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Influence of Corruption, Foreign Direct Investment and Net Domestic Credit on Economic Growth

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Influence of Corruption, Foreign Direct Investment and Net Domestic Credit on Economic Growth

by

Meng Mi

An Abstract of a Thesis
in
Applied Economics

Submitted in Partial Fulfillment
Of the Requirements
For the Degree of

Master of Arts

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College at Buffalo
State University of New York
Department of Economics and Finance

ABSTRACT OF THESIS

Influence of Corruption, Foreign Direct Investment and Net Domestic Credit on Economic Growth

In Asia, it is not clear whether governments can attract increased FDI by reducing corruption, or whether corruption is irrelevant to levels of GDP growth, especially if the mechanism of net domestic credit can be used to stimulate economic growth even in the absence of high levels of FDI. The purpose of this study is to examine the potentially distinct effects of both FDI and net domestic credit on economic growth, as well as the relationship between corruption and economic growth. This relationship is studied using ex post facto data from a sample of Asian countries from the years 1980-2012. Corruption is found to have no tangible influence on how GDP interacts with either FDI or domestic credit, nor is corruption found to be a significant predictor of GDP growth in its own right. The data indicates that Asian economies can get away with corruption, as in the South Korean model, without jeopardizing FDI, and that middle-of-the-road domestic credit policies ought to be avoided.

Meng Mi

State University of New York
College at Buffalo
Department of Economics and Finance

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Dedication

This thesis is dedicated to my beloved father Mr. Mi, YueMing, who taught me that knowledge is no burden and diligent work hard. It is also dedicated to my beloved mother Mrs. Li, YanMing, who taught me that even the largest task can be accomplished if it is done one step at a time. Throughout my journey so far away, for so long, from you both, I have always felt you very close to my heart. I thank you for believing in me. Without your love, support and endless dedication, I could not have achieved such a wonderful dream.

This thesis is dedicated to my outrageously loving and supportive wife, Mrs. Ying Cai, and our exuberant, sweet, and kind-hearted little girl, Catherine Kaixi Mi. Their love, patience, support and understanding have lightened up my spirit to finish this study and this thesis.

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本论文特别献给始终如一爱我支持我的妻子蔡盈女士，还有我们活泼，可爱，善良的女儿恺曦。她们的关爱，耐心，支持与理解点燃了我完成这篇论文的灵感。

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Chapter 1: Introduction

Overview of the Study

There are numerous ways in which developing countries attempt to raise foreign direct investment (FDI). Oftentimes, FDI is raised simply by creating better conditions for foreign investors to purchase stakes in a developing country's national resources. This approach has been utilized extensively among the countries that belong to the Organization of Petroleum-Exporting Countries (OPEC) (Althani, 2012). In cases of this sort, the relationship between FDI, corruption, and economic growth is fairly straightforward. As long as foreign investors are guaranteed access to resources, and corruption does not interfere with their ability to obtain this access, FDI and economic growth both increase without regard to corruption. This pattern has been observed in the Gulf Arab countries, which, despite extraordinary levels of corruption (reflected, for example, in nepotism, ad hoc systems of law, and execrable human rights systems), have obtained both high levels of FDI and economic growth based on their abundance of natural resources that have drawn ongoing interest from foreign investors (Althani, 2012).

For some Asian countries, the question of the relationship between FDI, corruption, and economic growth is more complex. Asian countries do not tend to be resource-rich; rather, these countries have developed extensive expertise in manufacturing (Sabillon, 2000). Much FDI in Asian countries has been driven by foreign investors' desire to benefit from the well-developed, profitable, and efficient manufacturing systems of Asian countries (Sabillon, 2000).

In these circumstances, it is not clear what role corruption might play in the relationship between FDI and economic growth. Some Asian countries, in particular South Korea, have earned a reputation for corruption in both general terms and specific terms, for example through the preferential relationship between certain companies (the chaebols) and the government (Clifford, 1998). In such environments, the extension of domestic credit can also make up for the shortfall of foreign capital that is withheld because of corruption concerns (Clifford, 1998).

Other Asian countries have a stellar reputation for low corruption (Baik, Kim, & Vogel, 2011). The background of the proposed research project is the examination of what role, if any, corruption has played in either strengthening or weakening the relationship between FDI and economic growth in Asian countries.

Background to the Issue

On an international level, individual countries have been faced with increasingly fragile banking systems, shrinking economies, and rising unemployment. An additional challenge is the prevailing opinion of analysts about the global economy as a whole is that its current slow growth will last into the foreseeable future. Although steps are being taken to address these issues, policy responses have been mixed, and it is becoming increasingly clear that efforts to mitigate the crisis have resulted in choices that will limit trade. There is a clear indication that a country's policy environment, whether protectionist or expansionary, will have a definitive impact on international trade with regards to business ethics, foreign direct investment, and other policy choices.

Policies that have an effect on the economy can be separated into monetary and fiscal policies. Monetary policy, or the creation of economic policy within a country's

central bank based on the exchange and flow of money, can determine national or international economic expansion through the control of the money supply. Classical macroeconomists, however, generally believe that expansionary monetary policy is for the most part ineffective or even harmful in fighting economic downturns such as the global crisis being faced at the beginning of the twenty-first century. As Krugman and Wells (2008) note, in the early years of Keynesian economics, macroeconomists were not against monetary expansion during recessions, but they tended to believe that it was of doubtful effectiveness. It was not until the development of new theoretical bases for monetary intervention, as pioneered by Milton Friedman and his followers, that economists were convinced that monetary policy is effective after all. By decreasing interest rates and thereby increasing the demand for money, governments can increase the velocity of exchange and trigger consumer spending.

Fiscal policy, on the other hand, is more inwardly focused than monetary policy but still has an effect on international trade. As Krugman and Wells (2008) note, fiscal policy refers to the creation of guidelines for decisions that have to do with the purchase of goods on behalf of the government, the creation of incentives and barriers for the exchange of goods and services both within the country and across its borders, and the development of economic platforms or frameworks that have an effect on wages, employment and social services. With respect to international trade, for example, countries can develop policies that either support foreign direct investment or do not support this practice. The same can be said for policies that control ethical decision-making by state officials or by companies.

At the same time, the relationship between corruption and the factors that lead to economic growth is a complex one. Corruption can be defined as the abuse of public power for private benefit (Podobnik et al., 2008), and can be divided into what is known as influence corruption, which is conducted to shape the rules of the economy as a whole, or administrative corruption, which is conducted to bribe or influence public officials on a corporate or personal level (Hellman, Jones, & Kaufmann, 2000). In this research project, both forms of corruption will be investigated.

Research Questions and Hypotheses

The following are the proposed research questions to be answered in the course of this study.

RQ1. Is there a statistically significant relationship between FDI and economic growth in a sample of Asian countries from 1980-2012?

$H1_0$: There is not a statistically significant relationship between FDI and economic growth in a sample of Asian countries from 1980-2012.

$H1_A$: There is a statistically significant relationship between FDI and economic growth in a sample of Asian countries from 1980-2012.

RQ2. Is there a statistically significant relationship between net domestic credit and economic growth in a sample of Asian countries from 1980-2012?

$H2_0$: There is not a statistically significant relationship between net domestic credit and economic growth in a sample of Asian countries from 1980-2012.

$H2_A$: There is a statistically significant relationship between net domestic credit and economic growth in a sample of Asian countries from 1980-2012.

RQ3. Does inclusion of the covariate of corruption alter the relationship between the independent variables of (a) FDI and net domestic credit and (b) the dependent variable of economic growth in a sample of Asian countries from 1980-2012?

$H3_0$: The inclusion of the covariate of corruption does not alter the relationship between the independent variables of (a) FDI and net domestic credit and (b) the dependent variable of economic growth in a sample of Asian countries from 1980-2012.

$H3_A$: The inclusion of the covariate of corruption alters the relationship between the independent variables of (a) FDI and net domestic credit and (b) the dependent variable of economic growth in a sample of Asian countries from 1980-2012.

The three research questions are related to each other. RQ1 allows for the quantification of the general relationship between FDI and economic growth in the sample. RQ2 examines the impact of a measure of domestic economic activity, net domestic credit, on economic growth. RQ3 treats both domestic credit and FDI as independent variables and determines whether the association between these two independent variables and the dependent variable of growth is altered by corruption. As part of the analyses associated with RQ3, regression diagnostics can be used to determine whether FDI and net domestic credit are multicollinear; if they are not, then it can be concluded that net domestic credit and FDI exert fundamentally different influences on economic growth.

Finally, a fourth RQ was dedicated to examining the direct relationship between corruption and economic growth

RQ4: Is there a statistically significant relationship between corruption and economic growth in a sample of Asian countries from 1980-2012?

$H4_0$: There is not a statistically significant relationship between corruption and economic growth in a sample of Asian countries from 1980-2012.

$H4_A$: There is a statistically significant relationship between corruption and economic growth in a sample of Asian countries from 1980-2012.

Further detail on the means utilized to test hypotheses will be provided in the discussion of methodology.

Problem Statement

This study addresses the problem that it is not wholly evident as to what policy choices related to corruption will have the most significant positive effects on economic growth. Particularly in Asia, it is not clear whether governments can attract increased FDI by reducing corruption, or whether corruption is irrelevant to levels of FDI, especially if the mechanism of net domestic credit can be used to stimulate economic growth even in the absence of high levels of FDI. Asian governments seeking economic growth, who need a stronger empirical basis on which to determine how much effort to put into anti-corruption efforts, will be well-served by the results of this empirical study.

Purpose of the Study

The purpose of this study is to examine the potentially distinct effects of both FDI and net domestic credit on economic growth, as well as examining the relationship between corruption and economic growth. This relationship will be studied using ex post facto data from a sample of Asian countries from the years 1980-2012.

Significance of the Study

Many of the decisions made by the governments of developing countries are rooted in the desire to spark economic growth, often through the mechanism of increased FDI. In a global marketplace, governments do their best to attract investment from abroad; as such investment can be instrumental for growth. One of the questions facing Asian governments in particular is how much effort to expend on anti-corruption efforts. Generally speaking, Asia seems to be home to two models of corruption: (a) The South Korean model, in which some kinds of corruption (particularly in the relationship between industrial conglomerates and the government) are encouraged because of their economic efficiency or perceived economic efficiency (Kang, 2002) and (b) the Singaporean model, in which corruption is actively suppressed. What is not clear is whether, considered solely from the perspectives of increasing FDI and economic growth, it is better for Asian governments to try to promote the South Korean or the Singaporean model. By quantifying the influence of both FDI and net domestic credit on GDP growth, and treating corruption as a covariate in this model, this study will offer empirical support for a specific corruption strategy that works well in the context of Asia.

Summary of the Study Overview

The purpose of this quantitative, secondary data-based study is to examine the interrelationships between FDI, net domestic credit, corruption, and economic growth in a sample of Asian countries from the years 1980-2012. This study is worth carrying out because of the empirical support that it can provide as to the economic utility of anti-corruption strategies considered in light of the relationships between FDI / net domestic credit and economic growth. With this justification in mind, some background literature

pertaining to the relationships between corruption, FDI, domestic credit, and economic growth will be presented in the second chapter of the study. The third chapter will contain a discussion of the methodology proposed to test the study's hypotheses.

Chapter 2: Literature Review

Overview of the Literature

The literature review will examine a number of factors which have been explored in scholarly research, and which are connected to the overarching research questions and purpose of this study. The review will explore the theoretical foundation of corruption and instability analysis as linked to economic growth, and then examine factors linked to corruption, business development, foreign direct investment, domestic credit, and political instability. The review will end with a summary of the literature findings.

Theoretical Foundation of Corruption and Instability Analysis

Socioeconomic challenges are revealed in the neoliberal approach to labor and trade which should be taken into account before examining the ways in which corruption processes are likely to occur. Dependency theory, which is applied labor theory, takes into account the broader global environment as a means of understanding how and why corruption is likely to occur. In this theory, it is made clear that the efforts of workers in developing countries become more and more dependent to those in a position of power over sources of capital. In the long run, therefore, the overarching power of the Western nations and multinational corporations, as noted by McBride (2005), will act to permanently shift the opportunities poor countries have to participate in the global market. In other words, because they become dependent on neoliberal regimes and their corporate interests, poor countries providing goods and services will have to continue to push down their labor costs or risk losing that business to another, poorer country.

Corruption can therefore thrive where people are more desperate, but also where companies are likely to take advantage of power imbalances in the market and in the

economy as a whole. As Workman (2009) notes, “minimum wage policy under neoliberalism ‘has gone from being a device to ratify low-wage spheres in the economy to being a legislative instrument in the assault on all wage earners” (p. 83). In other words, because those with financial power have the ability to control the ways in which we exchange goods and capital, the poor or those without an ability to contribute on a financial basis are naturally excluded from participation in decision-making processes in corporations and from the protection of the state on a global basis.

McKay and Sumner (2008) warn that the relationships between growth, poverty and other human development outcomes vary substantially across outcome, place and time depending on the kinds of companies and political leadership forces which occupy different countries and their strategic goals. The social context of work space and who controls it, in this way, has a deep effect on the ways in which individuals participate in the global economy. According to Herod (1997), this means that people begin to internalize their social roles as linked to production and the economy of the state. In other words, workers who are disenfranchised and underpaid recognize their lack of power in the greater, globalized world of labor, and therefore need different ways of accumulating security. If the poor gain wealth through corruptive practices, these practices are repeated on a larger and more substantive basis over the long term, leading to corruptive acts at the corporate and the political levels as well Karakowsky et al., 2005).

Corruption, Business Development, and the Economy

There are a number of levels of corruption that can have an effect on the economy. As noted in the literature, this starts at the level of corruption in economic policy. For example, Mattoo and Subramanian (2009) note that recently, “exchange rate

changes — in particular persistent undervaluation of major currencies — these last few years have been substantial, leading to one of the most pressing contemporary problems: global imbalances" (p. 4). They note that this is specifically true for China, which has been singled out by both scholars and global leaders as having a currency which is being consistently undervalued. In particular, the WTO and the IMF are particularly concerned about the prevalence of dumping, not only by China but by other Asian nations prone to undervaluing their currencies. A tendency towards making products more affordable through cheap currency cuts off trade opportunities from smaller emerging nations in Africa and Asia, and even from countries as large as India with stronger valuation policies. Ter-Minassian (2009) warns against imbalances between local and foreign currency debt, such as that used by China, in order to reduce any temptation to build up and then inflate away local currency debt over the long term. Nonetheless, there is some evidence that with more democratic political processes in place, it could be possible to offset some of these policy-level challenges (Cooper Drury, Krieckhaus, & Lusztig, 2006).

On a more fundamental business level, corruption and even a lack of ethical practices can also have negative effects. For example, guanxi, the Chinese concept which is loosely connected to the Western idea of social capital, is the primary source of governance for decision making in the Chinese business context (Zhuang & El-Ansary, 2008). Businesses incorporating guanxi principles in China experience a blurring of lines between seller and customer and between work and bribery because the concept of bribery is part of the natural Chinese work relationship (Zhuang & El-Ansary, 2008). Power is not based on the exchange of money, rather on the ability of individual

companies to continue to demonstrate their commitment to the relationship. As Zhuang and El-Ansary (2008) note, interpersonal guanxi is not necessarily solely associated with instrumental power, i.e., the ability of individuals and companies to get things done, but rather on a combination of instrumental and emotional power, and one's ability to exercise both. In this case, to abide by the local laws of the host country would mean to use bribery to acquire guanxi, but this is not viable from a legal perspective in the US, which requires companies to meet the standards of their home country with respect to bribery (Karakowsky et al., 2005).

Bhagwati (2004) suggests that it is not globalization itself, but rather specific dimensions of global business practices, that leads to global corruption. In cases such as the use of guanxi in China and other similar nations, it is important for businesses to recognize that despite the fact that it is common that does not mean that it is right or fair. Most importantly, it is illegal and businesses in the US can be held accountable for their actions in other countries. It is difficult to not follow local norms, but at the same time there are clear reasons for the abhorrence of these practices. If the goal of the firm is to be able to support developing economies, then, ideally, the market should decide which local actors should be supported rather than the hierarchy of Chinese work relationships. Over the long term, rejecting guanxi will not only be a more ethical approach, but it will likely work in the best interests and cost structures of the economy because market forces will be permitted to prevail, rather than prevented from occurring in the first place.

Political Instability and the Economy

The circular relationship between corruption and business development may be mitigated by political structures and democratic processes, or hindered by them (Cooper

Drury et al., 2006). Rodriguez and Rodrik (2000) note that the prevailing viewpoint in policy as suggested by international organizations such as the World Bank, the OECD and the IMF concludes that open markets and free trade policies are the foremost indicators of economic growth. This conclusion leads these organizations to the belief that exchange rates are both distorted and made more variable by a lack of open and free trade, which is linked to political instability. This, suggest the same organizations, makes it more difficult for countries in the developing world to participate fully in international trade. Setting fiscal policy which moves nominal exchange rates in any direction, however, has the subsequent effect of large swings in real exchange rates in these countries' economies (Rodriguez & Rodrik).

Rodriguez and Rodrik (2000) conclude that instead of a distorted relationship with trade policy, it is the variation in exchange rates that have an effect on economic development because of the impact of psychosocial assumptions about the kinds of governments who proliferate these frequent changes. Countries with high variability include Iraq, Uganda, Bolivia, El Salvador, Nicaragua, Guyana, Somalia, Nigeria, Ghana, and Guatemala (Rodriguez & Rodrik, 2000, p. 278), which experienced rapid changes in fiscal policy due to widespread political instability in the latter half of the 1970s and the beginning of the 1980s. There is a relationship between policy choices and exchange rates but the variability involved may be intrinsically linked to governmental instability. This creates an environment within which, as Rodriguez and Rodrik (2000) posit, there is a black-market premium on exchange and resource allocation which leads to rationing in the market for foreign currency. In these situations, therefore, foreign exchange restrictions act as a trade barrier. This will likely lead to the development of a wedge

between import and export exchange rates and the creation of a two-tiered system of exchange. Unfortunately, within this policy model, governments often attempt "to maintain a low exchange rate in order to counteract transitory confidence or balance-of-payments crises" (Rodriguez & Rodrik, 2000, 288) which lead to rapid inflation and decrease equilibrium within balance of payments as a result.

There is as well, as Rogoff (2006) states, an inherent assumption that globalization can lead to destabilization in its quest for growth as the world's financial systems become more integrated and complex in their responsibilities. One might assume, given the current global economic crises, that this is in fact true. Rogoff (2006) points out, however, that market and monetary instability has declined on an international basis over the past twenty years despite political and economic instability. Even our current challenges may be estimated as an irregularity and adjustment rather than a fundamental flaw in the way that economies operate in a globalized manner.

Foreign Direct Investment and the Economy

On a business level, the possibility of growth from foreign direct investment can be affected negatively by corruption as well (Shao, Ivanov, Podobnik, & Stanley, 2007). This is because "size ranking and growth of firms, universities, urban centers, countries and even people's personal fortunes follow a power law over a broad range of scales" (Shao et al., 2007, p. 59) linked to foreign direct investment which means that this is a desired result for growing economies. It is also possible, however, that support of some foreign direct investment mechanisms can lead to corruption, as is seen in the case of China's investment in Africa (Ter-Minassian, 2009). Communities and tribes may have been living and working the land in these areas for hundreds of years, but still do not

have land ownership because systemic development has lagged in their particular area. In these cases, governments under pressure to create jobs take the land and allocate it to China with the promise that jobs will be created, but there are rarely any environmental or social audits which take place before this occurs (Karakowsky et al., 2005). In these cases, people are displaced and lose their living, namely farming off the land and selling goods at a local market. This has a negative effect on the local economy, and only serves to increase the economic potential of the multinational firm (Cooper Drury et al., 2006).

An example of how the hierarchy of Chinese working practices can illustrate the connection between corruption, foreign direct investment, and economic challenge is presented by Barboza (2008). Many American companies are moving production to Chinese shores in the hope of driving down the cost of labor. Unfortunately, the situation for factory workers in China is not only oppressive, it is dangerous. As noted by Barboza (2008), the working conditions exposed by National Labor Committee in that country are those in which "factory workers lose or break about 40,000 fingers on the job every year" (p. 1). On top of this lack of safety in the workplace, these same factories are likely to employ children and pay people less than minimum wage, all because the factory workers have little power over their working conditions.

The challenge that is faced by many of these workers is that the companies for which they work are employed, in turn, by some of the biggest corporations in the United States who rely on local business managers and local corporations to take care of their labor needs. This means that there is an incentive to keep on producing goods as cheaply as possible, according to Barboza (2008), so that the Chinese factory owners can retain their contracts with these corporations. As noted by Barboza (2008), although new laws

have been put into effect to observe these practices, the factories are becoming more stringent with their security so that it is becoming more difficult to measure abuses against workers.

Wacziarg and Welch (2008) point out that currency overvaluation is also often an active factor to undo the effects of trade liberalization and foreign direct investment, as they reflect became the case in Mexico in the late 1980s and early 1990s. Mexico in particular was subject to this challenge after the policy decision to revalue the peso resulted in a rapid devaluation after what may have been considered an artificial nominal inflation. The immediate effect of this change was a rapid retreat by American and Canadian producers who had relocated facilities to the region to take advantage of local wage differentials. Associated inflation made it difficult for North American corporations to move essential goods into Mexico for the purpose of production. If policies result in these actions then corporations will necessarily become reticent to build permanent facilities and participate in the economy, either through a local partner or through foreign direct investment.

In stronger economies, though, there is a correlation between foreign direct investment and economic growth. Boivin and Giannoni (2008) note that, in the US, foreign direct investment variables were identified as having a definitive effect on international forces with respect to trade and monetary policy. These variables and the extent to which they have an effect, nonetheless, have changed over the last twenty years. Since the mid 1980s, “the ratio of foreign assets and liabilities to GDP has increased from approximately 80% to more than 300% in the 23 most industrialized economies” (Boivin & Giannoni, 2008, p. 2). The US economy has demonstrated similar responses to

international trade shocks during this time period, but the growing importance of global forces has contributed to reducing the length of time by which the US and other countries respond to these shocks. Overall, Boivin and Giannoni (2008) conclude that the effect of global forces has largely only been felt in the US post 2000. It has, however, contributed to an overall weakening of interest rates, as determined by Alan Greenspan in his role heading the US Federal Reserve (Boivin & Giannoni, 2008).

The Asian Developmental Model

Some of the decisions that Asian governments have made to attract FDI, issue net domestic credit, and establish the acceptability of specific levels of corruption can be understand through the larger paradigm of the Asian Developmental Model, which will receive close attention in this section of the literature review.

East Asia has achieved a high level of economic success, as measured by growth in growth domestic product (GDP) and other indicators, in the past three decades. There is an academic consensus that one of the reasons for East Asia's prosperity has been the use of the so-called Asian Developmental Model, in which the state subsidizes and otherwise favors select industries as a means of rapidly boosting competitiveness (Haggard, 1990). The Asian Developmental Model has attracted both support and criticism in the literature. Some classic criticisms of the model (see for example Kang, 2002; Krugman, 1994; Wade, 1990) are that it is (a) inefficient in the choice of which companies to favor; (b) a precursor of corruption and cronyism, both of which lower economic as well as political efficiency; and (c) economically unnecessary, as it distorts a free market that ought to be left alone. However, there is also evidence that the Asian

Development Model is generally efficient and has not been shown to create extraordinary levels of corruption.

There is near-universal consensus among detractors of the Asian Developmental Model that it is both corrupt and corrupting (Kang, 2002; Krugman, 1994; Wade, 1990). There is much evidence in favor of this claim. For example, in 2009, former South Korean President Roh Moo-hyun admitted to accepting vast bribes from *chaebols* during his time in power (Heo & Roehrig, 2010). Roh Moo-hyun's successor, Lee Myung-bak, as well as other South Koreans politicians (such as Chun Doo-hwan and Roh Tae-woo), have been implicated in similar scandals (Heo & Roehrig, 2010). In Japan and Singapore, two other Asian states that have adopted variations of the Asian Economic Model, there is ample evidence not only that there is an incestuous relationship between politicians and business interests but also that the world of business is itself corrupt. From this perspective, the charge against the Asian Developmental Model is that any system designed to favour specific companies and industries over others cannot long do so on a rational basis, and must devolve into a kind of arbitrary cronyism that reduces the efficiency and transparency of politics as well as business (Kang, 2002; Wade, 1992).

The evidence for the corrupting influence of Asian Developmental Model is considerable and should not be discounted. However, this evidence has not necessarily been placed in the proper context by detractors of the Asian Developmental Model. Clifford (1998) pointed out that agricultural economy inherited by South Korean President Park Chung-Hee in 1963 was at least as corrupt as the chaebol system that Park erected during his 15 years in power. It is also worth pointing out that Japan's zaibatsu

structure predates the Asian Developmental Model. Zaibatsus were first formed in Imperial Japan and declared illegal by the U.S. occupation authority in 1945 (Bird, 2001).

Thus, the first counter-argument to the claim that the Asian Developmental Model is a corrupting influence is to invoke the earlier histories of Japan and South Korea, which, like other Asian countries (Bird, 2001), were characterized by high levels of corruption and collusion throughout the nineteenth and eighteenth centuries, well before the Asian Developmental Model was invented or implemented. The second counter-argument to the corruption claim is to argue that the Asian Developmental Model's efficiency benefits outweigh the costs of the corruption that accompanies the model.

The Asian Developmental Model is best understood through the concept of trade-offs, especially as faced by Japan (in the 1940s and 1950s) and South Korea (in the 1960s and 1970s). Both Japanese and South Korean policy-makers had a two-step understanding of efficiency: First there would be a period of unfairness in which equity (defined as the maximum good of the maximum number of citizens) was sacrificed for efficiency; then increased efficiency would bootstrap the entire nation into a position of increased equity (Heo & Roehrig, 2010). In this sense, the logic of the Asian Developmental Model was close to that of Soviet and Chinese collectivization. Collectivized governments also asked ordinary citizens to ensure a period of scarcity and unfairness so that their countries as a whole could make, in Mao's terminology, great leaps forward (Clifford, 1998).

For Japan and South Korea, the trade-offs between equity and efficiency were less extreme than in the Communist countries, but the underlying premise was the same. Policy in both countries dictated that an elite class of large, export-oriented, and

government-favored businesses would receive preferential treatment in exchange for developing a national surplus that could later be shared with all citizens (Kang, 2002). This process was envisioned as a kind of two-step bootstrapping, with national corporations initially reaping a huge advantage over foreign competitors by obtaining tax breaks, subsidies, and other forms of preferential treatment, and later carrying out their side of the social contract to create surplus for all citizens.

The efficiency-equity trade-off failed miserably in China and the Soviet Union, but succeeded in Japan and South Korea. Starting in 1963, the Park government in South Korea began a policy of aggressive favoritism that created the chaebol. A succinct overview of this era in South Korean industrial policy was offered by Hass (2006), who noted both the costs and benefits of this variation of the Asian Developmental Model:

> Park Chung Hee's military regime forced chaebols to produce national wealth. Close links with the state facilitated targeted investment and production, and the centralized structure helped chaebols coordinate investment and production for foreign markets. While the chaebols were heralded for leading Korea out of poverty into the ranks of the developed world, problems of corruption set in…revealing the dark side to tight hierarchy with limited transparency and external accountability (e.g. to differentiated stakeholders) (p. 111).

For South Korea, the trade-off was between the creation of national wealth and the achievement of a culture of transparency and accountability. It is certain that Park's policies, and South Korea's subsequent implementation of the Asian Developmental Model, led to various forms of corruption (Heo & Roehrig, 2010). However, the Asian Developmental Model also delivered an unprecedented improvement in national wealth.

In 1962, the year before Park Chung-Hee became President of South Korea, the country's gross domestic product per capita was $1168 in 2000 USD and the GDP was $3 billion (World Bank, 2013b). By the time Park was assassinated in 1979, the country made enormous strides in both creating and distributing national wealth. The South Korean economy quadrupled in size between 1962 and 1969, with GDP per capita rising from $1168 to $3462. In exchange for a system that embraced certain forms of corruption, an enormous amount of economic and political efficiency was achieved (Hass, 2006). The same was true for Japan, which created keiresus to take the place of zaibatsus (Bird, 2001). Statistics from the World Bank demonstrate the rapid growth of these two economies as other economies in East Asia languished. In particular, gross domestic product (GDP) growth percentage, GDP per capita, and final consumption expenditures offer a portrait of two countries that not only grew their economies rapidly, but raised income in all population segments and allowed people to spend more freely on goods and services. South Korea's GDP soared from $2.8 billion in 1960 to $13 billion in 1979 (World Bank, 2013b) . Over the same time period, GDP per capita tripled. In Japan, GDP went from $7.1 billion in 1960 to $28.1 billion in 1980, and GDP per capita went from $7,744 to over $24,000 (World Bank, 2013b; all figures in constant 2000 USD). Clearly, then, economic efficiency was a sizeable and important result of the implementation of the Asian Developmental Model in South Korea and Japan.

In neoclassical economics, government favoritism is almost always held to be a distorting force (Krugman, 1994; Wade, 1992). The theory is that, by favoring certain companies and industries over others, a government creates a disincentive for non-favored businesses to innovate and prosper and an incentive for favored businesses to

become lazy about the creation of wealth. However, this theory was not affirmed by facts on the ground in South Korea and Japan. In both countries, companies and industries that were not favored (including Honda and Sony in Japan) none the less managed to prosper, and companies that were favored did not slacken their productivity and efficiency (Bird, 2001). It is not fully clear why, at least in the cases of South Korea and Japan, the Asian Developmental Model did not bring about the kinds of market behavior predicted by neoclassical economic theory. One potential explanation is cultural in nature, and suggests that the social contract between the favored company, the government, and the citizens had much more force than it would have had in an individualistic Western society driven by self-interest rather than collective interest (Bird, 2001).

For example, it is tempting to contrast the behavior of favored Japanese companies and keiresus with the behavior of American companies (including banks and car manufacturers) that have also been the recipients of government largesse. In Japan, unemployment has remained far lower than in America, and has historically stood at one of the lowest rates in the industrialized world. Bird (2001) and Clifford (1998) have argued that Japanese companies have a profound commitment to the notion of lifetime employment: a commitment that is partly due to cultural notions of solidarity and partly due to a conscious form of repayment to the government. In other words, Japanese companies have taken self-regulating actions (such as keeping executive salaries much lower than they are in the United States and other developed economies, and deliberately employing more people than economically necessary) to repay the Japanese government and society for their support. The same patterns can be seen in South Korea, whose chaebols have also made a commitment to long-term employment and reduced profit-

taking in an effort to distribute more of the economic pie to the nation at large (Clifford, 1998).

Clearly, then, market distortion is not as potent a counter-argument to the Asian Developmental Model as some of the model's detractors might believe. In Japan and South Korea, a culture of solidarity between business, government, and society (Bird, 2001; Clifford, 1998) has overcome many of the distorting effects that neoclassical economic theory predicts will take place in climates of favoritism. Additionally, a culture of hard work (Hass, 2006) has overcome the theoretical disincentive posed by favoritism otherwise there would be no explanation for the success of Honda, Sony, Nintendo, and many other companies that have succeeded despite not initially being favored by the Japanese government.

It is certainly possible to criticize the performance of many Asian economies, including those of South Korea and Japan. The Japanese recession of the 1990s and the Asian Currency Crisis of 1998 deflated some of the previous enthusiasm about the region's economic miracles. However, to focus too closely on details of economic performance is to ignore the vast strides made by South Korea and Japan under the Asian Developmental Model. In 1963, South Korea was not merely one of the poorer countries in Asian, but one of the poorer countries in the world, with a GDP per capita of $1168 in constant 2000 USD (World Bank, 2013b). For much of 1945-1954 periods, Japan experienced acute deprivation that was even worse than that of South Korea. Masuji Ibuse (1988) wrote of post-war Japan that "Everything was so scarce, you were glad to get hold of anything, whatever it might be" (p. 64). In both Japan and South Korea, two decades of implementing the Asian Developmental Model resulted in two of the most

remarkable economic turnarounds in human history. These turnarounds took place in the midst of many other failed economic transitions in the region, with China and North Korea coming to mind.

The Asian Developmental Model certainly has its drawbacks, including corruption and perhaps occasional market distortions caused in inefficient choices of favored companies and industries. None the less, these drawbacks must be weighed against the enormous benefits delivered by this model in what is historically a very short timeframe. To be sure, in an ideal world, there would no trade-offs, and countries could develop economically without having to trade efficiency against equity and in a state of Pareto optimality. However, in the real world of limited resources, difficult decisions have to be made to bootstrap countries into better economic conditions. Seen from this perspective, the benefits of the Asian Developmental Model should be considered as important as the costs.

Summary of the Literature

The review of the literature explored the theoretical foundation of corruption and instability analysis as linked to economic growth, and examined factors linked to corruption, business development, net domestic credit, foreign direct investment, and political instability. The literature review found that there is research which both demonstrates a connection between these factors and economic growth, and illustrates the challenges that separate opportunity from growth linked to these factors as well. In the following chapter, the methodology for this study will be outlined in detail.

Chapter 3: Methodology

Overview of the Research Method

The methodology for this research project is a descriptive quantitative analysis of ex post facto data, as recommended by Li, Xu, and Zou (2000), from policy and statistical factors as collected from Asian countries over the period from 1980 to 2012. The main statistical tests involved in the methodology will be regression analysis, analysis of covariance, and correlation.

Rationale For Research Method

Quantitative descriptive studies usually operate on the basis of thesis statements, which push the quantitative descriptive research process toward deduction (Creswell, 2009). The following items are the fundamental components of this kind of quantitative research design: (a) information is quantified by the use of numeric data to describe trends, attitudes, or opinions of the sample populations, (b) it includes complied closed-ended questions and predetermined approaches, (c) it relates variables directly to research questions or hypotheses, (d) it uses quantitative standards of validity and reliability, and (e) the research processes either tests or verifies theories or explanations (Creswell 2009).

A quantitative approach to research is non-intrusive and handles naturally occurring phenomena (Gall, Gall & Borg, 2007). Furthermore, the data collection procedures employed in this type of research methodology may be very explicit. Some sorts of instruments, for instance, make use of highly refined categories of behavior and produce quantitative data. A quantitative approach to research may place attention on individual subjects and delve into great depth and detail in elucidating them within the

research context (Gall et al., 2007). In this construction and analysis of the data, quantitative data are collected and analyzed and then interpreted (Creswell, 2009).

In using secondary data via ex post facto research, it is important to clearly understand both the advantages and disadvantages of the data source. McMillan and Schumacher (2006) listed the advantages of using secondary data as: (a) it saves the researcher time from designing a research study and collecting primary data, (b) the researcher can take existing data and conduct or further expand research, (c) it is cost effective because the researcher does not need to fund the primary data collection, (d) Many secondary data set are freely accessible in electronic format from reputable organizations, and (e) the quality of the data set being used may well have a high quality of validity and reliability.

Population and Sample

The population for the study consists of all Asian countries. The sample will consist of India, China, South Korea, Philippines, Singapore, and Japan. This sample was chosen because it combines large- and small-population, high- and low-income and high- and low-corruption Asian countries. Stratifying the sample in this manner is likely to yield more useful research insights than if the sample had homogenous characteristics.

Data Collection

The following data will be collected for each of the six countries in the sample for the period from 1980-2012:

- Annual gross domestic product (GDP) growth (%) (dependent variable)
- Annual FDI (as % of GDP) (independent variable)
- Corruption (measured on the World Bank, 2013a) scale

- Net domestic credit

All data will be obtained from the World Bank (2013a, 2013b).

Data Analysis

The purpose of data analysis will be to test the following null hypotheses of the study:

$H1_0$: There is not a statistically significant relationship between FDI and economic growth in a sample of Asian countries from 1980-2012.

$H2_0$: There is not a statistically significant relationship between net domestic credit and economic growth in a sample of Asian countries from 1980-2012.

$H3_0$: The inclusion of the covariate of corruption does not alter the relationship between the independent variables of (a) FDI and net domestic credit and (b) the dependent variable of economic growth in a sample of Asian countries from 1980-2012.

$H4_0$: There is not a statistically significant relationship between corruption and economic growth in a sample of Asian countries from 1980-2012.

The first null hypothesis will be tested through the use of regression analysis. There are various forms of regression, including linear and non-linear regression (Johnson & Reynolds, 2010). Regressive curve fitting will be used in SPSS ™ (the software program in which all data analysis related to the study will be carried out) to determine which regression model is most suited to the data. In particular, linear regression, quantile regression, exponential regression, and quadratic regression will be tested. The form of regression with the highest R^2 will be chosen as the most appropriate fit for the data. Afterwards, the *p* value of the chosen regression model will be consulted

in order to test the first null hypothesis. If the *p* value is below .05, the null hypothesis will not be accepted.

The third null hypothesis will be tested through the use of partial correlation analysis in both parametric and non-parametric formats, depending on which model yields the higher R^2 value. If the addition of corruption raises or lowers the R2 by more than 5% of the original R2 value, and if the *p* value of the correlation is below .05, the third null hypothesis of the study will not be accepted.

The purpose of these two forms of data analysis is to quantify the effect of corruption on the relationship between FDI and economic growth. It is hypothesized that the relationship between FDI and economic growth will be weakened (in the form of a lower R^2) when corruption is high and also that the relationship between domestic net credit and economic growth will be weakened when corruption is high.

The fourth null hypothesis will be tested through the use of regression analysis.

Ethical Considerations

The only data to be used in this study are publicly available, as noted above. Because archival data will be used, there will be no ethical considerations in data collection to be made, and because only aggregate data will be used, permission will not need to be granted by individual states. Nonetheless, research bias is acknowledged and considered in designing this study. Bias may exist at different levels and degrees, but verification processes for the use of ex post facto data have been identified to minimize the risk of bias in data collection. Researcher bias in data assessment will be considered at the time of analysis.

Summary of the Methodology

The methodology for this research project is a descriptive quantitative analysis of ex post facto data from India, China, South Korea, Philippines, Singapore, and Japan. In this study, the independent variables will be FDI and net domestic credit, the dependent variable will be annual GDP growth (%), and the moderating variable will be corruption. Regression analysis and correlation will be used to analyze the relationships between the variables and test the hypotheses associated with the study.

Chapter 4: Results of the Study

Overview of Results

The results of the study will be provided in three sections, with each section corresponding to one of the hypotheses of the study. A brief conclusion will summarize the findings of the study. Graphs will be used wherever appropriate.

RQ1 Results

The first research question was as follows: Is there a statistically significant relationship between FDI and economic growth in a sample of Asian countries from 1980-2012? The first step to answering this question was to produce a scatter plot and to test it against various regression models:

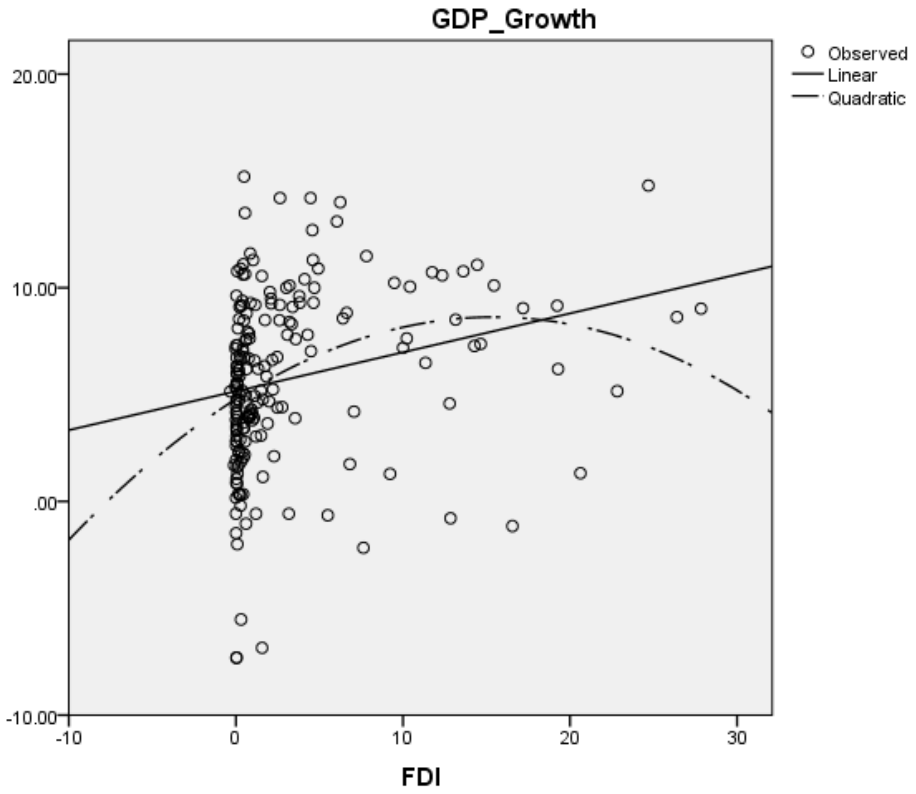

Figure 1. GDP Growth by FDI. Note the angle of the quadratic curve.

Curve-fitting confirmed that quadratic regression was the best fit for the data; logarithmic, exponential, and growth regression models were not found to be significant:

Table 1

Curve-Fitting Estimates, Linear & Quadratic Models, RQ1

Dependent Variable: GDP_Growth

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.058	11.825	1	192	.001	5.158	.182
Quadratic	.083	8.644	2	191	.000	4.789	.498

While both models were significant ($p < .005$), the R2 of the quadratic model (.083) was higher than the R2 of the linear model (.058); in the quadratic model, 8.3% of the variance in GDP growth is explained by variance in FDI. Figure 1 displays the so-called frown curve in the quadratic model, indicating that mid-level FDI (in the zone of 10% of GDP) is associated with highest GDP growth. When FDI is either low or high, it is not associated with high GDP growth. The point of diminishing returns appears to be where FDI is 20% of GDP.

One of the questions raised in the quadratic regression model was where exactly an Asian economy should try to be, in terms of FDI as a percentage of GDP, to raise GDP. This question was solved by ten separate quantile regressions that tested the relationship between FDI and GDP at every decile from 10 to 90, and then at 99. The results were as follows:

Table 2

Overview of Quantile Regression Results, RQ1

Quantile	Significance	R2	Beta
10	.638	.0036	.0485389
20	.073	.0181	.1834272
30	< .001	.0325	.1949924
40	< .001	.0440	.2223054
50	.006	.0502	.2050102
60	< .001	.0502	.2588598
70	< .001	.0538	.2710927
80	< .001	.0389	.181916
90	< .001	.0264	.2088402
99	.383	.0257	.0263038

It is interesting to observe that the beta coefficient rose linearly, peaked at the 70th percentile of FDI, and declined precipitously thereafter. These data indicate that being in the 70th percentile of FDI (as % of GDP) is associated with the highest likelihood of obtaining an increase in GDP. Beyond the 70th percentile, accumulating FDI does not seem to be associated with GDP growth (a conclusion that is, subject, of course, to the limitations of the sample).

RQ2 Results

The second research question was as follows: Is there a statistically significant relationship between domestic credit and economic growth in a sample of Asian countries from 1980-2012? As with RQ1, The first step to answering this question was to produce a scatter plot and to test it against various regression models:

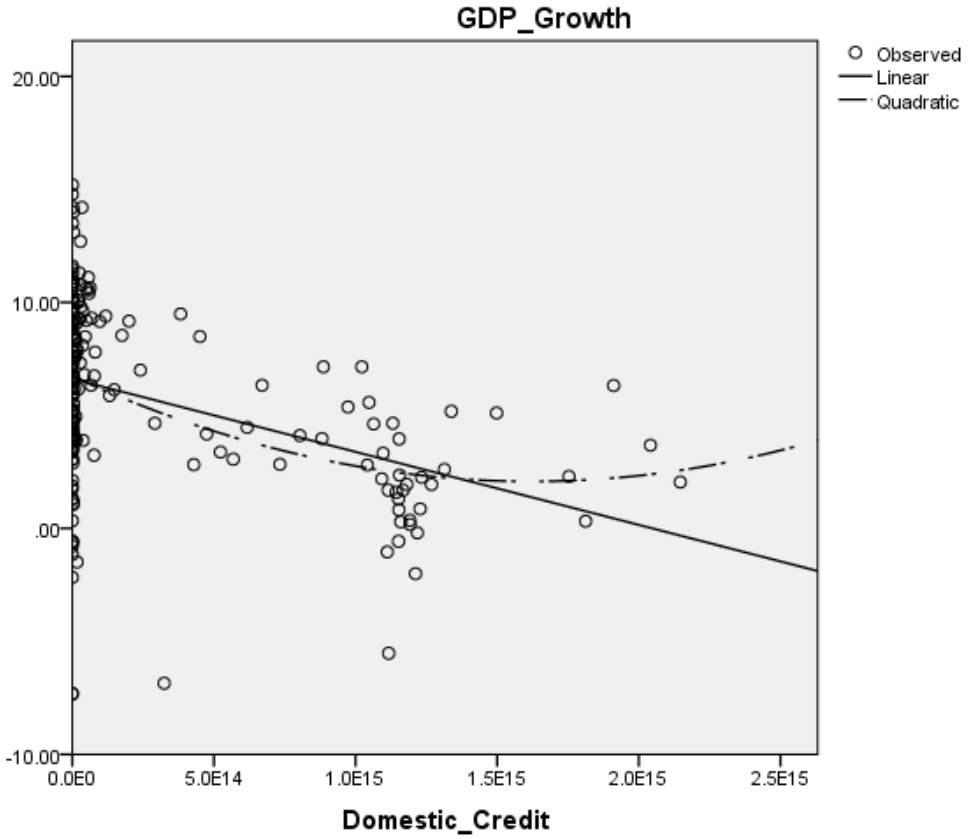

Figure 2. GDP Growth by domestic credit. Note the angle of the quadratic curve.

Domestic credit behaved similarly to FDI in its effect in GDP growth in that a quadratic model best fit the data:

Table 3

Curve-Fitting Estimates, Linear & Quadratic Models, RQ2

Dependent Variable: GDP_Growth

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.159	36.945	1	196	.000	6.615	-3.231E-015
Quadratic	.169	19.849	2	195	.000	6.734	-5.750E-015

While both models were significant ($p < .001$), the R2 of the quadratic model (.169) was higher than the R2 of the linear model (.159); in the quadratic model, 16.9%

of the variance in GDP growth is explained by variance in domestic credit. Figure 2 displays the so-called smile curve in the quadratic model, indicating that low and high levels of domestic credit are associated with higher GDP growth, but that medium levels of domestic credit are associated with low levels of GDP growth. This analysis indicates that both conservative and highly liberal domestic credit policies work well in terms of stimulating economic growth, but that middle-of-the-road credit policies are associated with low levels of GDP growth. The regression analysis could not reveal whether this effect is causal, and the results are also subject to the fact that there are only six Asian countries in the sample.

Since the quadratic model was the best fit, quantile regression was carried out in order to observe the shifts in *p,* R2, and beta coefficient values every decile. Before presenting this analysis, it is important to observe that all of the beta coefficients were negative; in other words, whereas FDI was positively associated with GDP growth, domestic credit volume was negatively associated with GDP growth, which could indicate the use of domestic credit as a stimulus measure in low-growth years.

Table 4

Overview of Quantile Regression Results, RQ2

Quantile	**Significance**	**R2**	**Beta**
10	.264	.0296	-1.60e-15
20	< .001	.0953	-2.63e-15
30	< .001	.1013	-2.77e-15
40	< .001	.1059	-3.39e-15
50	< .001	.1218	-3.64e-15

60	< .001	.1212	-3.98e-15
70	< .001	.1286	-3.83e-15
80	< .001	.1231	-3.66e-15
90	.004	.1267	-3.87e-15
99	< .001	.1330	-4.43e-15

Domestic credit at the lowest decile (<10th percentile) was least associated with GDP decline.

The different shape of the quadratic curves in RQs 1 and 2 already indicated that FDI and domestic credit appeared to be behaving in entirely different ways with respect to association with GDP growth. To further test this finding, multicollinearity diagnostics were conducted as part of a linear regression analysis:

Table 5

Linear Regression w/Multicollinearity Diagnostics, RQs 1 & 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.416[a]	.173	.165	3.74854

a. Predictors: (Constant), Domestic_Credit, FDI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	562.600	2	281.300	20.019	.000[b]
	Residual	2683.843	191	14.052		
	Total	3246.443	193			

a. Dependent Variable: GDP_Growth
b. Predictors: (Constant), Domestic_Credit, FDI

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.218	.374		16.635	.000
	FDI	.103	.052	.136	1.974	.050
	Domestic_Credit	-2.901E-015	.000	-.355	-5.161	.000

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	FDI	.913	1.095
	Domestic_Credit	.913	1.095

a. Dependent Variable: GDP_Growth

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	FDI	Domestic_Credit
1	1	1.714	1.000	.15	.10	.10
	2	.976	1.325	.00	.33	.37
	3	.310	2.353	.85	.56	.53

a. Dependent Variable: GDP_Growth

If calculated in a linear regression model, the equation relating these three variables was as follows:

GDP Growth = FDI(.103) + Domestic Credit(-2.901E-015) + 6.218

It should also be noted that the low tolerance and VIF values indicate that FDI and domestic credit were not multicollinear in their predictive association with GDP. As clear from the earlier analyses, these two variables appeared to be functioning in entirely distinct ways in terms of their association with GDP.

RQ3 Results

The third research question was as follows: Does inclusion of the covariate of corruption alter the relationship between the independent variables of (a) FDI and net domestic credit and (b) the dependent variable of economic growth in a sample of Asian countries from 1980-2012? This question was answered by running two correlations, one between FDI, domestic credit, and GDP growth and the second between FDI, domestic credit, and GDP growth after controlling for corruption. It was expected that corruption would exert a negative influence on the R value of the correlations between FDI and GDP; there was no hypothesis about how corruption would influence the relationship between domestic credit and GDP. The results were as follows:

Table 6

Correlations between GDP Growth, FDI, and Domestic Credit

		GDP_Growth	FDI	Domestic_ Credit
GDP_Growth	Pearson Correlation	1	.241**	-.398**
	Sig. (2-tailed)		.001	.000
	N	198	194	198
FDI	Pearson Correlation	.241**	1	-.295**
	Sig. (2-tailed)	.001		.000
	N	194	194	194
Domestic_ Credit	Pearson Correlation	-.398**	-.295**	1
	Sig. (2-tailed)	.000	.000	
	N	198	194	198

**. Correlation is significant at the 0.01 level (2-tailed).

After controlling for corruption, neither the *p* nor the R values in the correlation table changed:

Table 7

Correlations between GDP Growth, FDI, and Domestic Credit, Controlling for Corruption

Control Variables			GDP_Growth	FDI	Domestic_ Credit
Corruption	GDP_Growth	Correlation	1.000	.241	-.400
		Significance (2-tailed)	.	.001	.000
		Df	0	191	191
	FDI	Correlation	.241	1.000	-.296
		Significance (2-tailed)	.001	.	.000
		Df	191	0	191
	Domestic_ Credit	Correlation	-.400	-.296	1.000
		Significance (2-tailed)	.000	.000	.
		Df	191	191	0

The correlation between GDP and FDI was .241 ($p < .001$) before controlling for corruption. After controlling for corruption, the correlation between GDP and FDI was also .241 ($p < .001$). The correlation between GDP and domestic credit was -.398 ($p < .001$) before controlling for corruption. After controlling for corruption, the correlation between GDP and domestic credit was .400 ($p < .001$). Apparently, then, corruption has no tangible influence on how GDP interacts with either FDI or domestic credit.

RQ4 Results

The fourth research question was as follows: Is there a statistically significant relationship between corruption and economic growth in a sample of Asian countries from 1980-2012? A scatterplot revealed that there was no apparent pattern in the relationship between corruption and economic growth:

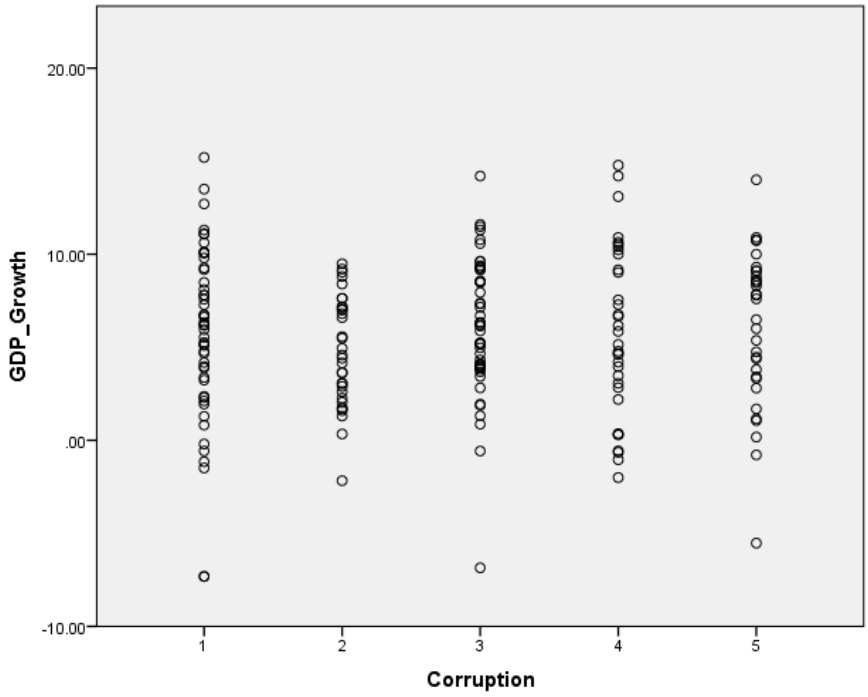

Figure 3. GDP Growth to Corruption

A one-way analysis of variance (ANOVA) confirmed that there no significant variation in GDP growth across corruption categories (p = .700):

Table 8

One-Way ANOVA, Corruption and GDP Growth

GDP_Growth

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	36.796	4	9.199	.549	.700
Within Groups	3234.712	193	16.760		
Total	3271.508	197			

Tukey's test confirmed no GDP growth differences between any corruption category and any other corruption category:

Table 9

Tukey's Test, Corruption and GDP Growth

Dependent Variable: GDP_Growth

Tukey HSD

(I) Corruption	(J) Corruption	Mean Difference (I-J)	S.E.	Sig.	95% Confidence Interval	
					Lower	Upper
1	2	.85595	.92192	.886	-1.6828	3.3947
	3	-.40199	.82295	.988	-2.6682	1.8642
	4	-.18094	.91378	1.000	-2.6972	2.3354
	5	-.34658	.93048	.996	-2.9089	2.2157
2	1	-.85595	.92192	.886	-3.3947	1.6828
	3	-1.25794	.91820	.648	-3.7864	1.2705
	4	-1.03689	1.00041	.838	-3.7918	1.7180
	5	-1.20253	1.01570	.761	-3.9995	1.5944
3	1	.40199	.82295	.988	-1.8642	2.6682
	2	1.25794	.91820	.648	-1.2705	3.7864
	4	.22105	.91003	.999	-2.2849	2.7270
	5	.05541	.92680	1.000	-2.4968	2.6076
4	1	.18094	.91378	1.000	-2.3354	2.6972
	2	1.03689	1.00041	.838	-1.7180	3.7918
	3	-.22105	.91003	.999	-2.7270	2.2849
	5	-.16564	1.00832	1.000	-2.9423	2.6110
5	1	.34658	.93048	.996	-2.2157	2.9089
	2	1.20253	1.01570	.761	-1.5944	3.9995
	3	-.05541	.92680	1.000	-2.6076	2.4968
	4	.16564	1.00832	1.000	-2.6110	2.9423

Conclusion

The results of hypothesis testing associated with the three research questions of the study were as follows:

- There was a significant ($p < .001$), positive (beta coefficient = .498), and quadratic (R2 = .083) relationship between FDI and GDP growth. Quantile regression revealed that medium levels of FDI were most associated with higher GDP.
- There was a significant ($p < .001$), negative (beta coefficient = -5.750E-015), and quadratic (R2 = .169) relationship between domestic credit and GDP growth.

Quantile regression revealed that low levels of domestic credit were associated with the highest levels of GDP growth.

- Corruption was not a significant moderator or mediator of the relationship between (a) GDP and FDI or (b) GDP and domestic credit.
- Corruption was not a significant predictor of GDP growth.

A fuller interpretation of these results in light of past empirical literature, and in the context of national economic policy, will be presented in the fifth and concluding chapter of the study.

Chapter 5: Conclusion of the Study

FDI has been held to be an important contributor to GDP growth, even though the directionality of the relationship between these variables can be complex—-for example, FDI can stimulate GDP, and GDP growth can in turn attract further FDI. The simple regression model undertaken in this study was not designed to examine the directionality of the relationship, but rather to measure the correlation between FDI and GDP growth for a sample of Asian countries from 1980-2012. Interestingly, it was found that the relationship between FDI and GDP growth is better fit by quadratic regression than by a linear model; the so-called frown curve in the relationship between these variables suggested that GDP growth is highest at the middle ranges of FDI. Quantile regression revealed that having FDI (as % of GDP) at about the 70^{th} percentile of the sample was most associated with high GDP growth; countries that had higher and lower FDI did not do as well. It is possible that countries attracting the highest FDI, relative to their GDP, experienced economic burn-out effects and therefore could not maintain high levels of FDI-driven GDP growth over longer periods of time. This hypothesis would have to be tested on shorter time slices of the data in order to determine whether such a burn-out effect exists; if it does, then there is a good argument for Asian economies to create and enforce policies that cap FDI at some fixed percentage of GDP in order to derive the sustainable long-term benefits of moderate FDI. Whatever the precise mechanism of the relationship between FDI and GDP growth, it does appear to be a viable long-term strategy for Asian countries to prevent overheating by inviting extremely high FDI, which can help to create economic volatility (for example, in times of crisis) or to

constrain national economic development in ways that are not beneficial to long-term growth.

Another significant finding in the study was that there was an association between both low and high levels of domestic credit (measured as % of GDP) and high GDP growth. The smile shape of the quadratic curve fit to the data indicated that it was appropriate for Asian economies to avoid middle-of-the-road domestic credit policies. Of course, there are many reasons that the observed relationship between domestic credit and GDP growth might have come about. It is possible that countries in which domestic credit is low are obtaining foreign credit, or otherwise have capital formation structures that are not heavily reliant on domestic credit. Such countries might be more efficient, or have more access to international capital, both conditions that might in themselves be associated with higher GDP. Similarly, it is possible that countries with high levels of domestic credit either stimulate, or benefit from, growth spurts in the economy by flooding the market with credit. These hypotheses involve causation, which was not tested in the current study, but they might provide fruitful avenues for follow-up research among economists who are interested in Asian domestic credit dynamics.

Perhaps the most surprising finding of the study, considering neoliberal and neoclassical theories about the relationship between corruption and growth, is that corruption (a) played no discernible role as a covariate between FDI and economic growth and (b) was, in its own right as an independent variable, an insignificant predictor of economic growth. The conclusions that can be drawn from these findings are as follows. First, FDI does not appear to be either thwarted or encouraged by the presence of

corruption. Second, corruption is not in itself either a retardant or an accelerator of economic growth; economic growth takes place in spite of a country's corruption status.

The findings about corruption appear to make more sense in light of the Asian Developmental Model discussed in the literature review than in light of neoliberal and neoclassical theories about the relationship between corruption and growth. As observed in the literature review, corruption has, at least in some contexts, become firmly embedded in the economic policies of Asian countries, notably South Korea and Japan. The corruption existing in these Asian countries is highly selective in nature; corruption is not universal in nature, but is rather delimited to key aspects of the relationship between the state and local businesses, in particular industrial conglomerates. Development in both Japan and South Korea has been enabled by the efficiency of the relationship between the state apparatus and industrial conglomerates; in particular, the use of favoritism, nepotism, and other kinds of corruption to enable government-to-business loans, negotiate better terms of trade with foreign countries, facilitate the domestic production of export goods, and so forth, have all proven to be extremely effective in enabling the rapid growth of the Asian economies of Japan and South Korea, notwithstanding intermittent periods of stagnation. Understood from this perspective, the corruption that characterizes South Korea and other Asian economies can be understood as the cost of rapid development.

Therefore, while it might seem cynical to do so, it appears warranted to recommend that Asian states with corruption as part of their developmental model do not attempt to root out corruption. Such a recommendation can be sustained from an economic perspective; in other words, if the desideratum is economic growth, then

corruption is a non-issue. On the other hand, Asian states are also grappling with issues other than economics, including issues such as social justice. It will therefore fall to the citizens and policy-makers of these countries to reach some consensus about the national role of corruption, notwithstanding its apparent usefulness as part of the Asian Developmental Model.

There is clearly much more work to be done on the analysis of the economic growth of East Asia. The current study identified some points of interest in the 1980-2012 development of Asian economies considered in light of FDI, corruption, and domestic credit. These points require further analysis, particularly through the use of models that are more sensitive to causation and lag effects. The absence of these kinds of analysis was an important limitation of the current study.

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Appendix A: Study Data

Country	Year	GDP_Growth	FDI	Domestic_Credit	Corruption
1	1980	7.80		242250000000	1
1	1981	5.20		273990000000	3
1	1982	9.10	.21	304670000000	5
1	1983	10.90	.28	343700000000	4
1	1984	15.20	.49	451450000000	1
1	1985	13.50	.54	592950000000	1
1	1986	8.80	.63	794180000000	2
1	1987	11.60	.86	970870000000	3
1	1988	11.30	1.03	1153640000000	1
1	1989	4.10	.99	1349790000000	3
1	1990	3.80	.98	1668920000000	5
1	1991	9.20	1.15	2002670000000	2
1	1992	14.20	2.64	2449920000000	3
1	1993	14.00	6.25	3575210000000	5
1	1994	13.10	6.04	4310370000000	4
1	1995	10.90	4.92	5331860000000	5
1	1996	10.00	4.69	6642170000000	5
1	1997	9.30	4.64	7954340000000	5
1	1998	7.80	4.29	9546870000000	1
1	1999	7.60	3.58	10701300000000	5
1	2000	8.40	3.20	11873200000000	2
1	2001	8.30	3.34	13487600000000	5
1	2002	9.10	3.39	17262500000000	5
1	2003	10.00	3.01	20628400000000	4
1	2004	10.10	3.22	22441900000000	1
1	2005	11.30	4.61	24836700000000	3
1	2006	12.70	4.57	28873800000000	1
1	2007	14.20	4.47	33965900000000	4
1	2008	9.60	3.79	37937900000000	3
1	2009	9.20	2.63	49458000000000	3
1	2010	10.40	4.11	58732400000000	4
1	2011	9.30	3.83	68797200000000	3
1	2012	7.80	3.08	80559400000000	5
2	1980	6.74	.04	554066000000	1
2	1981	6.01	.05	675471000000	5
2	1982	3.48	.04	820127000000	4
2	1983	7.29	.00	952672000000	4
2	1984	3.82	.01	1150140000000	3
2	1985	5.25	.04	1351430000000	1
2	1986	4.78	.05	1602980000000	4

2	1987	3.97	.07	1843850000000	1
2	1988	9.63	.03	2175380000000	3
2	1989	5.95	.08	2578200000000	1
2	1990	5.53	.07	2929470000000	1
2	1991	1.06	.03	3347370000000	5
2	1992	5.48	.09	3766610000000	2
2	1993	4.75	.19	4268580000000	5
2	1994	6.66	.29	4808240000000	4
2	1995	7.57	.58	5257480000000	1
2	1996	7.55	.61	6294020000000	4
2	1997	4.05	.85	7044420000000	3
2	1998	6.18	.61	8150990000000	1
2	1999	8.46	.47	9610950000000	5
2	2000	3.98	.76	11145500000000	3
2	2001	4.94	1.11	12455100000000	2
2	2002	3.91	1.08	14446400000000	3
2	2003	7.94	.70	15822200000000	3
2	2004	7.85	.80	18669900000000	5
2	2005	9.28	.87	21555200000000	3
2	2006	9.26	2.11	26144000000000	1
2	2007	9.80	2.04	30326600000000	1
2	2008	3.89	3.55	38100800000000	1
2	2009	8.48	2.61	45441700000000	1
2	2010	10.55	1.55	56002800000000	4
2	2011	6.33	1.72	66523600000000	1
2	2012	3.24		76747400000000	1
3	1980	-1.49	.01	16837600000000	1
3	1981	6.16	.14	22085400000000	4
3	1982	7.33	.09	27610000000000	3
3	1983	10.77	.08	31941500000000	5
3	1984	8.10	.12	36159700000000	1
3	1985	6.80	.24	42675000000000	2
3	1986	10.62	.41	48830100000000	1
3	1987	11.10	.44	56635000000000	1
3	1988	10.64	.54	62760300000000	4
3	1989	6.74	.49	77179100000000	1
3	1990	9.16	.30	96894400000000	3
3	1991	9.39	.38	118169000000000	3
3	1992	5.88	.22	131755000000000	3
3	1993	6.13	.16	148124000000000	3
3	1994	8.54	.19	175487000000000	5
3	1995	9.17	.34	200194000000000	1
3	1996	7.00	.42	240412000000000	2

3	1997	4.65	.55	291388000000000	3
3	1998	-6.85	1.57	324476000000000	3
3	1999	9.49	2.10	382180000000000	2
3	2000	8.49	1.74	450598000000000	3
3	2001	3.97	.70	881306000000000	3
3	2002	7.15	.42	1022210000000000	3
3	2003	2.80	.55	1041520000000000	5
3	2004	4.62	1.28	1063790000000000	4
3	2005	3.96	.75	1153900000000000	4
3	2006	5.18	.38	1338110000000000	3
3	2007	5.11	.17	1497900000000000	1
3	2008	2.30	.36	1753330000000000	1
3	2009	.32	.27	1812220000000000	4
3	2010	6.32	.11	1911130000000000	3
3	2011	3.68	.43	2041210000000000	3
3	2012	2.04	.44	2146700000000000	2
4	1980	10.05	10.42	10654000000	1
4	1981	10.73	11.75	20195000000	5
4	1982	7.19	10.00	20189000000	2
4	1983	8.57	6.40	28789000000	3
4	1984	8.83	6.63	33029000000	5
4	1985	-.65	5.50	30134000000	4
4	1986	1.29	9.23	30471000000	1
4	1987	10.77	13.61	33530000000	3
4	1988	11.07	14.44	34973000000	1
4	1989	10.23	9.48	36782000000	4
4	1990	10.11	15.45	41317000000	1
4	1991	6.49	11.35	47053000000	5
4	1992	7.03	4.49	49624000000	2
4	1993	11.48	7.81	55583000000	3
4	1994	10.58	12.35	62699000000	3
4	1995	7.28	14.28	73638000000	1
4	1996	7.63	10.23	86368000000	2
4	1997	8.51	13.15	103251000000	3
4	1998	-2.17	7.63	122081000000	2
4	1999	6.20	19.28	120535000000	1
4	2000	9.04	17.19	126640000000	2
4	2001	-1.15	16.55	144625000000	1
4	2002	4.20	7.07	121310000000	4
4	2003	4.58	12.79	134001000000	2
4	2004	9.16	19.23	137881000000	4
4	2005	7.37	14.65	129707000000	3
4	2006	8.62	26.40	144564000000	5

4	2007	9.02	27.84	186076000000	4
4	2008	1.75	6.82	206837000000	2
4	2009	-.79	12.85	241830000000	5
4	2010	14.78	24.69	260314000000	4
4	2011	5.16	22.82	305880000000	1
4	2012	1.32	20.62	343966000000	3
5	1980	5.15	-.33	99053868250	4
5	1981	3.42	.48	122144000000	3
5	1982	3.62	.04	150977000000	2
5	1983	1.87	.32	198826000000	3
5	1984	-7.32	.03	206640000000	1
5	1985	-7.31	.04	200124000000	1
5	1986	3.42	.43	170651000000	5
5	1987	4.31	.92	148318000000	3
5	1988	6.75	2.47	157548000000	4
5	1989	6.21	1.32	191415000000	3
5	1990	3.04	1.20	250274000000	2
5	1991	-.58	1.20	243863000000	3
5	1992	.34	.43	286820000000	2
5	1993	2.12	2.28	669631000000	1
5	1994	4.39	2.48	813417000000	5
5	1995	4.68	1.99	1062380000000	1
5	1996	5.85	1.83	1475200000000	4
5	1997	5.19	1.48	1906050000000	3
5	1998	-.58	3.17	1868450000000	1
5	1999	3.08	1.50	1911820000000	2
5	2000	4.41	2.76	2088820000000	2
5	2001	2.89	.26	2179920000000	2
5	2002	3.65	1.90	2312850000000	2
5	2003	4.97	.59	2471310000000	3
5	2004	6.70	.75	2764060000000	3
5	2005	4.78	1.61	2682550000000	1
5	2006	5.24	2.22	3025720000000	3
5	2007	6.62	2.17	3332340000000	1
5	2008	4.15	.83	3663010000000	2
5	2009	1.15	1.61	3909920000000	5
5	2010	7.63	.82	4432560000000	2
5	2011	3.91	.81	5046400000000	3
5	2012	6.59	1.12	5375440000000	2
6	1980	2.82	.03	428939000000000	3
6	1981	4.18	.02	474355000000000	1
6	1982	3.38	.04	523229000000000	1
6	1983	3.06	.03	568220000000000	4

6	1984	4.46	.00	617439000000000	5
6	1985	6.33	.05	670040000000000	3
6	1986	2.83	.01	732965000000000	4
6	1987	4.11	.05	803430000000000	3
6	1988	7.15	-.02	886511000000000	2
6	1989	5.37	-.03	973523000000000	5
6	1990	5.57	.06	1047620000000000	2
6	1991	3.32	.04	1097260000000000	5
6	1992	.82	.07	1153120000000000	1
6	1993	.17	.00	1192590000000000	5
6	1994	.86	.02	1228070000000000	3
6	1995	1.94	.00	1268330000000000	3
6	1996	2.61	.00	1313750000000000	2
6	1997	1.60	.07	1143450000000000	2
6	1998	-2.00	.08	1211750000000000	4
6	1999	-.20	.28	1218140000000000	1
6	2000	2.26	.17	1233190000000000	2
6	2001	.36	.15	1191840000000000	4
6	2002	.29	.23	1159910000000000	4
6	2003	1.69	.14	1168120000000000	5
6	2004	2.36	.17	1155370000000000	1
6	2005	1.30	.09	1151670000000000	2
6	2006	1.69	-.11	1115530000000000	2
6	2007	2.19	.53	1092730000000000	4
6	2008	-1.04	.61	1111980000000000	4
6	2009	-5.53	.31	1117080000000000	5
6	2010	4.65	.02	1131710000000000	4
6	2011	-.57	.00	1151950000000000	4
6	2012	1.95		1180800000000000	1