_FD} + \beta_6 \text{PROP} + \varepsilon \quad (7)$$

Where, TAXR_ tax revenue; CPI_ corruption perception index; GEXP_ total government expenditure as a percentage of GDP; POP_ population; INV_FD_ investment freedom; FIN_FD_ financial freedom; PROP_ property rights; ε _ error.

The summary results of the regression (7) were presented in Table 8.8. Looking at the results in Model 2 as some variables were controlled in the regression, the determinant of coefficients was 0.728, which indicated that the selected variables helped to explain 72.8 per cent of the variance of the dependent variable, tax revenue. The F-value of the test was highly significant at a 99 per cent level of confidence. Thus, there was a significant impact of CPI on tax revenue.

Table 8.8. Summary Results: The Impact of the CPI on Tax Revenue in ASEAN Plus Six

Model		Unstandardised Coefficients		Standardised	t	Sig.	Verbally Interpretation
		B	Std. Error	Beta			
1	(Constant)	7.828	.625		12.529	.000	HS
	CPI	.182	.012	.684	15.362	.000	HS
2	(Constant)	31.426	2.083		15.084	.000	HS
	CPI	.074	.017	.277	4.320	.000	HS
	POP	2.123E-9	.000	.129	3.667	.000	HS
	GEXP	-.262	.021	-.545	-12.296	.000	HS
	INV_FD	.038	.016	.127	2.338	.020	HS
	FIN_FD	.100	.017	.325	5.949	.000	HS
	PROP	-.100	.013	-.425	-7.972	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.684 ^a	.468	235.982	.000 ^b	
2	.853 ^a	.728	117.363	.000 ^c	1.864

a. Dependent Variable: TAXR

b. Predictors: (Constant), CPI

c. Predictors: (Constant), CPI, FIN_FD, POP, GEXP, PROP, INV_FD

Looking at Table 8.8, the p-values of the t-tests (sig.) between independent variables and TAXR were highly significant at a 95 per cent level of confidence, which meant there were significant relationships between variables. Based on the econometric model, the CPI had a positive coefficient of 0.074, indicating a positive impact of the CPI on tax revenue. Each point increase in the CPI increased tax revenue by 0.074 per cent as a percentage of GDP. In other words, a lower level of corruption helped to increase government income, and that also meant a higher level of corruption reduced tax revenue.

The econometric model was given as follows:

$$\text{TAXR} = \alpha + 0.074 \text{CPI} + 0.000 \text{POP} - 0.262 \text{GEXP} + 0.038 \text{INV_FD} + 0.10 \text{FIN_FD} - 0.10 \text{PROP} + \varepsilon$$

The econometric model also showed that the population had a positive relationship with tax revenue, but the effect was not significant as the coefficient was almost zero. Total government expenditure (GEXP) had a negative impact on tax revenue as the coefficient was -0.262 , which indicated that each percentage increase in government spending reduced tax revenue by 0.262 per cent. Investment and financial freedom had positive impacts on tax revenue as the coefficients of these two variables were 0.038 and 0.10 , respectively. Investment and financial freedom were considered factors representing the openness of the market. Thus, in this case, the more openness of the market, the higher collection of tax revenue. Surprisingly, property rights (PROP) had a significant and negative impact on tax revenue, as the coefficient of this variable was -0.10 . The negative result indicated that better governance in property rights (as part of rules of law) reduced government income.

b. Impact of the CPI on Public Debt

This regression was conducted to examine whether there was a correlation between CPI and public debt. The regression was formed as follows:

$$\text{DEBT} = \alpha + \beta_1 \text{CPI} + \beta_2 \text{GEXP} + \beta_3 \text{FIN_FD} + \beta_4 \text{PROP} + \beta_5 \text{TAXR} + \varepsilon \quad (8)$$

Where, DEBT_ public debt; CPI_ corruption perception index; GEXP_ total government expenditure; FIN_FD_ financial freedom; PROP_ property rights; TAXR_ tax revenue; ε _ error.

The summary results of the regression (8) were presented in Table 8.9. Looking at the results in Model 2 as some variables were controlled in the regression, the determinant of coefficients (R-square) was 0.612 , which indicated that the selected variables helped explain 61.2 per cent of the variance of the dependent variable, public debt. The F-value of the test when control variables were added (Model 2) was highly significant at a 99 per cent level of confidence. Thus, there was a significant impact of the CPI on public debt.

The econometric model was given as follows:

$$\text{DEBT} = 321.691 + 0.593 \text{CPI} - 2.340 \text{GEXP} - 0.620 \text{FIN_FD} + 0.712 \text{PROP} - 6.772 \text{TAXR} + \varepsilon$$

Based on the results presented in Table 8.9, the p-values of the t-tests (sig.) between independent variables and DEBT were highly significant at a 95 per cent level of confidence,

which meant there were significant relationships between variables. Based on the econometric model, the CPI had a positive coefficient of 0.593, which indicated that there was a positive impact of the CPI on public debt. Each point increase in the CPI increased public debt by 0.593 per cent as a percentage of GDP. In other words, a lower level of corruption (high CPI score) increased government debt.

Table 8.9. Summary Results: The Impact of the CPI on Public Debt in ASEAN Plus Six

Model	Unstandardised Coefficients		Standardised Coefficients		t	Sig.	Verbally Interpretation
	B	Std. Error	Beta				
1	(Constant)	46.347	5.698		8.133	.000	HS
	CPI	.276	.108	.154	2.559	.011	HS
2	(Constant)	321.691	22.801		14.109	.000	HS
	CPI	.593	.106	.331	5.601	.000	HS
	GEXP	-2.340	.211	-.722	-11.084	.000	HS
	FIN_FD	-.620	.137	-.300	-4.529	.000	HS
	PROP	.712	.110	.448	6.464	.000	HS
	TAXR	-6.772	.480	-1.006	-14.098	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.154 ^a	.024	6.547	.011 ^b	
2	.782 ^a	.612	83.284	.000 ^c	2.086

a. Dependent Variable: DEBT

b. Predictors: (Constant), CPI

c. Predictors: (Constant), CPI, FIN_FD, GEXP, PROP, TAXR

Government expenditure and tax revenue were controlled for in the regression as they had a major influence on a country's public debt. The coefficients of the two variables were -2.34 and -6.772 , respectively, which indicated a negative relationship between these two variables and public debt. Each percentage increase in tax revenue (government income) decreased public debt by 6.772 per cent. In addition, each percentage increase in government spending helped to decrease public debt by 2.34 per cent. Financial freedom also had a negative impact on public debt, in that every score increase in financial freedom (more openness of the market) might reduce the debt. Property rights, an indicator of the rule of law, had a positive impact on public debt with a coefficient of 0.712, which meant each score increase in property rights increased public debt by 0.712 per cent.

c. Impact of the CPI on FDI

This regression was conducted to examine whether there was a correlation between CPI and FDI. The regression was formed as follows:

$$FDI = \alpha + \beta_1 \text{CPI} + \beta_2 \text{GEXP} + \beta_3 \text{INV_FD} + \beta_4 \text{GDPG} + \beta_5 \text{PV} + \varepsilon \quad (9)$$

Where, FDI_ foreign direct investment as a percentage of GDP; CPI_ corruption perception index; GEXP_ total government expenditure as a percentage of GDP; INV_FD_ investment freedom score from 0 (absolute unfree) to 100 (absolutely free); GDPG_ GDP growth; PV_ political stability and absence of violence; ε _ error.

Table 8.10. Summary Results: The Impact of the CPI on FDI in ASEAN Plus Six

Model	Unstandardised Coefficients B	Std. Error	Standardised Coefficients Beta	t	Sig.	Verbally Interpretation	
1	(Constant)	2.158	.616		3.501	.001	HS
	CPI	.040	.012	.203	3.396	.001	HS
2	(Constant)	-24.346	1.910		-12.745	.000	HS
	CPI	.055	.018	.283	2.993	.003	HS
	GEXP	.295	.021	.834	14.130	.000	HS
	INV FD	.026	.015	.120	1.774	.077	S
	GDPG	.238	.084	.148	2.835	.005	HS
	PV	2.912	.386	.551	7.534	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.203 ^a	.041	11.530	.001 ^b	
2	.753 ^a	.567	69.253	.000 ^c	1.996

a. Dependent Variable: FDI

b. Predictors: (Constant), CPI

c. Predictors: (Constant), CPI, GDPG, GEXP, INV_FD, PV

The summary results of the regression (9) were presented in Table 8.10. Looking at the results in Model 2 as some variables were controlled in the regression, the determinant of coefficients (R-square) was 0.567, which indicated that the selected variables helped explain 56.7 per cent of the variance of the dependent variable, FDI. The F-value of the test when control variables were added (Model 2) was highly significant at a 90 per cent level of confidence. Thus, there was a significant impact of the CPI on FDI.

The econometric model was given as follows:

$$\text{FDI} = -24.346 + 0.055 \text{ CPI} + 0.295 \text{ GEXP} + 0.026 \text{ INV_FD} + 0.238 \text{ GDPG} + 2.912 \text{ PV} + \varepsilon$$

Based on the results presented in Table 8.11, the p-values of the t-tests (sig.) between independent variables and FDI were highly significant at a 95 per cent level of confidence, which meant there were significant relationships between variables. Based on the econometric model, the CPI had a positive coefficient of 0.055, indicating a positive impact of the CPI on FDI. Each point increase in the CPI increased FDI by 0.055 per cent as a percentage of GDP. In other words, a lower level of corruption (high CPI score) increased FDI.

Looking at the econometric model, government expenditure had a positive coefficient of 0.295, which indicated that each one per cent increase in government spending might help to increase FDI by 0.295 per cent. Investment freedom and GDP growth also had a positive relationship with FDI as its coefficient was positive of 0.026 and 0.238, respectively. Political stability and no violence had a significant influence on the attraction of FDI to a host country. The coefficient was 2.912, which indicated a score improved in PV increased FDI by 2.912 per cent.

d. Impact of the CPI on GDP per Capita

This regression was conducted to examine whether there was a correlation between CPI and GDP per capita. The regression was formed as follows:

$$\text{GCAP} = \alpha + \beta_1 \text{ CPI} + \beta_2 \text{ GEXP} + \beta_3 \text{ INV_FD} + \beta_4 \text{ FIN_FD} + \beta_5 \text{ GDPG} + \beta_6 \text{ TAXR} + \beta_7 \text{ FDI} + \varepsilon \quad (10)$$

Where, GCAP_ GDP per capita; CPI_ corruption perception index; GEXP_ total government expenditure as a percentage of GDP; INV_FD_ investment freedom and FIN_FD_ financial freedom, score from 0 (absolute unfree) to 100 (absolutely free); GDPG_ GDP growth; TAXR_ tax revenue as a percentage of GDP; FDI_ foreign direct investment as a percentage of GDP; ε _ error.

The summary results of the regression (10) were presented in Table 8.11. Looking at the results in Model 2, some variables were controlled for in the regression. The determinant of coefficients (R-square) was high of 0.902, which indicated that the selected variables were good predictors and helped to explain 90.2 per cent of the variance of the dependent variable, GCAP. The F-value of the test when control variables were added (Model 2) was highly

significant at a 95 per cent level of confidence. Thus, there was a significant impact of the CPI on GCAP.

The econometric model was given as follows:

$$\text{GCAP} = 11862.989 + 550.593 \text{ CPI} - 268.782 \text{ GEXP} + 68.887 \text{ INV_FD} + 134.529 \text{ FIN_FD} - 529.173 \text{ GDPG} - 553.751 \text{ TAXR} + 251.874 \text{ FDI} + \varepsilon$$

Table 8.11. Summary Results: The Impact of the CPI on GDP per Capita in ASEAN Plus Six

Model	Unstandardised Coefficients B	Std. Error	Standardised Coefficients		Sig.	Verbally Interpretation	
			Beta	t			
1	(Constant)	-15568.192	886.598		-17.559	.000	HS
	CPI	660.706	16.791	.923	39.350	.000	HS
2	(Constant)	11862.989	5032.849		2.357	.019	HS
	CPI	550.593	31.054	.769	17.730	.000	HS
	GEXP	-268.782	50.243	-.207	-5.350	.000	HS
	INV_FD	68.887	26.557	.085	2.594	.010	HS
	FIN_FD	134.529	16.783	.163	8.016	.000	HS
	GDPG	-529.173	149.471	-.090	-3.540	.000	HS
	TAXR	-553.751	89.013	-.206	-6.221	.000	HS
	FDI	251.874	98.286	.069	2.563	.011	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.923 ^a	.852	1548.403	.000 ^b	
2	.950 ^a	.902	344.156	.000 ^c	1.713

a. Dependent Variable: GCAP

b. Predictors: (Constant), CPI

c. Predictors: (Constant), CPI, FIN_FD, FDI, GDPG, TAXR, INV_FD, GEXP

Based on the results presented in Table 8.11, the p-values of the t-tests (sig.) between independent variables and GCAP were highly significant at a 95 per cent level of confidence, which meant there were significant relationships between variables. Based on the econometric model, the CPI had a positive coefficient of 550.593, which showed a positive impact of the CPI on GDP per capita and that each point increase in the CPI increased GCAP by about 550 dollars. In other words, there was a correlation between CPI and GDP per capita that a lower level of corruption (high CPI score) increased GCAP.

Looking at the control variables, government expenditure had a negative relationship with GCAP. Its coefficient was -268.782, which meant an increase in government spending by one

per cent reduced GCAP of about US\$270. GDP growth and tax revenue also had a negative impact on GDP per capita, as their coefficients were -529.173 and -553.751 , respectively. Conversely, investment and financial freedom (indicators of market openness) had a positive impact on GDP per capita. Each score increases in investment and financial freedom increased GDP per capita by about US\$70 and US\$135, respectively. FDI also had a positive correlation with GDP per capita, in that each percentage increase in the inflow of FDI increased GDP per capita by about US\$250.

8.3.2 Impact of Corruption Using the SE as a Proxy on Economic Development in ASEAN Plus Six

a. Impact of the SE on Tax Revenue

This regression was conducted to examine whether there was a correlation between SE and tax revenue. The regression was formed as follows:

$$\text{TAXR} = \alpha + \beta_1 \text{SE} + \beta_2 \text{GEXP} + \beta_3 \text{DEBT} + \beta_4 \text{RL} + \varepsilon \quad (11)$$

Where, TAXR_ tax revenue; SE_ shadow economy index; GEXP_ total government expenditure as a per cent of GDP; DEBT_ public debt as a per cent of GDP; RL_ the rule of law scored from -2.5 (poor governance) to 2.5 (good governance); ε _ error.

The summary results of the regression (11) were presented in Table 8.12. Looking at the results in Model 2, variables such as government expenditure, public debt, and the rule of law were controlled for in the regression. The determinant of coefficients (R-square) was 0.847, which indicated that the selected variables were good predictors and helped to explain 84.7 per cent of the variance of the dependent variable, tax revenue. The F-value of the test when control variables were added (Model 2) was highly significant at a 99 per cent level of confidence. Thus, there was a significant impact of the SE on TAXR.

The econometric model was given as follows:

$$\text{TAXR} = 42.078 - 0.034 \text{SE} - 0.271 \text{GEXP} - 0.067 \text{DEBT} + 2.493 \text{RL} + \varepsilon \quad (11)$$

Based on the results presented in Table 8.12, the p-values of the t-tests (sig.) between independent variables and TAXR were highly significant at a 95 per cent level of confidence, which meant there were significant relationships between variables. Based on the econometric

model, the SE had a coefficient of -0.034 , which showed a negative impact of the SE on tax revenue and that each point increase in the SE reduced TAXR by 0.034 per cent. In other words, the larger size of the shadow economy led to lower tax revenue collection.

Table 8.12. Summary Results: The Impact of the SE on Tax Revenue in ASEAN Plus Six

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Verbally interpretation	
	B	Std. Error	Beta				
1	(Constant)	16.251	.885		18.354	.000	HS
	SE	-.002	.032	-.003	-.056	.956	NS
2	(Constant)	42.078	1.400		30.055	.000	HS
	SE	-.034	.013	-.067	-2.621	.009	HS
	GEXP	-.271	.017	-.564	-16.374	.000	HS
	DEBT	-.067	.004	-.450	-17.626	.000	HS
	RL	2.493	.217	.393	11.514	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.003 ^a	.000	.003	.956 ^b	
2	.920 ^a	.847	365.958	.000 ^c	1.632

a. Dependent Variable: TAXR

b. Predictors: (Constant), SE

c. Predictors: (Constant), SE, RL, DEBT, GEXP

Government expenditure, public debt, and the rule of law were also controlled for in the regression. Looking at the econometric model, government expenditure and public debt had negative coefficients, which indicated negative relationships between these two variables and tax revenue. In other words, an increase in government spending and levels of public debt resulted in a reduction in tax revenue. Conversely, the coefficient of the rule of law indicated a positive relationship between this variable and tax revenue, in that each point increase in the rule of law increased tax revenue by 2.5 per cent.

b. Impact of the SE on Public Debt

This regression was conducted to examine whether there was a correlation between SE scores and public debt. The regression was formed as follows:

$$DEBT = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 TAXR + \beta_4 RL + \varepsilon \quad (12)$$

Where, DEBT_ public debt as a per cent of GDP; SE_ shadow economy index; GEXP_ total government expenditure as a per cent of GDP; TAXR_ tax revenue as a per cent of GDP; RL_ the rule of law scored from -2.5 (poor governance) to 2.5 (good governance); ε _ error.

The summary results of the regression (12) were presented in Table 8.13. Looking at the results in Model 2, variables such as government expenditure, tax revenue, and the rule of law were controlled for in the regression. The determinant of coefficients (R-square) was 0.592, which indicated that the selected variables were good predictors and helped to explain 59.2 per cent of the variance of the dependent variable, public debt. The F-value of the test when control variables were added (Model 2) was highly significant at a 99 per cent level of confidence. Thus, there was a significant impact of the SE on DEBT.

Table 8.13. Summary Results: The Impact of the SE on Public Debt in ASEAN Plus Six

Model		Unstandardised Coefficients		Standardised	t	Sig.	Verbally Interpretation
		B	Std. Error	Coefficients Beta			
1	(Constant)	85.290	5.677		15.023	.000	HS
	SE	-1.059	.202	-.305	-5.236	.000	HS
2	(Constant)	390.561	21.596		18.085	.000	HS
	SE	-.744	.139	-.214	-5.354	.000	HS
	GEXP	-2.348	.214	-.724	-10.967	.000	HS
	TAXR	-8.067	.458	-1.198	-17.626	.000	HS
	RL	21.107	2.608	.494	8.093	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.305 ^a	.093	27.415	.000 ^b	
2	.770 ^a	.592	96.198	.000 ^c	2.277

a. Dependent Variable: DEBT

b. Predictors: (Constant), SE

c. Predictors: (Constant), SE, TAXR, RL, GEXP

The econometric model was given as follows:

$$DEBT = 390.561 - 0.744 SE - 2.348 GEXP - 8.067 TAXR + 21.107 RL + \varepsilon$$

Based on the results presented in Table 8.13, the p-values of the t-tests (sig.) between independent variables and DEBT were highly significant at a 95 per cent level of confidence, which meant there were significant relationships between variables. Based on the econometric model, the SE had a coefficient of -0.744, which showed a negative impact of the SE on public

debt and that each point increase in the SE reduced DEBT by 0.744 per cent. In other words, the larger size of the shadow economy led to lower public debt.

Government expenditure, tax revenue, and the rule of law were controlled for in this regression. Looking at the econometric model, government expenditure and tax revenue had negative coefficients, which indicated negative relationships between these two variables and public debt. In other words, an increase in government spending and tax revenue resulted in a reduction in the level of public debt. Conversely, the coefficient of the rule of law of 21.107 indicated a significant positive relationship between this variable and public debt, that each point increase in the rule of law increased public debt by 21.1 per cent.

c. The Impact of the SE on FDI

This regression was conducted to examine whether there was a correlation between SE scores and FDI. The regression was formed as follows:

$$FDI = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 GDPG + \beta_4 PV + \beta_5 UNEMP + \beta_6 ECO_FD + \varepsilon \quad (13)$$

Where, FDI_ foreign direct investment as a per cent of GDP; SE_ shadow economy index; GEXP_ total government expenditure as a per cent of GDP; GDPG_ GDP growth; PV_ political stability and absence of violence, scored from -2.5 (poor governance) to 2.5 (good governance); UNEMP_ unemployment rate; ECO_FD_ economic freedom, scaled from 0 (no freedom) to 100 (absolute freedom); ε _ error.

The summary results of the regression (13) were presented in Table 8.14. Looking at the results in Model 2, variables such as government expenditure, GDP growth, unemployment, economic freedom and political stability were controlled for in the regression. The determinant of coefficients (R-square) was 0.608, which indicated that the selected variables were good predictors and helped to explain 60.8 per cent of the variance of the dependent variable, FDI. The F-value of the test when control variables were added (Model 2) was highly significant at a 99 per cent level of confidence. Thus, the SE significantly affected FDI.

The econometric model was given as follows:

$$FDI = -26.303 - 0.057 SE + 0.261 GEXP + 0.260 GDPG + 2.771 PV - 0.620 UNEMP + 0.189 ECO_FD + \varepsilon$$

Based on the results presented in Table 8.14, the p-values of the t-tests (sig.) between independent variables and FDI were highly significant at a 99 per cent level of confidence, which meant there were significant relationships between variables. Based on the econometric model, the SE has a coefficient of -0.057 , which showed a negative impact of the SE on FDI and that each point increase in the SE reduced FDI by 0.057 per cent. In other words, each percentage increase in the size of the shadow economy reduced FDI by 0.057 per cent.

Table 8.14. Summary Results: The Impact of the SE on FDI in ASEAN Plus Six

Model	Unstandardised Coefficients		Standardised	t	Sig.	Verbally Interpretation	
	B	Std. Error	Coefficients Beta				
1	(Constant)	3.446	.650		5.304	.000	HS
	SE	.022	.023	.058	.943	.347	NS
2	(Constant)	-26.303	2.057		-12.790	.000	HS
	SE	-.057	.016	-.151	-3.545	.000	HS
	GEXP	.261	.020	.737	13.067	.000	HS
	GDPG	.260	.082	.161	3.168	.002	HS
	PV	2.771	.338	.524	8.195	.000	HS
	UNEMP	-.620	.146	-.216	-4.235	.000	HS
	ECO_FD	.189	.026	.500	7.199	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.058 ^a	.003	.889	.347 ^b	
2	.780 ^a	.608	68.060	.000 ^c	2.176

a. Dependent Variable: FDI

b. Predictors: (Constant), SE

c. Predictors: (Constant), SE, PV, GDPG, UNEMP, GEXP, ECO_FD

Government expenditure, GDP growth, unemployment rate, economic freedom and political stability were controlled for in this regression. Looking at the econometric model, government expenditure and GDP growth had positive coefficients of 0.261 and 0.260, respectively, which indicated positive relationships between these two variables and FDI. In other words, each percentage increase in government spending and GDP growth resulted in an increase in FDI by 0.26 per cent. Political stability was an important factor that might attract the inflow of FDI to the host country. In this test, the coefficient of PV was 2.771, which indicated a positive relationship between PV and FDI. Each score increases in political stability resulted in an increase of 2.7 per cent in FDI. Economic freedom was another important factor in attracting FDI. In this regression, the coefficient of ECO_FD was 0.189, which indicated a positive impact of economic freedom on FDI, that the more freedom of the economy, the higher FDI

inflows a country might have. The unemployment rate was used as a control variable in this regression as well. Its coefficient of -0.62 indicated a negative relationship with FDI, that a higher unemployment rate led to a decrease in FDI inflows in the host country.

c. Impact of the SE on GDP per Capita

This regression was conducted to examine whether there was a correlation between SE scores and GDP per capita. The regression was formed as follows:

$$GCAP = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 ECO_FD + \beta_4 POP + \beta_5 TAXR + \varepsilon \quad (14)$$

Where, GCAP_GDP per capita in US\$; SE_ shadow economy index; GEXP_ total government expenditure as a per cent of GDP; ECO_FD_ economic freedom, scaled from 0 (no freedom) to 100 (absolute freedom); POP_ population; TAXR_ tax revenue as a per cent of GDP; ε _ error.

The summary results of the regression (14) were presented in Table 8.15. Looking at the results in Model 2, variables such as government expenditure, economic freedom, population and tax revenue were controlled for in the regression. The determinant of coefficients (R-square) was 0.887, which indicated that the selected variables were good predictors and helped to explain 88.7 per cent of the variance of the dependent variable, GCAP. The F-value of the test when control variables were added (Model 2) was highly significant at a 99 per cent level of confidence. Thus, there was a significant impact of the SE on GCAP.

The econometric model was given as follows:

$$GCAP = - 8231.293 - 454.399 SE - 359.269 GEXP + 1113.590 ECO_FD - 0.00 POP - 358.763 TAXR + \varepsilon$$

Based on the results presented in Table 8.15, the p-values of the t-tests (sig.) between independent variables and GCAP were highly significant at a 95 per cent level of confidence, which meant there were significant relationships between variables. Based on the econometric model, the SE had a coefficient of -454.4 , which showed a negative impact of the SE on GCAP and that each point increase in the SE reduced GCAP by about US\$454. In other words, each percentage increase in the size of the shadow economy reduced income per capita.

Table 8.15. Summary Results: The Impact of the SE on GDP per Capita in ASEAN Plus Six

Model	Unstandardised Coefficients		Standardised Coefficients		t	Sig.	Verbally Interpretation
	B	Std. Error	Beta				
1	(Constant)	22924.390	2319.673		9.883	.000	HS
	SE	-324.504	82.650	-.233	-3.926	.000	HS
2	(Constant)	-8231.293	4954.080		-1.662	.098	S
	SE	-454.399	30.636	-.327	-14.832	.000	HS
	GEXP	-359.269	43.146	-.277	-8.327	.000	HS
	ECO_FD	1113.590	38.535	.804	28.898	.000	HS
	POP	-4.522E-6	.000	-.102	-4.429	.000	HS
	TAXR	-358.763	96.700	-.133	-3.710	.000	HS

HS: Highly significant ($p < 0.05$); S: Significant ($p < 0.10$); NS: not significant ($p > 0.10$)

Model	R	R-Square	F	Sig.	Durbin-Watson
1	.233 ^a	.054	15.415	.000 ^b	
2	.942 ^a	.887	413.871	.000 ^c	2.084

a. Dependent Variable: GCAP

b. Predictors: (Constant), SE

c. Predictors: (Constant), SE, TAXR, POP, ECO_FD, GEXP

Government expenditure, economic freedom, population and tax revenue were controlled for in this regression. Looking at the econometric model, government expenditure and tax revenue had coefficients of -359.3 and -358.8, respectively, which indicated negative relationships between these two variables and GCAP. In other words, each percentage increase in government spending and tax revenue resulted in an increase in GDP per capita of about US\$360. The population also had a negative coefficient, indicating a negative relationship but not a strong impact on GDP per capita. Economic freedom had a coefficient of 1113.6, which indicated a positive impact of this factor on GDP per capita, that each score increased in the freedom of the economy led to a rise in income per capita of US\$1113.6.

8.3.3 Summary Results of Consequences of Corruption and Empirical Studies

The detailed results of the multiple regressions to examine the impact of corruption on economic development based on tax revenue, public debt, FDI and GDP per capita in 15 ASEAN Plus countries were summarised and presented in Table 8.16 below. The results showed that there was a correlation between corruption and economic development in selected aspects. Thus, hypothesis two (H2) had been accepted. Relevant empirical studies to support the findings of the study had been reviewed and presented in the following parts.

a. Impact of Corruption on Tax Revenue

The findings of this study were that a lower level of corruption and the small size of the shadow economy increased tax revenue. These findings were consistent with those available in the empirical literature. Tanzi and Davoodi (1997) conducted a regression to test the hypothesis that high corruption was associated with low government revenue. The result showed that they could not reject the hypothesis at a 99 per cent level of confidence. Ghura (1998) found strong evidence that an increase in the level of corruption (decline in the CPI) lowered the tax revenue significantly in the study of tax revenue performance in 39 sub-Saharan African countries. The same result was found by Imam and Jacobs (2007) in a study of the effect of corruption on tax revenues in the Middle East. Hodge et al. (2011) found that corruption reduced tax collection. Omodero (2019) examined the consequences of both shadow economy and corruption on tax revenues in Nigeria and found that both issues had a negative impact on tax revenue performance, although the influence of corruption on tax revenue was more robust and significant. Epaphra and Massawe (2017) studied the relationship between corruption, governance and tax revenue in 30 African countries from 1996 – 2016, found that African governments should reduce corruption in order to increase tax revenue.

Table 8.16. Summary Results of the Effect of Corruption on Economic Development in ASEAN Plus Six

	TAXR	DEBT	FDI	GCAP
CPI	(+)	(+)	(+)	(+)
SE	(-)	(-)	(-)	(-)
GEXP	(-)	(-)	(+)	(-)
DEBT	(-)			
TAXR		(-)		(-)
GDPG			(+)	
ECO_FD			(+)	
INV_FD	(+)		(+)	(+)
FIN_FD	(+)	(-)		(+)
PROP	(-)	(+)		
POP	(+)			(-)
UNEMP			(-)	
RL	(+)	(+)		
PV			(+)	

(+) positive relationship; (-) negative relationship.

In a study estimating the level of the shadow economy in 110 countries, Schneider (2005b) found that countries with larger sized shadow economies reduced tax revenues in the short term but increased them in the long term. Kodila et al. (2013) found a significant and negative effect of the shadow economy on tax revenues in African countries. Mawejje and Munyambonera (2016) found that the shadow economy and the agriculture sector had a negative influence on tax revenue performance in Uganda. In a study of the relationship between the shadow economy and the public finances, Gonzalez-Fernandez and Gonzalez-Velasco (2014) stated that a larger shadow economy led to lower tax revenues from the point of view of income. Cooray et al. (2017) studied the effect of corruption and the shadow economy on public debt in 126 countries over 1996–2012 and found that a larger shadow economy reduced tax revenues.

b. Impact of Corruption on Public Debt

There were several studies on the effect of corruption on economic development (Mauro 1995, Mo 2001, Tanzi and Davoodi, 2002), but limited literature exists on the impact of corruption on public debt. The findings of this current research were that a lower level of corruption and the small size of the shadow economy increased the level of public debt. The results could be reasonable in the scope of the study, where Japan was the less corrupted country but also had the highest level of the public debt of 236.4 per cent of GDP in 2017 (see Table 7.2). In addition, most ASEAN countries, such as Laos, Vietnam, China, Philippines, Indonesia, Myanmar and Cambodia, had high levels of corruption but had low levels of public debt. The relationship between the shadow economy and public debt in this study can be explained in the same way.

Surprisingly, the findings of this study were not in line with empirical studies. Grechyna (2012) found that corruption increased public debt in OECD countries. Gonzalez-Fernandez and Gonzalez-Velasco (2014) conducted a study on the effect of the shadow economy and corruption on public debt in Spain and found that corruption had a direct and significant impact on public debt. Cooray et al. (2017) found a similar result, finding that in a sample of 126 countries from 1996 to 2012 that a high level of corruption led to an increase in public debt. Liu et al. (2017) conducted a study of corruption and public debt issued by state and local governments in America. They found evidence that public corruption had a significant correlation with public debt, and an increased level of corruption led to a higher level of public debt issued by state and local governments. Benfratello et al. (2018) examined the relationship

between corruption and public debt using a large panel of 164 countries over the period 1995–2015 and also found that corruption increased public debt, especially strong and robust in advanced economies and weak in less-developed nations.

Prinz and Beck (2012) also studied the relationship between public debt and the shadow economy in 21 OECD and 11 European Monetary Union countries. They found that the size of the shadow economy had a positive impact on public debt. Elgin and Uras (2013) completed a study of the impact of the shadow economy on public debt and found that a larger informal sector had an association with higher public indebtedness. Gonzalez-Fernandez and Gonzalez-Velasco (2014) also found that the shadow economy had a significant and positive impact on regional public debt in the same study of the relationship between corruption, the shadow economy, and public debt. Cooray et al. (2017) also found a similar result, that is, that a larger shadow economy led to an increase in public debt.

c. Impact of Corruption on FDI

FDI was considered one of the important aspects of economic development. Thus, a large number of empirical studies had been conducted to examine the impact of corruption on FDI as one way to evaluate the level impact of corruption on economic growth. There was extensive debate in the literature, and yet, the results remained ambiguous. Most of the studies found that corruption had a negative impact on FDI, but a few studies presented opposite results. Bellos and Subasat (2011) examined the relationship between corruption and FDI in a sample of 15 transition countries and found that a high level of corruption was associated with a high level of FDI. Mudambi et al. (2013) found that corruption was one of the determinants of the extent of FDI inflows in their sample of 55 emerging countries. However, it did have an independent impact on levels of FDI inflows. Bayar and Alakbarov (2016) studied the relationship between corruption and FDI inflows in 23 emerging market economics from 2002 to 2014. They found that control of corruption and the rule of law had no statistically significant effect on the attraction of FDI in the studied sample. A similar result was found by Abdella et al. (2018). Interestingly, Egger and Winner (2005) conducted the same study of the relationship between corruption and inward FDI and used a sample of 73 developed and less developed countries from 1995 to 1999. They found a significant positive relationship between corruption and FDI and concluded that corruption was one of the incentive factors for FDI. That result was similar to Helmy's study. Helmy (2013) studied the link between corruption

and FDI flows to 21 Middle East and North Africa (MENA) countries from 2003–2009. He found that FDI flows in MENA were positively correlated with corruption.

This study found that a lower level of corruption (high CPI and lower SE) increased FDI. These findings were in line with a large number of empirical studies. Hines (1995) found that less corrupted countries attracted more FDI from Americans after 1977 than highly corrupt ones. Tanzi's (1998) study of the consequences of corruption found that corruption reduced FDI. He explained the correlation between tax and FDI and found that corruption had an operation as tax and had the same effect as a tax on FDI. Wei (2000) also found that a rise in the level of corruption in a host country reduced inward FDI. Habib and Zarawicki (2002, 2010) examined the levels of corruption in both host and home countries and found that foreign investors generally avoid investing in corrupted countries as corruption may generate an inefficient operation.

Similar findings revealed by Busse et al. (1996) that FDI increased when investors believed corruption was curbed by the government. Al-Sadiq (2009) conducted a similar study using panel data from 117 host countries from 1984 to 2004 and found that corruption in the host country had a negative impact on FDI inflows. In particular, a one-point increase in the corruption level led to a reduction of FDI inflows by 11 per cent. Woo and Heo (2009) revealed that corruption negatively affected FDI attractiveness in eight non-OECD Asian countries. Woo (2010) conducted several tests to examine the different levels of effect of corruption on various sub-groups samples from 1984–2004. He found that corruption had a harmful effect on attracting FDI. Mathur and Sinsh (2013) found evidence that corruption perception significantly influenced investors' decisions of where to invest. They found that high corrupted countries received fewer flows of FDI. Elsayed (2017) conducted a study of the relationship between corruption and FDI in the Egyptian economy from 1995 to 2016. She found that corruption had a negative and significant effect on FDI in both the short and long run. More studies found a negative impact of corruption on FDI inflows, such as Rahman et al. (2000), Voyer and Beamish (2004), Egger and Winner (2006), Zurawicki and Habib (2010), Kim (2010), Brada et al. (2012), Pupovic (2012), Alemu (2012), Kersan-Skabic (2013), Castro and Nunes (2013), Quazi (2014), Hakimi and Hamdi (2017), Canare (2017), and Godinez and Liu (2018).

In the relationship between the shadow economy and FDI, most of the empirical studies found that FDI helped to reduce the size of the shadow economy, such as Nikopour et al. (2009),

Davidescu and Strat (2015), and Ali and Bohara (2017); however, only a few studies examined the other way round. Huynh et al. (2020) conducted a study of the linkages among FDI, shadow economy and institutional quality by using a sample of 19 developing Asian countries over the period from 2002 to 2015. They found that FDI inflows helped to reduce the shadow economy, and the smaller shadow economy then helped to attract FDI inflows due to an increase of institutional quality. Bayar et al. (2020) examined the impact of the shadow economy on FDI inflows in 11 post-transition EU member countries from 1995 to 2015. They found that in the long run, the shadow economy had a negative impact on FDI.

d. Impact of Corruption on GDP per Capita

GDP per capita was considered one of the main determinants of economic development, but only a few empirical studies examined the effect of corruption on GDP per capita directly. In most of the empirical studies, economic factors such as GDP annual growth rates, growth of GDP per capita, investment and human capital were preferred as proxy variables of economic growth. The results were mixed in the literature in the debate over the impact of corruption on economic growth (GDP growth, or the growth of GDP per capita). Mauro (1995) found that corruption and bureaucratic efficiency indices had a positive significant impact on the average per capita GDP growth from 1960 to 1985. Numerous empirical studies found similar results to Mauro (1995), such as Mo (2001) and Meon and Sekkat (2005) that corruption had a negative impact on economic growth. Ugus (2014), in a study of corruption's direct effects on the growth of GDP per capita, had synthesised results found from 29 primary studies. He found that corruption had a negative impact on per capita GDP growth when control variables were added to the tests. However, by using multivariate meta-regression analysis, he found that the overall effect was not significantly strong. He reported that the negative effect of corruption on the growth of GDP per capita was more significant when the samples of the primary studies were based on low-income country data only. In contrast, there were a few studies that found that corruption did not have a negative impact on growth in GDP per capita, such as Rock and Bonnet (2004). Akai et al. (2005) found that the direct impact of corruption on growth in GDP per capita was not significant.

This study found that corruption had a negative impact on GDP per capita as the higher score of the CPI and smaller size of the shadow economy led to higher GDP per capita. This finding was consistent with empirical results. Mustapha (2014) conducted a study using a sample of 20 countries, including 10 countries with low levels of corruption and 10 countries with a high

level of corruption from 2003 to 2011. He found that there was a strong negative impact of corruption on GDP per capita. Ahmad and Arjumand (2016) used a sample of 94 developed and developing countries from 1996 to 2010 to examine the impact of corruption on GDP per capita through a migration channel. They found that corruption reduced GDP per capita. Based on the panel data collected from 2000 to 2017 from 15 countries in this study, it showed that high-income countries, such as New Zealand, Sweden and the Netherlands, had low growth rates and low levels of corruption. On the other hand, low- to middle-income countries, such as China, India and Vietnam, had high growth rates and high levels of corruption. Akai et al. (2005) found a similar observation. Based on the data set collected in this study over the period 2000 to 2017, similar results demonstrated that corruption and the growth rate of GDP per capita were positively related.

This study found that the size of the shadow economy had a negative impact on GDP per capita. This result was in line with the findings of Wu and Schneider (2019). Wu and Schneider (2019) conducted a study of the impact of the shadow economy on levels of development, in which GDP per capita was used as a proxy variable, using a sample of 158 countries over the period from 1996 to 2015. They found that there was a negative relationship between the size of the shadow economy and GDP per capita in the low developed economies, and when GDP per capita exceeded a threshold, it led to a positive relationship between the two factors. Elgin and Birinci (2015) used the growth of GDP per capita as an indicator of economic growth. They used a panel dataset of 161 countries from 1950 to 2010 to examine the impact of informal economies on long-run economic growth (growth of GDP per capita). They found that a small and large informal economy had a correlation with little growth, and medium-sized informal economies had an association with higher growth. They also found a positive relationship between the size of the informal economy and growth in high-income countries, while a negative relationship was found in low-income countries.

e. Impact of Control Variables on Economic Development

Multiple regressions were conducted to examine the impact of corruption (using the CPI and the SE as proxy variables) on economic development. In this study, tax revenue, public debt, FDI and GDP per capita were considered determinants of economic development. A number of control variables, such as total government expenditure, economic freedom, unemployment and population, were used in the regressions for unbiased results. Each test used a different set of control variables, as presented in Table 8.16.

In the test of the impact of corruption on tax revenue, government expenditure was used as a control variable. The statistical coefficients showed that there was a negative relationship between government expenditure and tax revenue. Many studies had examined the relationship between government expenditure and revenues, and the results were mixed. Some studies found tax revenue was the cause of government spending, while others found that the causality was from government expenditure to tax revenue. In this study, the later empirical literature was looked at, and this study's findings were in line with the studies of Barro (1974). He found that government expenditure was the cause of government revenue. Anderson et al. (1986) found that a limitation on government expenditure would lead to higher revenue. Joulfaiian and Mookerjee (1991) found that there was a causal effect from spending to revenue in 11 countries from a sample of 22 OECD nations. Baffes and Shah (1994) found bidirectional causality between government revenue and expenditure for Argentina and Mexico and unidirectional causality for Brazil. Fasano and Wang (2002) found bidirectional causality for Kuwait, Qatar and Saudi Arabia. Hussain (2004) used the Granger approach to test the relationship between government expenditure and tax revenue in Pakistan from 1973 to 2003. He found that government expenditure had an impact on revenues and that government revenue (tax collection) responded quickly to the changes in government expenditure. Narayan and Narayan (2006) conducted a study of the nexus between government expenditure and government revenue in 12 developing countries. They found a causality from government expenditure to revenue in Haiti, but neutrality or no causality from revenue to expenditure in other countries. Ogujiuba and Abraham (2012) tested this correlation between the two factors in Nigeria from 1970 to 2011. They found that government expenditure and revenue were highly correlated, and the causality ran from revenue to expenditure. Mehrara et al. (2011) studied the relationship between government revenue and government expenditure in 40 Asian countries from 1995–2008. They found a cointegration and bidirectional causal between the two factors.

Another finding was found in this study was that government expenditure had a negative impact on public debt. This finding was not in line with a number of empirical studies. Mah et al. (2013) examined the impact of government expenditure on government debt in Greece from 1976 to 2011. They showed that there was a significant positive relationship between gross government debt and gross national expenditure. Allen (2013) found that government spending and the national debt were significant societal problems in the United States. He indicated that the national debt was 103 per cent of annual GDP (in 2012), which was very

high compared to numerous countries in Europe, that experienced a debt crisis in the same period. He suggested one of the solutions for reducing national debt was to cut government spending. Kiminyei (2019) investigated the links between public debt, tax revenue, and government expenditure in Kenya from 1960 to 2011. He found that the size of government expenditure had an increasing effect on debt in the short run.

According to Table 8.18, economic freedom had a positive relationship with FDI. This finding was in line with several empirical studies. Bengoa and Sanchez-Robles (2003) used a sample of 18 Latin American countries from 1970 to 1999. They found that economic freedom in the host country had a positive impact on FDI inflows. Quazi (2007) used a sample of seven East Asian countries (China, Indonesia, Korea, Malaysia, Philippines, Singapore and Thailand) over 1995–2000 to examine this relationship and found that economic freedom was a significant and robust determinant of FDI in this region. Kapuria-Foreman (2007) investigated the determinants of FDI in developing countries. He found that economic freedom did not have a significant effect on FDI when using aggregate measures of economic freedom in the regression; however, when those aggregate measures were disaggregated, economic freedom, especially the protection of property rights, had a positive impact on FDI. Chang (2009) studied the interactions among FDI, economic growth, degree of openness, and unemployment in Taiwan from 1981 to 2003 found that the degree of openness had a positive effect on FDI inflow in Taiwan.

Likewise, Pearson et al. (2012) used a sample of 50 states in the United States from 1984 to 2007. They found that economic freedom had a significant positive impact on FDI in all states. Kandiero and Chitiga (2014) found that increasing openness in trade while reducing tariff and non-tariff barriers enhanced FDI inflows into a country. Naanwaab and Diarrassouba (2016) investigated the impact of economic freedom and human capital on FDI using a sample of 137 developing and developed countries from 1995 to 2010. They found that economic freedom had a positive and significant impact on FDI in low- to middle-income and high-income countries. Imtiaz and Bashir (2017) examined the relationship between economic freedom and FDI in five South Asian countries (Pakistan, Bangladesh, India, Nepal and Sri Lanka) over 20 years to 2014. They found that only fiscal and trade freedom had a significant impact on FDI. Sovbetov and Moussa (2017) conducted the same study using a sample of 156 countries, included fragile and conflict-affected states, Sub-Saharan, Oceanian and Post-Soviet countries from 1995 to 2016. They found that there was a positive impact of economic freedom on FDI

in this global study. Abdella et al. (2018) studied the impact of trade openness on FDI in BRIC countries (Brazil, Russia, India and China) covering 2002 to 2016. They found that there was a significant positive impact of trade openness on FDI.

Unemployment, another control variable, was used in the regressions to examine the impact of corruption on economic development. This study found that the unemployment rate had a negative impact on FDI inflows. A large number of empirical studies examined the effect of FDI on the labour market. Still, there was limited research examining the relationship in the opposite direction. The findings in this study were in line with the result found by Pearson et al. (2012). They used a sample of 50 states from 1984 to 2007 in the United States and found that the unemployment rate caused a negative impact on FDI. Explaining that result, they addressed that a high unemployment rate was positively associated with the crime ratio, thus discouraged investors.

Political stability and the absence of violence were also controlled in the regressions for the study of the impact of corruption on economic development. The result showed that political stability had a positive effect on FDI. This finding was in line with a number of empirical studies. Shahzad et al. (2012) suggested that political stability enhanced the probability of attracting FDI inflows into developing countries. Shahzad and Al-Swidi (2013) found that political stability was an important factor for FDI inflows in Pakistan. Rashid et al. (2017) studied the correlation between political stability and FDI in 15 Asia-Pacific countries from 2000 to 2013. They found that political stability had a significant positive effect on FDI inflows in that region. Abdella et al. (2018) found that political stability had a significant positive impact on FDI in BRIC countries (Brazil, Russia, India and China) from 2002 to 2016.

8.4 Conclusion

This chapter presented and analysed the results of multiple regressions to achieve two main objectives of this study, which were to examine the causes and consequences of corruption in ASEAN Plus Six. The first part was to examine the causes of corruption. Proxy variables of corruption were used, the CPI and the SE. A number of regressions were conducted to test the hypothesis one of the impacts of government expenditure (education, health and construction) and governance indicators (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law and control of corruption) on the CPI and the SE. The hypothesis (H1) was accepted. The results showed that

there were statistically significant relationships between government expenditure, governance indicators, and corruption. Specifically, higher spending on education reduced the level of corruption, but it increased the size of the shadow economy. In contrast, a higher spending budget on health and construction increased the level of corruption; however, it led to reducing the size of the shadow economy. In terms of the relationship between governance indicators and corruption, the findings were that better governance performance in the control of corruption, government effectiveness, political stability, and voice and accountability reduced the level of corruption, while better governance in regulatory quality and the rule of law increased level of corruption. A number of empirical studies were also outlined to support the findings of the study.

The second part of the study was conducted to examine the impact of corruption on economic development. In this study, tax revenue, public debt, FDI and GDP per capita were considered major determinants of economic development. The results found that lower levels of corruption and the small size of the shadow economy increased tax revenue, level of public debt, FDI inflows and GDP per capita. To support the results of the regressions, a number of control variables were used, such as total government expenditure, economic freedom, unemployment and political stability. The study found that government expenditure had a negative impact on tax revenue and public debt. It also found that economic freedom and political stability had a positive impact on FDI inflows, while there was a negative impact of the unemployment rate on FDI. Thus, the hypothesis (H2) had been accepted as there was a correlation between corruption and economic development in selected aspects. Numerous empirical studies were outlined to support these findings. The following chapters focused on presenting and analysing the results of the causes and consequences of corruption in two groups of low- to middle-income and high-income countries and Vietnam in particular. They compared the rate at which corruption affects economic development in the countries included in the study.

CHAPTER 9_ INCOME AND CORRUPTION RESULTS

9.1 Introduction

This chapter presented and analysed the results of multiple regressions in achieving another objective of the study, which determined whether income was a factor that influenced the different levels of corruption in the countries studied in this thesis. In this chapter, the 15 ASEAN Plus Six countries were divided into two groups based on income. That was, the high-income countries included Australia, Japan, New Zealand, Singapore and South Korea, and the low-middle-income countries included Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand and Vietnam. This chapter used the same approach as Chapter 8, which examined the causes and consequences of corruption, although this chapter analysed the two groups separately for comparison and to answer the research question.

In the first part of the chapter, government expenditure and governance indicators were examined as causes of corruption in the two groups. The level impact of causal variables, government expenditure on education, health, and construction and the six governance indicators, on corruption in each group were analysed and compared to each other. The findings of the impact of causal variables on corruption in each group were then compared with that of in the ASEAN Plus Six as presented in Chapter 8. Empirical studies were outlined to supplement and support the findings of the study.

In the second part of the chapter, the consequences of corruption on economic development were analysed in two groups. The level impact of corruption on tax revenue, public debt, FDI, and GDP per capita were analysed and compared. The relevant literature in relation to the findings was outlined. To support the findings of the study, economic variables such as unemployment rate, GDP growth and population were used as control variables. The impact of those control variables on corruption and economic development were also taken into consideration as a further contribution to the empirical literature.

9.2 Causes of Corruption in Low- to Middle-Income and High-Income Countries

To determine the causes of corruption in two groups of countries based on different levels of income, high and low- to middle-income, multiple regressions were conducted to examine the relationship and impact of government expenditure, governance indicators, and both government expenditure and governance indicators on corruption. In this study, the CPI and the SE were used as proxy variables of corruption.

9.2.1 Impact of Government Expenditure and Governance Indicators on Corruption in the Low- to Middle-Income Countries

Multiple regression analysis was conducted to examine the impact of government expenditure and governance indicators on corruption using the CPI and the SE. The purpose of this was to examine whether government expenditure and governance indicators were the causes of corruption in low- to middle-income countries. The regressions were formed as follows:

$$\text{CPI} = \alpha + \beta_1 \text{EDU} + \beta_2 \text{HEA} + \beta_3 \text{GFCF} + \beta_4 \text{CC} + \beta_5 \text{GE} + \beta_6 \text{PV} + \beta_7 \text{RQ} + \beta_8 \text{RL} + \beta_9 \text{VA} + \beta_{10} \text{DEM} + \beta_{11} \text{GCAP} + \varepsilon \quad (15)$$

$$\text{SE} = \alpha + \beta_1 \text{EDU} + \beta_2 \text{HEA} + \beta_3 \text{GFCF} + \beta_4 \text{CC} + \beta_5 \text{GE} + \beta_6 \text{PV} + \beta_7 \text{RQ} + \beta_8 \text{RL} + \beta_9 \text{VA} + \beta_{10} \text{GCAP} + \varepsilon \quad (16)$$

Where, CPI_ corruption perception index; EDU_ government expenditure on education as a per cent of GDP; HEA_ government expenditure on the health sector as a percentage of GDP; GFCF_ gross fixed capital formation as a percentage of GDP; CC_ control of corruption; GE_ government effectiveness; PV_ political stability and absence of violence; RQ_ regulatory quality; RL_ rule of law; VA_ voice and accountability; GCAP_ GDP per capita; DEM_ democracy

The summary results of the regressions (14) and (15) were presented in Table 9.1. Tests (1) and (3) examined the impact of government expenditure on selected sectors and governance indicators on the CPI and the SE, respectively. Tests (2) and (4) examined the level impact of those indicators on corruption when control variables were added. Looking to the determinant of the coefficient, it showed that R-square in Test (2) was 0.907, which indicated the variation of corruption were strongly explained by selected independent variables, while the R-square

in Test (4) was 0.637, which also indicated a significant explanation of the selected independent variables for the variation of the shadow economy. Thus, there were significant correlations between independent variables and the CPI and the SE.

Looking at the results of Test (2) in Table 9.1, the p-values of the t-tests of EDU were significant at a 95 per cent level of confidence. The coefficient of EDU was -0.687 , indicating that each percentage increase in government expenditure in the education sector reduced the CPI by 0.687 scores or led to a higher level of corruption. Conversely, health and fixed capital formation had positive coefficients of 0.471 and 0.124, respectively, which indicated a positive relationship between these two variables and the CPI. Higher spending on health and construction increased the CPI scores and reduced the level of corruption.

In addition, the positive coefficients of CC, GE, PV, and VA indicated that they statistically had a positive relationship with the CPI. Better governance in these indicators helped to reduce the level of corruption. Interestingly, by controlling democracy and per capita income, voice and accountability showed a significant effect on corruption. The coefficient of VA was 4.829, indicating that better voice and accountability increased the CPI by 4.8 scores or reduced the level of corruption. Conversely, negative coefficients of RQ and RL indicated that they had a negative impact on the CPI. Based on the coefficients of independent variables, the governance performance on control of corruption and government effectiveness had the greatest impact on the levels of corruption. The coefficients of CC and GE were 7.624 and 6.775, which meant every point increase in control of corruption and government effectiveness increased the CPI by 7.624 and 6.775 points, respectively. Political stability also had a positive impact on CPI in that every point increase in the indicator resulted in an increase of the CPI of 2.003 points. These results indicated that the better governance in corruption control, government effectiveness, political stability and voice and accountability, the lower levels of corruption. Conversely, the indicators of rule of law and regulatory quality had a significantly negative relationship with the CPI. The coefficients of RQ and RL were -4.639 and -0.877 , indicating that a one-point increase in these indicators reduced the CPI by 4.6 and 0.8 points (more corrupt).

Table 9.1. Summary of the Multiple Regression Results: The Effect of Government Expenditure and Governance Indicators on Corruption in the LMICs

Independent variable	CPI		SE	
	(1)	(2)	(3)	(4)
EDU	-.718** (-2.145)	-.687** (-2.319)	.220 (.232)	.456 (.515)
HEA	-.153 (-.662)	.471** (2.136)	-2.488*** (-3.796)	-1.144* (-1.723)
GFCF	.096** (2.461)	.124*** (3.450)	-.834*** (-7.578)	-.732*** (-7.009)
CC	11.252*** (6.176)	7.624*** (4.351)	-6.477 (-1.254)	-11.684** (-2.376)
GE	9.410*** (5.701)	6.775*** (4.527)	-19.694*** (-4.210)	-25.626*** (-5.684)
PV	1.832*** (3.259)	2.003*** (4.051)	4.480*** (2.811)	4.705*** (3.166)
RQ	-2.660** (-2.238)	-4.639*** (-4.294)	28.310*** (8.403)	23.887*** (7.340)
RL	-1.414 (-.853)	-.877 (-.592)	13.097*** (2.789)	15.391*** (3.498)
VA	.009 (.014)	4.829*** (2.864)	-7.219*** (-3.888)	-3.524* (-1.883)
GCAP		.001*** (6.893)		.003*** (5.169)
DEM		-.341** (-2.015)		
Cons	38.830*** (16.580)	32.012*** (12.676)	64.702*** (9.747)	45.819*** (6.377)
N	180	180	180	180
R2	.878	.907	.580	.637

Dependent variable: CPI and SE

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

LMICs: Low- to middle-income countries

Looking at the results of Test (4) in Table 9.1 as the results of the multiple regression that tested the impact of both government expenditure and governance indicators on the SE when GDP per capita was controlled. The p-value of the t-test of EDU was insignificant at a 95 per cent level of confidence. Conversely, the p-values of the t-tests of health and fixed capital formation were highly significant at a 95 per cent level of confidence. The negative coefficients were -1.144 and -0.732, respectively, which indicated a negative relationship between these two variables and the SE. Higher spending on health and construction reduced the size of the shadow economy.

Looking at the coefficients of governance indicators, the positive coefficients of PV, RQ and RL indicated that they statistically had a positive relationship with the SE, or, in other words,

they had a negative impact on the size of the shadow economy in that better governance in these indicators increased the size of the shadow economy. The regulatory quality indicator had the strongest impact on the SE in that an increase of one score in RQ led to an increase in the SE by 23.8 per cent. Following RQ was RL, which had a coefficient of 15.391. It indicates that an increase in one score of the RL would increase the SE by 15.39 per cent.

Conversely, the coefficients of CC, GE and VA were negative, indicating that there were negative correlations between those indicators and the SE. In other words, the better governance in those indicators, the smaller size of the shadow economy, especially the performance of governance indicators such as government effectiveness and control of corruption. Better governance in GE could help to reduce the size of the shadow economy by 25.6 per cent. Following GE was CC, which had a coefficient of -11.684, indicating that better governance in control of corruption might help to reduce the size of the shadow economy by 11.68 per cent.

Looking at the coefficients of control variables in these tests, there was a significant correlation between GCAP and the CPI. However, GCAP did not make a significant impact on the CPI. The SE as the coefficient was almost zero. The negative coefficient of DEM indicated that each point increase in the democracy index increased levels of corruption by reducing the CPI by 0.34 points.

9.2.2 Impact of Government Expenditure and Governance Indicators on Corruption in the High-Income Countries

The same tests in part 9.2.1 above were conducted to examine whether government expenditure and governance indicators were the causes of corruption in high-income countries. The regressions were formed as follows:

$$CPI = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8 RL + \beta_9 VA + \beta_{10} GCAP + \varepsilon \quad (17)$$

$$SE = \alpha + \beta_1 EDU + \beta_2 HEA + \beta_3 GFCF + \beta_4 CC + \beta_5 GE + \beta_6 PV + \beta_7 RQ + \beta_8 RL + \beta_9 VA + \beta_{10} GCAP + \beta_{11} UNEMP + \varepsilon \quad (18)$$

Where, CPI_ corruption perception index; EDU_ government expenditure on education as a percentage of GDP; HEA_ government expenditure on the health sector as a percentage of

GDP; GFCF_ gross fixed capital formation as a percentage of GDP; CC_ control of corruption; GE_ government effectiveness; PV_ political stability and absence of violence; RQ_ regulatory quality; RL_ rule of law; VA_ voice and accountability; GCAP_ GDP per capita; UNEMP_ unemployment rate; ε _ error.

The summary results of the regression (16) and (17) were presented in Table 9.2. The results of the p-values of the F-tests were close to zero, which meant there was a significant impact of both government expenditure and governance indicators on the CPI and the SE. The determinant of coefficient (R-square) was 0.965 in Test (2) and 0.966 in Test (4), which indicated the variation of corruption was strongly explained by selected independent variables. Thus, there were significant correlations between independent variables and the CPI and the SE.

Looking at the results of Tests (1) and (2) in Table 9.2, the p-values of the t-tests of independent variables were significant at 95 per cent the level of confidence, except PV and VA. The p-values of the t-tests defined the significant impact of independent variables on the CPI. Looking at the econometric model (16), the coefficient of EDU was positive of 2.993, which indicated a positive relationship between government expenditure on education and the CPI. Higher spending from the government on education by one per cent increased the score of the CPI by 2.993 points. In other words, spending on education helped to reduce the level of corruption. Conversely, the coefficients of HEA and GECF were negative at about -0.5 , which indicated a negative impact of government expenditure on the health sector and the fixed capital formation on the CPI, or in other words, it meant an increase in government spending on these two sectors increased levels of corruption.

In addition, the coefficients of governance indicators, CC, GE, and VA were positive, which indicated that there were statistically positive relationships between these indicators and the CPI. Better governance in control of corruption, government effectiveness and voice and accountability helped to reduce levels of corruption in high-income countries. The governance performance in the control of corruption and government effectiveness had the most influence on the CPI as their coefficients were 21.184 and 10.493, respectively. A one-point increase in CC and GE increased the scores of the CPI by 21.184 and 10.493 points, respectively. Conversely, the coefficients of PV, RQ, and RL were negative, which indicated that an increase in the scores of the governance indicators decreased the scores of the CPI. In other

words, a better governance performance in those indicators, especially the rule of law, the higher levels of corruption in high-income countries.

Table 9.2. Summary of the Multiple Regression Results: The Effect of Government Expenditure and Governance Indicators on Corruption in the High-Income Countries

Independent variable	CPI		SE	
	(1)	(2)	(3)	(4)
EDU	.222 (.355)	2.993*** (2.873)	11.842*** (13.329)	4.002*** (5.630)
HEA	-.579 (-1.567)	-1.107*** (-2.869)	-2.466*** (-4.702)	-1.633*** (-5.823)
GFCF	-.510** (-2.248)	-.540** (-2.513)	-.417 (-1.293)	-.710*** (-4.753)
CC	20.464*** (8.737)	21.184*** (9.515)	5.321 (1.600)	4.409*** (2.997)
GE	9.271*** (2.894)	10.493*** (3.436)	-.479 (-1.105)	-6.954*** (-3.439)
PV	-2.196 (-1.018)	-.996 (-4.80)	8.255*** (2.695)	3.758*** (2.764)
RQ	-2.290 (-910)	-5.828** (-2.226)	-10.502*** (-2.942)	.323 (.188)
RL	-3.937 (-1.090)	-11.618*** (-2.792)	-13.520** (-2.636)	10.532*** (3.846)
VA	3.322 (1.577)	2.001 (.984)	-10.732*** (-3.588)	-4.866*** (-3.620)
GCAP		.000*** (3.231)		-.001*** (-12.432)
UNEMP				-2.566*** (-7.873)
Cons	54.206*** (6.218)	49.428*** (5.901)	26.235** (2.120)	62.449*** (10.327)
N	90	90	90	90
R2	.961	.965	.816	.966

Dependent variable: CPI and SE

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

Looking at the results of Tests (3) and (4) in Table 9.2, the p-values of the t-tests of the government expenditure on education, health and fixed capital formation were highly significant at a 95 per cent level of confidence. The coefficient of EDU was 4.002, which indicated a positive relationship between education expenditure and SE. In other words, it indicated increased spending on education increased the size of the shadow economy. Conversely, the negative coefficients of HEA and GFCF indicated negative relationships between these two variables and the SE. Higher spending on health and construction reduced the size of the shadow economy.

The coefficients of governance indicators CC, PV, RQ and RL were positive, which indicated that they statistically had a positive relationship with the SE; however, this also meant that a better governance performance in these indicators increased the size of the shadow economy in selected countries. The rule of law indicator had the strongest impact on the SE, in that one score increase in RL would lead to an increase in the SE by 10.5 per cent. Conversely, the coefficients of GE and VA were negative, which indicated that there were negative correlations between those indicators and the SE. In other words, the better governance in those indicators, the smaller size of the shadow economy, especially the performance of the governance in government effectiveness. Better governance in GE could help to reduce the size of the shadow economy by about seven per cent.

In Tests (2) and (4), GDP per capita and unemployment were used as control variables. The results showed that GCAP did not make significant impacts on either the CPI or the SE as the coefficient was almost zero; however, its positive result in Test (2) indicated a positive relationship between the income per capita and the CPI. In contrast, the negative result in Test (4) showed that the higher income per capita helped to reduce the size of the shadow economy. The negative coefficient of the unemployment rate in Test (4) also indicated the same relationship between this variable and the SE. Every percentage decrease in unemployment would help to reduce the size of the shadow economy by 2.566 per cent in the high-income countries.

9.2.3 Summary Results of the Causes of Corruption in Low- to Middle-Income and High-Income Countries

The summary results of the multiple regressions of the causes of corruption in the two different groups of countries based on income were presented in Table 9.3 below. The results presented in Table 9.3 included not only the summary of results of the impact of government expenditure and governance indicators on corruption (both the CPI and the SE) in two groups of income (low to middle and high income). It also included the results of the impact of these causal variables on corruption in all 15 studied countries, presented for comparison. Based on the analysis of results presented above, the level impacts of causal variables on the corruption in two groups of income were different.

Table 9.3. Summary Results of the Causes of Corruption in LMICs and HICs

	CPI			SE		
	Low- to middle-income	High income	Overall*	Low- to middle-income	High income	Overall*
EDU	-.687	2.993	.650	.456	4.002	1.214
HEA	.471	-1.107	-.234	-1.144	-1.633	-1.338
GFCF	.124	-.540	-.043	-.732	-.710	-.606
CC	7.624	21.184	21.398	-11.684	4.409	2.327
GE	6.775	10.493	5.178	-25.626	-6.954	-11.689
PV	2.003	-.996	1.662	4.705	3.758	5.149
RQ	-4.639	-5.828	-3.500	23.887	.323	19.154
RL	-.877	-11.618	-7.516	15.391	10.532	6.849
VA	4.829	2.001	.801	-3.524	-4.866	-14.070
GCAP	.001	.000	.000	.003	-.001	-.001
DEM	-.341				-2.566	1.479
UNEMP			-.398			-1.771

* **Overall** results were the summarised results of the impact of the government expenditure and governance indicators on corruption in 15 studied countries as presented in Chapter 8.

LMICs: Low- to middle-income countries

HICs: High-income countries

Overall, the results of the impact of the government expenditure on the CPI in the low- to middle-income were opposite to that of the high-income countries. The governance indicators had the same indicated effect on both groups except political stability. The indicated impacts of the causal variables on the SE was similar in both groups. It also can be seen that the results of the impact of causal variables on corruption in the high-income countries were close to the results in the overall impact in 15 countries. The summary results also showed that the shadow economy was an issue that high-income countries should be considered. It also can be seen in Table 9.3 that an increase in education expenditure increased corruption in low- to middle-income countries. This result was opposite to that of high-income countries, in which an increase in education expenditure reduced corruption. While an increase in spending on the health sector and construction contributed to a small extent to reduce corruption in the low- to middle-income countries, corruption was increased when the government increased spending in these two sectors in high-income countries. Thus, income might be a factor that led to different levels of impacts of government expenditure and governance indicators on corruption in low-middle-income and high-income countries.

As mentioned in Chapter 8, few studies had been conducted to examine government expenditure as a cause of corruption. Most of the studies examining the relationship between corruption and government expenditure found that corruption led to a less transparent allocation of the government budget for different sectors (Tanzi 1998; Kawaura 2011),

increased expenditure in the military sector (Gupta et al., 2001) and reduced education and health expenditure (Mauro 1998; Gupta et al. 2000; Delavallade 2006).

This study proposed that a large budget allocated for a particular sector could motivate public officials to use their authority to gain benefits. In this study, government expenditure on education, health and construction was analysed as they were allocated large budgets from the governments of the studied countries. The results of the study (as seen in Table 9.3) showed that higher spending on education increased the levels of corruption in low- to middle-income countries, while this result was the opposite in the high-income countries. It also showed that government expenditure on health and construction were not the factors that increased corruption in the low- to middle-income countries but did have a small effect on corruption levels in high-income nations.

These results could be explained that in low- to middle-income countries in Southeast Asia, the education budget might be spent mainly on planning and school/university management, including hard investment such as school/university buildings and procurements, instead of soft investment such as the daily running costs of schools, textbooks and training because the former were more easily corrupted (U4, 2006). According to U4 (2006), the education sector had the largest or second-largest budget in most countries, including Southeast Asian nations. Corruption occurred at the school and administrative levels as ‘money and supplies are diverted before reaching the schools’ (U4, 2006, pp. 4). Hammond (2018) researched corruption in the public education sector in Cambodia and proposed the system of bribery as a pyramid where the hierarchy of corruption was presented. On the top of the pyramid, he found a range of administrators, public officials, and politicians corrupted or siphoned off the funds for educational institutions before they reached the districts. Khidhir (2019) studied the education system in Thailand, stating that it was ‘completely corrupt’. He found that the budget allocated for education that was intended to go to school meals, textbooks and school supplies was siphoned off in a similar hierarchy as that of Cambodia. He also found that about 30 per cent of school building projects were corrupt, in that the money ran to pockets of ministry officials, politicians and school directors. The bills paid for school supplies were made up ten times greater than their actual value. The corruption phenomenon in the education sector found in Thailand and Cambodia, as mentioned above, might also be found in other Southeast Asian countries, including China, Malaysia, Vietnam, Indonesia, Philippines, Myanmar, India and Laos.

In contrast, the study found that a higher investment in education reduced corruption in the high-income countries, including Australia, New Zealand, Japan, Singapore and South Korea. The study also found that higher expenditure in the health and construction sectors increased corruption in these countries. As explained in Chapter 8, in the health sector, most spending was on advanced medical equipment and hospital facilities. The purchases of those items involved more opportunities for bribery and corruption than paying salaries for doctors and nurses. In the construction sector, there were more chances for corruption to occur when big projects such as roads, airports, railways, seaports and other infrastructure may be given to assigned constructors for mutual benefits between involved parties. Chancellor and Abbott (2015), in their study of the relationship between the shadow economy and the productivity of the construction sector in Australia, found that the shadow economy in this sector had grown over time from 1985 to 2012. Nevertheless, there was no concise evidence of the causes of the growth of the shadow economy.

The results found in the study also showed that in terms of governance indicators, control of corruption (CC), government effectiveness (GE) and voice and accountability (VA) had a positive impact on the corruption that an increase in scores in those indicators reduced the levels of corruption in both groups. In contrast, indicators such as rule of law (RL) and regulatory quality (RQ) had a negative impact on corruption. These results in each group were similar to those in the study of 15 countries presented and analysed in the previous chapter. Although the indicators of the impact of the governance indicators on corruption in both groups were similar to each other, the level impact was significantly different. For instance, the control of corruption (CC) in high-income countries was three times better than in low- to middle-income countries that a one-point increase in CC increased the CPI by about 21 points in high-income countries compared to 7.6 points in low- to middle-income ones. It also showed that the voice and accountability (VA) had a significant impact on corruption in low-middle-income countries, that one-point increase in VA increased the CPI by about five points, while it was only about two points increase in the CPI in the high-income countries. The rule of law (RL) had a significant impact on corruption in high-income countries, in that one score increase in RL reduced the CPI by 11.6 points, while there was only about a one-point decrease in the CPI in the low- to middle-income countries.

Ray and Das (2015) studied the correlation between corruption and governance indicators in a cross-country sample from 1996 to 2012 showed the same result to this study that there was

a positive association between CPI and CC in some developed countries like the UK, France and Japan. They also found that in developing countries like China, India and Thailand, the association between CPI and CC was negative. That finding was not in line with this study. They explained that their negative result reflects a misuse of official capacities related to CC working in the opposite direction in controlling corruption in developing countries, especially China. In addition, Ray and Das (2015) also found a negative relationship between RL and CPI in countries like the United States, the UK, Germany, India, Thailand and South Africa. Their result was similar to the finding in this study.

9.3 Consequences of Corruption Results in Low- to Middle-Income and High-Income Countries

In this part of the chapter, the results of multiple regressions conducted to examine the impact of corruption on economic growth in low-middle and high-income countries among the ASEAN Plus Six group were presented and analysed. Again, the CPI and the SE were used as proxy variables of corruption. Thus, the results of the impact of corruption on consequence variables were presented in two different sections according to corruption proxies. The first section presented the findings of the impact of the CPI on proxy variables of economic development, while the second section presented the results of the impact of the SE on economic development proxy variables. Tax revenue (a major source of income of a government), levels of public debt, an inflow of foreign investment and GDP per capita were selected as proxy variables of economic growth. The last section outlined a summary of results and relevant literature that was in line with the findings of this study.

9.3.1 Impact of Corruption on Economic Development in Low- to Middle-Income Countries

a. Impact of Corruption on Tax Revenue

To examine the impact of corruption on tax revenue in low- to middle-income countries, multiple regressions were formed as follows:

$$\text{TAXR} = \alpha + \beta_1 \text{CPI} + \beta_2 \text{DEBT} + \beta_3 \text{UNEMP} + \beta_4 \text{FIN_FD} + \beta_5 \text{GEXP} + \beta_6 \text{GDPG} + \beta_7 \text{POP} + \varepsilon \quad (19)$$

$$\text{TAXR} = \alpha + \beta_1 \text{SE} + \beta_2 \text{DEBT} + \beta_3 \text{UNEMP} + \beta_4 \text{FIN_FD} + \beta_5 \text{GEXP} + \beta_6 \text{GDPG} + \beta_7 \text{POP} + \varepsilon \quad (20)$$

Where, TAXR_ tax revenue; CPI_ corruption perception index; SE_ shadow economy index; UNEMP_ unemployment rate; FIN_FD_ financial freedom; GEXP_ total government expenditure as a percentage of GDP; GDPG_ GDP growth rate; POP_ population; ε _ error.

Table 9.4. Summary Results: The Impact of Corruption on Tax Revenue in Low- to Middle-Income Countries

Independent variable	(1)	(2)	(3)	(4)
CPI	.265*** (8.780)	.059* (1.939)		
SE			.019 (.804)	-.042** (-2.080)
UNEMP		-.390 ** (-2.454)		-.514*** (-3.002)
FIN_FD		-.040 *** (-2.594)		-.063*** (-3.601)
GDPG		-.366*** (-3.770)		-.455 (-4.594)
POP		2.336E-9*** (4.208)		2.110E-9*** (3.666)
GEXP		-.183*** (-4.152)		-.186*** (-4.281)
DEBT		-.049 *** (-5.287)		-.055*** (-5.968)
Cons	5.467*** (5.779)	34.441*** (8.747)	12.901*** (18.248)	39.874*** (12.548)
N	180	180	180	180
R2	.302	.596	.004	.597

Dependent variable: tax revenue

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

Table 9.4 presented the summary results of the impact of corruption on tax revenue in low- to middle-income countries. Columns (1) and (2) showed the results of the impact of the CPI on TAXR, while columns (3) and (4) presented the results of the impact of the SE on the dependent variable. Looking at column (1), the coefficient of CPI was positive at 0.265, which indicated that a one-point increase in the CPI was associated with a 0.265 per cent increase in tax revenue. The explanatory power of regression (R-square) was 0.302, which meant the CPI was able to explain only 30.2 per cent of the variation of the tax revenue. However, this determinant of the coefficient increased when control variables were added, as seen in column (2). The R-square increased from 0.302 to 0.596. It meant the CPI and the selected control

variables could account for about 60 per cent of the variation in tax revenue. In addition, the coefficient of CPI in column (2) was 0.059, which indicated that there was a positive impact of the CPI on TAXR, and a one-point increase in the CPI helped to increase the total tax revenue by 0.059 per cent. In other words, a lower level of corruption helped to increase government income.

Column (3) presented the results of the impact of the SE on TAXR. It showed that the SE had a positive impact on TAXR as the coefficient was 0.019. However, the SE might not account for the variation of TAXR as the R-square of this test was only 0.004. Thus, control variables were added, as seen in column (4). The explanatory power of regression was increased to 0.597, which meant the selected variables, including the SE, could explain about 60 per cent of the variation of the tax revenue. In addition, the coefficient of the SE was -0.42 , which indicated a negative relation between the SE and TAXR. In other words, a one per cent increase in the size of the shadow economy reduced the tax revenue by 0.42 per cent.

The coefficients of the control variables as shown in columns (2) and (4) showed that the population had a positive relationship with tax revenue; however, it did not have a significant impact as the coefficient is almost zero. In contrast, DEBT, UNEMP, FIN_FD, GEXP and GDPG had negative coefficients, which meant an increase in total debt, unemployment rate, levels of financial freedom (as a component of market openness), total government expenditure and GDP growth led to reducing tax revenue.

b. Impact of Corruption on Public Debt

To examine the impact of corruption on public debt, multiple regressions formed as follows:

$$DEBT = \alpha + \beta_1 CPI + \beta_2 GEXP + \beta_3 TAXR + \beta_4 FDI + \beta_5 UNEMP + \beta_6 GDPG + \varepsilon \quad (21)$$

$$DEBT = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 TAXR + \beta_4 FDI + \beta_5 UNEMP + \beta_6 GDPG + \varepsilon \quad (22)$$

Where, DEBT_ public debt; CPI_ corruption perception index; SE_ shadow economy index; GEXP_ total government expenditure; TAXR_ tax revenue; FDI_ foreign direct investment; UNEMP_ unemployment rate; GDPG_ GDP growth rate; ε _ error.

Table 9.5 presented a summary of the results of the impact of corruption on public debt. Columns (1) and (2) showed the results of the impact of the CPI on DEBT, while columns (3) and (4) presented the results of the impact of the SE on the dependent variable. Looking at

column (1), the coefficient of CPI was negative of -0.706 , which indicated that a one-point increase in the CPI was associated with a 0.265 per cent decrease in public debt. The explanatory power of regression (R-square) was 0.067, which meant the CPI could not explain the variation of the public debt. However, this determinant of the coefficient increased when control variables were added, as seen in column (2). The R-square increased from 0.067 to 0.412. It meant the CPI and the selected control variables could account for 41.2 per cent of the variation in public debt. In addition, the coefficient of CPI in column (2) was -0.641 , which indicated that the CPI had a negative impact on DEBT, and a one-point increase in the CPI helped to reduce the total public debt by 0.641 per cent. In other words, a lower level of corruption reduced public debt.

Table 9.5. Summary Results: The Impact of Corruption on Public Debt in Low- to Middle-Income Countries

Independent variable	(1)	(2)	(3)	(4)
CPI	-.706*** (-3.576)	-.641*** (-3.086)		
SE			-.298** (-2.261)	-.198* (-1.667)
GEXP		-1.413*** (-5.280)		-1.156*** (-4.451)
TAXR		-1.965*** (-4.243)		-2.452*** (-5.454)
FDI		-4.010*** (-6.577)		-3.562*** (-5.726)
UNEMP		-4.446*** (-4.378)		-5.055*** (-4.830)
GDPG		1.605*** (2.609)		1.328* (1.952)
Cons	73.060*** (11.803)	233.398*** (8.249)	59.790*** (15.130)	205.912*** (7.696)
N	180	180	180	180
R2	.067	.412	.028	.390

Dependent variable: public debt

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

Column (3) presented the results of the impact of the SE on DEBT. It showed that the SE had a negative impact on DEBT as the coefficient was -0.298 ; however, the SE might not account for the variation of DEBT, as the R-square of this test was only 0.028. Thus, control variables were added, as seen in column (4). The explanatory power of regression increased to 0.390, which meant the selected variables, including the SE, could explain about 40 per cent of the variation of the public debt. In addition, the coefficient of the SE in column (4) was -0.198 ,

which indicated a negative relationship between the SE and DEBT. In other words, a one per cent increase in the size of the shadow economy reduced total public debt by 0.20 per cent.

The coefficients of the control variables, as shown in columns (2) and (4), demonstrated that GEXP, TAXR, FDI, and UNEMP had negative coefficients that indicated each percentage increase in total government expenditure, tax revenue, FDI, and the unemployment rate reduced public debt. Conversely, GDPG had a positive coefficient, which indicated that an increase in GDP growth led to an increase in the total value of public debt.

c. Impact of the Corruption on FDI

To examine the impact of corruption on FDI, multiple regressions were formed as follows:

$$FDI = \alpha + \beta_1 CPI + \beta_2 PV + \beta_3 DEBT + \beta_4 UNEMP + \beta_5 INV_FD + \beta_6 FIN_FD + \beta_7 GDPG + \varepsilon \quad (23)$$

$$FDI = \alpha + \beta_1 SE + \beta_2 PV + \beta_3 RL + \beta_4 TAXR + \beta_5 DEBT + \beta_6 UNEMP + \beta_7 INV_FD + \beta_8 FIN_FD + \varepsilon \quad (24)$$

Where, FDI_ foreign direct investment as a percentage of GDP; CPI_ corruption perception index; SE_ shadow economy index; PV_ political stability and absence of violence; RL_ rule of law; TAXR_ tax revenue; DEBT_ total debt; UNEMP_ unemployment rate; GDPG_ GDP growth rate; INV_FD_ investment freedom; FIN_FD_ financial freedom; ε _ error.

Table 9.6 presented the summary results of the impact of corruption on FDI. Columns (1) and (2) showed the results of the impact of the CPI on FDI, while columns (3) and (4) presented the results of the impact of the SE on the dependent variable. Looking at column (1), the coefficient of CPI was negative at -0.050 , which indicated that a one-point increase in the CPI was associate with a 0.05 per cent decrease in FDI. The explanatory power of regression (R-square) was low at 0.028, which meant the CPI might not explain the variation of the FDI. However, this determinant of the coefficient increased when control variables were added, as seen in column (2). The R-square increased from 0.028 to 0.530. It meant the CPI and the selected control variables can account for 53 per cent of the variation in FDI. In addition, the coefficient of CPI in column (2) is -0.78 , which indicated that the CPI had a negative impact on FDI; however, the level impact was not significant as a one-point increase in the CPI reduced the inflows of FDI in the host countries by only 0.078 per cent.

Column (3) presented the results of the impact of the SE on FDI. It showed that the SE was not able to account for the variation of FDI as the R-square of this test was only 0.029. Thus, control variables were added, as seen in column (4). The explanatory power of regression increased to 0.554, which meant the selected variables, including the SE, can explain about 55 per cent of the variation of the FDI in low- to middle-income countries. In addition, the coefficient of the SE in column (4) was -0.034 , which indicated a positive correlation between the SE and FDI. In other words, a one per cent increase in the size of the shadow economy increased FDI inflows by 0.034 per cent.

Table 9.6. Summary Results: The Impact of Corruption on FDI in Low- to Middle-Income Countries

Independent variable	(1)	(2)	(3)	(4)
CPI	-.050** (-2.244)	-.078*** (-3.699)		
SE			.034** (2.286)	.034** (2.369)
PV		1.753*** (5.439)		1.802*** (5.971)
RL				-2.412*** (-5.678)
TAXR				.151*** (2.701)
DEBT		-.037*** (-5.474)		-.026*** (-3.636)
UNEMP		-.648*** (-5.217)		-.504*** (-3.821)
INV_FD		.030** (2.289)		.048*** (3.927)
FIN_FD		-.038** (-2.432)		-.043*** (-2.797)
GDPG		.121* (1.956)		
Cons	5.035*** (7.164)	10.169*** (8.968)	2.643*** (6.016)	3.034* (1.670)
N	180	180	180	180
R2	.028	.530	.029	.554

Dependent variable: FDI

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

The coefficients of the control variables as shown in columns (2) and (4) showed that political stability had a positive impact on FDI inflows, while the rule of law had a negative influence on attracting FDI. Tax revenue and GDP growth had a positive impact on FDI, while debt and unemployment rates had a negative relationship with FDI. Table 9.6 also showed that more freedom in investment attracted higher inflows of FDI to the host countries.

d. Impact of the Corruption on GDP per Capita

To examine the impact of corruption on GDP per capita (GCAP), multiple regressions were formed as follows:

$$GCAP = \alpha + \beta_1 CPI + \beta_2 FDI + \beta_3 POP + \beta_4 GDP + \varepsilon \quad (25)$$

$$GCAP = \alpha + \beta_1 SE + \beta_2 FDI + \beta_3 POP + \beta_4 GDP + \beta_5 GEXP + \varepsilon \quad (26)$$

Where, GCAP_GDP per capita in US\$; CPI_ corruption perception index; SE_ shadow economy index; FDI_ foreign direct investment; POP_ population; GDP_ gross domestic productivity; GEXP_ total government expenditure as a per cent of GDP; ε _ error.

Table 9.7. Summary Results: The Impact of Corruption on GCAP in Low- to Middle-Income Countries

Independent variable	(1)	(2)	(3)	(4)
CPI	231.772*** (19.995)	231.065*** (24.051)		
SE			85.681*** (7.108)	96.813*** (9.944)
FDI		-81.829*** (-2.629)		-237.554*** (-5.112)
POP		-3.078E-6*** (-10.657)		-2.983E-6*** (-6.489)
GDP		6.269E-10*** (8.221)		1.071E-9*** (9.478)
GEXP				-116.076*** (-6.247)
Cons	-4114.134*** (-11.321)	-3401.299*** (-10.320)	563.612 (1.559)	11022.815*** (6.445)
N	180	180	180	180
R2	.692	.813	.221	.585

Dependent variable: GCAP

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

Table 9.7 presented the summary results of the impact of corruption on GCAP. Columns (1) and (2) showed the results of the impact of the CPI on GCAP, while columns (3) and (4) presented the results of the impact of the SE on the dependent variable. Looking at column (1), the coefficient of CPI was positive of 231.772, which indicated that a one-point increase in the CPI was associate with about US\$230 increase in GCAP. The explanatory power of regression (R-square) was 0.692, which meant the CPI could explain about 70 per cent of the variation in the GCAP. This determinant of the coefficient was increased when control

variables were added, as seen in column (2). The R-square increased to 0.813. It meant the CPI and the selected control variables could account for about 81 per cent of the variation in GCAP. The coefficient of CPI in column (2) was 231.065, which indicated that there was a positive impact of the CPI on GCAP that a one-point increase in the CPI increased GCAP by about US\$231.

Column (3) presented the results of the impact of the SE on GCAP. It showed that the SE was able to account for about 22 per cent of the variation in GCAP as the R-square of this test was only 0.221. When control variables were added, as seen in column (4), the explanatory power of regression was increased to 0.585, which meant the selected variables, including the SE was able to explain about 58.5 per cent of the variation of GCAP. In addition, the coefficient of the SE in column (4) was 96.813, which indicated a positive correlation between the SE and GCAP. In other words, a one per cent increase in the size of the shadow economy increased GCAP by nearly US\$100. Moreover, the coefficients of the control variables as shown in columns (2) and (4) showed that FDI and government expenditure had a negative impact on GCAP, that a one per cent increase in FDI and GEXP decreased income by about US\$80 and US\$116, respectively. It also showed that a larger population reduced income as well. In contrast, there was a positive relationship between GDP and GCAP.

9.3.2 Impact of Corruption on Economic Development in High-Income Countries

a. Impact of Corruption on Tax Revenue

To examine the impact of corruption on tax revenue in high-income countries, multiple regressions were formed as follows:

$$\text{TAXR} = \alpha + \beta_1 \text{CPI} + \beta_2 \text{DEBT} + \beta_3 \text{UNEMP} + \beta_4 \text{FIN_FD} + \beta_5 \text{GEXP} + \varepsilon \quad (27)$$

$$\text{TAXR} = \alpha + \beta_1 \text{SE} + \beta_2 \text{DEBT} + \beta_3 \text{UNEMP} + \beta_4 \text{FIN_FD} + \beta_5 \text{GEXP} + \varepsilon \quad (28)$$

Where, TAXR_ tax revenue; CPI_ corruption perception index; SE_ shadow economy index; DEBT_ public debt; UNEMP_ unemployment rate; FIN_FD_ financial freedom; GEXP_ total government expenditure as a per cent of GDP; ε _ error.

Table 9.8 presented the summary results of the impact of corruption on tax revenue in low- to middle-income countries. Columns (1) and (2) showed the results of the impact of the CPI on TAXR, while columns (3) and (4) presented the results of the impact of the SE on the

dependent variable. Looking at column (1), the coefficient of CPI was positive at 0.175, which indicated that a one-point increase in the CPI was associated with a 0.175 per cent increase in tax revenue. The explanatory power of regression (R-square) was 0.144, which meant the CPI could explain only 14.4 per cent of the variation of the tax revenue. However, this determinant of the coefficient increased when control variables were added, as seen in column (2). The R-square increased from 0.144 to 0.940. It meant the CPI and the selected control variables were significantly good predictors that could explain 94 per cent of the variation in tax revenue. In addition, the coefficient of CPI in column (2) was 0.110, which indicated that there was a positive impact of the CPI on TAXR, and a one-point increase in the CPI helped to increase the total tax revenue by 0.11 per cent. In other words, a lower level of corruption helped to increase government income.

Table 9.8. Summary Results: The Impact of Corruption on Tax Revenue in HICs

Independent variable	(1)	(2)	(3)	(4)
CPI	.175*** (3.852)	.110*** (6.418)		
SE			.184** (2.538)	.189*** (6.780)
UNEMP		-.903*** (-3.631)		-.747*** (-3.135)
FIN_FD		.038*** (3.453)		.124*** (10.759)
GEXP		-.319*** (-24.705)		-.325*** (-25.634)
DEBT		-.070*** (-23.630)		-.054*** (-15.287)
Cons	8.101** (2.230)	41.733*** (24.108)	17.894*** (10.408)	40.232*** (22.489)
N	180	180	180	180
R2	.144	.940	.068	.943

Dependent variable: tax revenue

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

Column (3) presented the results of the impact of the SE on TAXR. It showed that the SE had a positive impact on TAXR as the coefficient was 0.184; however, the SE cannot account for the variation of TAXR as the R-square of this test was only 0.068. Thus, control variables were added, as seen in column (4). The explanatory power of regression increased to 0.943, which meant the selected variables, including the SE, were able to explain about 95 per cent of the variation of the tax revenue. In addition, the coefficient of the SE was 0.189, which indicated a positive relationship between the SE and TAXR. In other words, a one per cent

increase in the size of the shadow economy increased the tax revenue by 0.189 per cent. Moreover, the coefficients of the control variables, as shown in columns (2) and (4), demonstrated that DEBT, UNEMP, FIN_FD and GEXP had negative coefficients, which meant an increase in total debt, unemployment rate, levels of financial freedom (as a component of market openness), total government expenditure, and GDP growth led to reducing tax revenue.

b. Impact of Corruption on Public Debt

To examine the impact of corruption on public debt, multiple regressions were formed as follows:

$$DEBT = \alpha + \beta_1 CPI + \beta_2 GEXP + \beta_3 TAXR + \beta_4 UNEMP + \beta_5 GDPG + \varepsilon \quad (29)$$

$$DEBT = \alpha + \beta_1 SE + \beta_2 GEXP + \beta_3 TAXR + \beta_4 FDI + \beta_5 GDPG + \varepsilon \quad (30)$$

Where, DEBT_ public debt; CPI_ corruption perception index; SE_ shadow economy index; GEXP_ total government expenditure; TAXR_ tax revenue; FDI_ foreign direct investment; UNEMP_ unemployment rate; GDPG_ GDP growth rate; ε _ error.

Table 9.9 presents the summary results of the impact of corruption on public debt. Columns (1) and (2) show the results of the impact of the CPI on DEBT, while columns (3) and (4) present the results of the impact of the SE on the dependent variable.

Looking at column (1), the coefficient of CPI was -0.097 , which indicated that a one-point increase in the CPI was associated with a 0.097 per cent decrease in public debt. The explanatory power of regression (R-square) was zero, indicating the CPI cannot explain the variation in public debt. However, this determinant of the coefficient increased significantly when control variables were added, as seen in column (2). The R-square increased to 0.871, meaning the CPI and the selected control variables accounted for 87.1 per cent of the variation in public debt. In addition, the coefficient of CPI in column (2) was 1.834, indicating that the CPI had a positive impact on DEBT, and a one-point increase in the CPI increased total public debt by 1.834 per cent. In other words, a lower level of corruption increased public debt.

Table 9.9. Summary Results: The Impact of Corruption on Public Debt in High-Income Countries

Independent variable	(1)	(2)	(3)	(4)
CPI	-.097 (-.208)	1.834*** (8.882)		
SE			-3.395*** (-5.558)	-.894** (-2.566)
GEXP		-3.710*** (-13.933)		-4.132*** (-10.993)
TAXR		-12.026*** (-21.388)		-10.072*** (-15.338)
FDI				3.069*** (4.927)
UNEMP		-12.068*** (-3.727)		
GDPG		-2.368* (-1.961)		-2.861* (-1.934)
Cons	80.981** (2.176)	502.445*** (18.298)	146.022*** (10.056)	581.707*** (18.283)
N	180	180	180	180
R2	.000	.871	.260	.822

Dependent variable: public debt

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

Column (3) presented the results of the impact of the SE on DEBT. It showed that the SE had a negative impact on DEBT as the coefficient was -3.395 ; however, the SE cannot account for the variation of DEBT, as the R-square of this test was only 0.260. Thus, control variables were added, as seen in column (4). The explanatory power of regression increased to 0.822, which meant the selected variables, including the SE, can explain about 82 per cent of the variation in public debt. In addition, the coefficient of the SE in column (4) was -0.894 , which indicated a negative relationship between the SE and DEBT in that a one per cent increase in the size of the shadow economy reduced total public debt by about 0.9 per cent. Besides, the coefficients of the control variables, as shown in columns (2) and (4), demonstrated that GEXP, TAXR, UNEMP and GDPG had negative coefficients that indicated each percentage increase in total government expenditure, tax revenue, unemployment rate and GDP growth decreased public debt. Conversely, FDI had a positive coefficient, which indicated that an increase in FDI led to an increase in the total value of public debt.

c. Impact of the Corruption on FDI

To examine the impact of corruption on FDI, multiple regressions were formed as follows:

$$FDI = \alpha + \beta_1 CPI + \beta_2 PV + \beta_3 RL + \beta_4 TAXR + \beta_5 DEBT + \beta_6 UNEMP + \beta_7 GDPG + \varepsilon \quad (31)$$

$$FDI = \alpha + \beta_1 SE + \beta_2 RL + \beta_3 TAXR + \beta_4 DEBT + \beta_5 UNEMP + \beta_6 FIN_FD + \beta_7 GDPG + \varepsilon \quad (32)$$

Where, FDI_ foreign direct investment as a per cent of GDP; CPI_ corruption perception index; SE_ shadow economy index; PV_ political stability and absence of violence; RL_ Rule of law; TAXR_ tax revenue; DEBT_ total debt; UNEMP_ unemployment rate; GDPG_ GDP growth rate; FIN_FD_ financial freedom; ε _ error.

Table 9.10. Summary Results: The Impact of Corruption on FDI in High-Income Countries

Independent variable	(1)	(2)	(3)	(4)
CPI	.172*** (3.571)	.094* (1.868)		
SE			.024 (.311)	.242*** (3.161)
PV		3.266* (1.773)		
RL		14.535*** (5.464)		14.356*** (4.986)
TAXR		-1.226*** (-15.434)		-1.188*** (-14.164)
DEBT		-.060*** (-7.910)		-.034*** (-3.751)
UNEMP		-1.803*** (-4.612)		-1.583*** (-4.028)
FIN_FD				.128*** (2.939)
GDPG		.361** (2.472)		.385** (2.611)
Cons	-8.603** (-2.230)	10.473*** (3.878)	4.376** (2.339)	5.515** (2.059)
N	180	180	180	180
R2	.127	.858	.001	.858

Dependent variable: FDI

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

Table 9.10 presented the summary results of the impact of corruption on FDI. Columns (1) and (2) showed the results of the impact of the CPI on FDI, while columns (3) and (4) presented the results of the impact of the SE on the dependent variable. Looking at column (1), the coefficient of CPI was positive at 0.172, which indicated that a one-point increase in the CPI was associated with a 0.172 per cent increase in FDI. The explanatory power of regression (R-square) was low at 0.127, which meant the CPI cannot explain the variation of

the FDI. However, this determinant of the coefficient increased when control variables were added, as seen in column (2). The R-square increased to 0.858. It meant the CPI and the selected control variables can account for about 86 per cent of the variation in FDI. In addition, the coefficient of CPI in column (2) was 0.094, indicating that the CPI had a positive effect on FDI; however, the level impact was not significant, as a one-point increase in the CPI increased the inflows of FDI in the host countries by only 0.094 per cent.

Column (3) presented the results of the impact of the SE on FDI. It showed that the SE cannot account for the variation of FDI as the R-square of this test was only 0.01. Thus, control variables were added, as seen in column (4). The explanatory power of regression increased to 0.858, which meant the selected variables, including the SE, can explain about 86 per cent of the variation of FDI in the high-income countries. In addition, the coefficient of the SE in column (4) was 0.242, which indicated a positive correlation between the SE and FDI. In other words, a one per cent increase in the size of the shadow economy increased FDI inflows by 0.242 per cent. Besides, the coefficients of the control variables, as shown in columns (2) and (4) showed that political stability and the rule of law had a positive impact on FDI inflows. GDP growth also had a positive impact on FDI, while debt and unemployment rates had a negative relationship with FDI. The results also showed that more freedom in investment attracted higher inflows of FDI to the host countries.

d. Impact of the Corruption on GCAP

To examine the impact of corruption on GDP per capita (GCAP), multiple regressions were formed as follows:

$$GCAP = \alpha + \beta_1 CPI + \beta_2 POP + \beta_3 GDP + \beta_4 GEXP + \varepsilon \quad (33)$$

$$GCAP = \alpha + \beta_1 SE + \beta_2 FDI + \beta_3 POP + \beta_4 GDP + \varepsilon \quad (34)$$

Where, GCAP_GDP per capita in US\$; CPI_ corruption perception index; SE_ shadow economy index; FDI_ foreign direct investment; POP_ population; GDP_ gross domestic productivity; GEXP_ total government expenditure as a percentage of GDP; ε _ error.

Table 9.11. Summary Results: The Impact of Corruption on GCAP in High-Income Countries

Independent variable	(1)	(2)	(3)	(4)
CPI	415.431*** (6.583)	-517.118*** (-6.907)		
SE			-776.004*** (-9.276)	-608.031*** (-15.710)
FDI				228.598*** (5.451)
POP		-.002*** (-15.477)		-.001*** (-23.016)
GDP		3.480E-8*** (16.846)		1.366E-8*** (20.647)
GEXP		157.339*** (5.339)		
Cons	6450.722 (1.278)	77624.737*** (10.605)	55624.373*** (27.970)	55339.964*** (47.916)
N	180	180	180	180
R2	.330	.884	.494	.950

Dependent variable: GCAP

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

Table 9.11 presented the summary results of the impact of corruption on GCAP. Columns (1) and (2) showed the results of the impact of the CPI on GCAP, while columns (3) and (4) presented the results of the impact of the SE on the dependent variable. Looking at column (1), the coefficient of CPI was positive at 415.431, which indicated that a one-point increase in the CPI was associated with about US\$415 increase in GCAP. The explanatory power of regression (R-square) was 0.330, which meant the CPI can explain about 33 per cent of the variation in the GCAP. This determinant of the coefficient increased when control variables were added, as seen in column (2). The R-square increased to 0.884. It meant the CPI and the selected control variables can account for about 89 per cent of the variation in GCAP. The coefficient of CPI in column (2) was -517.118, which indicated that the CPI had a negative impact on GCAP, in that a one-point increase in the CPI decreased GCAP by about US\$517.

Column (3) presented the results of the impact of the SE on GCAP. It showed that the SE can account for about 50 per cent of the variation in GCAP as the R-square of this test was only 0.494. When control variables were added, as seen in column (4), the explanatory power of regression increased to 0.950, which meant the selected variables including the SE was able to explain strongly about 95 per cent of the variation of GDP per capita. In addition, the coefficient of the SE in column (4) was -608.031, which indicated a negative correlation

between the SE and GCAP. In other words, a one per cent increase in the size of the shadow economy would decrease GCAP by nearly US\$610. Besides, the coefficients of the control variables, as shown in columns (2) and (4), showed that FDI, GDP, and government expenditure had a positive impact on GCAP, that a one per cent increase in FDI and GEXP would increase income by about US\$230 and US\$157, respectively. In contrast, it showed that a larger population reduced income.

9.3.3 Summary Results of Consequences of Corruption and Empirical Studies in Low- to Middle-Income and High-Income Countries

The summary of the results of the impact of corruption on economic development in two different income groups was presented in Tables 9.12. According to the summary results presented in Table 9.12 and the analysis above, it can be seen that corruption had a significant impact on economic development, although the results found in two groups of income countries were slightly opposite to each other. It again showed that income was a factor that significantly influenced the level impact of corruption on economic development. In low- to middle-income countries, an increased score in CPI and reduced size of the shadow economy significantly increased tax revenue, reduced public debts and increased GCAP. Increasing the score in CPI and reducing the size of the shadow economy meant a lower level of corruption. Conversely, in high-income countries, corruption reduced tax revenue, increased debt, reduced FDI and reduced GCAP. Thus, income might be a factor that led to different levels of impacts of corruption on economic development in low-middle-income and high-income countries.

The finding that lower corruption increased tax revenue was in line with empirical studies. Tanzi and Davoodi (2000), Ghura (1998), and Gupta (2007) showed that corruption had a significant negative impact on tax revenue. Tanzi and Davoodi (2000) also found that corruption had a negative association with tax collection, especially direct taxes in developing countries. They found that decreasing corruption by four points increased direct taxes by 7.2 per cent of GDP in developing countries. Abed and Gupta (2002) found that there was a negative impact of corruption in both direct and indirect taxes.

Table 9.12. Summary Results: The Impact of Corruption on Economic Development in the Low- to Middle-Income and High-Income Countries

	CPI		SE	
	LMICs	HICs	LMICs	HICs
TAXR	.059	.110	-.042	.189
DEBT	-.641	1.834	-.198	.242
FDI	-.078	.094	.034	.242
GCAP	231.065	-517.118	96.813	-608.031

LMICs: Low- to middle-income countries

HICs: High-income countries

In their study of the relationship between corruption, governance, and tax revenue in 30 African countries from 1996 to 2016, Apaphra and Massawe (2017) found that corruption reduced government revenues in Africa countries by encouraging tax evasion and incentives to pay taxes, leaving less money available for investment in other public sectors. Attila (2008) and Tanzi and Davoodi (2000) found that corruption led to an inefficient tax system, resulting in a lower taxation level. Djumashev (2007), Joulfaian (2009), Fjeldstad (2005), and Torgler (2004) found that corruption in the public sector led to higher tax evasion. The same result that less corruption increased tax revenue was found in high-income countries. Apaphra and Massawe (2017) explained in their study that good governance and effectiveness of tax administration encourage a good tax system and taxpayer willingness to pay tax.

The finding that the impact of corruption on public debt was opposite for two groups was of interest. Corruption had a positive impact on public debt in the low- to middle-income countries but a negative impact in the high-income countries. The negative relationship between corruption and public debt in the high-income countries was also in line with the finding when studying the relationship between corruption and public debt in all 15 ASEAN Plus Six countries, presented in Chapter 8, however, it was not in line with empirical studies. Grechyna (2012) found that corruption increased public debt in OECD countries. Gonzalez-Fernandez and Gonzalez-Velasco (2014), in the study of the effect of shadow economy and corruption on public debt in Spain, found that corruption was a direct and significant impact on public debt. Liu et al. (2017) studied corruption and public debt issued by state and local governments in the United States. They found evidence that public corruption had a significant correlation with public debt as well as an increased level of corruption. This led to a higher level of public debt issued by state and local governments.

The positive impact of corruption on public debt found in the low-middle-income group was in line with the empirical studies. Cooray et al. (2017) found a similar result that a high level of corruption led to an increase in public debt in a sample of 126 countries from 1996 to 2012. Benfratello et al. (2018) studied the relationship between corruption and public debt using a large panel of 164 countries from 1995 to 2015 and found that corruption increased public debt, a relationship that was especially strong and robust in advanced economies and weaker in less-developed nations.

The findings of the impact of corruption on FDI in the two groups were also opposite to each other. The results showed a higher level of corruption increased FDI inflows in the low- to middle-income countries, while corruption reduced FDI in the high-income countries. Two possible reasons could explain the result in the low- to middle-income countries. First, corruption might encourage a government to enhance foreign investment. This assumption was supported by Leff (1964), but other studies had since rejected this finding. Bellos and Subasat (2011) examined the relationship between corruption and FDI in the sample of 15 transition countries and found that a high level of corruption was associated with a high level of FDI. Interestingly, Egger and Winner (2005) conducted the same study of the relationship between corruption and inward FDI using a sample of 73 developed and less-developed countries from 1995 to 1999. They found a significant positive relationship between corruption and FDI and concluded that corruption was one of the incentive factors for FDI. That result was similar to Helmy (2013), who studied the link between corruption and FDI flows to 21 MENA countries from 2003–2009. He found that FDI flows in MENA were positively correlated with corruption.

The second possibility was the strong economic growth in developing countries had attracted a significant inflow of FDI, regardless of high corruption in those countries. Several studies were conducted to examine the relationship between corruption and FDI and found no correlation. Bayar and Alakbarov (2016) studied the relationship between corruption and FDI inflows in 23 emerging market economies from 2002 to 2014. They found that control of corruption and the rule of law had no statistically significant effect on the attraction of FDI in the studied sample. The same result of no significant effect of corruption on FDI was found by Abdella et al. (2018). Mudambi et al. (2013) found that corruption was one of the determinants of the extent of FDI inflows in the sample of 55 emerging countries, however, it did have an independent impact on levels of FDI inflows.

In contrast, corruption reduced FDI in high-income countries. This finding was in line with several empirical studies. Hines (1995) found that less corrupted countries attracted more FDI from Americans after 1977 than high corrupt ones. Tanzi's (1998) study of the consequences of corruption found that corruption reduced FDI. He explained the correlation between tax and FDI and found that corruption had an operation similar to that of tax and had the same effect as a tax on FDI. Wei (2000) also found that a rise in the level of corruption in a host country reduced inward FDI. Habib and Zarawicki (2002, 2010) examined the levels of corruption in both host and home countries and found that foreign investors generally avoid investing in corrupted countries as corruption may generate inefficient operations. Busse et al. (1996) found similar results, that FDI increased when investors believed corruption was curbed by the government.

According to Table 9.12, the impact of corruption on GCAP was different from the two groups of countries. While corruption reduced GCAP in the low-middle-income countries, it increased the income per capita in the high-income countries. The result found in the low-middle-income countries group was similar to that of the 15 ASEAN Plus Six. Mustapha (2014) conducted a study using a sample of 20 countries, including 10 countries with low levels of corruption and another 10 countries with a high level of corruption over 2003 to 2011. He found that there was a strong negative impact of corruption on GCAP. Ahmad and Arjumand (2016) examined the impact of corruption on GCAP through a migration channel for a sample of 94 developed and developing countries from 1996 to 2010. They found that corruption reduced GCAP. They also observed from their collected data set that countries with high GCAP growth had a high level of corruption. High-income countries such as New Zealand, Sweden and the Netherlands had low growth rates and low levels of corruption, while low- to middle-income countries such as China, India and Vietnam had high growth rates and high levels of corruption. Akai et al. (2005) found a similar observation. Based on the data set collected in this study from 2000 to 2017, it also showed similar results that corruption and growth rate of GCAP were positively related.

Looking at Table 9.12, it can be seen that the shadow economy was an issue that needed to be taken into consideration in the high-income countries. A larger size of the shadow economy increased tax revenue and FDI inflows. There were not many empirical studies that supported this result. A further study about the shadow economy in high-income countries was required, especially addressing Australia, New Zealand, Japan and South Korea, as well as the

relationship between the shadow economy and the economic development in these countries to support the results found in this research.

9.4 Conclusion

This chapter used the same approach to Chapter 8 to analyse the causes and consequences of corruption in ASEAN Plus Six; however, in this chapter, the 15 ASEAN Plus Six countries were divided into two groups based on income, high-income and low- to middle-income countries, to examine whether income was a factor that made the difference in corruption level between the two groups. The findings showed that income made a significant difference in corruption in the two groups. Thus, the hypothesis (H3) had been accepted.

In the first part of this chapter, government expenditure and governance indicators, considered causes of corruption, were examined for two groups of countries. The results showed that an increase in education expenditure increased corruption in low-middle-income countries. This result was opposite to that of high-income countries, where an increase in education expenditure reduced corruption. While an increase in spending on the health sector and construction contributed to reducing corruption in the low- to middle-income countries, corruption increased when the government increased spending in these two sectors in the high-income countries.

The study also found that in terms of governance indicators, control of corruption (CC), government effectiveness (GE), and voice and accountability (VA) had a positive impact on corruption, that an increase in scores in those indicators reduced the levels of corruption in both groups. In contrast, indicators such as rule of law (RL) and regulatory quality (RQ) had a negative impact on corruption. These results in each group were similar to those in the study of 15 countries that were presented and analysed in the previous chapter. Although the indicators of the impact of the governance indicators on corruption in both groups were similar to each other, the level impact was significantly different. The control of corruption (CC) in high-income countries was three times better than in low-middle-income countries (a one-point increase in CC increased the CPI by about 21 points in high-income countries, while it was about 7.6 points in low- to middle-income ones). The results also showed that voice and accountability (VA) had a significant impact on corruption in low- to middle-income countries, in that a one-point increase in VA increased the CPI by about five points, while it was only about a two-point increase in the CPI in the high-income countries. The rule of law

(RL) had a significant impact on corruption in high-income countries that one score increase in RL reduced the CPI by 11.6 points, while there was only about a one-point decrease in the CPI in the low- to middle-income countries.

In the second part of the chapter, the consequences of corruption were examined. The study focused on the impact of corruption on tax revenue, public debt, FDI and GCAP in two groups of countries. The study found that corruption had a significant impact on economic development, although the results found in two groups of income countries were slightly opposite to each other. It again demonstrated that income was a factor that significantly influenced the level impact of corruption on economic development. In low- to middle-income countries, an increase in the score in CPI and reduction in the size of the shadow economy significantly increased tax revenue, reduced public debts and increased GCAP. Increasing the score in CPI and reducing the size of the shadow economy meant a lower level of corruption. Conversely, in high-income countries, corruption reduced tax revenue, increased debt, reduced FDI, and reduced GCAP.

Again, the findings found in this chapter clearly show that income was a factor that made a significant difference in corruption in two groups of countries in ASEAN Plus Six. By dividing 15 countries in ASEAN Plus Six into two groups based on income, high and low-middle-income, this chapter of the study had provided a comparison of corruption not only between two groups of income but also between each group and the total 15 studied countries. Numerous empirical studies were also outlined to support the findings in this chapter. In the next chapter, a focused study of the causes and consequences of corruption in one of the ASEAN countries was examined to provide more details of corruption in Southeast Asia where most of the nations were in the low-middle-income group and had quite high corruption. Vietnam was chosen as a case study to analyze.

CHAPTER 10_ CAUSES AND CONSEQUENCES OF CORRUPTION IN VIETNAM

10.1 Introduction

This chapter presented and analysed the results of the causes of corruption in Vietnam as well as the impact of corruption on economic development in this country from 2000 to 2017. The results of the study in Vietnam aimed to answer the research questions in more detail and support the findings of the previous examinations of the causes and consequences of corruption in the ASEAN Plus Six. The findings in this study were analysed and compared with the results found in Chapters 8 and 9. The related literature was also outlined to support the findings.

In the first part of the chapter, the results of the impact of government expenditure and governance indicators on corruption in Vietnam were presented and analysed. This test only used the CPI as the proxy variable of corruption, and the shadow of the economy was not included in the test as the size of the shadow economy in Vietnam was relatively small. In addition, the governance indicators were considered other possible causes of corruption in Vietnam. Nevertheless, only control of corruption, rule of law and government effectiveness were taken into the test while voice and accountability, political stability and regulatory quality were dropped due to non-significant results in the tests.

In the second part of the chapter, the consequences of corruption on economic development were analysed in Vietnam. The level impact of corruption on tax revenue, public debt, FDI, and GCAP were analysed and compared with the results found in Chapters 8 and 9. The relevant literature in relation to the findings was outlined. To support the findings of the study, a number of economic variables such as investment freedom, trade freedom, democracy and population were used as control variables. The impact of those control variables on corruption and economic development were also taken into consideration as further contributions to the empirical literature.

10.2 Impact of Government Expenditure and Governance Indicators on Corruption in Vietnam

Multiple regression was conducted to examine the impact of government expenditure and governance indicators on corruption by using the CPI. In this examination, the SE was taken out as Vietnam's shadow economy was of a relatively small size. The purpose of this multiple regression was to examine whether government expenditure on education, health, and construction, and governance indicators, including control of corruption, government effectiveness and rule of law, were the causes of corruption in Vietnam. The governance indicators of voice and accountability, political stability and regulatory quality were dropped due to non-significant results in the tests. The hypothesis (H4) that there was significant effect of a combination of government expenditure and governance indicators on the CPI was proposed. The regression was formed as follows:

$$\text{CPI} = \alpha + \beta_1 \text{EDU} + \beta_2 \text{HEA} + \beta_3 \text{GFCF} + \beta_4 \text{CC} + \beta_5 \text{GE} + \beta_6 \text{RL} + \beta_7 \text{POP} + \beta_8 \text{TAXR} + \varepsilon$$

(35)

Where, CPI_ corruption perception index; EDU_ government expenditure on education as a percentage of GDP; HEA_ government expenditure on the health sector as a percentage of GDP; GFCF_ gross fixed capital formation as a percentage of GDP; CC_ control of corruption; GE_ government effectiveness; RL_ rule of law; POP_ population; TAXR_ tax revenue as a percentage of GDP, ε _ error.

The summary results of the regression were presented in Table 10.1. Test (1) examined the impact of government expenditure on selected sectors and governance performance in selected indicators on the CPI. Test (2) examined the level impact of those indicators on corruption when the control variables, POP and TAXR, were added. The results found in Test (1) showed that most of the independent variables had an insignificant correlation with the dependent variable at the 90 per cent level of confidence. By adding POP and TAXR as control variables in the test, the results showed in Test (2) indicated that there was a significant relationship between independent variables and the CPI. Besides, the determinant of coefficient in Test (2) was 0.994, which indicated the variation of corruption can be strongly explained by selected independent variables. Thus, the hypothesis (H4) had been accepted.

Table 10.1. Summary of the Multiple Regression Results: The Effect of Government Expenditure and Governance Indicators on Corruption in Vietnam and the LMICs

Independent variable	Vietnam		LMICs
	(1)	(2)	(3)
EDU	2.169 (1.114)	-.553 (-.863)	-.687** (-2.319)
HEA	1.488* (1.833)	.592* (2.247)	.471** (2.136)
GFCF	-.207 (-1.470)	-.113** (-2.280)	.124*** (3.450)
CC	-1.995 (-.533)	-5.199*** (-3.732)	7.624*** (4.351)
GE	6.242** (2.274)	-5.601*** (-4.031)	6.775*** (4.527)
RL	3.255 (1.452)	3.545*** (4.748)	-.877 (-.592)
POP		6.903E-7*** (10.615)	
TAXR		-.291** (-2.580)	
GCAP			.001*** (6.893)
DEM			-.341** (-2.015)
Cons	16.521 (1.248)	-26.574*** (-4.862)	32.012*** (12.676)
N	126	162	180
R2	0.910	0.994	.907

Dependent variable: CPI

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

LMICs: Low- to middle-income countries

Looking at the results of Test (2) in Table 10.1, the coefficients of EDU and GFCF were negative at -0.553 and -0.113 , respectively, which indicated that each percentage increase in government expenditure on education and fixed capital formation reduced the CPI by 0.553 and 0.113 scores or led to a higher level of corruption. Conversely, health had positive coefficients of 0.592, which indicated a positive relationship between this variable and the CPI. Higher spending on health increased the CPI scores or reduced the level of corruption.

Education was one of the priority public sectors of the Vietnamese government as well as the governments of other ASEAN countries. The Vietnamese government considered education and training to be one of the most important national sectors to focus on and develop sustainably in the long term. According to the World Bank database, the Vietnamese government spent approximately 20 per cent of its budget, equivalent to five per cent of GDP

on education annually. This ratio in Vietnam was as same as Malaysia's and was high compared to other countries in the ASEAN group (analysed recently over five years to 2017), such as Thailand (about 4.0 per cent), Indonesia (about 3.5 per cent), Singapore (about 3.0 per cent), Laos (about 3.0 per cent), and Cambodia (about 2.0 per cent) (World Bank 2017).

Corruption in education in Vietnam had taken various forms, such as corruption in the construction of buildings, teaching supplies, bribery for achieving a school's reputation, high scores of accreditations, or bribery for the high marks of students (Martini 2012). One-fifth of the budget went to capital investment in education and training, while the rest of the education budget had been spent on operating expenditure. The result of this study was in line with some empirical studies conducted by Viet Anh (2006) that a range of schools and classrooms had been built but failed to meet quality and standard requirements that were downgraded after being put into use. Referring back to the discussion on corruption in Vietnam (Chapter 4), corruption was existing in the education sector and had an association with the government budget. Cam (2006) found that the government spent a large budget for publishing textbooks, however, about 28 billion Vietnamese Dong went missing due to under-the-counter transactions between the National Publishing House (state-owned publisher) and other publishers. Le (2017) indicated that the government spent a large budget for higher education to improve the quality of education through teaching and facilities provided in the universities. The government allocated education and training budgets for universities based on their demand. To claim for a large budget from the government, the universities had proposed opening new universities, or recruited new lecturers and staff, or making up the expenses of buying facilities.

This study also found a positive relationship between government expenditure in the construction sector and corruption. In Vietnam, construction was one of the most corrupt sectors. It was reported that the growth rate of this sector was always higher than the average growth of the economy. Also, the more fast-growing the industry was, the greater the chance of corruption (Hanh 2009). Most of the serious cases of bribery occurred in engineering construction projects that generally required a large budget. This called for financial investment from the government and foreign investors. In recent years, many typical transport infrastructure projects had been undertaken, such as highways and power infrastructure projects. The Government Inspectorate found that 94 per cent of the equipment used in the

projects was changed to unknown origins. The Chinese contraction company contracted with subcontractors at a very low price, then shared the difference (Quang 2017).

Conversely, this study found that higher spending on the healthcare sector reduced corruption in Vietnam. Nguyen et al. (2010) studied medicine pricing policies in Vietnam and found that medicine pricing was one of the areas of high risk for corruption in the health sector. The Vietnamese government had made efforts overtime to stabilise prices through regulatory intervention. Medical providers had been required to declare and publish prices to ensure transparency in the market since 2013. The government had tried to adopt several initiatives of anti-corruption in the healthcare sector, such as reforming the payment system, creating accountability through patient feedback and a social audit program (Vian et al. 2012). The reforms were still ongoing, and the impact on corruption showed positive results but slow progress.

Comparing Vietnam's results to those found when looking at low- to middle-income countries (column 3), the level impact of government expenditure on education and health on the CPI in Vietnam was very much similar to that of in the low- to middle-income countries. Looking at Table 10.1, it can be seen that the coefficient of EDU was negative, while the coefficient of HEA was positive in both Vietnam and the low- to middle-income countries. However, the coefficients of GFCF were opposite. While government expenditure on construction (gross fixed capital formation) had a positive impact on the CPI in the low- to middle-income countries, it had a negative impact in Vietnam in that an increase in spending on construction resulted in an increase in levels of corruption. As explained above, in a fast-developing country such as Vietnam, the government spent a large budget to invest in infrastructure and constructions such as bridges, airports, and highways, and thus there was a greater chance of corruption occurring.

This study also examined the impact of governance performance on corruption. Based on the results presented in Table 10.1, column (2), the rule of law had a positive coefficient of 3.545, which indicated that statistically, it had a positive relationship with the CPI. Better governance in terms of the rule of law helped to reduce the level of corruption. Conversely, the indicators of control of corruption and government effectiveness had negative impacts on the CPI. The coefficients of CC and GE were -5.199 and -5.601 , respectively, which meant every point increase in control of corruption and government effectiveness increased the CPI by 5.199 and 5.601 points, respectively. Interestingly the impact of governance performance on corruption

in Vietnam was found to be the opposite to that of the low- to middle-income countries, as seen in Table 10.1, column (3). One of the possibilities to explain the difference was that Vietnam was a communist country.

In terms of the rule of law, the results of this study can be explained by a change in the political leadership in Vietnam. Vietnam was ruled by a single party, the CPV. The party established the one-party state, which gave the state a monopoly power on the use of force across the country. In terms of the governance in control of corruption and government effectiveness, they had an adverse correlation with corruption. From 1995 to 2017, the Vietnamese government had tried to control corruption based on much anti-corruption propaganda but showed little improvement (see Figure 4.2). The indicator of the government's effectiveness remained at a low score over that time. Despite many directives on administrative reforms, red tape was still the biggest obstacle in Vietnam and abusing laws and arbitrary behaviour at public offices were very common (Staff Reporter 2017). The result in this study was in line with what Quah (2016) found in his study that red tape was an important cause of corruption in Asian countries as public officials abused their authority to extort payments, including payments for speeding up the process of issuing licenses, permits, and other procedures and transactions. In the same study, Quah (2016) also found that Vietnam was the most successful in combating red tape compared with Cambodia, Myanmar, Pakistan and Papua New Guinea. Although the country made progress in administrative and legal reform, the progress was not good enough as the process of simplifying administration procedures was still an issue (OECD 2011). The Vietnam Chamber of Commerce and Industry examined red tape issues when initiating a project in Vietnam from 8,053 domestic companies and 1,540 foreign companies. It found that too much documentation, guidelines and procedures issued by the state and local governments was confusing (Pham 2013).

10.3 Impact of Corruption on the Economic Development in Vietnam

In this section, the results of multiple regressions conducted to examine the impact of corruption on economic growth in Vietnam were presented and analysed. Again, the CPI and the SE were used as proxy variables of corruption. Thus, the results of the impact of corruption on consequence variables were presented in two different sections according to corruption proxies. The first section presented the findings of the impact of the CPI on proxy variables of

economic development, while in the second one, the results of the impact of the SE on economic development proxy variables were presented. Tax revenue (a major income source for governments), levels of public debt, an inflow of foreign investment and GCAP were selected as proxy variables of economic growth. Table 10.2 below summarized the results of the impact of corruption on economic development in Vietnam and the low- to middle-income countries for comparison. The findings indicated that the hypothesis (H5) had been accepted that there was a significant effect of corruption on tax revenue, public debt, foreign direct investment, and GDP per capita in Vietnam.

10.3.1 Impact of Corruption on Tax Revenue

To examine the impact of corruption on tax revenue in Vietnam, multiple regressions were formed as follows:

$$\text{TAXR} = \alpha + \beta_1 \text{CPI} + \beta_2 \text{DEBT} + \beta_3 \text{POP} + \varepsilon \quad (36)$$

$$\text{TAXR} = \alpha + \beta_1 \text{SE} + \beta_2 \text{DEBT} + \beta_3 \text{POP} + \varepsilon \quad (37)$$

Where, TAXR_ tax revenue; CPI_ corruption perception index; SE_ shadow economy index; DEBT_ public debt; POP_ population; ε _ error.

As Table 10.2, column (1) showed, CPI had a negative coefficient of -1.398 , which indicated that an increase in one score in CPI (less corruption) reduced tax revenue by about 1.4 per cent. Conversely, the shadow economy had a positive relationship with tax revenue in that an increase in the size of the shadow economy increased tax revenue. The finding of a negative coefficient of the CPI and a positive coefficient of the SE indicated that the government earned more revenue through taxes when there was high corruption and a larger size of the shadow economy in Vietnam. This finding was interestingly opposite to that found in Chapter 9 of the study looking at the impact of the CPI on the tax revenue in the low- to middle-income countries, see column (5). While most of the empirical studies found that corruption reduced tax revenues, such as Ghura (1998), Tanzi and Davoodi (2000), Abed and Gupta (2002), Torgler (2004), Fjeldstad (2005), Gupta (2007), Djumashev (2007), Attila (2008), Joulfaian (2009), and Apaphra and Massawe (2017), limited literature was in line with this finding. This finding required further research to further explore the impact of corruption on tax revenue in Vietnam to have a better understanding of the relationship and correlation between the two factors.

Table 10.2. Summary Results: The Impact of Corruption on Economic Development in Vietnam

Independent variable	Vietnam				LMICs			
	TAXR (1)	DEBT (2)	FDI (3)	GCAP (4)	TAXR (5)	DEBT (6)	FDI (7)	GCAP (8)
CPI	-1.398*** (-6.429)	-1.306*** (-4.403)	-1.132** (-2.847)	8.744** (2.672)	.059* (1.939)	-.641*** (-3.086)	-.078*** (-3.699)	231.065*** (24.051)
SE	1.171* (2.038)	1.659*** (3.187)						
DEBT	-.774*** (-5.059)		-.400* (-2.000)		-.049*** (-5.287)		-.037*** (-5.474)	
POP	2.691E-6*** (5.753)	3.223E-6*** (13.086)	1.116E-6** (2.318)	6.418E-5*** (27.746)	2.336E-9*** (4.208)			-3.078E-6*** (-10.657)
TAXR		-.857*** (-5.059)				-1.965*** (-4.243)		
TRA_FD			.274* (1.938)					
INV_FD			.213** (2.408)				.030** (2.289)	
FDI				5.175** (2.450)				-81.829*** (-2.629)
Cons	-162.166*** (-3.970)	-212.458*** (-8.536)	-65.777** (-2.220)	-4642.756*** (-40.755)	34.441*** (8.747)	233.398*** (8.249)	10.169*** (8.968)	-3401.299*** (-10.320)
N	72	72	90	54	180	180	180	180
R2	.811	.991	.577	.999	.596	.412	.530	.813

Notes: The t-value in parentheses

* Indicated the significance level at 10%

** Indicated the significance level at 5%

*** Indicated the significance level at 1%

LMICs: Low- to middle-income countries

10.3.2 Impact of Corruption on Public Debt

To examine the impact of corruption on public debt in Vietnam, multiple regressions were formed as follows:

$$DEBT = \alpha + \beta_1 CPI + \beta_2 TAXR + \beta_3 POP + \varepsilon \quad (38)$$

$$DEBT = \alpha + \beta_1 SE + \beta_2 TAXR + \beta_3 POP + \varepsilon \quad (39)$$

Where, DEBT_ public debt; CPI_ corruption perception index; SE_ shadow economy index; TAXR_ tax revenue; POP_ population; ε _ error.

As seen in Table 10.2 column (2), the CPI had a negative coefficient of -1.306, which indicated that an increase of one score in CPI (less corruption) reduced public debt by about 1.3 per cent. Conversely, the shadow economy had a positive relationship with public debt in that increased in the size of the shadow economy increased the debt. This finding was in line with that found in Chapter 9 in the study of the impact of corruption on public debt in low- to middle-income countries, see column (6). There were several indirect ways to analyse the relationship between corruption and public debt, such as via government expenditure and tax revenue. One possible approach was that corruption increased government expenditure and/or

reduced tax revenue, thus resulting in an increase in public debt. A number of studies explored the impact of corruption on government expenditure, such as Mauro (1998), Wei (2001), Gupta et al. (2001), Tanzi and Davoodi (2002), Kaufmann (2010), Dzhumashev (2014b), and tax revenue, such as Ghura (1998), Tanzi and Davoodi (2000), Abed and Gupta (2002), Torgler (2004), Fjeldstad (2005), Gupta (2007), Djumashev (2007), Attila (2008), Joulfaian (2009), and Apathra and Massawe (2017); however, only a few studies examined the direct relationship between corruption and public debt. This study aimed to find empirical support for the hypotheses, as stated above. The study was supported by Cooray et al. (2017), Benfratello et al. (2018), and (Panizza 2008) that a higher level of corruption increased public debt.

10.3.3 Impact of Corruption on FDI

To examine the impact of corruption on FDI in Vietnam, a multiple regression was formed as follows:

$$FDI = \alpha + \beta_1 CPI + \beta_2 DEBT + \beta_3 POP + \beta_4 TRA_FD + \beta_5 INV_FD + \varepsilon \quad (40)$$

Where FDI_ foreign direct investment; CPI_ corruption perception index; DEBT_ public debt; POP_ population; TRA_FD_ trade freedom; INV_FD_ investment freedom; ε _ error.

As seen in Table 10.2 column (3), CPI had a negative coefficient of -1.132 , which indicated that an increase in one score in CPI reduced FDI by 1.132 per cent. In other words, a high level of corruption increased FDI in Vietnam. This finding was in line with that found when examining the impact of corruption on FDI in the low- to middle-income countries, as seen in column (7). As stated in Chapter 9, Vietnam's result could be explained in two ways. First, corruption might encourage a government to enhance foreign investment. This assumption was supported by the study of Leff (1964); however, this finding had since subsequently been rejected by further studies. Bellos and Subasat (2011) examined the relationship between corruption and FDI in the sample of 15 transition countries and found that a high level of corruption was associated with a high level of FDI. Interestingly, Egger and Winner (2005) conducted the same study of the relationship between corruption and inward FDI and used a sample of 73 developed and less-developed countries from 1995 to 1999. They found a significant positive relationship between corruption and FDI and concluded that corruption was one of the incentive factors for FDI. That result was similar to Helmy's (2013) study into

the link between corruption and FDI flows to 21 MENA countries from 2003 to 2009. He found that FDI flows in MENA were positively correlated with corruption.

The second possibility was that the strong economic growth in developing countries had attracted a significant inflow of FDI, regardless of high corruption in those countries. Several studies were conducted to examine the relationship between corruption and FDI and found no correlation. Bayar and Alakbarov (2016) studied the relationship between corruption and FDI inflows in 23 emerging market economies from 2002 to 2014. They found that control of corruption and the rule of law had no statistically significant effect on the attraction of FDI in the studied sample. The same result of no significant effect of corruption on FDI was found by Abdella et al. (2018). Mudambi et al. (2013) found that corruption was one of the determinants of the extent of FDI inflows in the sample of 55 emerging countries, but it did have an independent impact on levels of FDI inflows.

10.3.4 Impact of Corruption on GCAP

To examine the impact of corruption on GDP per capita (GCAP) in Vietnam, a multiple regression was formed as follows:

$$\text{GCAP} = \alpha + \beta_1 \text{CPI} + \beta_2 \text{POP} + \beta_3 \text{FDI} + \varepsilon \quad (41)$$

Where, GCAP_ GDP per capita; CPI_ corruption perception index; POP_ population; FDI_ foreign direct investment; ε _ error.

As seen in Table 10.2 column (4), CPI had a positive coefficient of 8.744, which indicated that an increase of one score in CPI increased GCAP by about 8.7 per cent. In other words, a lower level of corruption increased GCAP in Vietnam. This result was similar to that in Chapter 9 regarding the impact of corruption on GCAP in low- to middle-income countries, as seen in column (8). This finding was in line with a few studies, such as Mustapha (2014), Ahmad and Arjumand (2016), and Akai et al. (2005). Mustapha (2014) conducted a study using a sample of 20 countries, including ten low levels of corruption countries and the other ten ones with a high level of corruption, over the period from 2003 to 2011. He found that there was a strong negative impact of corruption on the GCAP. Ahmad and Arjumand (2016) examined the impact of corruption on GCAP in 94 developed and developing countries from 1996 to 2010 and found that corruption reduced GCAP. Akai et al. (2005) found a similar

observation. Based on the data set collected in this study from 2000 to 2017, it also showed similar results that corruption and the growth rate of GCAP were positively related.

10.4 Conclusion

This chapter used the same approach used in Chapters 8 and 9 to analyse the causes and consequences of corruption but focused on Vietnam, one of the low- to middle-income countries in Southeast Asia. The findings were interesting in that there were some similarities but also differences in the causes and consequences of corruption in Vietnam to other low- to middle-income countries in the study. The similarities could be explained by Vietnam having similar characteristics to other low- to middle-income countries, such as levels of GCAP (low- to middle-income countries), being in the Southeast of Asia, and having similar cultural elements. The main aspect that led to the different results in the causes and consequences of corruption in Vietnam compared to other low- to middle-income countries was that Vietnam was a communist country.

In the first section of the chapter, government expenditure and governance indicators that were considered causes of corruption were examined. The hypotheses were proposed that the larger budget the government spent on public sectors, especially on education, health, and construction, the high possibility of corruption occurred in Vietnam. Also, poor governance performance might lead to a higher level of corruption. The results found that an increase in education and construction expenditure increased corruption, while conversely, the expenditure on health reduced corruption in Vietnam. The findings were explained by arguing that the large budget spent on capital investment in education such as schools, buildings, facilities, textbooks, and on operation expenses makes corruption more possible: money had been corrupted, resulting in a poor quality of the infrastructure, fake degrees, and poor management systems. The experience of the education sector was similar to expenditure on construction in that large budgets spent on investment on projects such as highways, airports, and bridges had been directed to the administration processes, poor contractors and poor-quality projects. Conversely, expenditure on health helped to reduce corruption. The government has adopted several initiatives of anti-corruption in the healthcare sector, such as reforming the payment system, creating accountability through patient feedback, and a social audit program (Vian et al. 2012).

The later findings of the causes of corruption that governance performance in the control of corruption, government effectiveness, and rule of law had a significant impact on the CPI in Vietnam. It found that the improvement of rule of law significantly reduced corruption. This finding was opposite to that in the low- to middle-income countries as Vietnam was a communist country that was ruled by one single political party, the CPV. Evidence proved that corruption had been controlled well under the leadership of the CPV's General Secretary and the State President, Nguyen Phu Trong. The other governance indicators, control of corruption and government effectiveness, showed a negative correlation with the CPI, that the performance of governance in those two indicators increased levels of corruption in Vietnam. These results were opposite to the findings found in the low- to middle-income countries. Although Vietnam had planned and adopted a number of anti-corruption strategies, the improvement was still slow and showed little change over the years. Besides, red tape was still one of the biggest issues that meant a weak performance of government effectiveness in Vietnam. The opposite results found in this study to that of in the low- to middle-income countries might encourage future research to have a better understanding of the causes of corruption in Vietnam or low- to middle-income communist countries.

In the second part of the chapter, the consequences of corruption were examined. The study focused on the impact of corruption on tax revenue, public debt, FDI and GCAP in Vietnam, finding that corruption had a significant impact on economic development. The results of the impact of corruption on economic development in Vietnam were similar to that of the low- to middle-income countries, except for tax revenue. The CPI negatively impacted the tax revenue in Vietnam, while there was a positive relationship between two factors in the low- to middle-income countries. The finding indicated that the government earned more revenue through taxes when there was high levels of corruption and a larger size of the shadow economy in Vietnam.

The study found that a higher level of corruption increased debt. This finding was in line with the findings in the low- to middle-income countries. There were several indirect ways to analyse the relationship between corruption and public debt, such as via government expenditure and tax revenue that corruption increased government expenditure and/or reduced tax revenue, thus resulting in an increase in public debt. Only a few studies had examined the relationship between corruption and public debt directly; thus, the finding of this study contributed significantly to the empirical literature.

It also found that a high level of corruption increased FDI in Vietnam. This finding was in line with that of the low- to middle-income countries. This result was supported by empirical studies that corruption was one of the incentive factors for FDI. There were empirical results that supported this correlation between corruption and FDI that the strong economic growth in developing countries had attracted a significant inflow of FDI, regardless of high corruption in those countries. Lastly, the study found that there was a negative impact of corruption on GCAP, that a lower level of corruption increased income in Vietnam. This finding was similar to that of in low- to middle-income countries and in line with a number of empirical studies.

These findings regarding the causes and consequences of corruption in Vietnam, a low-middle-income country in Southeast Asia, had significantly contributed to the empirical literature of the study about corruption and helped to answer the research questions more in detail. The findings had also provided a better comparison between Vietnam and other low- to middle-income countries in ASEAN Plus Six regarding the impact of corruption on economic development. Further, based on the comparative results, further research was suggested to examine the causes of corruption in Vietnam and other communist countries in more detail.

CHAPTER 11_ CONCLUSION

11.1 Introduction

To conclude this thesis, all research questions were reviewed to confirm that they had been achieved satisfactorily. The first question examined whether government expenditure and governance indicators explained the level of corruption in ASEAN Plus Six. The second research question tested the impact of corruption on economic development in the selected countries. The last question examined whether income was the factor that led to different levels of corruption in ASEAN Plus Six. Besides, Vietnam was considered as a case study in this thesis as it was a member of the ASEAN group as well as a good representative of the low- to middle-income countries in the region. The results found in each question were analysed in-depth and compared throughout the thesis.

The study used an ex-post facto research design that examines possible cause and effect relationships by observing an existing condition or state of affairs and searching back in time for plausible causal factors. Multiple regression analysis was used to find out the relationship between the dependent and independent variables in the study of the causes and consequences of corruption in ASEAN Plus Six (15 countries excluding Brunei). The study also drew on an archival database, collected from reliable sources covering 18 years from 2000 to 2017 (inclusive).

Based on findings presented throughout the research, the significant contributions of the study were discussed, and several recommendations were drawn out for policymakers and researchers who might be interested in corruption issues. Policymakers might find the findings of the study useful in improving the quality of governance performance to manage and control the public budget effectively and efficiently. In addition, income might be an issue that policymakers should take into consideration to control corruption in low- to middle-income countries, especially. Future research directions were considered for academic, government and industry researchers. These research directions were based on findings and limitations identified from this study.

11.2 Research Question One

The first research question examined the causes of corruption in ASEAN Plus Six. To address these research questions, government expenditure and governance performance were tested to see if they were the causes of corruption. Government expenditure, especially in the education, health and construction sectors, was a focus. Governance performance looked at six indicators: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law and control of corruption.

Proxy variables of corruption were used in the form of the CPI and the SE. A number of regressions were conducted to test the hypotheses of the impact of government expenditure and governance on the CPI and the SE. The results showed that there were statistically significant relationships between government expenditure, governance indicators and corruption. Specifically, higher spending on education reduced the level of corruption but increased the size of the shadow economy. In contrast, a higher spending budget on health and construction increased the level of corruption; however, it also led to reducing the size of the shadow economy. The impact of government expenditure on the size of the shadow economy was aligned with the finding of Torgler (2004) but opposite to that of Berrittella (2015), Fedotenkov and Schneider (2018), Huynh and Nguyen (2020). In terms of the relationship between governance indicators and corruption, the findings were that better governance performance in the control of corruption, government effectiveness, political stability and voice and accountability reduced the level of corruption, while better governance in regulatory quality and the rule of law increased level of corruption. The findings of the study were in line with a number of empirical research such as Quah (2009), Buehn and Schneider (2009), Jamalmanesh et al. (2014), Friedman (2014), and Jamalmanesh et al. (2014).

11.3 Research Question Two

The second research question tested the impact of corruption on economic development in ASEAN Plus Six. Tax revenue, public debt, FDI and GCAP were considered determinants of economic development. This study used a number of economic variables, such as economic freedom, unemployment rate, democracy, and population as control variables to support the results of the regressions. The results found that lower levels of corruption and the small size of the shadow economy increased tax revenue. These findings were consistent with those

available in the empirical literature such as Tanzi and Davoodi (1997), Ghura (1998), Imam and Jacobs (2007), Hodge et al. (2011), Kodila et al. (2013), Cooray et al. (2017), and Omodero (2019).

The study also found that a lower level of corruption and the small size of the shadow economy increased the level of public debt. The results could be reasonable in the scope of the study, where Japan was the less corrupted country but also had the highest level of the public debt of 236.4 per cent of GDP in 2017 (refer to Table 7.2). In addition, most ASEAN countries, such as Laos, Vietnam, China, Philippines, Indonesia, Myanmar and Cambodia, had high levels of corruption but had low levels of public debt. The relationship between the shadow economy and public debt in this study can be explained in the same way. This finding was in line with empirical studies such as Gonzalez-Fernandez and Gonzalez-Velasco (2014), Cooray et al. (2017), Liu et al. (2017), and Benfratello et al. (2018).

This study found that a lower level of corruption (high CPI and lower SE) increased FDI. These findings were in line with a large number of empirical studies such as Hines (1995), Tanzi's (1998), Wei (2000), Habib and Zarawicki (2002, 2010), Quazi (2014), Hakimi and Hamdi (2017), Canare (2017), and Godinez and Liu (2018). In the relationship between the shadow economy and FDI, most of the empirical studies found that FDI helped to reduce the size of the shadow economy, such as Nikopour et al. (2009), Davidescu and Strat (2015), and Ali and Bohara (2017); however, only a few studies examined the other way round. The finding of this study that the small size of the economy increased FDI was in line with empirical research such as Huynh et al. (2020), and Bayar et al. (2020). This study also found that corruption had a negative impact on GDP per capita as the higher score of the CPI and smaller size of the shadow economy led to higher GDP per capita. This finding was consistent with empirical results such as Mustapha (2014), Ahmad and Arjumand (2016), Akai et al. (2005), Elgin and Birinci (2015), and Wu and Schneider (2019),

To support the results of the regressions, a number of control variables were used. The impact of those control variables on corruption and economic development was also taken into consideration as a further contribution to the empirical literature. The study found that government expenditure had a negative impact on tax revenue. This finding was in line with the studies of Barro (1974), Anderson et al. (1986), Hussain (2004), Narayan and Narayan (2006), Mehrara et al. (2011). The study also found that economic freedom had a positive relationship with FDI. This finding was in line with several empirical studies such as Bengoa

and Sanchez-Robles (2003), Quazi (2007), Kapuria-Foreman (2007), Chang (2009), Pearson et al. (2012), Kandiero and Chitiga (2014), Naanwaab and Diarrassouba (2016), Imtiaz and Bashir (2017) and Abdella et al. (2018). This study found that the unemployment rate had a negative impact on FDI inflows. A large number of empirical studies examined the effect of FDI on the labour market. Still, there was limited research examining the relationship in the opposite direction. This finding in the study was consistent with results found by Pearson et al. (2012). Political stability and the absence of violence were also controlled in the regressions for the study of the impact of corruption on economic development. The result showed that political stability had a positive effect on FDI. This finding was in line with a number of empirical studies such as Shahzad et al. (2012), Shahzad and Al-Swidi (2013), Rashid et al. (2017) and Abdella et al. (2018).

11.4 Research Question Three

The third research question examined whether income was a factor that led to different levels of corruption in ASEAN Plus Six. The study divided 15 ASEAN Plus Six countries into two groups based on income that was, high-income countries including Australia, Japan, New Zealand, Singapore and South Korea, and low- to middle-income countries including Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand and Vietnam. The same research approach used to examine the causes and consequences of corruption had been applied to both groups. The findings showed that income made a significant difference in corruption in the two groups.

In examining the impact of government expenditure and governance indicators on corruption, the results found that an increase in education expenditure increased corruption in low- to middle-income countries. This result was opposite to that of high-income countries, where an increase in education expenditure reduced corruption. The possible explanation for this result was that in low- to middle-income countries in Southeast Asia, the education budget might be spent mainly on planning and school/university management, including hard investment such as school/university buildings and procurements, instead of soft investment such as the daily running costs of schools, textbooks and training because the former were more easily corrupted (U4, 2006). This possible explanation was supported by empirical research such as Hammond (2018), and Khidhir (2019). In contrast, the study found that a higher investment in education reduced corruption in the high-income countries, including Australia, New

Zealand, Japan, Singapore and South Korea. The study also found that higher expenditure in the health and construction sectors increased corruption in those countries. Most spending was on advanced medical equipment and hospital facilities in the health sector. The purchases of those items involved more opportunities for bribery and corruption than paying salaries for doctors and nurses. In the construction sector, there were more chances for corruption to occur when big projects such as roads, airports, railways, seaports and other infrastructure may be given to assigned constructors for mutual benefits between involved parties Chancellor and Abbott (2015).

In terms of governance indicators, control of corruption (CC), government effectiveness (GE), and voice and accountability (VA) had a positive impact on corruption in that an increase in scores in those indicators reduced the levels of corruption in both groups. In contrast, indicators such as rule of law (RL) and regulatory quality (RQ) had a negative impact on corruption. The results in each group were similar to those in the study of 15 countries. Although the indicators of the impact of the governance indicators on corruption in both groups were similar to each other, the level impact was significantly different. The control of corruption (CC) in high-income countries was three times better than in low- to middle-income countries that a one-point increase in CC increased the CPI by about 21 points in high-income countries, while it was about 7.6 points in low- to middle-income countries. It also showed that the voice and accountability (VA) had a significant impact on corruption in low- to middle-income countries; that one-point increase in VA increased the CPI by about five points, while it was only about two points increase in the CPI in the high-income countries. The rule of law (RL) had a significant impact on corruption in high-income countries, that one score increased in RL reduced the CPI by 11.6 points, while there was only about a one-point decrease in the CPI in the low- to middle-income countries. These findings were in line with the results found by Ray and Das (2015).

In the test of the impact of corruption on economic development, the study found that corruption had a significant impact on economic development, although the results found in two groups of income countries were slightly opposite to each other. In low- to middle-income countries, an increase in the score in CPI and a reduction in the size of the shadow economy significantly increased tax revenue, reduced public debts and increased GCAP. Increasing the score in CPI and reducing the size of the shadow economy meant a lower level of corruption. The finding that lower corruption increased tax revenue was in line with empirical studies such

as Tanzi and Davoodi (2000), Ghura (1998), Abed and Gupta (2002), Gupta (2007), Djumashev (2007), Joulfaian (2009), and Apaphra and Massawe (2017). Corruption had a positive impact on public debt in the low- to middle-income countries but a negative impact in the high-income countries. The negative relationship between corruption and public debt in the high-income countries was also in line with the finding when studying the relationship between corruption and public debt in all 15 ASEAN Plus Six countries, however, this result was not in line with empirical studies such as Grechyna (2012), Fernandez and Gonzalez-Velasco (2014), and Liu et al. (2017). On the other hand, the positive impact of corruption on public debt found in the low- to middle-income group was in line with the empirical studies such as Cooray et al. (2017), and Benfratello et al. (2018).

The findings of the impact of corruption on FDI in the two groups were also opposite to each other. The results showed a higher level of corruption increased FDI inflows in the low- to middle-income countries, while corruption reduced FDI in the high-income countries. There were two possible reasons that could explain the result in the low- to middle-income countries. The first assumption was corruption might encourage a government to enhance foreign investment (Leff, 1964). The second possibility was the strong economic growth in developing countries had attracted a significant inflow of FDI, regardless of high corruption in those countries. Several studies were conducted to examine the relationship between corruption and FDI and found no correlation such as Mudambi et al. (2013), Bayar and Alakbarov (2016), Abdella et al. (2018). In contrast, corruption reduced FDI in high-income countries. This finding was in line with several empirical studies such as Hines (1995), Tanzi's (1998), Wei (2000), Habib and Zarawicki (2002, 2010). The impact of corruption on GCAP was different from the two groups of countries. While corruption reduced GCAP in the low- to middle-income countries, it increased the income per capita in the high-income countries. The result found in the low- to middle-income countries group was similar to that of the 15 ASEAN Plus Six and in line with empirical studies such as Akai et al. (2005), Mustapha (2014), and Ahmad and Arjumand (2016).

It can be seen that the shadow economy was an issue that needed to be taken into consideration in high-income countries. A larger size of the shadow economy increased tax revenue and FDI inflows. There were not many empirical studies that supported this result. A further study about the shadow economy in the high-income countries was required, especially addressing Australia, New Zealand, Japan and South Korea, as well as the relationship between the

shadow economy and the economic development in these countries to support the results found in this research.

11.5 Corruption in Vietnam

Vietnam was chosen as the case study in this thesis based on some critical reasons. First, it was a big country with more than 90 million people and played important economic and political roles not only in Southeast Asia but also in the world. Second, it had a rapid economic growth that transforming what was then one of the world's poorest nations into a lower-middle-income country in 2008 (World Bank 2008). Since Doi Moi (Reform) in 1986, the economy had grown quickly, supported by export-oriented manufacturing. Third, Vietnam was reputed to have high levels of corruption that may be impeding the economic growth of the country. Lastly and most importantly, Vietnam was selected as a focus case in the study as there was limited existing research about corruption in this country.

According to Gupta (2017), Vietnam was one of the five most corrupt countries in Asia, with a bribery rate of 65 per cent, while India was at 69 per cent (the highest bribery rate among five countries), Thailand was at 41 per cent, Pakistan was at 40 per cent, and Myanmar was at 40 per cent. The corruption report findings of Transparency International in 2017 indicated that bribery in the Asia-Pacific region occurred mainly in the public sector, particularly in police enforcement, education, health services, official documents and the courts. In addition, according to the annual reports of the World Bank's WGI from 1996 to 2016 (refer to Figure 4.2), the Vietnamese governance indicators had poor performances in all six dimensions reported, including Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption (World Bank 2017)

According to Transparency International, in 2016, education was the second most corrupt sector in Vietnam. Education was one of the priority public sectors of the Vietnamese government, and also in the governments of other ASEAN countries. Annually the government spent a large amount of money on this sector (approximately 20 per cent of its budget equivalent to 5 per cent of GDP) (Dinh 2017). This ratio of government expenditure on education to GDP in Vietnam was high compared to other countries in the ASEAN group (refer to Figure 4.4). Vietnam also spent a large proportion of its budget on the healthcare sector. While the education sector took about 20 per cent of government expenditure, the

healthcare system took a proportion of 9 per cent. The level of spending on health as a percentage of GDP was higher than most low- and middle-income countries in Asia (Minh Anh 2017). Construction was one of the most corrupt sectors in Vietnam. It was reported that the growth rate of this sector was always higher than the average growth of the economy (Hanh 2009).

The study focused on examining the causes and consequences of corruption in Vietnam. The same methods used to answer the three main research questions were also applied to the case study. To analyse the causes of corruption in Vietnam, government expenditure and governance indicators were tested. The study also examined the impact of corruption on economic development, especially on tax revenue, GCAP, public debt and FDI. The results found that an increase in education and construction expenditure increased corruption, while conversely, the expenditure on health reduced corruption in Vietnam. The government had adopted several initiatives of anti-corruption in the healthcare sector, such as reforming the payment system, creating accountability through patient feedback, and a social audit program (Vian et al. 2012).

The findings were of interest in that there were some similarities but also differences in the causes and consequences of corruption in Vietnam compared with other low- to middle-income countries in the study. The similarities could be explained by Vietnam having some similar characteristics as other low- to middle-income countries, such as levels of GCAP, located in the Southeast of Asia and similar cultural factors. The main aspect that led to the different results in the causes and consequences of corruption in Vietnam compared with other low- to middle-income countries was that Vietnam was a communist country. The study also found that governance performance in the control of corruption, government effectiveness and rule of law had a significant impact on the CPI in Vietnam. It found that the improvement of rule of law significantly reduced corruption. This finding was opposite to that of the other low- to middle-income countries as Vietnam was a communist country that was ruled by one single political party, the CPV.

In the examination of the consequences of corruption, the study found that the CPI had a negative impact on the tax revenue in Vietnam, while there was a positive relationship between two factors in the low- to middle-income countries. The finding indicated that the government earned more revenue through taxes when there were high corruption and a larger size of the shadow economy in Vietnam. The results of the impact of corruption on economic

development in Vietnam were similar to that of in the low- to middle-income countries, except for tax revenue. The study also found that a higher level of corruption increased debt. This finding was in line with the results in the low- to middle-income countries. There were only a few studies that had examined the relationship between corruption and public debt directly; thus, the findings of this study had contributed significantly to the empirical literature.

It also found that a high level of corruption increased FDI in Vietnam. This finding was in line with that of the low- to middle-income countries. This result was supported by empirical studies that corruption was one of the incentive factors for FDI. Empirical results that supported this correlation between corruption and FDI suggested that the strong economic growth in developing countries had attracted a significant inflow of FDI, regardless of high corruption in those countries. Lastly, the study found that there was a negative impact of corruption on GCAP and that a lower level of corruption increased income in Vietnam. This finding was similar to that of in low- to middle-income countries and in line with a number of empirical studies.

11.6 Research Contributions

The thesis's discussion and findings contributed significantly to corruption and economic development literature. It provided an overview of corruption in the public sectors including its causes and consequences in 15 countries in ASEAN Plus Six. The first contribution of this study was that the use of both the Corruption Perception Index, published by Transparency International, and the Shadow Economy Index, compiled by Medina and Schneider (2018) as corruption proxy variables which strengthened the results of the research. The empirical studies either used the Corruption Perception Index (Mauro, 1998; Tanzi, 1998; Wei, 2001; Ali and Isse, 2003; Cooray and Schneider, 2013; Ahmad and Arjumand, 2016; Canare, 2017; Cooray et al., 2017; Dell'Anno, 2019; Li, 2019) or the Shadow Economy Index (Johnson et al., 1998; Buehn and Schneider, 2012; Friedman et al., 2000; Dreher and Schneider, 2010; Cooray et al., 2017; Huynh and Nguyen, 2019) as a proxy variable of corruption.

The second contribution of the study was the findings of the impact of government expenditure on corruption. Empirical studies mainly examined the impact of corruption on government expenditure (Mauro (1997; Tanzi and Davoodi, 1997; Johnson et al., 1999; Gupta et al., 2001; Delavallade, 2005; Dzhumashev, 2014b; Arif et al., 2019; Sahnoun and Abdennadher, 2020), however, there was limit research conducted to examine the impact of government expenditure

on corruption. The findings of this thesis significantly contributed to the causes of corruption literature that there was a statistical relationship between government expenditure on corruption. The greater expenditure on education reduced the level of corruption but increased the size of the shadow economy, while a higher spending budget on health and construction increased the level of corruption but reduced the size of the shadow economy. These findings indicated that a high allocation of government expenditure for a sector might lead to a high potential for corruption. In less developed countries, some sectors, such as education, health services, the military or transportation infrastructure, often received large government budgets. Thus, the potential for corruption would be apparent, and attention needed to be paid to each of these major sectors of government expenditure.

Besides government expenditure, governance performance was examined as another cause of corruption in this study. The findings of the impact of governance performance on corruption did not only contribute to the corruption literature but also practically to policymakers as well. The study found that better governance performance in the control of corruption, government effectiveness, political stability and voice and accountability reduced the level of corruption, while better governance in regulatory quality and the rule of law increased the level of corruption. These findings might be useful for policymakers to pay more attention to indicators that can help to control corruption and mitigate the levels of impact of corruption on the economy.

The study also found that income was the factor that led to the different levels of corruption in low-to middle-income and high-income countries in ASEAN Plus Six. It found that the impact of government expenditure and governance indicators on corruption as well as the impact of corruption on the economic development in low - to middle-income countries were opposite to that of in high - income countries. This finding was another contribution of the study to the corruption literature. It also contributed practically to investors that it might help them to understand the causes and consequences of conditions in low- to middle-income and high-income countries before investing in those countries.

The last contribution of the study was the findings of corruption in Vietnam. There were limited studies of corruption in this country, so the finding of the study significantly contributed to the corruption literature. The study found that there were some similarities but also differences in the causes and consequences of corruption in Vietnam compared with other low- to middle-income countries in the study. The similarities could be explained by Vietnam

having some similar characteristics as other low- to middle-income countries, such as levels of GDP per capita, located in the Southeast of Asia and similar cultural factors. The main aspect that led to the different results in the causes and consequences of corruption in Vietnam compared with other low- to middle-income countries was that Vietnam was a communist country. These findings generally contributed to the theory of corruption but also suggested future researchers doing more research to fill the limitations of the study.

11.7 Recommendations

11.7.1 Recommendations for Policymakers

a. ASEAN Plus Six countries

Based on the findings that corruption had a significant negative impact on economic development in ASEAN Plus Six countries, some recommendations had been drawn out for the group as follows. First, all the countries in the region should continue complying with the commitments and agreements such as Asia-Pacific Initiative 1999 and the anti-corruption action plan for Asia-Pacific in Tokyo 2001 to fight against corruption. Second, the region should strengthen anti-corruption policies and public procurement principles to prevent money laundering. Third, the countries in the region should cooperate in combating the bribery of foreign public officials in international business transactions and also improve ethical conduct in the public service.

b. Vietnam

The study found that the size of the government budget had an association with corruption, particularly that increased spending in the education and construction sectors led to increased levels of corruption in Vietnam. Recommendations regarding this result were proposed as follows: First, the government might consider improving the transparency in public financial management and improving budgetary data and information from the state (highest level) down to the local government (lowest level). Second, the auctions related to government projects, including education, health and construction, should be announced to the public with transparent procedures and selection criteria.

The study also found that governance performance significantly helped to reduce the levels of corruption, especially in terms of control of corruption, government effectiveness, and rule of

law. Besides, voice and accountability, and political stability were also important factors that needed to be taken into consideration in control of corruption in Vietnam. Some recommendations regarding governance performance were made as follows. First, the governance performance should be improved by providing clear and simple administrative procedures and reducing the document processing time at both the central and local levels. Second, the government might consider improving the effectiveness and efficiency of its performance by downsizing the public administration, defining the roles and functions of public officials more clearly and introducing more transparent personnel procedures. Third, the government might consider improving the voice and accountability by increasing the amount of information in public, increasing the level of freedom of speech in public for citizens. Fourth, in terms of the rule of law, the government might consider building an adequate institutional framework for effective implementation and enforcement of the law, especially in regard to the quality and independence of trials and improving the coordination strategy and action plans. Finally, in terms of income, an increase in the basic salary for civil servants might need consideration as it could help to reduce the second income.

11.7.2 Recommendations for Future Researchers

Based on the scope of the study, as well as the findings found from the research, there were some gaps that future researchers might be interested in exploring further. First, it was interesting to find out that in developed countries such as Australia and New Zealand, government expenditure might not impact the CPI significantly but the size of the shadow economy. There was still limited research examining the correlation between government expenditure and the shadow economy in the developed countries.

Second, there was limited research on corruption in Vietnam; thus, it was recommended that future researchers might conduct more studies examining corruption in this developing country. Based on the results of this study, some suggestions for future researchers to take into consideration were as follows. (1) Regardless of having a high level of corruption, Vietnam achieved impressive economic growth and attracted FDI. Nevertheless, the question of whether the economic growth rate and the impressive inflow of FDI might be higher or better if there was a lower level of corruption remains. Further research was needed to answer that question. (2) Vietnam was a communist country, so the political structure may influence the high level of corruption. A further study examining communism as a factor that might influence the levels of corruption not only in Vietnam but also in the other three communist

countries, including China, Cuba and Laos, should be considered. (3) the shadow economy was also a topic with limited existing research in the Vietnamese context. Future researchers might be interested in addressing this gap in the literature.

Third, due to the scope of the study, the Asian financial crisis from 1997 to 1998 and the Global Financial Crisis from 2007 to 2008 had not been considered, and they might be factors that impact the economic development in ASEAN Plus Six. Therefore, a further study examining the impact of corruption on economic development in the region might be considered in which the financial crises effects were controlled. Finally, future researchers might apply different methodologies to examine the causes and consequences of corruption and the shadow economy in ASEAN Plus Six. A recommendation to use the MIMIC model or to mix qualitative and quantitative methods might be taken into consideration.

11.8 Conclusion

This chapter concluded by summarising the achievements of this study, in that the three research questions had been answered and completely satisfied. The first research question examined the causes of corruption in ASEAN Plus Six. The results found that there were statistically significant relationships between government expenditure, governance indicators and corruption. Specifically, higher spending on education reduced the level of corruption, but it also increased the size of the shadow economy. In contrast, a higher spending budget on health and construction increased the level of corruption, but it also led to reducing the size of the shadow economy. In terms of the relationship between governance indicators and corruption, the findings were that better governance performance in the control of corruption, government effectiveness, political stability, and voice and accountability reduced the level of corruption, while better governance in regulatory quality and the rule of law increased level of corruption. These findings were in line with a number of empirical studies.

The second research question tested the impact of corruption on economic development in ASEAN Plus Six. The results found were that lower levels of corruption and the small size of the shadow economy increased tax revenue, level of public debt, FDI inflows, and GCAP. Numerous empirical studies were outlined to support these findings. The third research question examined whether income was a factor that led to different levels of corruption in ASEAN Plus Six. The study divided 15 ASEAN Plus Six countries into two groups based on

income, that was high-income countries and low- to middle-income countries. The findings showed that income made a significant difference to corruption in the two groups.

Case study results regarding the causes and consequences of corruption in Vietnam were also concluded. The same method used to answer the three main research questions was applied in the case study. The study found that government expenditure significantly impacted corruption in Vietnam, that an increase in government education and construction expenditure increased corruption, while expenditure on health reduced corruption. The study also found that governance performance had a significant impact on the CPI in Vietnam. It found that the improvement of rule of law significantly reduced corruption. This finding was opposite to that of in the low- to middle-income countries. In examining the consequences of corruption, the study found that the CPI had a negative impact on the tax revenue in Vietnam, while there was a positive relationship between the two factors in the low- to middle-income countries. The results of the impact of corruption on economic development in Vietnam were similar to that of in the low- to middle-income countries, except for tax revenue. By answering all three research questions and analysing Vietnam as a case study for a more detailed analysis of the causes and consequences of corruption in ASEAN Plus Six, a significant contribution was made to the literature on corruption. Recommendations were then proposed for the policymakers and future researchers based on the findings and observations of this thesis.

REFERENCES/ BIBLIOGRAPHY

- Abdella, A. B., Naghavi, N. and Fah, B. C. Y. 2018, The effect of corruption, trade openness and political stability on foreign direct investment: empirical evidence from BRIC countries, *International Journal of Advanced and Applied Sciences*, Vol. 5, No. 3, pp. 32-38.
- Abed, G.T., Gupta, S. 2002, 'Governance, Corruption, and Economic Performance'. *International Monetary Fund*, Washington D.C.
- ADB 2019, Australia key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/australia-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Cambodia key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/cambodia-key-indicators>, accessed on 22/08/2019.
- ADB 2019, India key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/india-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Indonesia key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/indonesia-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Japan key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/japan-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Lao People's Democratic Republic key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/lao-peoples-democratic-republic-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Malaysia key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/malaysia-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Myanmar key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/myanmar-key-indicators>, accessed on 22/08/2019.
- ADB 2019, New Zealand key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/new-zealand-key-indicators>, accessed on 22/08/2019.
- ADB 2019, People's Republic of China key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/china-peoples-republic-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Philippines key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/philippines-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Republic of Korea key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/korea-republic-key-indicators>, accessed on 22/08/2019.

- ADB 2019, Singapore key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/singapore-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Thailand key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/thailand-key-indicators>, accessed on 22/08/2019.
- ADB 2019, Vietnam key indicators 2018, *ADB Data Library*, available at <https://data.adb.org/dataset/viet-nam-key-indicators>, accessed on 22/08/2019.
- Ades, A. and Di Tella, R. 1997, National champions and corruption: some unpleasant interventionist arithmetic, *The Economic Journal*, Vol. 107, No. 443, pp. 1023 – 1042.
- Ades, A. and Di Tella, R. 1999, Rents, competition, and corruption, *The American Economic Review*, Vol. 89, No. 4, pp. 982-993.
- Ahmad, N. and Arjumand, S. 2016, ‘Impact of Corruption on GDP per Capita through International Migration: an Empirical Investigation’, *Qual Quant*, Vol. 50, pp. 1633 - 1643.
- Aidt, T. S. 2003, Economic analysis of corruption: A survey, *The Economic Journal*, Vol. 113, No. 491, pp. 632 – 652.
- AIHW 2018, Australia’s health 2018, *Australian Institute of Health and Welfare*, available at <https://www.aihw.gov.au/getmedia/941d2d8b-68e0-4883-a0c0-138d43dba1b0/aihw-aus-221-chapter-2-2.pdf.aspx>, accessed on 18/08/2019.
- Aisha, Z. and Samina, K. 2009, Government expenditure and tax revenue, causality and cointegration: the experience of Pakistan (1972 – 2007), *Pakistan Development Review*, Vol. 48, No. 4, pp. 951-961.
- Aistove, A. and Mukhametova, E. 2015, ‘Determinants of Corruption Perceptions: Transitional vs. Developed Economies’, *National Research University Higher School of Economics*.
- Akai, N., Horiuchi, Y. and Sakata, M. 2005, Short-run and long-run effects of corruption on economic growth: evidence from state-level cross-section data for the United States, *IDEAS Working Papers*.
- Alemu, A. M. 2012, Effects of corruption on FDI inflow in Asian Economies, *Seoul Journal of Economics*, Vol. 25, No. 4, pp. 387-412.
- Ali , A. M., and Isse, H. S. 2003, ‘Determinants of Economic Corruption: A Cross-Country Comparison’, *Cato Journal*, Vol.22, No. 3, pp. 449-466.

- Ali, M. and Bohara, A. 2017, How does FDI respond to the size of shadow economy: an empirical analysis under a gravity model setting, *International Economic Journal*, Vol. 31, No. 2, pp. 159-178.
- Allen, R. D. 2013, US government spending, the national debt, and the role of accounting educators, *Journal of Accounting Education*, Vol 31. No. 3, pp. 215-231.
- Al-Sadig, A. 2009, The effects of corruption on FDI inflows, *The Cato Journal*, Vol. 29, No. 2, pp. 267-294.
- Anderson C.J., and Tverdova Y.V. 2003, ‘Corruption, Political Allegiance, and Attitude Toward Government in Contemporary Democracies’, *American Journal of Political Science*, Vol. 47, No. 1, pp. 91-109.
- Anderson, W., Wallace, M. S. and Warner, J. T. 1986, Government spending and taxation: what causes what? *Southern Economic Journal*, Vol. 52, pp. 630-639.
- Andvig, J. C. 2006, Corruption and fast change, *World Development*, Vol. 34, No. 2, pp. 328 – 340.
- Anh, T. 2005, ‘Tan cong nan tham nhung trong xay dung co ban’, *Vnexpress Newspaper*, available at https://vnexpress.net/tin-tuc/phap-luat/tan-cong-nan-tham-nhung-trong-xay-dung-co-ban-1979528.html#ctr=box_topic_thoisu_env_4_click, accessed on 03/01/2018.
- Asteriou, D., and Price, S. 2005, “Uncertainty, investment and economic growth: evidence from a dynamic panel”, *Review of Development Economics*, Vol. 9, No. 2, pp. 277-288.
- Atlas of Vietnam 2017, Vietnam Map, available at https://commons.wikimedia.org/wiki/Atlas_of_Vietnam, accessed on 11/11/2017.
- Attila, G. 2008, Corruption, taxation and economic growth: theory and evidence. *CERDI, Etudes et Documents, E 2008.29*, pp. 1 -27.
- Ayal, E. B., and Karras, G. 1996, Bureaucracy, investment, and growth, *Economics Letters*, Vol. 51, pp. 233-239.
- Bac M., and Bag P. K. 2005, ‘Beneficial Collusion in Corruption Control: The Case of Nonmonetary Penalties’, *Journal of Development Economics*, Vol. 81, No. 2, pp. 478-499.
- Bai et al. 2013, Does economic growth reduce corruption? Theory and evidence from Vietnam, *NBER Working Paper 19483*.

- Baldacci, E., Clements, B., Gupta, S. and Cui, Q. 2008, Social spending, human capital, and growth in developing countries, *World Development*, Vol. 36, No. 8, pp. 1317-1341.
- Bao Moi 2017, Dân số Việt Nam đứng thứ 3 Đông nam á, Available at <https://www.baomoi.com/dan-so-viet-nam-dung-thu-3-dong-nam-a/c/22776852.epi>, accessed on 17/10/2017.
- Barro, R. J. 1974, Are government bonds net wealth? *Journal of Political Economy*, pp. 1095-1118
- Bayar, Y. 2016, Public governance and Shadow Economy in Central and Eastern European countries, *Administratie si Management Public*, Vol. 27, p. 62-73.
- Bayar, Y. and Alakbarov, N. 2016, Corruption and foreign direct investment inflows in emerging market economies, *Ecoforum*, Vol. 5, Issue 2 (9), pp. 303-308.
- Bayar, Y. et al. 2020, The shadow economy, human development and foreign direct investment inflows, *Journal of Competitiveness*, Vol. 12, No. 1, pp. 5-21.
- BBC 2016, Why South Korea's corruption scandal is nothing new, *BBC News*, available at <https://www.bbc.com/news/world-asia-38078039>, accessed on 12/03/2019.
- Bellos, S. and Subasat, T. 2011, Corruption and foreign direct investment: a panel gravity model approach, *Bulletin of Economic Research*, Vol. 64, No. 4, pp. 565-574.
- Benfratello, L., Del Monte, A. and Pennacchio, L. 2018, Corruption and public debt: a cross-country analysis, *Applied Economics Letters*, Vol. 25, No. 5, pp. 340-344.
- Berger, W., Pickhardt, M., Pitsoulis, A., Prinz, A., and Sarda, J. 2014, 'The Hard Shadow of the Greek economy: New Estimates of the Size of the Underground Economy and its Fiscal Impact', *Applied Economics*, Vol. 46, No. 18, pp. 2190-2204.
- Berrittella, M. 2015, The effect of public education expenditure on shadow economy: a cross-country analysis, *Internaltional Economic Journal*, Vol. 29, No. 4, pp. 527-546.
- Blakkarly, J. 2017, Explainer: what is Malaysia's 1MDB corruption scandal?, *SBS News*, available at <https://www.sbs.com.au/news/explainer-what-is-malaysia-s-1mdb-corruption-scandal>, accessed on 12/03/2019.
- Blechinger, V. 2000, Report on recent bribery scandals, 1996-2000, *Transparency International Workshop*, paper on corruption and political party funding in la Pietra, Italy.
- Boeri, T. and Garibaldi, P. 2002, Shadow activity and unemployment in a depressed labour market, *CEPR Discussion Papers*, No. 3433.

- Brada, J. C., Drabek, Z., and Petez, M. F. 2012, The effect of home-country and host-country corruption on foreign direct investment, *Review of Development Economics*, Vol. 16, No. 4, pp. 640-663.
- Braun, M and Di Tella, R. 2004, Inflation, inflation variability, and corruption, *Economics and Politics*, Vol. 16, No. 1, pp. 77-100.
- Breu, M., and Dobbs, R. 2012, The New Asian Tiger? Ten things you didn't know about Vietnam's rise, *Foreign Policy Newspaper*, Available at <http://foreignpolicy.com/2012/02/24/the-new-asian-tiger/>, accessed on 23/10/2017.
- Brunetti, A. 1998, Policy volatility and economic growth: a comparative, empirical analysis, *European Journal of Political Economy*, Vol. 14, issue 1, pp. 35-52.
- Buehn, A. and Schneider, F. 2012, 'Shadow Economies around the World: Novel Insights, Accepted Knowledge, and New Estimates', *International Tax and Public Finance*, Vol. 19, pp.139 – 171.
- Bui, T. K. T. 2008, Inflation in Vietnam over the period 1990 – 2007, *Institute of Social Studies*, available at <file:///Users/TranMy/Downloads/Bui%20Thi%20Kim%20Thanh%20ECD.pdf>, accessed on 23/10/2017.
- Burnside, C, and Dollar, D. 2000, Aid, Policies, and Growth, *The American Economic Review*, Vol. 90, No. 4, pp. 847-868.
- Busse, L., Ishikawa, N., Mitra, M., Primmer, D., Surjadinata, K., and Yaveroglu, T. 1996, The perception of corruption: a market discipline approach, *Working Paper*, Atlanta, Emory University.
- Caiden, G., and Dwivedi, O. 2001, 'Official ethics and corruption', in *Where Corruption Lives*, Caiden G., Dwivedi, O., Jabbara, J. (Eds), Bloomfield, Kumarian Press.
- Cam Van Kinh 2006, 'Doc Quyen Xuat Ban Sach Giao Khoa', *Tuoi Tre Newspaper*, available at <https://tuoitre.vn/doc-quyen-xuat-ban-sach-giao-khoa-151827.htm>, accessed on 7/12/2017.
- Canare, T. 2017, 'The effect of corruption on foreign direct investment inflows: evidence from a panel of Asia-Pacific countries', in Dela Rama, M. and Rowley, C. (1st ed), *The changing face of corruption in the Asia Pacific: current perspectives and future challenges*, Elseview Ltd, pp. 35-55.
- Castro, C. and Nunes, P. 2013, Does corruption inhibit foreign direct investment? *Politica/Revista de Ciencia Politica*, Vol. 51, No. 1. Pp. 61-83.

- Chancellor, W. and Abbott, M. 2015, The Australian construction industry: is the shadow economy distorting productivity?, *Construction Management and Economics*, Vol. 33, No. 3, pp. 176-186.
- Chang, S. C. 2009, The interactions among foreign direct investment, economic growth, degree of openness and unemployment in Taiwan, *Applied Economics*, Vol. 39, No. 13, pp. 1647-1661.
- Chen, Q. 2017, 2017 Preview: Southeast Asia is set to embrace more volatility, Global Risk Insights, available at <https://globalriskinsights.com/2017/01/southeast-asia-set-embrace-volatility-2017/>, accessed on 21/07/2019.
- Chowdhury, S. K. 2004, The effect of democracy and press freedom on corruption: An empirical test, *Economics Letters*, Vol. 85, No. 1, pp. 93-101.
- CIEM 2010, 'Impacts of International Economic Integration on Vietnam's Economy after Three Years of WTO Membership', *Central Institute for Economic Management*.
- Cohen, L., Manion, L., and Morrison, K. 2007, *Research Methods in Education*, Routledge, 6th edition, NY.
- Cooray, A., Dzhumashev, R. and Schneider, F. 2017, How does corruption affect public debt? An empirical analysis, *World Development*, Vol. 90, pp. 155-127.
- D'Agostino, G., Dunne, J. P., and Pieroni, L. 2012, 'Government Spending, Corruption and Economic Growth', *Southern Africa Labour and Development Research Unit Working Paper* No. 74.
- Dang, Q. V. 2016, The impact of corruption on provincial development performance in Vietnam, *Crime Law Soc Change*, Vol. 65, pp. 325 – 350.
- Dao, T. 2016, 'Qua tai benh vien: Can benh van tram kha', *Bao Moi Newspaper*, available at <https://baomoi.com/qua-tai-benh-vien-can-benh-van-tram-kha/c/21083824.epi>, accessed on 16/01/2018.
- David, M. and Sutton, C. 2004, *Social Research_the Basic*, SAGE Publications, London.
- Davidescu A. A. and Start, V. A. 2015, Shadow economy and foreign direct investments: an empirical analysis for the case of Romania, *Ecoforum*, Vol. 4, No. 2, pp. 110-118.
- De Graaf, G. 2007, Causes of corruption: towards a contextual theory of corruption, *Public Administration Quarterly*, Vol. 31, No. 1/2, pp. 39 – 86.
- Del Monte A., Papagni E. 2001, 'Public Expenditure, Corruption and Economic Growth: The case of Italy', *European Journal of Political Economy*, Vol.17, pp. 1-16.

- Delavallade Clara. 2005. 'Public expenditure in developing countries: how Corruption influences its amount and allocation'. Available at file:///Users/TranMy/Downloads/Public_expenditure_in_developing_countries_how_.pdf, Accessed on 03/10/2017.
- Delavallade, C. 2006. 'Corruption and distribution of public spending in developing countries', *Journal of Economics and Finance*, Vol. 30, no. 2, pp. 222-239.
- Dell'Anno, R. and Solomon, O. H. 2008, Shadow economy and unemployment rate in USA: is there a structural relationship? An empirical analysis, *Applied Economics*, Vol. 40, No. 19, pp. 2537-2555.
- Dell'Anno, R., Gomez-Antonio, M. and Alanon-Pardo, A. 2007, 'The Shadow Economy in Three Mediterranean Countries: France, Spain and Greece. A MIMIC Approach', *Empirical Economics*, Vol. 33, pp.51-84.
- Dinh Thi Nga 2017, 'Dau Tu cua Nha Nuoc cho Giao Duc, Dao Tao: Thuc Trang va Mot so De xuat', *Financial Press*, Available at <http://tapchitaichinh.vn/kinh-te-vi-mo/kinh-te-dau-tu/dau-tu-cua-nha-nuoc-cho-giao-duc-dao-tao-thuc-trang-va-mot-so-de-xuat-125673.html>, accessed on 30/11/2017.
- Djumashev, R. 2007, Corruption, uncertainty and growth, *Monash Economics Working Papers 15-07*, Monash University, Department of Economics, pp. 1-38.
- Do, B. 2014, Nhat Ban chua cung cap thong tin ve can bo nhan hoi lo, *Vnexpress*, available at <https://vnexpress.net/thoi-su/nhat-ban-chua-cung-cap-thong-tin-ve-can-bo-nhan-hoi-lo-2970859.html>, accessed on 13/05/2019.
- Do, S. T., Likhitrungsilp, V., Tran, T. K., and Nguyen, P. T. 2017, 'Risk Assessment for International Construction Joint Ventures in Vietnam', *International Journal of Advanced and Applied Sciences*, Vol. 4, No. 6, pp. 104 – 114.
- Doan N. 2017, 'Hang tram nguoi uong thuoc ung thu dom tu cong ty duoc lon nhat VN', *Vietnamnet Newspaper*, available at <http://vietnamnet.vn/vn/phap-luat/ky-su-phap-dinh/hang-tram-nguoi-uong-thuoc-ung-thu-dom-tu-cong-ty-duoc-lon-nhat-nuoc-393869.html>, accessed on 25/12/2017.
- Doan, L. 2015, 'Bo Giao Thong Thanh Tra cac Du An cua POSCO', *Vnexpress Newspaper*, available at <https://vnexpress.net/tin-tuc/thoi-su/giao-thong/bo-giao-thong-thanh-tra-cac-du-an-cua-posco-3180088.html>, accessed on 02/01/2018.
- Dobre, I., Alexandru, A. A. and Lepas, O. 2010, the USA shadow economy and the unemployment rate: granger causality results, *Journal of Applied Quantitative Methods*, Vol. 5, No.1, pp. 98-104.
- Dollar D. and Gatti R. 1999, 'Gender inequality, income, and growth: Are good times good for women?', *Policy Research report on Gender and Deveopment Working Paper Series*, Working Paper No.1, Available at

<http://darp.lse.ac.uk/frankweb/courses/EC501/DG.pdf>, Accessed on 04/10/2017.

- Dowling, J. M. 2008, Future perspectives on the Economic Development of Asia, *World Scientific*, Singapore.
- Drebee et al. 2020, The Impact of Governance Indicators on Corruption in Arab Countries, *Contemporary Economics*, Vol. 14, No. 3, pp. 354 – 365.
- Dreher, A. and Schneider, F. 2010, Corruption and the shadow economy: an empirical analysis, *Public Choice*, Vol. 144, No. 1, pp. 215-238.
- Dreher, A. and Siemers, L. 2009, The nexus between corruption and capital account restrictions, *Public Choice*, Vol. 140, No. 1 – 2, pp. 245 – 265.
- Dreher, A., Kotsogiannis, C., and McCorrison, S. 2009, How do institutions affect corruption and the shadow economy?, *International Tax and Public Finance*, Vol. 16, No. 6, pp. 773 – 796.
- Dridi, M. 2014, ‘Corruption and Education: Empirical Evidence’, *International Journal of Economics and Financial Issues*, Vol. 4, No. 3, pp. 476 – 493.
- Dullien, S., Kotte, D. J., Marquez, A., and Priewe, J. 2010, ‘The Financial and Economic Crisis of 2008 – 2009 and Developing Countries’, United Nations Conference on Trade and Development, *United Nations Publication*, New York and Geneva.
- Duong, N. 2011, Lạm phát do đâu?, *VN economy Newspaper*, available at <http://vneconomy.vn/thoi-su/lam-phat-do-dau-20110912100018354.htm>, accessed on 24/10/2017.
- Egger, P. and Winner, H. 2005, Evidence on corruption as an incentive for foreign direct investment, *European Journal of Political Economy*, Vol. 21, pp. 932-952.
- Egger, P. and Winner, H. 2006, How corruption influences foreign direct investment: a panel data study, *Economic Development and Cultural Change*, Vol. 54, No. 2, pp. 459-486.
- Ehrlich, C. S. and Kang, D. S. 2002, Independence and corruption in Korea, *Columbia Journal of Asian Law*, Vol. 16, No. 1, pp. 1-68.
- Elgin, C. and Birinci, S. 2015, Growth and informality: a comprehensive panel data analysis, *Journal of Applied Economic*, Vol. 19, No. 2, pp. 271-292.
- Elgin, C. and Uras, B. R. 2013, Public debt, sovereign default risk and shadow economy, *Journal of Financial Stability*, Vol. 9, pp. 628-640.

- Elsayed, G. 2017, Corruption and foreign direct investment: an empirical study on Egypt, *Magallat al-Tanmiyat wa-al-Siyasat al-Iqtisadiyyat*, Vol. 19, No. 2, pp. 45-88.
- Enste, D. H. 2015, The shadow economy in industrial countries, *IZA World of Labor*, Vol. 127.
- Epaphra, M. and Massawe, J. 2017, Corruption, governance and tax revenues in Africa, *Business and Economic Horizons*, Vol. 13, No. 4, pp. 439-467.
- Eurostat 2018, 'Government expenditure on health', *Eurostat Statistics Explained*, available at [http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Total_general_government_expenditure_on_health_2016_\(%25_of_GDP\).png](http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Total_general_government_expenditure_on_health_2016_(%25_of_GDP).png), accessed on 24/06/2018.
- Fasano, U. and Wang, Q. 2002, Testing the relationship between government spending and revenue: evidence from GCC countries, *IMP Working Paper*, WP/02/201.
- Fisman R. and Gatti. R. 2002, 'Decentralization and Corruption: Evidence across Countries', *Journal of Public Economics*, Vol. 83, No. 3, pp. 325-345.
- Fjeldstad, O-H. 2005, Revenue administration and corruption, *U4 Anti-Corruption Resource Centre*, No. 2, pp. 1-24.
- Foreign Investment Agency 2017, *Monthly FDI statistics*, available at <http://fia.mpi.gov.vn/chuyenmuc/172/So-lieu-FDI-hang-thang>, accessed on 26/10/2017.
- Friedman, B. A. 2014, The relationship between effective governance and the informal economy, *International Journal of Business and Social Science*, Vol. 5, No.9, pp. 51-58.
- Friedman, E. Johnson, S., Kaufmann, D., and Zoido-Lobaton, P. 2000, 'Dodging the Grabbing Hand: The Determinants of Unofficial Activity in 69 countries', *Journal of Public Economics*, Vol. 76, pp. 459 – 493.
- General Statistics Office 2017, 'Socio-economic situation in 1st quarter of 2017', *General Statistics Office of Viet Nam*, available at http://www.gso.gov.vn/default_en.aspx?tabid=622&ItemID=18348, accessed on 29/10/2017.
- Ghura, D. 1998, Tax revenue in Sub-Saharan Africa: effect of economic policies and corruption, *IMF Working Paper*, WP/98/135.
- Giles, D. E. A. 1999, 'Modelling the Hidden Economy and the Tax – Gap in New Zealand', *Empirical Economics*, Vol. 24, pp. 621 – 640.

- Gillanders, R. 2014, 'Corruption and Infrastructure at the Country and Regional Level', *The Journal of Development Studies*, Vol. 50, No. 6, pp. 803 – 819.
- Global Corruption Barometer 2017, 'People and Corruption: Asia Pacific', *Transparency International*, available at file:///Users/TranMy/Downloads/2017_GCB_AsiaPacific_EN.pdf
- Godinez, J. and Liu, L. 2018, Between the corruption levels of the home and host countries and its effects at the decision-making level, *J Bis Ethics*, Vol. 147, pp. 705-719.
- Goel, R. K. and Ram, R. 2013, Economic uncertainty and corruption: evidence from a large cross-country data set, *Applied Economics*, Vol. 45, No.24, pp. 3462-3468.
- Gonzalez-Fernandez, M and Gonzalez-Velasco, C. 2014, Shadow economy, corruption and public debt in Spain, *Journal of Policy Modeling*, Vol. 36, pp. 1101-1117.
- Gov.uk 2019, Guidance: overseas business risk – Vietnam, *Department for International Trade*, available at <https://www.gov.uk/government/publications/overseas-business-risk-vietnam/overseas-business-risk-vietnam>, accessed on 18/07/2019.
- Government Portal 2017, Một số thông tin về địa lý Việt Nam, available at <http://www.chinhphu.vn/portal/page/portal/chinhphu/NuocCHXHCNVietNam/ThongTinTongHop/dialy>, accessed on 12/10/2017.
- GSO, 2017, Don vi hanh chinh, available at <http://www.gso.gov.vn/dmhc2015/>, accessed on 10/11/2017.
- Gueorguiev, D. and Malesky, E. 2012, Foreign investment and bribery: A firm-level analysis of corruption in Vietnam, *Journal of Asian Economics*, Vol. 23, pp. 111 – 129.
- Gujarati, D. 2003, *Basic Econometrics*, McGraw Hill, 4th edition, New York
- Gundlach, E. and Paldam, M. 2009, The transition of corruption: from poverty to honesty, *Economics Letters*, Vol. 103, No. 3, pp. 146-148.
- Gupta, A., Davoodi, H. and Alonso-Terme, R. 1998, 'Does Corruption Affect Income Inequality and Poverty?', *IMF Working Paper*, Vol. 98, No. 76.
- Gupta, S. 2007, Determinants of tax revenue efforts in developing countries, *IMF Working Paper*, WP/07/184.
- Gupta, S., and Abed, G. T. 2002, 'Governance, Corruption and Economic Performance', *International Monetary Fund*.

- Gupta, T. 2017, Asia's Five Most Corrupt Countries, *Forbes Website*, available at <https://www.forbes.com/sites/tanvigupta/2017/03/13/asias-five-most-corrupt-countries/#45cb4dfd6a98>, accessed on 16/11/2017.
- Ha Anh 2017, Se co de an moi dao tao tien si o nuoc ngoai, *Thanh Nien Newspaper*, available at <https://thanhvien.vn/giao-duc/se-co-de-an-moi-dao-tao-tien-si-o-nuoc-ngoai-840065.html>, accessed on 14/12/2017.
- Ha, B. 2015, Vị trí địa chính trị của Việt Nam với đường lối quốc phòng, *People's Army Newspaper*, available at <http://www.qdnd.vn/chong-dien-bien-hoa-binh/vi-tri-dia-chinh-tri-cua-viet-nam-voi-duong-loi-quoc-phong-258331>, accessed on 12/10/2017.
- Ha, M. 2013, Why do Vietnam's Patients Bribe Their Doctors?, *BBC Newspapers*, available at <http://www.bbc.com/news/world-asia-23237285>, accessed on 08/01/2018.
- Ha, T. T. T., Tho, D. T. H., Tuan, T., and Vian, T. 2011, 'Towards a Transparent and Quality Healthcare System – A Qualitative Study on the Causes, Perceptions and Impact of Informal Payments in Health Services in Vietnam', *Transparency International*, available at http://www.bu.edu/actforhealth/Informal%20Payments/TI_Informal_Payments_Vietnam_Qualitative_Study_2011.pdf, accessed on 23/12/2017.
- Habib, M. and Zurawicki, L. 2002, Corruption and foreign direct investment, *Journal of International Business Studies*, Vol. 33, No. 2, pp. 291-307.
- Hai Chau 2014, Tang Cuong Liem Chinh, Trach Nhiem, Minh Bach của Luc Luong Cong An, *Bao Moi Newspaper*, available at <https://baomoi.com/tang-cuong-liem-chinh-trach-nhiem-minh-bach-cua-luc-luong-cong-an/c/14665709.epi>, accessed on 24/11/2017.
- Hakimi, A. and Hamdi, H. 2017, Does corruption limit FDI and economic growth? Evidence from MENA countries, *International Journal of Emerging Markets*, Vol. 12, No. 3, pp. 550-571.
- Hall R.E. and Jones C.I. 1999, Why do some Countries Produce so much more Output per Worker than Others?, *Quarterly Journal of Economics*, Vol.114, No. 1, pp83-116.
- Hall, R. E., and Jones, C. I. 1999, Why do some countries produce so much more output per worker than others?, *Quarterly Journal of Economics*, Vol. 114, issue 1, pp. 83-116.
- Hammond, C. 2018, Corruption in the classroom: the dilemma of public school teachers in Cambodia providing private tutoring to their own students, available at https://www.researchgate.net/publication/327971826_Corruption_in_the_Classroom_The_Dilemma_of_Public_School_Teachers_in_Cambodia_Providing_Private_Tutoring_to_Their_Own_Students, accessed on 30/08/2020.

- Hammond, C. 2018, Corruption in the classroom: the dilemma of public school teachers in Cambodia providing private tutoring to their own students, available at https://www.researchgate.net/publication/327971826_Corruption_in_the_Classroom_The_Dilemma_of_Public_School_Teachers_in_Cambodia_Providing_Private_Tutoring_to_Their_Own_Students, accessed on 30/08/2020.
- Hanh L. 2009, 'Xay Dung la Nganh De Xay Ra Tham Nhung Nhat', *VN Economy Newspaper*, available at <http://vneconomy.vn/doanh-nhan/xay-dung-la-nganh-de-xay-ra-tham-nhung-nhat-2009818235052310.htm>, accessed on 29/12/2017.
- Hays, J. 2009, Corruption and Government scandals in Japan, *Facts and Details*, available at <http://factsanddetails.com/japan/cat22/sub146/item799.html>, accessed on 11/03/2019.
- Health Policy Project 2016, Health financing profile_Cambodia, *Health Policy Project*, available at https://www.healthpolicyproject.com/pubs/7887/Cambodia_HFP.pdf, accessed on 18/08/2019.
- Helmy, H. E. 2013, The impact of corruption on FDI: is MENA an exception? *International Review of Applied Economics*, Vol. 27, No. 4, pp. 491-514.
- Heritage 2019, 2019 index of economic freedom, *Heritage*, available at <https://www.heritage.org/index/>, accessed on 30/07/2017.
- Hindriks J., Keen M., Muthoo A. 1999, Corruption, extortion and evasion, *Journal of Public Economics* Vol. 74, pp. 395-430
- Hines, J. 1995, Forbidden payment: foreign bribery and American business after 1977, *NBER Working Paper*, No. 5266.
- Hoa Le 2016, Nhìn lại 86 năm hình thành và phát triển của Đảng Cộng Sản Việt Nam, *Bao Moi Newspaper*, available at <https://www.baomoi.com/nhin-lai-86-nam-hinh-thanh-va-phat-trien-cua-dang-cong-san-viet-nam/c/18593958.epi>, accessed on 28/10/2017.
- Hoai Anh 2017, Duoc gi sau 30 nam thu hut FDI? Bai 1 – Buoc chan cua nhung 'nguoi khong lo', *Bao Moi Newspaper*, available at <https://www.baomoi.com/duoc-gi-sau-30-nam-thu-hut-fdi-bai-1-buoc-chan-cua-nhung-nguoi-khong-lo/c/23463679.epi>, accessed on 26/10/2017.
- Hoang, L. 2003, Tác động của AFTA đối với nền kinh tế Việt Nam, *Viet Bao Newspaper*, available at <http://vietbao.vn/The-gioi/Tac-dong-cua-AFTA-doi-voi-nen-kinh-te-Viet-Nam/20020350/162/>, accessed on 24/10/2017.
- Hodge, A., Shankar, S., Rao, D. S. P., and Duhs, A. 2011, Exploring the links between corruption and growth, *Review of Development Economics*, Vol. 15, No. 3, pp. 474-490.

- Holbrook, T. and Meier, K. 1993, politics, bureaucracy, and political corruption: a comparative state analysis, in *Ethics and Public Administration*, Frederickson, H. (Ed.), Armonk, M.E. Sharpe.
- Hoyle, R. H., Harris, M. J., and Judd, C. M. 2002, *Research Methods in Social Relations*, Thomson Learning, Inc., 7th edition, USA.
- Hoyman, M. (1987), Female participation in the Informal Economy: A Neglected Issue,
<http://tuanvanguyen.blogspot.com.au/2017/11/nhung-van-e-ao-tao-tien-si.html>
- Hubert, L. 1995, Western Europe and public corruption, *European Journal on Criminal Policy and Research*, Vol. 3, pp. 7 – 20.
- Hubert, L. 1998, What can be done against public corruption and fraud: expert views on strategies to protect public integrity, *Crime, Law and Social Change*, Vol. 29, pp. 209 – 224.
- Hug, S., and Sporri, F. 2011, Referendums, trust and tax evasion, *European Journal of Political Economy*, Vol. 27, pp. 120-131.
- Hung, N. T. 1999, The Inflation of Vietnam in Transition, *CAS discussion Paper*, No.22.
- Hunting, M. 1997, Public Officials, Private Interests, and Sustainable Democracy: When Politics and Corruption Meet, Available on [file:///Users/TranMy/Downloads/Public Officials Private Interests and Sustainable.pdf](file:///Users/TranMy/Downloads/Public%20Officials%20Private%20Interests%20and%20Sustainable.pdf), Accessed on 03/10/2017.
- Huntington, S. P. 1968, *Political Order in Changing Societies*, Yale University Press, 7th edition, USA.
- Hussain, M. H. 2004, On the causal relationship between government expenditure and tax revenue in Pakistan, *The Lahore Journal of Economics*, Vol. 9, No. 2, pp. 105-117.
- Huynh, C. M. and Nguyen, T. L. 2019, Fiscal policy and shadow economy in Asian developing countries: does corruption matter?, *Empirical Economics*, Vol. 59, pp. 1745 – 1761.
- Huynh, C. M. et al. 2020, One-way effect or multiple-way causality: foreign direct investment, institutional quality and shadow economy? *International Economics and Economic Policy*, Vol. 17, pp. 219-239.
- Hwang, J. 2002, A Note on the Relationship between Corruption and Government Revenue, *Journal of Economic Development*, Volume 27, No.2, pp. 161-178.

- Imam, P. A. and Jacob, D. F. 2007, Effect of corruption on tax revenues in the Middle East, *International Monetary Fund*, WP/07/270.
- IMF n.a, Glossary of Foreign Direct Investment Terms, *IMF*, available at <https://www.imf.org/external/np/sta/di/glossary.pdf>, accessed on 11/07/2018.
- Iwasaki, I. and Suzuki, T. 2012, The determinants of corruption in transition economies, *Economics Letters*, Vol. 114, No. 1, pp. 54-60.
- Jain, A. K. 2001, The Political Economy of Corruption, *Routledge Contemporary Economic Policy Issues*.
- Jajkowicz, O. and Drobiszava, A. 2015, The Effect of Corruption on Government Expenditure Allocation in OECD Countries, *ACTA Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, Vol. 63, pp. 1251 -1259.
- Jetter, M., Agudelo, A. M., and Hassan, A. R. 2015, The Effect of Democracy on Corruption: Income is Key, *World Development*, Vol. 74, pp. 286 – 304.
- Jetter, M., Agudelo, A. M., and Hassan, A. R. 2015, The effect of democracy on corruption: income is key, *World Development*, Vol. 74, pp. 286-304.
- Jetter, M., Agudelo, A. M., and Hassan, A. R. 2015, The effect of democracy on corruption: income is key, *World Development*, Vol. 74, pp. 286-304.
- Jin, J. 2017, Female participation and corruption in the public sector, *International Review of Public Administration*, pp 305-319.
- Johnson, S., Kaufmann, D. and Zoido-Lobaton, P. 1998, Regulatory Discretion and the Unofficial Economy, *American Economic Review*, Vol. 88, pp. 387 – 392.
- Johnson, S., Kaufmann, D., and Shleifer, A. 1997, The unofficial economy in transition, *Brookings Paper on Economic Activity*, Vol. 2, pp. 159 – 221.
- Johnson, S., Kaufmann, F. and Zoido-Lobaton, P. 1998, Corruption, public finances and the unofficial economy, *World Bank Policy Research Working Paper 2169*.
- Johnston, M. 2005, Syndromes of corruption: wealth, power, and democracy, *Cambridge University Press*, New York.
- Joulfaian, D. 2009, Bribes and business tax evasion, *The European Journal of Comparative Economics*, Vol. 6, No. 2. Pp. 227 – 244.
- Joulfaian, D. and Mookerjee, R. 1991, Dynamics of government revenues and expenditures in industrial economies, *Applied Economics*, Vol. 23, pp. 1839-1844.

- Journalists 2005, Cac ‘manh’ rut ruot cong trinh, *Vnexpress Newspaper*, available at https://vnexpress.net/tin-tuc/thoi-su/cac-manh-rut-ruot-cong-trinh-2025979.html#ctr=box_topic_phapluat_env_4_click, accessed on 03/01/2018.
- Kandiero, T and Chitiga, M. 2014, Trade openness and foreign direct investment in Africa, *South African Journal of Economic and Management Sciences*, Vol. 9, No. 3, pp. 355-370.
- Kapuria-Foreman, V. 2007, Economic freedom and foreign direct investment in developing countries, *The Journal of Developing Areas*, Vol. 41, No. 1, pp. 143-154.
- Kaufmann, D. and Penciakova, V. 2011, Japan’s triple disaster: governance and the earthquake, tsunami and nuclear crises, *Brookings*, available at <https://www.brookings.edu/opinions/japans-triple-disaster-governance-and-the-earthquake-tsunami-and-nuclear-crises/>, assessed on 11/03/2019.
- Kaufmann, D. and Wei, S. 1999, Does ‘Grease Money’ speed up the wheels of commerce?, *National Bureau of Economic Research Working Paper 7093*, Cambridge MA.
- Kaufmann, D., and Kraay, A. 2002, Growth without governance, *The World Bank Policy Research Working Paper*, 2928.
- Kaufmann, D., Kraay, A., and Massimo, M. 2005, ‘Governance Matters IV: Governance Indicator for 1996 - 2004’, *The World Bank*, Vol. 3630.
- Kaufmann, D., Kraay, A., and Massimo, M. 2006, ‘Governance Matters V: Governance Indicator for 1996 - 2004’, *The World Bank*, Vol. 4012.
- Kaufmann, D., Kraay, A., and Massimo, M. 2007, ‘Governance Matters VI: Governance Indicator for 1996 - 2004’, *The World Bank*, Vol. 4280.
- Kaufmann, D., Kraay, A., and Mastruzzi, M., 1996 – 2002, ‘Governance Matter III: Governance Indicators for 1996 – 2002’, *World Bank Publications*.
- Kaufmann, D., Kraay, A., and Zoido-Lobaton, P. 1999, Aggregating Governance Indicators, *The World Bank Policy Research Working Paper*, 2195.
- Kaufmann, D., Kraay, A., and Zoido-Lobaton, P. 1999, Governance matters, *The World Bank Policy Research Working Paper*, 2196.
- Kaufmann, D., Kraay, A., and Zoido-Lobaton, P. 2002, ‘Governance Matter II’, *the World Bank*, Updated Indicators for 2000/01. Vol. 2772.
- Kaufmann, D., Kraay, A., and Zoido-Lobaton, P. 2003, ‘Governance Matters’, *The World Bank*, Vol. 3106.
- Kawaura, A. 2011, Legislator incentives in a fragile democracy: evidence from budget allocation in Thailand, *Contemporary Economic Policy*, Vol. 29, No. 3, pp. 407-415.

- Kenhtuyensinh 2011, 'Tien phong bi 20-11 bang tien luong day ca nam', *Kenh Tuyen Sinh Newspaper*, available at <https://kenhtuyensinh.vn/tien-phong-bi-2011-bang-tien-luong-day-ca-nam>, accessed on 5/01/2018.
- Kersan-Skabic, I. 2013, Institutional Development as a determinant of FDI attractiveness in Southeast Europe, *Drustvena Istrazivanja*, Vol. 22, No. 2, pp. 215-235.
- Khan, M. A., and Chowdhury, N. 2008, 'Public Accountability in Differing Governance Situations: Challenges and Options', *The Asia Pacific Journal of Public Administration*, Vol.30, No.1, pp. 15-28.
- Khidhir, S. 2019, Thai education system: completely corrupt, *The ASEAN Post*, available at <https://theaseanpost.com/article/thai-education-system-completely-corrupt>, accessed on 30/08/2020.
- Kien Cuong 2017, 'Nuc cuoi nhung luan an 'tien si giay' o Dai Hoc Y-Duoc Thai Nguyen', available at <http://nongnghiep.vn/nuc-cuoi-nhung-luan-an-tien-si-giay-o-dai-hoc-y-duoc-thai-nguyen-post199120.html>, accessed on 15/12/2017.
- Kien Trung 2017, 'Nhưng An Khuat Phia Sau Chuyen Mua Sam Sua Chua Xay Dung O Nha Truong', *Giao Duc Newspaper*, Available at <http://giaoduc.net.vn/Giao-duc-24h/Nhung-an-khuat-phia-sau-chuyen-mua-sam-sua-chua-xay-dung-o-nha-truong-post177825.gd>, accessed on 1/12/2017.
- Kim, H. 2010, Political stability and foreign direct investment, *International Journal of Economics and Finance*, Vol. 2, No. 3, pp. 59-71.
- Kim, Y. K. 2019, When it rains, it pours: foreign direct investment and provincial corruption in Vietnam, *Journal of East Asian Studies*, Vol. 19, pp. 141 – 168.
- Kiminyei, F. K. 2019, Empirical investigation on the relationship among Kenyan public debt, tax revenue, and government expenditure, *Academic Journal of Economic Studies*, Vol. 5, No. 1, pp. 142-159.
- Klitgaard, R. 1988, *Controlling Corruption*, Berkeley, University of California Press.
- Knack, S. and Keefer, P. 1995, Institutions and Economic Performance: Cross- Country Tests Using Alternative Measures, *Economics and Politics*, Vol. 7, No. 3, pp. 0954-1985.
- Knack, S., and Azfar, O. 2003, Trade Intensity, Country Size and Corruption, *Economics of Governance*, Vol 4. No.1, pp. 1-18.
- Kodila-Tedika, O. and Mutascu, M. 2013, Shadow economy and tax revenue in Africa, *Munich Personal RePEc Archive*, MPRA paper No. 50812.

- KPMG 2009, Infrastructure in China: foundation for growth, *KPMG*, available at https://www.kpmg.de/docs/Infrastructure_in_China.pdf, accessed on 21/08/2019.
- KPMG 2017, Investing in healthcare in Vietnam, *KPMG*, available at https://home.kpmg/content/dam/kpmg/vn/other/KPMG_Webinar_Investing%20in%20healthcare%20in%20Vietnam_30Nov2017_vf.pdf, accessed on 19/08/2018.
- La Porta, R. F. et al. 1999, The quality of government, *The Journal of Law, Economics and Organization*, Vol. 15, No. 1, pp. 222 – 279.
- Lambsdorff J.G. 2007, ‘*The Institutional economics of Corruption and Reform: Theory, Evidence and Policy*’, Cambridge University Press, NJ.
- Lambsdorff, J. G. 1999, Corruption in empirical research_ A review, *9th International Anti-Corruption Conference*, South Africa.
- LaPalombara, J. 1994, Structural and institutional aspects of corruption, *Social Research*, Vol. 61, No. 2, pp. 325-350.
- Le Van 2017, ‘Nhưng con số “biết nói” về giáo dục đại học Việt Nam’, *Vietnamnet Newspaper*, available at <http://vietnamnet.vn/vn/giao-duc/tuyen-sinh/nhung-con-so-biet-noi-ve-giao-duc-dai-hoc-viet-nam-389870.html>, accessed on 18/12/2017.
- Le, Q., Nguyen, D., Bandara, J. S. 1996, ‘Vietnam’s Foreign Trade in the Context of ASEAN and the Asia-Pacific Region: A Gravity Approach’, *ASEAN Economic Bulletin*, Vol. 13, No.2.
- Le, V. 2017, ‘Mot giao su huong dan 12 nghien cuu sinh cung luc’, *Vietnamnet Newspaper*, available at <http://vietnamnet.vn/vn/giao-duc/tuyen-sinh/ket-luan-thanh-tra-viec-dao-tao-thac-si-tien-si-tai-hoc-vien-khoa-hoc-xa-hoi-395371.html>, accessed on 16/01/2018.
- Leff, N 1964, ‘Economic Development through Bureaucratic Corruption’, *American Behavioral Scientist*, pp. 8-14.
- Le-Hoai, L., Lee, Y. D., and Son, J. J. 2010, ‘Partnering in Construction: Investigation of Problematic Issues for Implementation in Vietnam’, *KSCE Journal of Civil Engineering*, Vol. 14, No. 5, pp.731-741.
- Leite C. and Weidemann J. 1999, ‘Does Mother Nature Corrupt? Natural Resources, Corruption and Economics Growth’, *International Monetary Fund Working Paper*, WP/99/85.
- Lewis, M. 2006, Governance and corruption in public health care systems, *Center for Global Development*, Working Paper Number 78.
- Ling, F. Y. Y., and Tran, P. Q. 2012, ‘Effects of Interpersonal Relations on Public Sector Construction Contracts in Vietnam’, *Construction Management and Economics*, Vol. 30, No. 12, pp. 1087 – 1101.

- Liu, C. Moldogaziev, T., Mikesell, J. 2017, ‘Corruption and State and Local Government Debt Expansion’, *Public Administration Review*, Vol. 77, No.5, pp. 681-690.
- Luong, H. V. 2003, *Postwar Vietnam – Dynamics of a Transforming Society*, Rowman & Littlefield, United States of America.
- Mặc Lâm 2010, Kinh tế Việt Nam 35 năm nhìn lại: Bao cấp và khủng hoảng, *Radio Free Asia*, Available on http://www.rfa.org/vietnamese/in_depth/35-years-of-Vietnam-economy-Part-1-subsidize-and-crisis-MLam-04272010202350.html, accessed on 20/10/2017.
- Mah, G. et al. 2013, Thi impact of government expenditure on the Greek government debt: an econometric analysis, *Mediterranean Journal of Social Sciences*, Vol. 4, No. 3, pp. 323-330.
- Marketline 2016, ‘Construction Industry Profile: Vietnam’, *Marketline Industry Profile*, Industry Report, pp. 1-30.
- Martini, M. 2013, ‘Corruption in the Health Sector in Vietnam’, *Transparency International*, available at https://www.transparency.org/files/content/corruptionqas/Corruption_in_the_Health_Sector_in_Vietnam.pdf, accessed on 23/12/2017.
- Mathur, A. and Singh, K. 2013, Foreign direct investment, corruption and democracy, *Applied Economics*, Vol. 45, No. 8, pp. 991 – 1002.
- Mauleon, I. and Sarda, J. 2017, Unemployment and the shadow economy, *Applied Economics*, Vol. 49, No. 37, pp. 3729-3740.
- Mauro P. 1997a, The Effects of Corruption on Growth, Investment and Government Expenditure: A Cross – Country Analysis, *Institute for International Economics*, pp. 82 – 107.
- Mauro P. 1997b, Corruption and the composition of government expenditure, *IMF Working paper*, No. 96/98.
- Mauro, P. 1995, ‘Corruption and Growth’, *The Quarterly Journal of Economics*, Vol. 110, No. 3, pp. 61 – 712.
- Mauro, P. 1998, Corruption and the Composition of Government Expenditure, *Journal of Public Economics*, Vol. 69, pp. 263 – 279.
- Mawejje, J. and Munyambonera, F. E. 2016, Tax revenue effects of sectoral growth and public expenditure in Uganda, *South African Journal of Economics*, Vol. 84, No. 4, pp. 538-554.
- Mazhar, U. and Meon, P. G. 2012, ‘Taxing the Unobservable: the Impact of the Shadow

Economy on Inflation and Tax Revenue’, *CEB Working Paper*, No. 12/023, Universite Libre de Bruxelles, Brussels.

MCC 2019, Government effectiveness indicator, Millennium Challenge Corporation, available at <https://www.mcc.gov/who-we-fund/indicator/government-effectiveness-indicator>, accessed on 28/07/2019.

McCargo, D. 2004, Rethinking Vietnam, *Taylor&Francis e-Library*, New York.

McCornac, D. C. 2012, ‘The Challenge of Corruption in Higher Education: the Case of Vietnam’, *Asian Education and Development Studies*, Vol. 1, No. 3, pp. 262 – 275.

McMullan, M. 1961, A theory of corruption, *The Sociological Review*, Vol. 9, No. 2, pp. 181 – 201.

Medina, L. and Schneider, F. 2018, Shadow economies around the world: what did we learn over the last 20 years?, *IMF Working Paper*, WP/18/17.

Mehrara, M., Pahlavani, M. and Alyasi, Y. 2011, Government revenue and government expenditure nexus in Asian countries: panel cointegration and causality, *International Journal of Business and Social Science*, Vol. 2, No. 7, pp. 199-207.

Mendez F., and Sepulveda F. 2006, ‘Corruption, Growth and Political Regimes: Cross Country Evidence’, *European Journal of Political Economy*, Vol. 22, pp. 82-98.

Menocal et al. 2015, Why corruption matters: understanding causes, effects and how to address them, *UK Aid_ Department for International Development*, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/406346/corruption-evidence-paper-why-corruption-matters.pdf, assessed on 23/04/2020.

Meon, P. and Sekkat, K. 2005, Does corruption grease or sand the wheels of growth? *Public Choice*, Vol. 122, pp. 69-97.

Minh Anh 2017, ‘Dau tu cho giao duc, y te – Khong don het len “vai” ngan sach’, *Thoi Bao Tai Chinh Viet Nam Newspaper*, available at <http://thoibaotaichinhvietnam.vn/pages/nhip-song-tai-chinh/2017-10-13/khong-don-het-len-vai-ngan-sach-49078.aspx>, accessed on 20/12/2017.

Minh Duc 2017, ‘Dai hoc Y Duoc Thai Nguyen: Bi thanh tra dau hieu tieu cuc trong dao tao tien si’, *Tien Phong Newspaper*, available at <https://www.tienphong.vn/giao-duc/dai-hoc-y-duoc-thai-nguyen-bi-thanh-tra-dau-hieu-tieu-cuc-trong-dao-tao-tien-si-1170023.tpo>, accessed on 14/12/2017.

- Minh, Q. 2009, ‘ Tham nhung trong nganh y te nghiem trong’, *Tuoi Tre Newspaper*, available at <https://tuoitre.vn/tham-nhung-trong-nganh-y-te-nghiem-trong-349888.htm>, accessed on 16/01/2018.
- Ministry of Health 2012, Health expenditure trends in New Zealand 2000-2010, *Ministry of Health*, Wellington.
- Mo, H. P. 2001, Corruption and economic growth, *Journal of Comparative Economics*, Vol. 29, No. 1, pp. 66-79.
- Mohtadi, H., and Roe, T. L. 2003, Democracy, rent seeking, public spending and growth, *Journal of Public Economics*, Vol. 87, No. 3, pp. 445-466.
- Mokhtar, F. 2019, The big read: bettered in the Middle East, IS eyes Southeast Asia as next terrorism hotspot, Channel News Asia, available at <https://www.channelnewsasia.com/news/asia/islamic-state-terrorism-extremism-eyes-southeast-asia-11199586>, accessed on 21/07/2019.
- Mudambi, R., Navarra, P., and Delios, A. 2013, Government regulation, corruption and FDI, *Asian Pacific Journal of Management*, Vol. 30, pp. 487-511.
- Murray, G. 1997, *Vietnam: Dawn of a New Market*, China Library, Surrey.
- Mustapha, N. 2014, The impact of corruption on GDP per capita, *Journal of Eastern European and Central Asian Research*, Vol. 1, No. 2, pp. 1-5.
- N. An 2016, ‘ Cong bo 11 linh vuc nha nuoc can giu 100% von dieu le’, *Tuoi Tre Newspaper*, available at <https://tuoitre.vn/cong-bo-11-linh-vuc-nha-nuoc-can-giu-100-von-dieu-le-1245193.htm>, accessed on 10/11/2017.
- N. Manh 2017, ‘ Nhung Linh vuc nao “ong lon” nha nuoc thong linh thi phan “khung”?’’, *Bizlive Newspaper*, available at <http://bizlive.vn/doanh-nghiep/nhung-linh-vuc-nao-ong-lon-nha-nuoc-thong-linh-thi-phan-khung-2412792.html>, accessed on 10/11/2017.
- Naanwaab, C. and Diarrassouba, M. 2016, Economic freedom, human capital, and foreign direct investment, *The Journal of Developing Areas*, Vol. 50, No. 1, pp. 407-424.
- Narayan, P. K. and Narayan, S. 2006, Government revenue and government expenditure nexus: evidence from developing countries, *Applied Economics*, Vol. 38, No. 3, pp. 285-291.
- National Assembly 2015, Law on Organization of Local Administration, available at [file:///Users/TranMy/Downloads/luat to chuc chinh quyen dia phuong.pdf](file:///Users/TranMy/Downloads/luat%20to%20chuc%20chinh%20quyen%20dia%20phuong.pdf), accessed on 10/11/2017.

- Naved, A., Shahid, A. and Somia, I. 2011, Does government expenditure affect tax revenue? A case study of Pakistan, *International Journal of Economic Perspectives*, Vol. 5, No. 4, pp. 319-325.
- Nchor, D. and Adamec, V. (2015), Unofficial Economy Estimation by the MIMIC model: the Case of Kenya, Namibia, Hgana and Nigeria, *ACTA Universitatis Agriculturae et sulviculturae Mendelianae Brunensis*, Vol.63, p. 2043-2049.
- New Zealand Immigration 2019, Legal system, *New Zealand Immigration*, available at <https://www.newzealandnow.govt.nz/living-in-nz/history-government/legal-system>, accessed on 01/08/2019.
- Ng, Y. 2018, Australians think our politicians are corrupt, but where is the evidence? *The Conversation*, available at <http://theconversation.com/australians-think-our-politicians-are-corrupt-but-where-is-the-evidence-101822>, accessed on 11/03/2019.
- Ngoc Ha 2017, ‘De An 911 không đạt mục tiêu, Bộ GD-ĐT ra đề án mới?’, *Tuoi Tre Newspaper*, available at <https://tuoitre.vn/de-an-911-khong-dat-muc-tieu-bo-gd-dt-ra-de-an-moi-20171113085028796.htm>, accessed on 14/12/2017.
- Nguyen, C. 2017, Ngành giáo dục đang lãng phí quá nhiều, *Giáo dục Việt Nam*, available at <https://giaoduc.net.vn/giao-duc-24h/nganh-giao-duc-dang-lang-phi-qua-nhieu-post180229.gd>, accessed on 09/08/2019.
- Nguyen, D. L., Ogunlana, S., Truong, Q. and Ka, C. L. 2004, ‘Large Construction Projects in Developing Countries: a Case Study from Vietnam’, *International Journal of Project Management*, Vol. 22, pp. 553 – 561.
- Nguyen, H. Q. 2012, ‘Van hoa va tham nhung’, *VOA news*, available at <https://www.voatiengviet.com/a/van-hoa-va-tham-nhung/1520624.html>, accessed on 08/01/2018.
- Nguyen, N. T. 2014, ‘Problems and Issues in Corporate Restructuring in the State-Owned Construction Sector in Vietnam: the Case of VINACONEX’, *Asian Social Science*, Vol. 10, No. 22, pp. 291 – 302.
- Nguyen, T. P., and Chileshe, N. 2015, ‘Revisiting the Construction Project Failure Factors in Vietnam’, *Built Environment Project and Asset Management*, Vol.5, No.4, pp. 398 – 416.
- Nguyen, T. Q. V 2015, ‘Bao Cao Ngành Xây Dựng’, *Construction Portal*, available at http://www.xaydung.gov.vn/c/document_library/get_file?p_l_id=67542&folderId=48304&name=61914, accessed on 29/12/2017.
- Nguyen, T. T. 2016, Hội nhập kinh tế quốc tế và những tác động đến kinh tế Việt Nam, *Vietnam Financial Journal*, available at <http://tapchitaichinh.vn/kinh-te-vi-mo/kinh-te-dau-tu/hoi-nhap-kinh-te-quoc-te-va-nhung-tac-dong-den-kinh-te-viet-nam-96421.html>, accessed on 24/10/2017.

- Nguyen, T. T., Dijk, M. A. V. 2012, ‘Corruption, Growth, and Governance: Private vs. State-Owned Firms in Vietnam’, *Journal of Banking & Finance*, Vol. 36, pp. 2935 – 2948.
- Nicolini, J. 1998, ‘Tax Evasion and the Optimal Inflation Tax’, *Journal of Development Economics*, Vol. 55, pp. 215-232.
- Nikopour, H., Habibullah, M., Schneider, F., and Law, S. 2009, Foreign direct investment and shadow economy: a causality analysis using panel data, *Munich Personal RePEs Archive*, MPRA paper No. 14485.
- Nippon 2018, Japan spends record ¥42.2 trillion on healthcare in 2017, *Nippon*, available at <https://www.nippon.com/en/features/h00319/japan-spends-record-¥42-2-trillion-on-healthcare-in-2017.html>, accessed on 18/08/2019.
- Nordin, R. M., Takim, R. and Nawawi, A. H. 2013, ‘Behavioral Factors of Corruption in the Construction Industry’, *Procedia – Social and Behavioral Sciences*, Vol. 105, pp. 64 – 74.
- O’Neil, L. 2015, Navigating weak rule of law in South-East Asia, LexisNexis Australia, available at <https://www.lexisnexis.com.au/en/insights-and-analysis/rule-of-law/2015/11dec2015-navigating-weak-rule-of-law-in-south-east-asia>, accessed on 01/08/2019.
- OECD 2011, ‘Administrative simplification in Vietnam: Supporting the competitiveness of the Vietnamese economy’, Cutting Red Tape, *OECD Publishing*, Paris.
- OECD 2015, Country note: how does health spending in Korea compare? OECD, available at <https://www.oecd.org/health/health-systems/Country-Note-KOREA-OECD-Health-Statistics-2015.pdf>, accessed on 18/08/2019.
- OECD 2017, Health at a glance 2017: OECD indicators_ How does Japan compare?, *OECD*, available at <https://www.oecd.org/japan/Health-at-a-Glance-2017-Key-Findings-JAPAN-in-English.pdf>, assessed on 18/08/2019.
- OECD 2018, ‘FDI flows’, *OECD Statistics portal*, available at <https://data.oecd.org/fdi/fdi-flows.htm>, accessed on 11/07/2018.
- OECD 2018, ‘General Government Debt’, *OECD Statistics portal*, available at <https://data.oecd.org/gga/general-government-debt.htm>, accessed on 11/07/2018.
- OECD 2018, ‘Gross Domestic Product’, *OECD Statistics portal*, available at <https://data.oecd.org/gdp/gross-domestic-product-gdp.htm>, accessed on 11/07/2018.
- OECD 2018, ‘Tax Revenue’, *OECD Statistics portal*, available at <https://data.oecd.org/tax/tax-revenue.htm>, accessed on 11/07/2018.
- OECD 2018, ‘Total Population’, *OECD Statistics portal*, available at <https://stats.oecd.org/glossary/detail.asp?ID=2090>, accessed on 11/07/2018.

- OECD 2018, 'Unemployment Rate', *OECD Statistics portal*, available at <https://data.oecd.org/unemp/unemployment-rate.htm>, accessed on 11/07/2018.
- OECD 2018, OECD Handbook for internationally comparative education statistics 2018: Concepts, standards, definitions and classifications, *OECD Publishing*, Paris, <https://doi.org/10.1787/9789264304444-en>.
- OECD 2019, Investment (GFCF), *OECD data*, available at <https://data.oecd.org/gdp/investment-gfcf.htm>, accessed on 20/08/2019.
- OECD 2019, OECD health statistics, *OECD iLibrary*, available at https://www.oecd-ilibrary.org/social-issues-migration-health/data/oecd-health-statistics_health-data-en, accessed on 17/08/2019.
- Ogujiuba, K. and Abraham, T. W. 2012, Testing the relationship between government revenue and expenditure: evidence from Nigeria, *International Journal of Economics and Finance*, Vol. 4, No. 11, pp. 172-182.
- Osipian, A. 2007, 'Higher Education Corruption in Ukraine as Reflected in the Nation's Media', Available at <https://www.transparency.org/topic/detail/health> accessed on 15/09/2017.
- Our World Data 2017, Democracy Score, available at <https://ourworldindata.org/>, accessed on 15/09/2017.
- Paldam, M. 2001, Corruption and religion adding to the economic model, *KYKLOS (Basel)*, Vol. 54, No. 2 – 3, pp. 383 – 413.
- Panizza, U. 2009, Domestic and external public debt in developing countries, *United nations Discussion Paper*, No. 188.
- Peacock, S. M. and Wiseman, J, 1979, Approaches to the analysis of government expenditure growth, *Public Finance Quarterly*, Vol. 7, pp. 3-23.
- Pearson, D., Nyonna, D., and Kim, K. 2012, The relationship between economic freedom, state growth and foreign direct investment in US states, *International Journal of Economics and Finance*, Vol. 4, No. 10, pp. 140-146.
- Pesek, W. 2017, Making sense of the South China Sea dispute, *Forbes*, available at <https://www.forbes.com/sites/outofasia/2017/08/22/making-sense-of-the-south-china-sea-dispute/#34f1d7271c3b>, accessed on 20/07/2019.
- Pham, H. C., Nguyen, V. L., and Nguyen, K. D. 2000, Ho Chi Minh Series, *National Political Publishing House*, Ha Noi, Vol 10.

- Pham, H. M. 2003, 'Foreign Direct Investment and Development in Vietnam: Policy Implications', *Institute of Southeast Asian Studies (ISEAS)*, Yusof Ishak Institute, Project MUSE.
- Pham, M. C, and Vuong, M. H. 2009, 'Kinh te Viet Nam Thang Tram va Dot Pha', *National Political Publishing House*, Ha Noi.
- Pham, N. 2013, Red tape continues to confound in Vietnam, *Thanhniem News*, available at <http://www.thanhniemnews.com/business/red-tape-continues-to-confound-in-vietnam-1377.html>, accessed on 31/12/2020.
- Prinz, A. and Beck, H. 2012, In the shadow of public debt: are there relations between public debt and the shadow economy? *Economic Analysis and Policy*, Vol. 42, No.2. pp. 221-236.
- Provost, L. 2016, Reflections from our audits: Governance and accountability, Office of the Auditor-General, available at <https://www.oag.govt.nz/2016/reflections/docs/reflections-governance.pdf>, accessed on 14/06/2019.
- Punch, M. 2000, Police corruption and its prevention, *European Journal on Criminal Policy and Research*, Vol. 8, pp. 301 – 324.
- Pupovic, E. 2012, Corruption's effect on foreign direct investment: the case of Montenegro, *Economic Review_ Journal of Economics and Business*, Vol. 10, No. 2, pp. 13-28.
- Quah, J. S. T. 2009, Governance and corruption: exploring the connection, *American Journal of Chinese Studies*, Vol.16, No.2, pp. 119-135.
- Quah, J. S. T. 2016, Combating corruption in six Asian countries: a comparative analysis, *Asian Education and Development Studies*, Vol. 5, No. 2, pp. 244-262.
- Quang, T. 2017, 'So phan cac du an co su tham gia cua nha thau Trung Quoc tai Viet Nam', *News.zing newspaper*, available at <https://news.zing.vn/so-phan-cac-du-an-co-su-tham-gia-cua-nha-thau-trung-quoc-tai-viet-nam-post781633.html>, accessed on 03/01/2018.
- Quazi, R. 2007, Economic freedom and foreign direct investment in East Asia, *Journal of the Asia Pacific Economy*, Vol. 12, No. 3, pp. 329-344.
- Quazi, R. M. 2014, Corruption and foreign direct investment in East Asia and South Asia: an econometric study, *International Journal of Economics and Financial Issues*, Vol. 4, No. 2, pp. 231-242.

- Quy, H. 2017, 'Mot thay cung luc huong dan 44 hoc vien thac si cua 3 chuyen nganh', *Thanh Nien Newspaper*, available at <https://thanhnien.vn/giao-duc/mot-thay-cung-luc-huong-dan-44-hoc-vien-thac-si-cua-3-chuyen-nganh-869746.html>, accessed on 16/01/2018.
- Rahman, A., Kisunko, G. and Kapoor, K. 2000, Estimating the effects of corruption: implications for Bangladesh, *Policy Research Working Paper*, WPS2479.
- Rahman, K. 2016, Cambodia: Overview of corruption and anti-corruption, *U4 Anti-Corruption Resource Centre*, No.10.
- Rajkumar, A. S. and Swaroop, V. 2008, Public spending and outcomes: does governance matter?, *Journal of Development Economics*, Vol. 86, pp. 96-111.
- Ramesh, R. 2016, 1MDB: The inside story of the world's biggest financial scandal, *the Guardian*, available at <https://www.theguardian.com/world/2016/jul/28/1mdb-inside-story-worlds-biggest-financial-scandal-malaysia>, accessed on 12/03/2019.
- Randolph S., Bogetic Z., and Hefley D. 1996, 'Determinants of Public Expenditure on Infrastructure, Transportation and Communication', *Policy Research Working Paper*, Vol.1661.
- Rashid, M., Looi, X. H., and Wong, S. J. 2017, Political stability and FDI in the most competitive Asia Pacific countries, *Journal of Financial Economic Policy*, Vol. 9, No. 2, pp. 140 – 155.
- Rauch, J. E. 2001, Leadership selection, internal promotion, and bureaucratic corruption in less developed polities, *The Canadian Journal of Economics*, Vol. 34, No. 1, pp. 240-258.
- Ray, K. and Das, R. C. 2015, Are performances in Governance Indicators Complementary to Corruption Abatement?: A Cross-Country Analysis, *International Journal of Research in Business and Social Science*, Vol. 4, No. 3, pp. 1-10.
- Rice, J. M., Edwards, D., and McMillan, J. 2019, Education Expenditure in Australia, *Australia Council for Educational Research*, available at https://research.acer.edu.au/cgi/viewcontent.cgi?article=1029&context=policy_analysis_misc, accessed on 11/08/2019.
- Roberts, D. 2015, Political transition in Cambodia 1991-99: power, elitism and democracy, Routledge, New York.
- Rock, M. T. and Bonnett, H. 2004, The comparative politics of corruption: accounting for the East Asian paradox in empirical studies of corruption, growth and investment, *World Development*, Vol. 32, No. 6, pp. 999-1017.
- Rose – Ackerman, S. 2006, 'International Handbook on the Economics of Corruption',

Edward Elgar Publishing, Cheltenham, UK.

- Rose-Ackerman, S. 1978, *Corruption: a study in political economy*, New York, Academic Press.
- Rose-Ackerman, S. 2004, 'The challenge of poor governance and corruption' in Bjorn Lomborg (1st edition), *Global crises, global solutions*, Cambridge University Press, pp.301-344.
- Rose-Ackerman, S.1999, 'Corruption and Government: Cause, Consequences and Reform', *Cambridge University Press*.
- Ryan, P. 2018, Australia slips in corruption index, ranks as 13th least-corrupt nation, *ABC News*, available at <https://www.abc.net.au/news/2018-02-22/australia-slips-in-global-corruption-rank/9472114>, accessed on 11/03/2019.
- Sahnoun, M. and Abdennadher, C. 2019, The nexus between unemployment rate and shadow economy: a comparative analysis of developed and developing countries using a simultaneous-equation model, *Economics Discussion Paper*, No. 2019-30. <http://www.economics-ejournal.org/economics/discussionpapers/2019-30>.
- Sandholtz, W. and Koetzle, W. 2000, Accounting for corruption: economic structure, democracy, and trade, *International Studies Quarterly*, Vol. 44, No. 1, pp. 31-50.
- Satrusayang, C. 2019, Thailand is headed for another political crisis and it can't stop itself, *Asia News Network*, available at <https://asianews.network/2019/02/11/thailand-is-headed-for-another-political-crisis-and-it-cant-help-itself/>, accessed on 20/07/2019.
- Schneider, F. 1986, 'Estimating the Size of the Danish Shadow Economy using the Currency Demand Approach: An Attempt', *Scand. J. of Economics*, Vol. 88, No. 4, pp. 643 – 668.
- Schneider, F. 2005, Shadow economies of 145 countries all over the world: what do we really know?, *Center for Research in Economics, Management and the Arts*, WP No. 2005-13.
- Schneider, F. 2005b, Shadow economies around the world: what do we really know?, *European Journal of Political Economy*, Vol. 21, pp. 598-642.
- Schneider, F. 2009, 'The Size of the Shadow Economy in 21 OECD Countries (in percent of 'official' GDP) Using the Mimic and Currency Demand Approach: from 1989/90 to 2009, *Working Paper, University of Linz, Austria*, Available at http://www.econ.jku.at/members/Schneider/files/publications/ShadowEconomy21OECD_2009.pdf, Accessed on 03/10/2017.
- Schneider, F. 2010, 'Size and Development of the Shadow Economy of 31 European Countries from 2003 to 2010 (revised version), *Working Paper, University of Linz, Austria*,

Available at
http://www.econ.jku.at/members/Schneider/files/publications/LatestResearch2010/ShadEcEurope31_October2010_RevisedVersion.pdf, Accessed on 03/10/2017.

- Schneider, F. 2011, 'Size and Development of the Shadow Economy of 31 European and 5 other OECD countries from 2003 to 2012: Some New Facts', *Working Paper, University of Linz, Austria*. Available at <http://www.econ.jku.at/members/Schneider/files/publications/2012/ShadEcEurope31.pdf>, Accessed on 03/10/2017.
- Schneider, F. 2014, In the Shadow of the State – the Informal Economy and Informal Economy Labor Force, *DANUBE: law and Economics Review*, 5(4), 227-248.
- Schneider, F. and Enste, D. 2002, Hiding in the shadows: the growth of the underground economy, *International Monetary Fund, Economic Issues* No. 30.
- Schneider, F. and Enste, D. H. 2002, The shadow economy: an international survey, *Cambridge University Press, Cambridge*, 2nd Edition.
- Schneider, F. and Teobaldelli, D. 2012, Beyond the veil of ignorance: the influence of direct democracy on the shadow economy, *CESIFO Working Paper*, No. 3749.
- Schneider, F., Buehn, A. and Montenegro, C. E. 2010, 'New Estimates for the Shadow Economies all over the World', *International Economic Journal*, Vol. 24, pp. 443 – 461.
- Scoray A. and Schneider F. 2013, 'How does corruption affect public debt? An empirical analysis', *Department of Economics, Johannes Kepler University of Linz*
- Serra, D. 2006, Empirical determinants of corruption: A sensitivity analysis, *Public Choice*, Vol. 126, No. 1-2, pp. 225-256.
- Shah, A. 2014, 'Decentralized Provision of Public Infrastructure and Corruption', *International Centre for Public Policy, Working paper* 14 – 18.
- Shahzad, A. and Al-Swidi, A. K. 2013, Effect of macroeconomic variables on the FDI inflows: the moderating role of political stability: an evidence from Pakistan, *Asian Social Science*, Vol. 9, No. 9, pp. 270-279.
- Shahzad, A. et al. 2012, Political stability and the foreign direct investment inflows in Pakistan, *British Journal of Arts and Social Sciences*, Vol. 9, No. 2, pp. 199-213.
- Shleifer, A. and Vishny, R. W. 1993, 'Corruption', *The Quarterly Journal of Economics*, Vol. 108, No. 3, pp. 599 – 617.

- Sovbetov, Y. and Moussa, M. 2017, Interaction of economic freedom and foreign direct investment globally: special cases from neglected regions, *Journal of Economics and Financial Analysis*, Vol. 1, No. 1, pp. 59-80.
- Staff Reporters 2017, Red tape remains biggest obstacle to doing business in Vietnam: survey, available at <https://e.vnexpress.net/news/business/red-tape-remains-biggest-obstacle-to-doing-business-in-vietnam-survey-3680196.html#:~:text=Red%20tape%20remains%20biggest%20obstacle%20to%20doing%20business%20in%20Vietnam%3A%20survey,-By%20Staff%20reporters&text=%27Abuse%20of%20laws%20and%20arbitrary,offices%20are%20still%20very%20common.&text=According%20to%20a%20survey%20released,obstacle%20they%20faced%20in%20Vietnam>, accessed on 31/12/2020.
- Svensson, J. 2005, Eight questions about corruption, *The Journal of Economic Perspectives*, Vol. 19, No. 3, pp. 19-42.
- Swamy A., Knack S., Lee Y., and Azfar O. 2000, 'Gender and Corruption', *Center for Development Economics*, Working Paper Series.
- Tai Chinh 2017, Thuận lợi và thách thức trong kiểm soát lạm phát, *Bao Moi Newspaper*, available at <https://www.baomoi.com/thuan-loi-va-thach-thuc-trong-kiem-soat-lam-phat/c/21857510.epi>, accessed on 24/10/2017.
- Tanzi Vito and Davoodi Hamid. 2007, 'Corruption, Public Investment, and Growth', *International Monetary Fund*, Working Paper 97-139.
- Tanzi, 1998, Corruption around the world: causes, consequences, scope, and cures, *International Monetary Fund*, WP/98/63.
- Tanzi, V. 1998, 'Corruption Around the World: Causes, Consequences, Scope, and Cures', *IMF Staff Papers*, Vol. 45, pp. 559-594.
- Tanzi, V. and Davoodi, H. 1997, Corruption, public investment, and growth, *International Monetary Fund*, WP/97/139.
- Tanzi, V. and Davoodi, H. R. 2000, Corruption, growth and public finances, *IMF Working Paper*, WP/00/182.
- Thai, T. 2010, 'Rut ruot' công trình trường học', *Vnexpress Newspaper*, available at <https://vnexpress.net/tin-tuc/phap-luat/rut-ruot-cong-trinh-truong-hoc-2177557.html>, accessed on 03/01/2018.

- Thanh H. 2015, 'Ranh gioi mong manh giua qua Tet va hoi lo', *Healthplus Newspaper*, available at <http://healthplus.vn/ranh-gioi-mong-manh-giua-qua-tet-va-hoi-lo-d20380.html>, accessed on 08/01/2018.
- Thanh, B. and Nguyen, D. 2015, 'WB cam cua cong ty My vi lien quan den tham nhung tai VN', *Vnexpress Newspaper*, available at https://kinhdoanh.vnexpress.net/tin-tuc/doanh-nghiep/wb-cam-cua-cong-ty-my-vi-lien-quan-den-tham-nhung-tai-vn-3176983.html?ctr=related_news_click, accessed on 02/01/2018.
- The Communist Party of Vietnam 2016, Brief History of the Communist Party of Vietnam, *the Communist Party of Vietnam online Newspaper*, available at <http://dangcongsan.vn/tu-lieu-van-kien/tu-lieu-ve-dang/lich-su-dang/books-110620153463956/index-4106201534538562.html>, accessed on 28/10/2017.
- The World Bank 2017, 'Labor Force, Female (% of Total Labor Force)', *the World Bank*, available at <https://datacatalog.worldbank.org/labor-force-female-total-labor-force>, accessed on 11/07/2018.
- The World Bank 2018, 'GDP per capita (current US\$)', *the World Bank Data*, available at <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?end=1964&locations=IN-GH-KR&start=1960>, accessed on 11/07/2018.
- The World Bank 2019, Life expectancy at birth, total (years), the World Bank, available at <https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=JP>, accessed on 18/08/2019.
- Thu Huyen 2016, 'Nha nuoc nam 100% von va co phan chi phoi o nhung linh vuc then chot', *Bao Moi Newspaper*, available at <https://www.baomoi.com/nha-nuoc-nam-100-von-va-co-phan-chi-phoi-o-nhung-linh-vuc-then-chot/c/21012904.epi>, accessed on 10/11/2017.
- To Di 2017, 'Transparency International: Canh Sat Viet Nam nhan hoi lo nhieu nhat Chau A', *Luat Khoa Tap Chi*, available at <https://www.luatkhoa.org/2017/03/transparency-international-canh-sat-viet-nam-nhan-hoi-lo-nhieu-nhat-chau-a/>, accessed on 16/11/2017.
- Torgler B. and Valev Neven T. 2006, 'Women and Illegal Activities: Gender Differences and Women's Willingness to Comply over Time', *CREMA Working Paper Series* 2006-15.
- Torgler, B. 2004, Cross-culture comparison of tax morale and tax compliance: evidence from Costa Rica and Switzerland, *International Journal of Comparative Sociology*, Vol. 45, pp. 17-43.
- Torgler, B. 2004, Tax morale, trust and corruption: Empirical evidence from transition countries, *Center for Research in Economics, Management and the Arts (CREMA)*, CREMA Working Paper Series 2004-05, pp. 1-24.
- Torgler, B. 2005, Tax morale and direct democracy, *European Journal of Political Economy*, Vol. 21, pp. 525-531.

- Torgler, B., Schneider, F. and Macintyre, A. 2011, ‘Shadow economy, voice and accountability and corruption’, in Schneider, F., *Handbook on the Shadow Economy*, Edward Elgar Publishing limited, pp. 469-502.
- Toward Transparency 2013, ‘Hinh Thuc va Hau Qua cua Tham Nhung Trong Nganh Giao Duc o Viet Nam’, *Transparency International*, available at https://towardstransparency.vn/wp-content/uploads/2014/07/Education-Phase-I-Full-Report_FINAL_VN.pdf, accessed on 08/12/2017.
- Tradinheconomics 2018, ‘Australia Government Revenue’, *Tradingeconomics*, available at <https://tradingeconomics.com/australia/government-revenues>, accessed on 11/07/2018.
- Transparency International 2017, ‘Corruption Perception Index’, available at https://www.transparency.org/research/cpi/cpi_early/0, accessed on 15/11/2017.
- Transparency International 2019, Asia Pacific: little to no progress on anti-corruption, *Transparency International*, available at https://www.transparency.org/news/feature/asia_pacific_makes_little_to_no_progress_on_anti_corruption, accessed on 11/03/2019.
- Transparency International 2019, Asia Pacific: little to no progress on anti-corruption, *International Transparency*, available at https://www.transparency.org/news/feature/asia_pacific_makes_little_to_no_progress_on_anti_corruption, accessed on 08/05/2019.
- Transparency International Secretariat 2017, Many governments in Asia Pacific fail to stop corruption; 900 million people are paying bribes, *Transparency International*, available at https://www.transparency.org/news/pressrelease/many_governments_in_asia_pacific_fail_to_stop_corruption_900_million_people, accessed on 08/05/2019.
- Transparency International. 2007, ‘Corruption in the Education Sector’, *Working paper* 4/2007.
- Treisman, D. 2000, The causes of corruption: A cross-national study, *Journal of Public Economics*, Vol. 73, No. 3, pp. 399 – 457.
- Treisman, D. 2007, What have we learned about the causes of corruption from ten years of cross-national empirical research?, *Annual Review of Political Science*, Vol. 10, pp. 211-244.
- Tromme, M. 2016, Corruption and corruption research in Vietnam_ an overview, *Crime Law Soc Change*, Vol. 65, pp. 287 – 306.
- U.S. Embassies Abroad 2018, Vietnam – Healthcare, *Export*, available at <https://www.export.gov/article?id=Vietnam-Healthcare>, accessed on 19/08/2019.

- Ugur, M. 2014, Corruption's direct effects on per-capita income growth: a meta-analysis, *Journal of Economics Surveys*, Vol. 28, No. 3, pp. 472-490.
- UNCTAD 2018, 'Foreign Direct Investment (FDI)', *United Nations Conference on Trade and Development*, available at [http://unctad.org/en/Pages/DIAE/Foreign-Direct-Investment-\(FDI\).aspx](http://unctad.org/en/Pages/DIAE/Foreign-Direct-Investment-(FDI).aspx), accessed on 11/07/2018.
- Vatikiotis, M. 2019, Southeast Asia stumbles over politics, *Nikkei Asian Review*, available at <https://asia.nikkei.com/Opinion/Southeast-Asia-stumbles-over-politics>, accessed on 20/07/2019.
- Vian, T. et al. 2012, Confronting corruption in the health sector in Vietnam: patterns and prospects, *Public Administration and Development*, No. 32, pp. 49-63.
- Vian, T., Brinkerhoff, D. W., Feeley, F. G., Salomon, M., and Nguyen, T. K. V. 2012, 'Confronting Corruption in the Health Sector in Vietnam: Patterns and Prospects', *Public Administration and Development*, Vol. 32, pp. 49-63.
- Viet Anh 2006, 'Xu ly Nghiem Sai Pham trong Xay Dung Truong Hoc', *Vnexpress Newspaper*, available at <https://vnexpress.net/tin-tuc/thoi-su/xu-ly-nghiem-sai-pham-trong-xay-dung-truong-hoc-2814347.html>, accessed on 30/11/2017.
- Vietnam Custom 2017, 'Tinh hình xuất khẩu, nhập khẩu hàng hóa của Viet Nam tháng 12 và 12 tháng năm 2016', available at <https://www.customs.gov.vn/Lists/ThongKeHaiQuan/ViewDetails.aspx?ID=1038&Category=Ph%C3%A2n%20t%C3%ADch%20%C4%91%E1%BB%8Bnh%20k%E1%B%B3&Group=Ph%C3%A2n%20t%C3%ADch>, accessed on 10/11/2017.
- Vietnam Custom, 2017, Nien giam thong ke hai quan ve hang hoa xuất nhập khẩu Vietnam năm 2016 (ban tom tat), *Vietnam Custom Website*, Available at <https://www.customs.gov.vn/Lists/ThongKeHaiQuan/Attachments/1185/Niengiam%20tom%20tat%202016%20.pdf>, accessed on 25/10/2017.
- Vietnam Logistic 2017, Logistic Việt Nam và những lợi thế về vị trí địa lý, available at <http://www.vlr.vn/vn/news/tin-tuc/toan-canh-kinh-te/2754/logistics-viet-nam-nhung-loi-the-ve-vi-tri-dia-ly.vlr>, accessed on 12/10/2017.
- Vinh, N. T. T. and Fujita, S. 2007, 'The Impact of Real Exchange Rate on Output and Inflation in Vietnam: a VAR approach'.
- Vnexpress 2017, 'Qua bieu la "van hoa" hay "hoi lo"', *Vnexpress Newspaper*, available at <https://vnexpress.net/tin-tuc/goc-nhin/ban-thao/qua-bieu-la-van-hoa-hay-hoi-lo-3564529.html>, accessed on 08/01/2018.
- Voyer, P. and Beamish, P. 2004, The effect of corruption on Japanese foreign direct investment, *Journal of Business Ethics*, Vol. 50, No. 3, pp. 211-224.

- Vu, H. 2012, 'Tien luong va nguyen nhan cua tham nhung', *Radio Free Asia*, available at http://www.rfa.org/vietnamese/in_depth/mini-salary-cause-corrup-vh-05182012215812.html, accessed on 05/01/2018.
- Vu, T. A. 1994, *Development in Vietnam – Policy Reforms and Economic Growth*, Institute of Southeast Asian Studies, Singapore.
- Vuong, D. H. 2016, Nhìn lại 30 năm đổi mới - những thành tựu nổi bật trong phát triển kinh tế, *Nhan Dan Newspaper*, available at <http://www.nhandan.com.vn/chinhtri/item/28442602-nhung-thanh-tuu-noi-bat-trong-phat-trien-kinh-te.html>, accessed on 22/10/2017.
- Wei, S. (2000), How taxing is corruption on international investors? *Review of Economics and Statistics*, Vol. 82, No. 1, pp. 1-11.
- Wei, Shang-Jin. 2000, 'How Taxing is Corruption on International Investors?' *The Review of Economics and Statistics*. 82, No.4, pp. 1-12.
- WHO 2006, 'Health Expenditure', *WHO*, available at <http://www.who.int/whosis/whostat2006HealthFinancing.pdf>, accessed on 24/06/2018.
- WHO 2019, Global health expenditure database, *World Health Organization*, available at <http://apps.who.int/nha/database/Select/Indicators/en>, accessed on 17/08/2019.
- Wilkins, K., and Zurawski, A. 2014, Infrastructure investment in China, *Reserve Bank of Australia Bulletin*, available at <https://www.rba.gov.au/publications/bulletin/2014/jun/pdf/bu-0614-4.pdf>, accessed on 21/08/2019.
- WIR. 2001, 'World Investment Report', *Geneva: United Nations*
- Woo, J and Heo, U. 2009, Corruption and foreign direct investment attractiveness in Asia, *Asian Politics and Policy*, Vol. 1, No. 2, pp. 223-238.
- Woo, J. 2010, The impact of corruption on a country's FDI attractiveness: a panel data analysis, 1984 – 2004, *Journal of International and Area Studies*, Vol. 17, No. 2, pp. 71-91.
- World Bank 2017, 'Country Data Report for Vietnam, 1996-2014', available at <http://documents.worldbank.org/curated/en/600301467993466683/pdf/105600-WP-PUBLIC-Vietnam.pdf>, accessed on 21/11/2017.
- World Bank 2017, 'Worldwide Governance Indicators', available at <http://info.worldbank.org/governance/wgi/#home>, accessed on 21/11/2017.
- World Bank 2019, Gross fixed capital formation (% of GDP), *the World Bank*, available at <https://data.worldbank.org/indicator/NE.GDI.FTOT.ZS>, accessed on 20/08/2019.

APPENDICES

Table A0.1 Corruption Perception Index

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	83	85	86	88	88	88	87	86	87	87	87	88	85	81	80	79	79	77
Cambodia	20	20	20	20	20	23	21	20	18	20	21	21	22	20	21	21	21	21
China	31	35	35	34	34	32	33	35	36	36	35	36	39	40	36	37	40	41
India	28	27	27	28	28	29	33	35	34	34	33	31	36	36	38	38	40	40
Indonesia	17	19	19	19	20	22	24	23	26	28	28	30	32	32	34	36	37	37
Japan	64	71	71	70	69	73	76	75	73	77	78	80	74	74	76	75	72	73
South Korea	40	42	45	43	45	50	51	51	56	55	54	54	56	55	55	56	53	54
Laos	25	25	25	25	25	33	26	19	20	20	21	22	21	26	25	25	30	29
Malaysia	48	50	49	52	50	51	50	51	51	45	44	43	49	50	52	50	49	47
Myanmar	15	15	15	16	17	18	19	14	13	14	14	15	15	21	21	22	28	30
New Zealand	94	94	95	95	96	96	96	94	93	94	93	95	90	91	91	91	90	89
Philippines	28	29	26	25	26	25	25	25	23	24	24	26	34	36	38	35	35	34
Singapore	91	92	93	94	93	94	94	93	92	92	93	92	87	86	84	85	84	84
Thailand	32	32	32	33	36	38	36	33	35	34	35	34	37	35	38	38	35	37
Vietnam	25	26	24	24	26	26	26	26	27	27	27	29	31	31	31	31	33	35

Source: Transparency International, 2018

Table A0.2. The Shadow Economy Index (% of GDP)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	8.1	8.1	8.1	8.9	9.95	9.83	8.87	9.14	9.39	8.96	9.32	11.66	12.25	12.11	12.08	12.43	12.5	13.1
Cambodia	33.85	33.85	33.85	34.92	36.56	38.08	40.3	42.31	42.88	41.02	41.76	40.92	43.69	46.74	49.66	49.36	49.8	50.1
China	12.11	12.11	12.11	11.74	12.25	12.41	12.03	12.13	12.83	12.79	13.82	13.86	14.14	14.31	15.12	15.82	16.33	16.5
India	17.89	17.89	17.89	18.33	18.11	18.99	19.71	20.65	22.27	21.68	21.03	22.06	23.44	23.87	24.84	26.48	26.62	26.7
Indonesia	21.76	21.76	21.76	21.05	21.92	22.22	22.65	23.44	24.29	23.4	25.13	24.87	24.82	25.18	25.9	25.43	24.05	23.7
Japan	8.19	8.19	8.19	8.69	9.28	9.73	9.89	9.93	10.39	9.21	10.14	10.35	10.91	11.09	11.57	11.79	11.3	11.2
South Korea	25	25	25	24.1	25.73	25.29	25.78	26.53	28.33	27.37	27.52	28.08	29.31	30.35	31.33	30.8	30.66	30.6
Laos	26.07	26.07	26.07	26.41	29.84	29.78	29.82	30.17	31.71	30.03	31.23	29.21	29.77	30.59	32.03	32.65	32.27	31.1
Malaysia	50.99	50.99	50.99	43.3	43.96	45.49	47.56	48.6	49.3	48.89	46.38	48.41	39.86	43.91	43.64	47.66	49.77	52.6
Myanmar	8.97	8.97	8.97	9.33	10.09	10.33	10.19	11.62	11.66	10.76	10.57	11.72	11.53	11.07	11.36	11.36	10.85	11.5
New Zealand	28.04	28.04	28.04	29.3	31.71	33.61	33.9	34.63	37.02	35.08	36.37	36.18	36.5	39.87	41.39	42.16	43.02	43.3
Philippines	9.2	9.2	9.2	9.9	10.15	9.9	10.13	10.72	11.87	10.72	11.51	10.88	11.13	11.74	13	13.76	13.4	13.1
Singapore	19.83	19.83	19.83	20.36	21.27	20.96	20.81	22.97	23.13	23.86	24.89	26.37	26.03	26.23	27.41	26.76	27.37	27.5
Thailand	43.12	43.12	43.12	47.25	46.74	46.67	47.88	48.65	51.22	47.84	48.11	48.24	48.7	49.45	50.51	51.36	54.17	52.6
Vietnam	14.78	14.78	14.78	15.06	15.82	15.79	16.09	17.8	17.4	16.99	17.13	17.64	17.18	18.4	18.92	19.22	19.73	19.2

Source: Medina and Schneider, 2018

Table A0.3. Government Expenditure on Education (% of GDP)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	4.89	4.90	4.90	4.90	4.90	4.91	4.74	4.66	4.63	5.09	5.57	5.10	4.89	5.26	5.19	5.20	5.20	5.20
Cambodia	1.67	1.72	1.71	1.70	1.72	1.70	1.60	1.60	1.60	1.67	1.53	1.51	1.56	2.02	1.90	1.90	2.00	2.00
China	1.48	1.63	1.71	1.71	1.80	1.87	2.04	2.33	2.68	2.87	3.11	3.60	4.15	4.08	4.10	4.24	4.28	4.30
India	4.38	4.10	3.80	3.66	3.40	3.23	3.19	3.20	3.20	3.31	3.42	3.84	3.87	3.84	3.90	3.90	4.00	4.00
Indonesia	2.30	2.31	2.48	3.02	2.58	2.70	2.70	2.86	2.73	3.31	2.81	3.19	3.41	3.36	3.29	3.58	3.60	3.60
Japan	3.52	3.46	3.47	3.52	3.48	3.37	3.33	3.33	3.32	3.50	3.64	3.64	3.69	3.67	3.59	3.60	3.60	3.60
South Korea	3.70	3.90	3.79	4.13	4.12	3.90	3.97	3.95	4.46	4.67	4.60	4.60	4.62	4.93	5.06	5.07	5.00	5.00
Laos	1.50	1.99	2.83	2.50	2.41	2.41	2.96	3.08	2.28	1.65	1.71	1.81	1.82	3.23	2.94	2.90	3.00	3.00
Malaysia	5.97	7.48	7.66	7.50	5.92	5.00	4.49	4.37	3.96	5.97	4.97	5.76	5.74	5.48	5.21	4.98	4.83	4.80
Myanmar	0.57	1.26	1.00	0.67	0.67	0.68	0.69	0.70	0.72	0.74	0.76	0.79	1.50	1.70	1.80	1.90	2.00	2.17
New Zealand	6.60	6.56	6.41	6.44	6.51	6.28	5.95	5.92	5.51	6.28	7.00	6.94	7.15	6.70	6.36	6.34	6.30	6.30
Philippines	3.27	3.03	3.00	3.04	2.57	2.43	2.53	2.60	2.69	2.65	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Singapore	3.32	3.55	3.90	4.01	3.68	3.22	2.87	2.96	2.78	3.03	3.11	3.07	3.11	2.91	3.00	3.00	3.00	3.00
Thailand	5.25	4.82	3.86	3.73	4.03	3.94	4.05	3.60	3.51	3.86	3.51	4.81	4.54	4.12	4.00	4.00	4.00	4.00
Vietnam	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.89	4.82	5.14	4.81	5.53	5.65	5.50	5.50	5.50	5.50

Source: Asian Development Bank and world bank, 2018

Table A0.4. Government Expenditure on Health (% of GDP)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	7.62	7.70	7.90	7.91	8.12	8.00	8.00	8.08	8.27	8.58	8.45	8.56	8.69	8.77	9.05	9.33	9.25	9.25
Cambodia	6.54	7.02	7.25	6.95	7.09	6.85	6.12	4.90	6.60	7.58	6.91	7.50	7.27	7.09	6.70	6.17	6.08	6.08
China	4.47	4.21	4.34	4.38	4.26	4.14	3.92	3.66	3.88	4.32	4.21	4.33	4.55	4.71	4.77	4.89	4.98	4.98
India	4.03	4.26	4.24	4.01	3.96	3.79	3.63	3.52	3.51	3.49	3.27	3.25	3.33	3.75	3.62	3.60	3.66	3.66
Indonesia	1.92	2.18	2.06	2.30	2.17	2.58	2.67	2.88	2.61	2.68	2.96	2.96	2.90	2.96	3.12	3.01	3.12	3.12
Japan	7.15	7.36	7.47	7.61	7.66	7.78	7.81	7.89	8.20	9.06	9.16	10.62	10.79	10.79	10.83	10.87	10.93	10.93
South Korea	4.00	4.68	4.39	4.67	4.64	4.89	5.24	5.42	5.71	6.12	6.24	6.30	6.44	6.58	6.82	7.05	7.34	7.34
Laos	4.28	4.29	3.70	4.48	3.54	3.34	2.93	3.15	2.77	3.46	2.91	1.94	2.08	2.40	2.30	2.45	2.36	2.36
Malaysia	2.56	2.73	2.72	2.98	2.92	2.84	3.17	3.12	3.08	3.32	3.23	3.39	3.55	3.57	3.77	3.90	3.80	3.80
Myanmar	1.84	1.80	2.05	1.96	1.95	1.83	1.72	1.65	1.85	2.00	1.86	1.69	1.95	2.11	5.03	5.19	5.09	5.09
New Zealand	7.47	7.58	7.90	7.72	7.90	8.27	8.63	8.32	9.11	9.62	9.59	9.51	9.65	9.37	9.42	9.31	9.22	9.22
Philippines	3.15	2.95	2.73	3.19	3.17	3.90	3.95	3.92	4.03	4.35	4.31	4.21	4.37	4.46	4.13	4.32	4.39	4.39
Singapore	3.35	3.18	3.38	3.63	3.17	3.04	2.95	2.85	3.22	3.40	3.22	3.16	3.35	3.70	3.87	4.19	4.47	4.47
Thailand	3.10	3.03	3.33	3.24	3.14	3.16	3.10	3.19	3.46	3.62	3.39	3.57	3.52	3.45	3.68	3.67	3.71	3.71
Vietnam	4.85	5.73	4.57	4.66	4.82	5.10	5.39	5.46	5.15	5.29	5.97	5.87	6.28	6.34	5.78	5.65	5.66	5.66

Source: Asian Development Bank and World Bank, 2018

Table A0.5. Gross Fixed Capital Formation (% of GDP)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	26.00	23.28	24.37	26.12	26.72	27.10	27.88	27.46	28.27	27.63	27.09	26.06	27.43	27.86	26.88	26.19	25.35	23.94
Cambodia	18.19	15.83	19.03	18.67	18.34	18.89	19.35	19.77	17.27	20.13	16.19	15.97	17.36	18.95	21.04	21.43	21.69	21.90
China	33.43	34.33	35.98	39.27	40.58	40.47	39.75	38.89	40.10	44.97	45.09	45.02	45.42	45.69	45.23	43.95	42.98	42.57
India	24.32	26.79	25.34	26.25	30.71	32.76	33.58	35.81	34.72	33.95	33.23	34.31	33.44	31.30	30.08	28.73	28.22	28.64
Indonesia	19.85	19.67	19.43	19.51	22.45	23.64	24.13	24.95	27.70	31.11	31.00	31.31	32.72	31.97	32.52	32.81	32.58	32.17
Japan	27.38	26.55	25.03	24.46	24.05	24.60	24.72	24.12	23.96	22.36	21.33	21.90	22.42	23.33	23.96	23.79	23.32	23.83
South Korea	31.62	30.67	30.39	31.25	31.20	30.86	30.74	30.51	31.38	31.32	30.50	30.24	29.57	29.26	29.15	29.31	29.68	31.12
Laos	13.42	13.54	29.04	27.77	31.75	34.06	30.07	32.31	31.68	33.94	27.46	28.07	32.50	30.65	29.80	31.56	29.01	29.04
Malaysia	25.29	25.12	23.48	22.41	20.95	22.30	21.96	22.40	20.57	21.98	22.44	22.18	25.36	26.48	25.97	26.13	25.74	25.29
Myanmar	16.00	16.00	16.00	16.00	16.00	16.00	17.00	17.00	15.73	18.99	22.92	29.13	28.84	31.08	31.29	34.37	31.89	31.45
New Zealand	20.85	21.49	21.94	23.26	24.22	24.75	23.90	23.89	22.65	20.10	19.66	19.85	20.56	21.22	22.35	22.91	22.89	23.17
Philippines	22.10	20.84	20.57	20.69	20.34	19.90	20.12	19.90	19.66	19.01	20.52	18.74	19.59	20.63	20.67	21.99	24.64	25.01
Singapore	32.33	30.89	26.75	24.77	24.28	23.19	23.09	24.38	27.98	28.84	25.57	25.26	26.43	27.55	28.13	27.22	26.26	26.20
Thailand	21.57	22.48	21.91	23.03	24.86	27.71	26.85	25.46	26.45	23.11	23.99	25.84	26.99	25.38	24.66	24.53	23.76	23.17
Vietnam	27.65	29.15	31.14	33.35	33.25	31.27	31.36	35.11	31.81	33.86	32.64	26.82	24.20	23.64	23.83	24.66	23.68	23.78

Source: World Bank, 2018

Table A0.6. Governance Indicator_ Control of Corruption

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	1.92	1.92	1.81	1.95	2.03	1.95	1.96	2.01	2.04	2.05	2.03	2.04	1.99	1.79	1.85	1.88	1.77	1.80
Cambodia	- 0.96	- 0.96	- 1.01	- 0.99	- 1.06	- 1.21	- 1.25	- 1.15	- 1.23	- 1.17	- 1.24	- 1.24	- 1.07	- 1.05	- 1.14	- 1.12	- 1.30	- 1.29
China	- 0.22	- 0.22	- 0.52	- 0.36	- 0.56	- 0.61	- 0.51	- 0.59	- 0.52	- 0.51	- 0.56	- 0.51	- 0.44	- 0.36	- 0.34	- 0.28	- 0.25	- 0.27
India	- 0.35	- 0.35	- 0.52	- 0.42	- 0.41	- 0.36	- 0.28	- 0.40	- 0.34	- 0.45	- 0.47	- 0.54	- 0.51	- 0.52	- 0.43	- 0.35	- 0.30	- 0.24
Indonesia	- 0.92	- 0.92	- 1.14	- 0.97	- 0.93	- 0.88	- 0.84	- 0.62	- 0.59	- 0.84	- 0.75	- 0.70	- 0.64	- 0.61	- 0.56	- 0.46	- 0.39	- 0.25
Japan	1.27	1.27	0.97	1.21	1.22	1.22	1.33	1.24	1.34	1.38	1.56	1.56	1.63	1.66	1.69	1.57	1.51	1.52
South Korea	0.32	0.32	0.50	0.56	0.39	0.62	0.35	0.60	0.47	0.54	0.47	0.53	0.54	0.61	0.55	0.37	0.37	0.48
Laos	- 0.89	- 0.89	- 1.15	- 1.18	- 1.24	- 1.30	- 1.31	- 1.27	- 1.20	- 1.24	- 1.19	- 1.18	- 1.02	- 0.93	- 0.85	- 0.91	- 0.93	- 0.94
Malaysia	0.34	0.34	0.27	0.34	0.34	0.20	0.23	0.19	- 0.05	- 0.06	0.09	0.03	0.24	0.35	0.41	0.24	0.11	0.03
Myanmar	- 1.39	- 1.39	- 1.32	- 1.48	- 1.65	- 1.54	- 1.66	- 1.63	- 1.62	- 1.66	- 1.67	- 1.59	- 1.06	- 1.00	- 0.88	- 0.84	- 0.65	- 0.57
New Zealand	2.25	2.25	2.32	2.35	2.38	2.20	2.33	2.33	2.31	2.39	2.34	2.30	2.32	2.34	2.25	2.28	2.30	2.24
Philippines	- 0.51	- 0.51	- 0.50	- 0.58	- 0.65	- 0.62	- 0.83	- 0.72	- 0.76	- 0.77	- 0.76	- 0.67	- 0.56	- 0.38	- 0.44	- 0.45	- 0.53	- 0.48
Singapore	2.21	2.21	2.32	2.23	2.33	2.17	2.19	2.24	2.25	2.22	2.18	2.11	2.12	2.08	2.07	2.09	2.07	2.13
Thailand	- 0.19	- 0.19	- 0.31	- 0.17	- 0.23	- 0.19	- 0.38	- 0.37	- 0.41	- 0.31	- 0.33	- 0.32	- 0.37	- 0.34	- 0.45	- 0.49	- 0.40	- 0.39
Vietnam	- 0.57	- 0.57	- 0.57	- 0.50	- 0.73	- 0.72	- 0.75	- 0.63	- 0.71	- 0.54	- 0.62	- 0.61	- 0.53	- 0.48	- 0.44	- 0.43	- 0.40	- 0.58

Source: The Worldwide Governance Indicators (WGI), 2018

Table A0.7. Governance Indicator_ Government Effectiveness

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	1.81	1.81	1.72	1.84	2.01	1.75	1.71	1.83	1.79	1.71	1.77	1.70	1.62	1.64	1.61	1.56	1.58	1.54
Cambodia	-0.83	-0.83	-0.81	-0.85	-0.89	-1.00	-0.97	-0.90	-0.99	-0.95	-0.94	-0.86	-0.82	-0.91	-0.69	-0.70	-0.69	-0.66
China	-0.11	-0.11	-0.06	-0.08	-0.06	-0.12	0.07	0.18	0.15	0.09	0.09	0.09	0.02	0.00	0.32	0.41	0.36	0.42
India	-0.13	-0.13	-0.12	-0.09	-0.16	-0.11	-0.10	0.12	-0.02	-0.01	0.03	0.01	-0.17	-0.17	-0.21	0.09	0.10	0.09
Indonesia	-0.29	-0.29	-0.41	-0.46	-0.42	-0.48	-0.33	-0.28	-0.24	-0.30	-0.21	-0.26	-0.27	-0.20	-0.04	-0.24	0.01	0.04
Japan	1.20	1.20	1.07	1.22	1.36	1.29	1.59	1.45	1.46	1.45	1.53	1.47	1.42	1.62	1.81	1.78	1.83	1.62
South Korea	0.75	0.75	0.91	0.92	0.90	0.99	1.05	1.24	1.05	1.09	1.20	1.25	1.20	1.13	1.16	1.01	1.07	1.07
Laos	-0.78	-0.78	-0.91	-1.00	-1.00	-1.21	-0.98	-0.90	-0.88	-0.95	-0.86	-0.83	-0.84	-0.73	-0.42	-0.51	-0.39	-0.38
Malaysia	1.06	1.06	1.02	1.16	1.09	1.09	1.27	1.24	1.11	0.98	1.12	1.02	0.92	1.00	1.12	0.95	0.88	0.83
Myanmar	-1.23	-1.23	-1.31	-1.24	-1.56	-1.53	-1.45	-1.48	-1.53	-1.61	-1.62	-1.60	-1.48	-1.50	-1.28	-1.24	-0.98	-1.05
New Zealand	1.66	1.66	1.74	1.83	1.96	1.75	1.59	1.66	1.68	1.85	1.82	1.88	1.80	1.76	1.93	1.88	1.86	1.77
Philippines	-0.18	-0.18	-0.13	-0.10	-0.24	-0.04	-0.13	0.07	0.02	-0.03	0.00	0.09	0.11	0.12	0.19	0.11	-0.01	-0.05
Singapore	2.20	2.20	1.85	1.95	1.99	1.96	2.21	2.38	2.44	2.27	2.24	2.15	2.17	2.09	2.18	2.24	2.21	2.22
Thailand	0.21	0.21	0.31	0.37	0.32	0.40	0.45	0.36	0.22	0.27	0.19	0.21	0.22	0.25	0.34	0.35	0.34	0.38
Vietnam	-0.44	-0.44	-0.44	-0.45	-0.48	-0.23	-0.25	-0.24	-0.21	-0.26	-0.26	-0.23	-0.27	-0.27	-0.07	0.07	0.01	0.01

Source: The Worldwide Governance Indicators (WGI), 2018

Table A0.8. Governance Indicator_ Political Stability and Absence of Violence

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	1.33	1.33	1.19	0.88	0.94	0.89	0.94	0.93	0.96	0.86	0.89	0.94	1.00	1.03	1.03	0.88	0.96	0.89
Cambodia	-0.78	-0.78	-0.73	-0.65	-0.41	-0.40	-0.35	-0.36	-0.30	-0.56	-0.50	-0.30	-0.10	-0.14	0.02	0.06	0.18	0.09
China	-0.21	-0.21	-0.33	-0.56	-0.39	-0.50	-0.54	-0.50	-0.49	-0.45	-0.66	-0.60	-0.54	-0.54	-0.52	-0.55	-0.52	-0.23
India	-1.00	-1.00	-1.21	-1.51	-1.28	-1.01	-1.06	-1.15	-1.11	-1.35	-1.28	-1.33	-1.29	-1.23	-1.00	-0.95	-0.95	-0.76
Indonesia	-2.00	-2.00	-1.58	-2.09	-1.91	-1.52	-1.42	-1.20	-1.06	-0.75	-0.85	-0.77	-0.59	-0.52	-0.42	-0.62	-0.38	-0.50
Japan	1.20	1.20	1.18	1.03	1.03	1.04	1.14	1.01	0.89	0.98	0.88	1.00	0.95	1.02	0.97	1.07	1.01	1.11
South Korea	0.40	0.40	0.24	0.25	0.43	0.48	0.42	0.57	0.42	0.41	0.33	0.41	0.27	0.28	0.11	0.16	0.17	0.32
Laos	-0.58	-0.58	-0.10	-1.23	-0.61	-0.49	-0.09	-0.18	0.02	-0.16	-0.28	-0.06	0.03	0.07	0.50	0.54	0.50	0.40
Malaysia	0.09	0.09	0.54	0.49	0.35	0.56	0.29	0.19	0.11	-0.04	0.14	0.08	-0.01	0.05	0.27	0.26	0.10	0.12
Myanmar	-1.67	-1.67	-1.41	-1.15	-0.99	-0.90	-0.85	-1.06	-1.09	-1.29	-1.29	-1.11	-0.94	-1.14	-1.09	-1.17	-0.63	-1.08
New Zealand	1.36	1.36	1.32	1.19	1.50	1.25	1.26	1.24	1.16	1.07	1.24	1.38	1.36	1.45	1.47	1.53	1.49	1.59
Philippines	-1.39	-1.39	-0.86	-1.56	-1.71	-1.18	-1.64	-1.60	-1.78	-1.73	-1.65	-1.39	-1.19	-1.08	-0.71	-0.86	-1.30	-1.18
Singapore	1.14	1.14	1.26	0.88	1.09	1.16	1.25	1.17	1.35	1.18	1.17	1.19	1.37	1.38	1.19	1.31	1.53	1.62
Thailand	0.46	0.46	0.51	-0.14	-0.72	-0.87	-1.13	-1.11	-1.27	-1.42	-1.44	-1.13	-1.22	-1.31	-0.91	-0.99	-0.93	-0.75
Vietnam	0.41	0.41	0.35	0.13	0.15	0.48	0.40	0.25	0.16	0.27	0.15	0.19	0.27	0.25	-0.02	0.07	0.17	0.29

Source: The Worldwide Governance Indicators (WGI), 2018

Table A0.9. Governance Indicator_ Regulatory Quality

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	1.64	1.64	1.47	1.61	1.72	1.60	1.62	1.68	1.77	1.82	1.70	1.86	1.79	1.80	1.86	1.79	1.90	1.93
Cambodia	-0.19	-0.19	-0.31	-0.45	-0.51	-0.53	-0.61	-0.48	-0.45	-0.49	-0.48	-0.58	-0.34	-0.34	-0.42	-0.53	-0.47	-0.50
China	-0.34	-0.34	-0.51	-0.33	-0.31	-0.15	-0.20	-0.17	-0.15	-0.22	-0.23	-0.22	-0.24	-0.29	-0.28	-0.29	-0.26	-0.15
India	-0.16	-0.16	-0.35	-0.35	-0.43	-0.29	-0.28	-0.30	-0.39	-0.33	-0.38	-0.34	-0.47	-0.47	-0.45	-0.39	-0.31	-0.25
Indonesia	-0.21	-0.21	-0.64	-0.80	-0.70	-0.63	-0.38	-0.34	-0.35	-0.36	-0.42	-0.35	-0.28	-0.20	-0.11	-0.22	-0.12	-0.11
Japan	0.84	0.84	0.53	1.10	1.14	1.26	1.26	1.13	1.13	1.10	1.02	1.08	1.14	1.12	1.14	1.22	1.43	1.37
South Korea	0.60	0.60	0.82	0.77	0.80	0.82	0.75	0.90	0.73	0.84	0.93	0.99	0.89	0.99	1.11	1.11	1.11	1.11
Laos	-1.41	-1.41	-1.30	-1.40	-1.29	-1.33	-1.27	-1.18	-1.14	-1.07	-1.02	-0.98	-0.82	-0.84	-0.85	-0.81	-0.73	-0.72
Malaysia	0.56	0.56	0.56	0.63	0.47	0.64	0.55	0.51	0.32	0.30	0.59	0.58	0.57	0.64	0.84	0.75	0.71	0.68
Myanmar	-2.04	-2.04	-2.06	-2.00	-2.34	-2.12	-2.19	-2.27	-2.21	-2.24	-2.24	-2.10	-1.83	-1.49	-1.38	-1.22	-0.87	-0.83
New Zealand	1.74	1.74	1.61	1.68	1.76	1.63	1.70	1.71	1.80	1.83	1.81	1.97	1.85	1.83	1.95	1.92	2.04	2.09
Philippines	0.12	0.12	-0.10	-0.05	-0.30	-0.18	-0.17	-0.12	-0.08	-0.11	-0.23	-0.23	-0.06	-0.07	-0.04	-0.04	-0.00	0.02
Singapore	2.14	2.14	1.94	1.82	1.77	1.75	1.75	1.81	1.87	1.78	1.79	1.79	1.97	1.97	2.23	2.26	2.18	2.12
Thailand	0.49	0.49	0.18	0.38	0.23	0.47	0.24	0.14	0.21	0.22	0.17	0.20	0.24	0.23	0.27	0.29	0.17	0.14
Vietnam	-0.73	-0.73	-0.72	-0.56	-0.56	-0.60	-0.62	-0.56	-0.62	-0.62	-0.62	-0.60	-0.67	-0.64	-0.59	-0.48	-0.45	-0.40

Source: The Worldwide Governance Indicators (WGI), 2018

Table A0.10. Governance Indicator_ Rule of Law

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	1.75	1.75	1.80	1.88	1.82	1.72	1.77	1.76	1.77	1.74	1.76	1.74	1.77	1.78	1.92	1.83	1.75	1.68
Cambodia	- 1.06	- 1.06	- 1.14	- 1.25	- 1.28	- 1.23	- 1.23	- 1.14	- 1.15	- 1.12	- 1.12	- 1.05	- 0.98	- 1.00	- 0.96	- 0.98	- 1.10	- 1.06
China	- 0.53	- 0.53	- 0.50	- 0.53	- 0.53	- 0.59	- 0.64	- 0.54	- 0.42	- 0.41	- 0.41	- 0.46	- 0.54	- 0.52	- 0.41	- 0.41	- 0.22	- 0.26
India	0.33	0.33	0.00	0.13	0.04	0.13	0.18	0.09	0.09	0.01	- 0.04	- 0.09	- 0.07	- 0.06	- 0.06	- 0.05	- 0.07	0.00
Indonesia	- 0.72	- 0.72	- 0.91	- 0.85	- 0.77	- 0.82	- 0.72	- 0.68	- 0.65	- 0.60	- 0.64	- 0.59	- 0.58	- 0.53	- 0.34	- 0.42	- 0.36	- 0.35
Japan	1.32	1.32	1.18	1.20	1.27	1.23	1.36	1.34	1.32	1.29	1.33	1.31	1.36	1.44	1.60	1.52	1.38	1.57
South Korea	0.88	0.88	0.95	0.83	0.92	0.99	0.87	1.03	0.88	0.99	1.00	1.03	0.98	0.95	0.99	0.93	1.14	1.16
Laos	- 0.99	- 0.99	- 1.15	- 1.27	- 1.12	- 1.18	- 1.02	- 0.96	- 0.87	- 1.05	- 0.98	- 1.00	- 0.85	- 0.80	- 0.75	- 0.80	- 0.77	- 0.88
Malaysia	0.27	0.27	0.45	0.52	0.52	0.50	0.47	0.44	0.34	0.46	0.48	0.48	0.47	0.44	0.59	0.50	0.54	0.41
Myanmar	- 1.42	- 1.42	- 1.71	- 1.70	- 1.74	- 1.73	- 1.53	- 1.55	- 1.54	- 1.53	- 1.55	- 1.44	- 1.35	- 1.23	- 1.19	- 1.24	- 0.99	- 0.95
New Zealand	1.83	1.83	1.82	1.89	1.87	1.86	1.81	1.84	1.86	1.93	1.87	1.90	1.89	1.88	2.01	2.00	1.93	1.92
Philippines	- 0.38	- 0.38	- 0.37	- 0.49	- 0.57	- 0.35	- 0.41	- 0.46	- 0.55	- 0.57	- 0.55	- 0.51	- 0.52	- 0.40	- 0.32	- 0.34	- 0.40	- 0.41
Singapore	1.30	1.30	1.41	1.57	1.66	1.71	1.59	1.61	1.61	1.57	1.63	1.67	1.73	1.71	1.82	1.81	1.83	1.82
Thailand	0.58	0.58	0.38	0.16	0.11	0.05	- 0.06	- 0.12	- 0.14	- 0.23	- 0.20	- 0.20	- 0.15	- 0.12	- 0.19	- 0.15	0.01	0.04
Vietnam	- 0.36	- 0.36	- 0.64	- 0.58	- 0.57	- 0.32	- 0.52	- 0.49	- 0.47	- 0.54	- 0.59	- 0.54	- 0.55	- 0.51	- 0.36	- 0.34	0.05	0.07

Source: The Worldwide Governance Indicators (WGI), 2018

Table A0.11. Governance Indicator_ Voice and Accountability

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	1.47	1.47	1.41	1.44	1.50	1.51	1.38	1.37	1.37	1.38	1.42	1.45	1.50	1.44	1.36	1.36	1.30	1.38
Cambodia	- 0.78	- 0.78	- 0.74	- 0.90	- 0.87	- 1.02	- 0.93	- 0.93	- 0.97	- 0.91	- 0.93	- 0.91	- 0.96	- 0.98	- 1.11	- 1.12	- 1.14	- 1.16
China	- 1.38	- 1.38	- 1.59	- 1.51	- 1.46	- 1.50	- 1.75	- 1.72	- 1.70	- 1.70	- 1.68	- 1.64	- 1.64	- 1.63	- 1.62	- 1.66	- 1.62	- 1.50
India	0.35	0.35	0.43	0.45	0.40	0.41	0.44	0.45	0.46	0.46	0.44	0.44	0.40	0.43	0.41	0.43	0.41	0.39
Indonesia	- 0.27	- 0.27	- 0.27	- 0.30	- 0.26	- 0.12	- 0.08	- 0.02	- 0.01	- 0.00	- 0.04	- 0.01	0.07	0.04	0.15	0.18	0.14	0.13
Japan	0.96	0.96	1.01	1.08	1.04	1.01	0.95	0.97	0.95	1.02	1.04	1.07	1.10	1.11	1.04	0.99	1.00	1.01
South Korea	0.64	0.64	0.75	0.72	0.73	0.75	0.69	0.70	0.66	0.71	0.74	0.73	0.73	0.71	0.68	0.63	0.63	0.74
Laos	- 1.34	- 1.34	- 1.74	- 1.78	- 1.55	- 1.66	- 1.73	- 1.72	- 1.71	- 1.70	- 1.68	- 1.68	- 1.64	- 1.65	- 1.73	- 1.75	- 1.73	- 1.75
Malaysia	- 0.42	- 0.42	- 0.49	- 0.46	- 0.24	- 0.15	- 0.54	- 0.52	- 0.56	- 0.50	- 0.50	- 0.47	- 0.35	- 0.34	- 0.36	- 0.39	- 0.47	- 0.40
Myanmar	- 2.04	- 2.04	- 2.01	- 2.08	- 2.12	- 2.17	- 2.23	- 2.21	- 2.21	- 2.17	- 2.07	- 1.85	- 1.62	- 1.46	- 1.34	- 1.22	- 0.85	- 0.87
New Zealand	1.68	1.68	1.50	1.61	1.65	1.63	1.50	1.48	1.48	1.48	1.51	1.58	1.62	1.61	1.52	1.55	1.53	1.56
Philippines	0.23	0.23	0.16	0.15	0.03	- 0.01	- 0.09	- 0.11	- 0.14	- 0.03	- 0.04	- 0.02	- 0.03	0.01	0.16	0.15	0.14	0.08
Singapore	0.13	0.13	0.06	- 0.02	0.08	0.13	- 0.39	- 0.36	- 0.33	- 0.23	- 0.21	- 0.10	0.05	0.04	- 0.10	- 0.16	- 0.28	- 0.17
Thailand	0.47	0.47	0.32	0.22	0.13	- 0.10	- 0.74	- 0.56	- 0.53	- 0.46	- 0.50	- 0.41	- 0.32	- 0.43	- 0.87	- 0.97	- 1.10	- 1.05
Vietnam	- 1.24	- 1.24	- 1.45	- 1.47	- 1.34	- 1.40	- 1.54	- 1.53	- 1.50	- 1.48	- 1.50	- 1.46	- 1.42	- 1.37	- 1.37	- 1.36	- 1.41	- 1.40

Source: The Worldwide Governance Indicators (WGI), 2018

Table A0.12. Tax Revenue (% of GDP)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	30.47	28.94	29.81	29.99	30.30	30.00	29.43	29.56	26.87	25.57	25.31	25.93	26.95	27.16	27.33	27.92	27.76	26.80
Cambodia	6.00	6.00	8.17	7.54	8.12	7.89	8.18	9.70	10.56	9.65	10.00	10.15	11.08	12.08	14.63	14.17	15.26	15.80
China	12.51	13.75	14.42	14.47	14.85	15.21	15.73	16.79	16.95	17.01	17.83	18.46	18.60	18.52	18.41	17.87	17.48	17.78
India	14.08	13.38	14.13	14.58	15.24	15.66	16.91	17.64	16.47	15.25	16.11	16.56	17.07	16.48	16.23	16.73	17.23	17.76
Indonesia	8.08	10.93	11.34	11.86	12.12	12.37	11.72	12.24	12.99	11.06	11.23	12.17	12.47	12.48	12.05	11.96	11.56	11.09
Japan	16.70	16.48	15.39	15.07	15.66	16.57	17.13	17.50	16.76	15.33	15.63	16.06	16.48	17.07	18.25	18.56	18.23	19.00
South Korea	17.88	17.79	17.78	18.23	17.35	17.77	18.56	19.65	19.27	18.21	17.93	18.36	18.65	17.89	17.98	18.47	19.38	19.98
Laos	10.26	9.77	9.52	8.15	8.33	8.63	9.17	10.32	10.83	11.33	12.10	12.66	13.37	13.48	13.62	13.49	12.43	12.18
Malaysia	13.78	17.50	16.25	14.43	14.15	14.36	14.06	13.85	14.20	14.47	13.33	14.79	15.61	15.31	14.84	14.28	13.76	13.00
Myanmar	2.58	1.96	1.74	1.92	2.84	3.37	3.50	3.70	3.90	4.10	4.30	4.50	4.52	5.53	5.84	6.01	6.41	6.02
New Zealand	32.54	31.94	33.25	33.16	34.20	36.06	35.28	33.88	32.90	30.25	30.27	30.06	31.64	30.48	31.22	31.57	31.57	31.98
Philippines	13.69	13.44	13.01	13.02	12.66	13.31	14.59	14.36	14.40	13.08	12.94	13.22	14.07	14.48	14.46	14.55	14.56	15.14
Singapore	15.51	15.11	13.06	12.72	12.33	12.11	12.28	13.50	13.86	13.08	12.98	13.27	13.80	13.43	13.71	13.31	13.72	14.65
Thailand	14.07	14.30	14.68	15.80	16.26	16.88	17.25	16.23	16.35	15.34	15.93	17.62	16.83	18.32	17.06	17.51	16.94	16.32
Vietnam	16.48	17.49	18.40	20.86	19.96	20.98	22.26	21.54	22.48	20.63	22.39	21.86	19.03	19.12	18.22	18.04	17.95	18.74

Source: IMF, 2018

Table A0.13. Gross Debt (% of GDP)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	19.6	17.2	15.1	13.2	12.0	10.9	10.0	9.7	11.8	16.7	20.5	24.1	27.7	30.6	34.1	37.8	40.6	41.6
Cambodia	35.2	34.9	39.7	43.1	42.7	38.1	35.8	33.2	29.9	32.1	33.5	34.9	34.7	35.4	34.1	32.5	33.7	35.1
China	22.8	24.4	25.7	26.6	26.2	26.1	25.4	29.0	27.0	34.3	33.7	33.6	34.3	37.0	39.9	41.1	44.3	47.8
India	73.6	78.7	82.9	84.2	83.3	80.9	77.1	74.0	74.5	72.5	67.5	69.6	69.1	68.5	67.8	69.6	68.9	70.2
Indonesia	87.4	73.7	62.3	55.6	51.3	42.6	35.8	32.3	30.3	26.5	24.5	23.1	23.0	24.8	24.7	27.5	28.3	28.9
Japan	137.9	146.8	156.8	162.7	171.7	176.8	176.4	175.4	183.4	201.0	207.9	222.1	229.0	232.5	236.1	231.3	235.6	236.4
South Korea	17.1	17.7	17.6	20.4	23.3	27.0	29.3	28.7	28.2	31.4	30.8	31.5	32.2	35.4	37.3	39.5	40.0	39.8
Laos	98.5	98.5	99.2	94.1	84.0	75.8	64.9	57.2	53.6	55.2	55.1	50.8	55.2	54.3	58.6	58.1	58.4	62.8
Malaysia	32.9	38.5	40.1	42.0	42.6	41.4	40.2	39.9	39.9	51.1	51.9	52.6	54.6	56.4	56.2	57.9	56.2	54.2
Myanmar	146.6	216.0	161.9	124.1	119.1	110.4	90.5	62.4	53.1	55.1	49.6	46.1	40.7	33.2	29.9	34.5	35.7	34.7
New Zealand	26.0	24.4	22.9	21.4	19.5	18.0	15.9	14.1	16.5	21.1	26.0	30.8	31.3	29.9	29.1	28.4	28.2	26.4
Philippines	61.1	61.5	67.5	74.1	73.9	67.4	59.7	52.4	52.1	52.1	49.7	47.5	47.9	45.7	42.1	41.5	39.0	37.8
Singapore	79.9	93.7	94.3	97.6	94.7	92.1	85.1	84.7	95.3	99.7	97.0	100.7	105.1	101.5	96.6	100.5	106.8	110.9
Thailand	57.8	57.5	54.9	47.5	46.3	45.5	39.2	36.0	34.9	42.4	39.8	39.1	41.9	42.2	43.3	42.5	41.8	41.9
Vietnam	31.4	32.3	35.2	37.9	37.4	36.5	38.4	40.9	39.4	45.2	48.1	44.6	48.4	51.8	55.0	57.0	59.8	58.2

Source: IMF, 2018

Table A0.14. Foreign Direct Investment (% of GDP)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	3.6	2.8	3.7	1.9	7.0	- 3.6	4.1	5.2	4.3	3.1	3.1	4.7	3.7	3.4	4.3	3.3	3.2	3.3
Cambodia	3.2	3.7	3.1	1.8	2.5	6.0	6.6	10.0	7.9	8.9	12.5	12.0	14.3	13.6	11.1	10.1	12.4	12.6
China	3.5	3.5	3.6	3.5	3.5	4.6	4.5	4.4	3.7	2.6	4.0	3.7	2.8	3.0	2.6	2.2	1.6	1.4
India	0.8	1.1	1.0	0.6	0.8	0.9	2.1	2.1	3.6	2.7	1.6	2.0	1.3	1.5	1.7	2.1	1.9	1.5
Indonesia	- 2.8	- 1.9	0.1	- 0.3	0.7	2.9	1.3	1.6	1.8	0.9	2.0	2.3	2.3	2.6	2.8	2.3	0.5	2.0
Japan	0.2	0.1	0.3	0.2	0.2	0.1	- 0.1	0.5	0.5	0.2	0.1	- 0.0	0.0	0.2	0.4	0.1	0.8	0.4
South Korea	2.0	1.2	0.9	1.0	1.7	1.5	0.9	0.8	1.1	1.0	0.9	0.8	0.8	1.0	0.7	0.3	0.9	1.2
Laos	2.0	1.4	0.3	1.0	0.7	1.0	5.4	7.7	4.2	5.5	3.9	3.4	6.1	5.7	6.5	7.5	5.9	10.0
Malaysia	4.0	0.6	3.2	2.9	3.5	2.7	4.7	4.7	3.3	0.1	4.3	5.1	2.8	3.5	3.1	3.3	4.5	3.0
Myanmar	2.9	3.2	2.2	2.4	2.0	2.0	1.9	3.5	2.7	2.9	1.8	4.2	2.2	3.7	3.3	6.8	5.2	6.0
New Zealand	- 2.9	0.5	4.3	- 3.8	2.2	1.7	2.6	3.2	1.9	- 0.0	0.2	0.8	2.2	- 0.0	1.6	- 0.0	1.1	1.1
Philippines	1.8	1.0	2.2	0.6	0.6	1.6	2.2	2.0	0.8	1.2	0.5	0.9	1.3	1.4	2.0	1.9	2.7	3.3
Singapore	16.1	18.9	6.7	17.5	21.2	14.2	24.8	26.4	6.3	12.3	23.0	17.6	18.7	20.9	21.8	22.7	23.1	28.0
Thailand	2.7	4.2	2.5	3.4	3.4	4.3	4.0	3.3	2.9	2.3	4.3	0.7	3.2	3.8	1.2	2.2	0.7	1.8
Vietnam	4.2	4.0	4.0	3.7	3.5	3.4	3.6	8.7	9.7	7.2	6.9	5.5	5.4	5.2	4.9	6.1	6.1	6.3

Source: World Bank, 2018

Table A0.15. GDP per cap (US\$)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	44,334	44,585	45,807	46,596	47,927	48,814	49,443	51,024	51,841	51,767	52,022	52,568	53,673	54,137	54,706	55,184	55,875	56,229
Cambodia	431	454	475	507	550	613	669	726	764	753	786	828	874	923	973	1,025	1,080	1,138
China	1,768	1,901	2,061	2,254	2,467	2,732	3,063	3,480	3,797	4,133	4,550	4,961	5,325	5,711	6,096	6,484	6,884	7,308
India	827	852	869	922	979	1,040	1,107	1,174	1,193	1,268	1,358	1,410	1,469	1,545	1,640	1,752	1,874	1,987
Indonesia	2,144	2,192	2,259	2,336	2,420	2,524	2,628	2,758	2,885	2,979	3,122	3,271	3,421	3,563	3,693	3,824	3,968	4,120
Japan	42,170	42,239	42,191	42,744	43,672	44,394	44,995	45,687	45,166	42,725	44,508	44,539	45,277	46,249	46,484	47,103	47,444	48,439
South Korea	15,105	15,667	16,735	17,137	17,905	18,568	19,427	20,385	20,804	20,843	22,087	22,725	23,124	23,685	24,324	24,871	25,484	26,152
Laos	673	700	730	763	799	843	901	953	1,010	1,068	1,141	1,213	1,291	1,374	1,456	1,539	1,622	1,706
Malaysia	7,007	6,890	7,112	7,374	7,721	7,974	8,255	8,605	8,850	8,559	9,041	9,372	9,743	10,062	10,524	10,912	11,220	11,721
Myanmar	342	377	418	471	531	598	671	747	819	899	979	1,026	1,092	1,174	1,257	1,335	1,404	1,489
New Zealand	29,374	30,215	31,084	31,867	32,664	33,370	33,903	34,600	33,962	33,552	33,692	34,217	34,787	35,410	36,175	36,770	37,319	37,678
Philippines	1,607	1,619	1,643	1,690	1,767	1,817	1,878	1,969	2,017	2,007	2,124	2,165	2,271	2,390	2,496	2,605	2,743	2,884
Singapore	33,851	32,598	33,566	35,610	38,620	40,499	42,786	44,742	43,216	41,983	47,237	49,159	50,102	51,671	52,994	53,884	54,765	56,741
Thailand	3,458	3,544	3,731	3,970	4,190	4,338	4,526	4,745	4,802	4,745	5,076	5,094	5,438	5,559	5,589	5,741	5,912	6,129
Vietnam	765	804	847	897	955	1,018	1,079	1,145	1,198	1,251	1,318	1,386	1,443	1,506	1,579	1,667	1,753	1,853

Source: World Bank, 2018

Table A0.16. Unemployment rate (%)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	6.28	6.74	6.37	5.93	5.39	5.03	4.78	4.38	4.23	5.56	5.21	5.08	5.22	5.66	6.08	6.06	5.71	5.59
Cambodia	2.45	1.64	1.63	1.57	1.56	1.47	1.28	1.17	1.15	1.28	1.38	1.32	1.28	1.28	1.23	1.20	1.13	1.06
China	3.30	3.80	4.20	4.60	4.50	4.50	4.40	4.30	4.60	4.70	4.50	4.50	4.60	4.60	4.60	4.60	4.50	4.40
India	2.73	2.87	3.05	3.18	3.10	3.10	2.74	2.40	2.27	2.47	2.44	2.52	2.69	2.82	2.77	2.78	2.73	2.56
Indonesia	6.08	6.08	6.60	6.66	7.30	7.95	7.55	8.06	7.21	6.11	5.61	5.15	4.47	4.34	4.05	4.51	4.30	4.18
Japan	4.70	5.00	5.40	5.30	4.70	4.40	4.10	3.90	4.00	5.10	5.10	4.52	4.30	4.00	3.60	3.40	3.10	2.80
South Korea	4.40	4.00	3.30	3.60	3.70	3.70	3.50	3.20	3.20	3.60	3.70	3.40	3.20	3.10	3.50	3.60	3.70	3.70
Laos	2.03	1.86	1.84	1.68	1.53	1.35	1.09	0.87	0.74	0.80	0.71	0.70	0.69	0.72	0.70	0.68	0.65	0.60
Malaysia	3.00	3.53	3.48	3.61	3.54	3.53	3.32	3.23	3.34	3.69	3.25	3.05	3.04	3.11	2.88	3.10	3.44	3.41
Myanmar	1.22	1.20	1.24	1.21	1.14	1.07	0.95	0.84	0.79	0.91	0.91	0.89	0.87	0.84	0.79	0.77	1.18	1.55
New Zealand	6.13	5.43	5.28	4.75	4.01	3.81	3.86	3.66	4.17	6.12	6.56	6.49	6.93	6.26	5.75	5.36	5.10	4.70
Philippines	3.83	3.70	3.62	3.53	3.55	3.80	4.05	3.43	3.72	3.86	3.61	3.59	3.50	3.50	3.60	3.03	2.71	2.55
Singapore	3.70	3.76	5.65	5.93	5.84	5.59	4.48	3.90	3.96	5.86	4.12	3.89	3.72	3.86	3.74	3.79	4.08	3.91
Thailand	2.39	2.60	1.82	1.54	1.51	1.35	1.22	1.18	1.18	1.04	0.62	0.66	0.58	0.49	0.58	0.60	0.69	0.63
Vietnam	2.26	2.76	2.12	2.25	2.14	2.22	2.17	2.03	2.38	1.74	1.11	1.00	1.03	1.25	1.26	1.86	1.85	1.89

Source: World Bank, 2018

Table A0.17. Population (million)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	19	19	20	20	20	20	21	21	21	22	22	22	23	23	24	24	24	25
Cambodia	12	12	13	13	13	13	13	14	14	14	14	15	15	15	15	16	16	16
China	1,263	1,272	1,280	1,288	1,296	1,304	1,311	1,318	1,325	1,331	1,338	1,344	1,351	1,357	1,364	1,371	1,379	1,386
India	1,053	1,071	1,090	1,108	1,126	1,144	1,162	1,180	1,197	1,214	1,231	1,247	1,263	1,279	1,294	1,309	1,324	1,339
Indonesia	212	215	218	221	224	227	230	233	236	239	243	246	249	252	255	258	261	264
Japan	127	127	127	128	128	128	128	128	128	128	128	128	128	127	127	127	127	127
South Korea	47	47	48	48	48	48	48	49	49	49	50	50	50	50	51	51	51	51
Laos	5	5	5	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7
Malaysia	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32
Myanmar	46	47	47	48	48	48	49	49	49	50	50	51	51	51	52	52	53	53
New Zealand	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5
Philippines	78	80	81	83	85	86	88	89	91	92	94	95	97	98	100	102	103	105
Singapore	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	6	6	6
Thailand	63	64	64	65	65	65	66	66	67	67	67	68	68	68	68	69	69	69
Vietnam	80	81	82	83	84	84	85	86	87	88	88	89	90	91	93	94	95	96

Source: World Bank, 2018

Table A0.18. Democracy Index

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Cambodia	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
China	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7
India	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Indonesia	6	6	6	6	8	8	8	8	8	8	8	8	8	8	9	9	9	9
Japan	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
South Korea	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Laos	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7
Malaysia	3	3	3	3	3	3	3	3	6	6	6	6	6	6	5	5	5	5
Myanmar	-7	-7	-7	-7	-8	-8	-8	-8	-6	-6	-6	-3	-3	-3	-3	-3	-3	-3
New Zealand	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Philippines	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Singapore	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Thailand	9	9	9	9	9	9	-5	-1	4	4	4	7	7	7	-3	-3	-3	-3
Vietnam	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7

Source: Our World in Data, 2019

Table A0.19. Economic Freedom

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	77.10	77.40	77.30	77.40	77.90	79.00	79.90	81.10	82.20	82.60	82.60	82.50	83.10	82.60	82.00	81.40	80.30	81.00
Cambodia	59.30	59.60	60.70	63.70	61.10	60.00	56.70	55.90	55.90	56.60	56.60	57.90	57.60	58.50	57.40	57.50	57.90	59.50
China	56.40	52.60	52.80	52.60	52.50	53.70	53.60	52.00	53.10	53.20	51.00	52.00	51.20	51.90	52.50	52.70	52.00	57.40
India	47.40	49.00	51.20	51.20	51.50	54.20	52.20	53.90	54.10	54.40	53.80	54.60	54.60	55.20	55.70	54.60	56.20	52.60
Indonesia	55.20	52.50	54.80	55.80	52.10	52.90	51.90	53.20	53.20	53.40	55.50	56.00	56.40	56.90	58.50	58.10	59.40	61.90
Japan	70.70	70.90	66.70	67.60	64.30	67.30	73.30	72.70	73.00	72.80	72.90	72.80	71.60	71.80	72.40	73.30	73.10	69.60
South Korea	36.80	33.50	36.80	41.00	42.00	44.40	47.50	50.30	50.30	50.40	51.10	51.30	50.00	50.10	51.20	51.40	49.80	54.00
Laos	66.00	60.20	60.10	61.10	59.90	61.90	61.60	63.80	63.90	64.60	64.80	66.30	66.40	66.10	69.60	70.80	71.50	73.80
Malaysia	47.90	46.10	45.50	44.90	43.60	40.50	40.00	41.00	39.50	37.70	36.70	37.80	38.70	39.20	46.50	46.90	48.70	52.50
Myanmar	80.90	81.10	80.70	81.10	81.50	82.30	82.00	81.40	80.70	82.00	82.10	82.30	82.10	81.40	81.20	82.10	81.60	83.70
New Zealand	62.50	60.90	60.70	61.30	59.10	54.70	56.30	56.00	56.00	56.80	56.30	56.20	57.10	58.20	60.10	62.20	63.10	65.60
Philippines	87.70	87.80	87.40	88.20	88.90	88.60	88.00	87.10	87.30	87.10	86.10	87.20	87.50	88.00	89.40	89.40	87.80	88.60
Singapore	69.70	69.10	69.50	68.30	67.80	66.40	67.50	67.80	68.60	68.10	69.90	69.80	69.90	70.30	71.20	71.50	71.70	74.30
Thailand	66.60	68.90	69.10	65.80	63.70	62.50	63.30	63.50	62.30	63.00	64.10	64.70	64.90	64.10	63.30	62.40	63.90	66.20
Vietnam	43.70	44.30	45.60	46.20	46.10	48.10	50.50	49.80	50.40	51.00	49.80	51.60	51.30	51.00	50.80	51.70	54.00	52.40

Source: Heritage, 2019

Table A0.20. Business Freedom

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	70.00	70.00	85.00	85.00	85.00	85.00	90.90	89.10	90.30	90.50	90.30	90.10	91.90	95.50	94.60	94.10	89.40	89.30
Cambodia	55.00	55.00	55.00	55.00	55.00	55.00	43.00	43.50	43.00	42.70	39.90	39.50	40.70	39.40	36.60	29.20	32.30	29.60
China	55.00	55.00	55.00	55.00	55.00	55.00	43.10	46.90	50.30	51.60	49.70	49.80	46.40	48.00	49.70	52.10	54.20	53.90
India	55.00	55.00	55.00	55.00	55.00	55.00	49.60	50.80	50.90	54.40	36.30	36.90	35.50	37.30	37.70	43.30	47.60	52.80
Indonesia	55.00	55.00	55.00	55.00	55.00	55.00	46.60	48.20	49.10	46.70	53.10	54.90	54.60	50.20	54.80	49.30	54.00	49.10
Japan	85.00	85.00	70.00	70.00	70.00	70.00	87.20	91.20	88.10	85.80	84.50	83.80	81.80	81.30	80.00	84.10	82.50	82.30
South Korea	40.00	40.00	40.00	40.00	40.00	40.00	51.10	52.10	60.80	59.50	59.40	58.80	61.60	62.10	60.70	59.50	55.90	66.30
Laos	85.00	70.00	70.00	70.00	70.00	70.00	68.60	67.60	69.30	70.80	69.90	69.70	78.10	79.90	85.60	93.50	91.40	90.80
Malaysia	40.00	40.00	40.00	40.00	40.00	40.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	28.30	28.70	32.60	50.10
Myanmar	85.00	85.00	85.00	85.00	85.00	85.00	99.90	99.90	99.90	99.90	99.90	99.90	99.90	99.90	96.10	95.50	91.40	91.80
New Zealand	55.00	55.00	55.00	55.00	55.00	55.00	53.90	53.40	53.10	49.30	48.10	43.40	54.30	53.10	59.90	55.30	63.00	62.60
Philippines	100.00	100.00	100.00	100.00	100.00	100.00	96.90	96.70	97.80	98.30	98.20	98.20	97.20	97.10	96.80	96.90	95.00	95.10
Singapore	70.00	70.00	70.00	70.00	70.00	70.00	85.60	84.30	84.10	90.40	91.90	91.60	93.60	93.60	92.80	89.70	91.10	90.60
Thailand	70.00	70.00	70.00	70.00	70.00	70.00	73.80	73.00	72.20	71.10	70.70	69.90	72.50	73.20	71.40	72.50	76.30	69.90
Vietnam	40.00	40.00	40.00	40.00	40.00	40.00	60.00	59.60	60.40	61.70	60.70	61.60	61.10	63.80	62.00	61.50	58.30	61.20

Source: Heritage, 2019

Table A0.21. Monetary Freedom

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	89.00	87.90	83.30	82.10	83.20	84.00	85.00	84.80	83.70	84.70	82.70	85.00	84.50	83.80	80.50	85.30	85.20	86.40
Cambodia	67.70	73.20	81.60	86.50	80.80	87.00	83.70	81.00	80.90	80.00	70.50	78.00	80.70	81.30	77.90	78.70	78.10	81.00
China	84.00	84.10	87.60	85.80	86.40	84.80	79.40	75.50	76.50	72.90	70.60	75.30	74.20	71.60	73.30	74.20	70.60	71.80
India	63.70	68.20	70.80	77.60	77.00	77.40	77.60	77.20	70.30	69.30	67.50	65.10	62.90	65.30	65.50	65.30	72.80	75.00
Indonesia	49.40	56.20	72.40	74.60	68.90	71.70	73.60	70.90	68.20	71.60	70.80	74.30	75.20	75.50	76.40	74.90	74.30	74.00
Japan	89.00	92.80	90.60	89.80	89.20	90.60	92.50	90.90	94.30	93.60	88.80	87.90	88.90	90.60	87.50	86.70	81.20	83.00
South Korea	28.40	13.80	38.10	55.00	64.00	61.60	63.30	71.30	73.00	75.40	73.50	80.40	76.90	73.00	75.50	74.50	71.30	70.20
Laos	76.60	78.40	80.70	82.10	81.80	82.80	82.60	80.10	78.60	79.90	76.70	81.30	81.60	79.80	81.00	80.80	84.50	85.30
Malaysia	43.60	55.10	69.60	54.30	41.60	48.20	61.40	70.10	56.50	45.30	46.50	56.60	61.20	65.10	64.80	66.10	70.00	65.40
Myanmar	87.60	91.20	86.50	85.30	84.70	85.80	85.60	84.60	83.70	84.60	83.10	84.80	85.20	83.30	86.30	87.60	88.10	90.10
New Zealand	76.80	73.60	75.90	74.50	77.30	77.90	75.70	73.40	73.80	77.20	72.70	76.30	77.10	76.60	78.00	78.80	77.70	80.60
Philippines	90.90	92.90	89.00	88.60	93.00	91.40	88.00	89.40	88.90	86.80	80.90	86.20	84.80	82.00	81.50	83.70	81.80	84.30
Singapore	78.90	84.50	85.20	83.40	84.00	83.30	83.10	78.90	80.00	80.00	77.40	78.70	78.90	77.90	79.60	81.60	82.60	84.00
Thailand	72.90	84.60	86.40	87.30	88.90	82.30	80.30	77.60	66.70	69.00	66.40	70.80	69.30	68.30	68.60	69.90	70.90	72.90
Vietnam	69.30	71.10	80.40	86.50	80.40	79.10	74.20	67.50	67.40	67.00	58.10	79.10	75.10	65.30	63.60	66.80	70.60	76.00

Source: Heritage, 2019

Table A0.22. Trade Freedom

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	79.00	79.00	77.40	77.00	77.20	77.20	77.40	83.80	83.80	84.80	85.10	84.40	86.20	86.20	86.40	86.40	86.40	86.20
Cambodia	68.00	62.80	67.00	68.00	52.00	52.00	53.40	52.20	52.20	63.40	70.00	70.00	65.20	70.20	71.00	72.20	72.20	80.30
China	42.60	46.00	48.60	50.60	51.40	54.40	68.00	68.00	70.20	71.40	72.20	71.60	71.60	72.00	71.80	71.80	72.80	73.60
India	19.60	25.60	21.80	23.00	23.60	38.00	24.00	51.20	51.00	51.00	67.90	64.20	64.10	63.60	65.60	64.60	71.00	72.60
Indonesia	66.00	67.20	72.60	74.60	74.20	77.20	74.60	74.00	73.00	76.40	77.90	73.80	73.90	75.00	74.80	74.80	80.40	80.50
Japan	81.00	80.60	80.40	81.00	80.80	80.60	80.20	80.20	80.00	82.00	82.40	82.60	81.80	81.80	82.40	82.60	82.60	82.60
South Korea	66.00	55.60	55.60	55.60	56.60	60.60	58.00	60.80	57.00	66.40	68.40	68.40	58.70	58.70	58.60	58.60	58.60	74.60
Laos	68.80	66.00	66.60	73.00	73.40	75.80	76.60	76.80	76.20	78.20	78.70	78.70	78.80	77.00	76.40	80.00	81.40	81.20
Malaysia	69.00	69.00	69.00	69.00	70.40	70.80	72.20	71.80	71.00	72.20	72.30	72.30	73.60	73.60	73.60	74.20	74.20	74.20
Myanmar	78.60	78.00	78.40	80.40	80.20	79.40	79.20	84.00	80.80	84.60	86.00	86.60	86.80	86.80	86.80	86.80	87.20	87.40
New Zealand	64.60	68.40	71.60	77.40	77.00	79.40	79.80	79.80	78.80	78.60	77.80	77.80	75.50	75.50	75.50	75.40	76.40	76.40
Philippines	83.00	83.00	83.00	85.00	85.00	85.00	85.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
Singapore	69.20	67.80	67.60	73.20	66.60	73.60	65.00	69.20	66.40	70.20	70.80	70.80	72.60	72.60	72.60	72.60	74.60	79.50
Thailand	73.20	77.60	77.80	64.80	65.60	67.60	68.40	74.20	75.20	75.60	75.90	75.90	75.20	75.20	75.00	75.40	77.60	82.80
Vietnam	51.00	51.00	51.00	47.60	54.80	50.20	57.60	56.00	62.80	63.40	68.90	68.90	79.60	78.60	78.70	78.60	83.00	83.10

Source: Heritage, 2019

Table A0.23. Investment Freedom

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	70	70	70	70	70	70	70	70	80	80	80	80	80	80	85	80	80	80
Cambodia	50	50	50	50	50	50	50	50	50	50	60	60	60	60	60	60	60	60
China	50	30	30	30	30	30	30	30	30	30	20	25	25	25	30	25	30	20
India	30	30	50	50	50	50	50	40	40	30	35	35	35	35	35	35	35	40
Indonesia	70	50	50	50	30	30	30	30	30	30	35	35	35	35	40	40	40	35
Japan	50	50	50	50	50	50	70	60	60	60	60	60	60	60	70	70	70	70
South Korea	10	10	10	30	30	30	30	30	30	30	25	25	25	30	35	30	35	35
Laos	30	30	30	30	30	30	30	40	40	40	30	45	45	45	55	55	60	60
Malaysia	30	10	10	10	10	10	10	10	10	10	-	-	-	-	15	15	20	20
Myanmar	90	90	90	90	90	90	70	70	70	80	80	80	75	80	80	80	80	80
New Zealand	50	50	50	50	50	30	30	30	30	40	40	40	40	50	60	60	60	60
Philippines	90	90	90	90	90	90	90	80	80	80	75	75	75	75	85	85	85	85
Singapore	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	65
Thailand	70	70	70	50	50	30	30	30	30	30	40	40	40	40	45	45	50	50
Vietnam	30	30	30	30	30	30	30	30	30	30	20	15	15	15	15	15	25	25

Source: Heritage, 2019

Table A0.24. Financial Freedom

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Australia	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Cambodia	50	50	50	70	70	70	70	50	50	50	50	50	50	50	50	50	50	50
China	50	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	20
India	30	30	30	30	30	30	30	30	30	40	40	40	40	40	40	40	40	40
Indonesia	30	30	30	30	30	30	30	40	40	40	40	40	40	50	60	60	60	60
Japan	50	50	50	50	30	30	50	50	50	50	50	50	50	50	50	50	60	60
South Korea	10	10	10	10	10	10	30	20	20	20	20	20	20	20	20	20	20	20
Laos	50	30	30	30	30	30	30	40	40	40	50	50	50	50	60	60	60	50
Malaysia	30	30	30	30	30	10	10	10	10	10	10	10	10	10	10	10	20	20
Myanmar	90	90	90	90	90	90	90	80	80	80	80	80	80	80	80	80	80	80
New Zealand	50	50	50	50	50	30	50	50	50	50	50	50	50	50	50	60	60	60
Philippines	70	70	70	70	70	60	60	50	50	50	50	60	70	80	80	80	80	80
Singapore	50	50	50	50	50	50	50	50	60	60	70	70	70	70	80	80	80	70
Thailand	50	50	50	50	50	50	50	50	50	60	70	70	70	70	70	60	60	60
Vietnam	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	40	40

Source: Heritage, 2019