THE EFFECTS OF CORRUPTION ON FDI INFLOWS: STUDY OF NEWLY INDUSTRIALIZES COUNTRIES

THESIS

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THE EFFECTS OF CORRUPTION ON FDI INFLOWS: STUDY OF NEWLY INDUSTRIALIZED COUNTRIES
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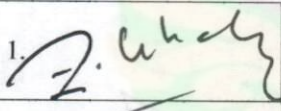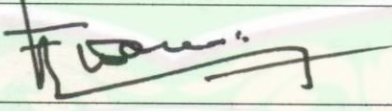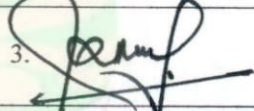
ABSTRACT

Corruption is often perceived to disturb the environment of investment of a country. However, little research has been undertaken to empirically examine its effects on Foreign Direct Invetment (FDI). This research examines the effects of corruption on Foreign Direct Investment (FDI) inflows in Newly Industrialized Countries. It is based on a cross-section data of six Newly Industrialized Countries which are China, India, Brazil, Mexico, Turkey, and South Africa in 15 years from 1995 through 2009. The panel data method is used in this research and the calculations have been done by the statistical software tool Eviews 6. Statistical results show the coefficient on the variable corruption is positive in sign and statistically significant. On other hand, the openness is strongly positive factor in influencing FDI flows. Then, the population growth has negative sign and statistically significant.

Keywords: Corruption, FDI Inflows, Newly Industrialized Countries, Eviews, Panel Data
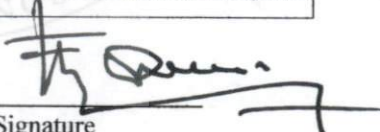
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PREFACE

In the name of Allah, the Most Gracious, the Most Merciful. All praise to be on Allah SWT Lord of the world. The Writer would like to thank to Allah for the guidance and mercy therefore my thesis entitled: "The Effects of Corruption on FDI Inflows: Study of Newly Industrialized Countries" has finally been accomplished on time.

This thesis is proposed as a partial requirement to acquire Bachelor Degree at Economics Department of Economics Faculty of Andalas University. The reasons lying behind the chosen of this thesis are; firstly, Foreign Direct Investment (FDI) has been a key in the degree of development for countries. Secondly, newly industrialized countries such as China, Brazil, India, Mexico, Turkey and South Africa are the largest host countries for FDI. Lastly, Corruption is often perceived to disturb the environment of investment of a country.

The Writer realizes this thesis is still far from perfection. It needs to be improved for that reason. The Writer would gladly welcome constructive critics and suggestions for perfections. Hopefully this thesis can be helpful and give benefits to anyone who reads it, especially to academicians and students.

Padang, March 2012

Yulia Eka Putri

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Above all, I wish to express my greatest thanks to my own family, especially for my lovely Amak and Apah, Yusraini and Syahmanar for their unfailing and unconditional love throughout my life. Without them, I am nothing. I love them

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One word frees us of all the weight and pain in life,

That word is Love.

Padang, March 2012

Yulia Eka Putri

LIST OF GRAPHS

CHAPTER 1

INTRODUCTION

1.1 Background of the research

FDI has played an important role in the internationalization of business. Enormous changes have occurred both in terms of size, scope, and methods of FDI in the last decade. These changes occur because of developments in technology, reducing restrictions on foreign investment and acquisitions in many countries, as well as deregulation and privatization of many industries. Development of information technology systems and increasingly inexpensive global communication allows the management of foreign investments carried out with much more ease.

Mostly the greatest influence of FDI is in developing countries, where the net flow of FDI has increased rapidly from an average of under $300 million in the 1970s to nearly $230 billion in 2010 (World Bank). Among other countries, newly industrialized countries such as China, Brazil, India, Mexico, Turkey and South Africa are the largest host countries for FDI. In 2010, the net flow of FDI in China was $185 billion, Brazil was $48.4 billion, India was $24.2 billion, Mexico was $18.7 billion, Turkey was $9.3 billion and South Africa was $1.6 billion. Then, the total net flow of FDI in the world in 2010 was $1.3 trillion. Therefore, 22 % of the total net flow of FDI was in those six countries. So, it is not surprising that economic growth in these countries became very fantastic.

During the 1990s, foreign direct investment was one of the main external sources of financing for most countries growing economically. It has also been showed that foreign direct investment has helped the several countries when they faced economic hardship. Therefore, Foreign Direct Investment (FDI) has been a key in the degree of development for countries. Less developed countries, especially those classified as new industrialized countries have been avid in attracting investment to help with their development in important areas. In their search for this investment, the government has made changes in their policies to make their countries more attractive to the foreign investors.

The government is giving close attention to FDI as it could have a significant effect. Economists consider that FDI is defined as a driver of economic growth. It contributes to national economic measures such as Gross Domestic Product (GDP), Economic Growth, Income, etc. They also argue that FDI encourages the development of the host country or a local company which receiving the investment. FDI is a source of the growth of technology, processes, products of organizational systems, and new management skills. Furthermore, FDI is also open markets and new marketing channels for the company, cheaper of product, access to technology easily, skills, and new funding.

Regarding to attention from the government towards FDI, it is closely related to the behavior of government officials itself, it is like how to attract the attention of foreign investors. Corruption which is now beginning to attract attention everyone in the world is one of government behavior that is expected would affect

FDI inflows. Moreover, Asian Development Bank said that corruption involves behavior on the part of officials in the public and private sectors, in which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed.

Due to Lees (2001, p.1), corruption as a cultural, political and economic phenomenon. Corruption is a "cancer" which influence all elements of society, principally the poor, and radically, obstructs business activity and economic development. Transparency International (2000) described that corruption strikes at the center of the market economy, altering decision-making, and incentiving the corrupt and manipulative, rather than the efficient and the productive. Khera (2001) in additional said that corruption is significantly more universal than many business leaders are willing to accept.

Moreover, Woo (2010) argues that corruption hinders economic development by reducing domestic investment, discouraging foreign direct investment, encouraging overspending in government, and distorting the composition of government spending. Corruption is believed not only to hurt the static efficiency but also to discourage investment, which is considered an important factor for economic growth, especially for those countries in dire need of capital accumulation.

Many experts express their opinion on the issue of corruption. Basically, there are pross and cons. While some researchers including Mauro (1995) have maintained and validated that economic growth is hardly possible in corrupted

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countries because high corruption hampers domestic and foreign investment, although there are also counterarguments against that. Then, Bayley (1966) says that "corruption in developing nations is not necessarily antipathetic to the development of modern economic and social system; that corruption serves in part at least a beneficial function in developing societies" (719). After that, Huntington (1968) also asserts that "In terms of economic growth, the only thing worse than a society with a rigid, over centralized, dishonest bureaucracy is one with a rigid, over-centralized, honest bureaucracy (386)". Both of Bayley (1966) and Huntington (1968) explain that in developing countries where awkward regulation is invasive, corruption may truly recover efficiency and help the growth of economy. Some Southeast Asian countries looked like to offer evidence that corruption actually helped economic growth until the 1997 financial crisis. For instance Indonesia, Thailand, and other countries. Then, according to Tanzi (2002), those countries have been said to grow fast in spite of-or even because of-a high level of corruption. Before that, Campos et al (2001) said that those countries also have attracted a considerable flow of foreign capital .

Although many academicians study the relationship between corruption and FDI inflows, the best of our knowledge is only few studies that have been documented about the effect of corruption on FDI inflows in case of Newly Industrialized Countries for example studied by Wei (1999). Therefore, this study will investigate " **THE EFFECTS OF CORRUPTION ON FDI INFLOWS : STUDY OF NEWLY INDUSTRIALIZED COUNTRIES**".

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3. As input for the government and other stakeholders as decision makers in order to make appropriate policy in the economy.

1.5 Hypothesis

The hypothesis is "In Comparison With FDI from Other Countries, The Relationship between Newly Industrialized Countries' Corruption and FDI is Positive"

1.6 Limitation of Study

This study focused on the effect of corruption on FDI inflows: Case of Newly Industrialized Countries from 1995 till 2009. There are nine Newly Industrialized Countries based on International Monetray Fund's World Economic Outlook Report April 2011, but the author just choose six of them which are China, India, Mexico, Brazil, South Africa and Turkey. In terms of corruption, we apply the variable of corruption generally, means there is no type of corruptions that we will propose. Then, we will investigate the effect of corruption on FDI inflows by using panel data method because our observations possess cross section and time series.

1.6 Organization of Thesis

In writing this research, it is grouped into six chapters, which are details as the following:

This chapter outlining the results and discussion of the research object description, data analysis, and discussion.

Chapter VI   : *Conclusions and Recommendation*

This is a closing chapter describes the conclusions of the analysis carried out and the implications that arise from the conclusion as an answer to the question of the problem.
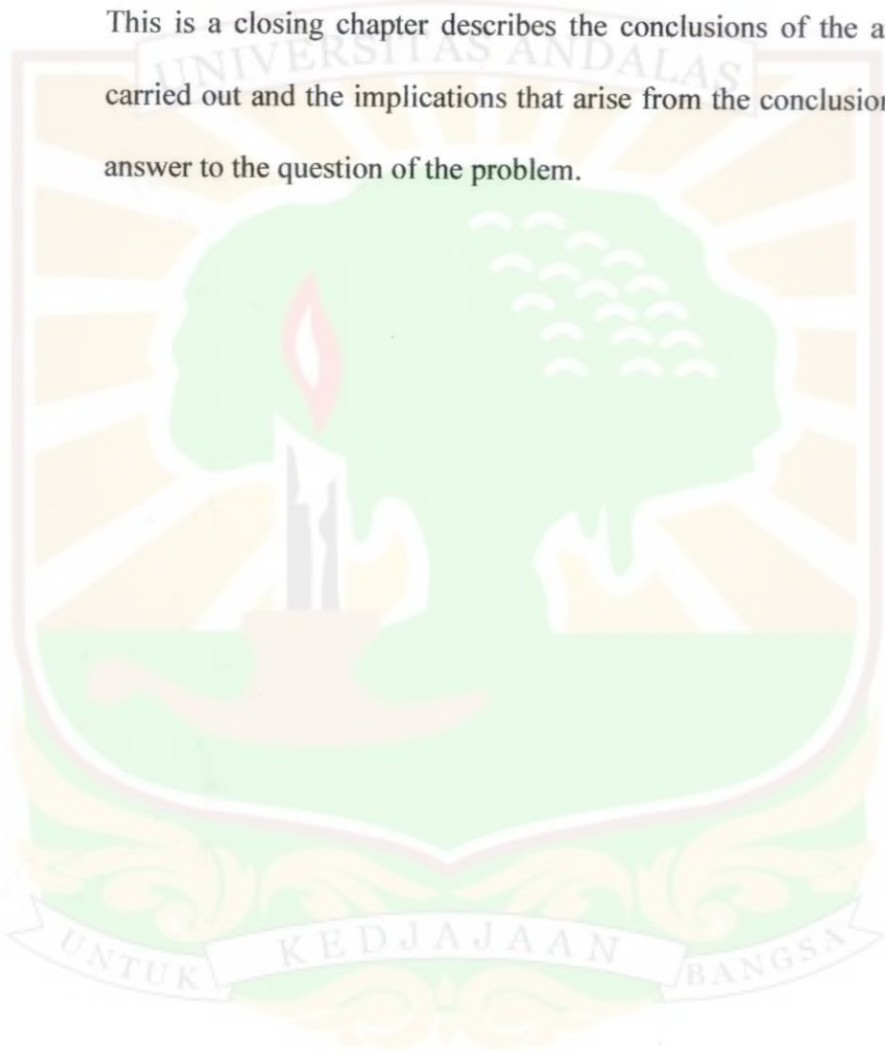
CHAPTER II

THEORETICAL FRAMEWORK AND LITERATURE REVIEWS

2.1 Theoretical Framework

2.1.1 Corruption

The Oxford Dictionary of Current English on page 196 defines corruption as "dishonest or illegal behavior". Then, Transparency International, 2000, page 3, showed that corruption as "behavior by officials in the public sector, whether politicians or civil servants, in which they unacceptably and illegally improve themselves, or those close to them". This understanding particularly underlines administrative corruption as opposed to harshly political corruption. According to Transparency International, 2000, page 3, TI concentrates on corruption in the public sector and labels corruption as the misuse of public office for private gain. The surveys used in accumulating the Corruption Perception Index is be likely to ask questions in line with the misuse of public power for private benefits, with a focus, for instance, on bribe-taking by public officials in public procurement.

Dunning's (1988) study which named with OLI Paradigm on page 1 provides as an initial platform from which to base an academic development of corruption in a international business context. The goal of Dunning in proceeding his OLI framework is to discover and estimate the importance of the factors influencing both the initial act of foreign production and the growth of such production . The three main factors are: (1) Ownership Advantages means the "why" question of

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foreign production; (2) Location Advantages means "where" to locate abroad. The alternative of location might result from market disappointments (structural - government tempted); and (3) Internalization Advantages means "how" firms internalize middle markets to decrease the transaction and coordination costs of markets.

Boddewyn (1998) showed the power of OLI's paradigm originates in its illustrative and systematic capability in addressing important issues related to international MNE activity. Its significance can be expanded by introducing the notion of corruption and associated effects on FDI. Particularly, by considering the issue of corruption, a MNE can effectively act to decrease the uncertainty associated with entering a foreign country. However, this thesis builds on Dunning's original notions and extends them to consider the effects of corruption.

Malta Conference (1994) found additional variables enlarge our knowledge of the (L) advantages and their influence on FDI. To this end, corruption is a factor that has attracted attention lately is included among the descriptors of the attractiveness of a location.

Corruption is described in various directions. International organization (UN) and Western governments explain corruption with "improbity", which covers not only in what is illegal, but also inappropriate. Due to The World Bank, Tanzi (1998) emphasizes the abuse of public power for private benefit . Whereas corruption of public employees is a dominant theme, then Coase (1979) also says that corruption

(Leff, 1989) identifies that corruption is seen as helping transactions and speeding up procedures that would otherwise happen with more difficulty, if at all. Corruption is a method to bring market procedures into an environment of extreme or misguided regulation, introducing competition into what is otherwise a monopolistic setting. Lui (1985) says that corruption facilitates free markets to come out in situations of limited freedom.

However, many scholars have a negative view of corruption, because it is infrequently limited to areas where it may increase welfare. These scholars such as Kaufmann (1997) sees corruption as 'smooth in the wheels of commerce', representing that corruption results in the careless use of resources offered to corruption as well as to fighting it. These resources could be invested more beneficially in other ways. Moreover, the fee of a bribe does not make sure that the promised goods are delivered. Shleifer and Vishny (1993) state that investors do not have option in the courts to demand fulfillment of the agreement, as bribery is illegal. Even when the bribe results in completion of the promise, the firm expressions increased costs. (De Soto, 1989) describes the official can deny consent of a permit until a bribe is paid, therefore increasing the cost of the firm. Moreover, the officials of government have an encouragement to make additional regulations with the single purpose of generating a chance for more bribes. According to Mauro (1998), the corruption also results in the unproductive allocation of assets towards areas that are more horizontal to bribe payment.

50% of the voting power is held; in associates, between 10% and 50% and quasi-corporations (such as branches) are effectively 100% owned by their foreign parent companies (OECD, 2002).

In terms of the limited space and the scope of this study, we will control the theoretical analysis to the most relevant frameworks: Dunning's eclectic OLI paradigm of international production and its more empirical complement – the Gravity Model of international investment, while mainly focusing on the location-specific determinants of FDI. Starting with the *OLI paradigm*, this widely cited theoretical framework incorporates several (contrasting) types of theoretical approaches and is besides the best equipped to analyse the institutional determinants of FDI (Dunning, 1977). The theory integrates microeconomic theory of the firm, organisational economics and macroeconomic theories of international trade and resource allocation. The OLI framework rests on three pillars (Dunning, 2008). First, ownership-specific advantages (O) represent certain assets, unique to firms of a particular ownership or from a certain host country and not (as favourably) available to the others, which determine the capability and willingness of one country's firms to supply foreign markets. The extent to which a firm possesses and exploits the ownership advantages is the first determinant of the level and structure of firm's FDI. Second, location-specific advantages (L) are available to all types of firms, but are specific to a particular location. These might be countries' Ricardian factor endowments (capital, labour), but also cultural, political, legal, financial or institutional environments in which they are located. More specifically, distance (both physical and institutional) to the investor, government intervention (taxes, FDI

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assistance, tariffs, quotas), the availability of local clusters, nature of competition in the market and education level of workers are examples of such factors. The spatial distribution of L-type resources, capabilities and institutions is, along with the resulting competitive advantages, uneven among different countries. Third, in order to be able to exploit both the differences in L-type assets between countries and firm-specific O-advantages, market internalization advantages (I) of the hierarchical rather than market path may exist. Combining all the three types of advantages, the general prediction of the paradigm regarding outward FDI flows is that the more of a country's firms (relatively to other countries') possess particular O advantages, the greater the I-incentives are to internalize their use and the more they strategically find it in their interest to use them in a country with favourable L-advantages, the more likely they are to engage in outbound FDI (in a particular set of countries). According to Dunning (2008), four types of motives for MNE activity may be identified: they can seek abroad for natural resources, markets, efficiency or strategic assets and capabilities. Applying the OLI paradigm as a theoretic fundamental to this thesis, since we are mainly interested in the L-type factors which offer some countries better inward FDI attractiveness that others, the O and the I advantages will be assumed as given and equal to all of the investing firms from the sample. In our case this is a plausible assumption, since the aggregated FDI outflows by MNEs, originating from only one home country (the US) in one particular period of time, are used. Having set that straight, the related Gravity Model will now shortly be introduced, which is generally used as a basic framework for analyses of more empirical type and mainly focuses on the L-type advantages.

Due to Tinbergen (1962) and Pöyhönen (1963) were the first to propose the Newtonian *Gravity Equation* to be used for the empirical analysis of international trade patterns, while the major formal supporting theoretical framework was gave by Dunning's eclectic OLI paradigm. According to Eita (2008), based on to the analogy with physical science, trade flows would be decided just like the attraction between two physical objects: the direction and volume of international trade would positively depend on the attraction of two countries' masses (represented by GDP or population), weakened by distance between them (representing resistance and proxying transport costs) and held by a set of variables that catch common institutional characteristics such as languages, culture, trade agreements, and law system. On other hand, the gravity model has also been found suited to discover the patterns of other cross-border value-adding activities, like various determinants of FDI flows. Likewise, According to Ledyaeva and Linden (2006), it proposes that FDI is positively related to GDP levels in both host and source countries and negatively related to the distance between them. While focussing on the OLI foundations of the gravity model, scholars like Ethier and Markusen (1996) and Rugman (1986) showed that the destination consumption market proved to be major determinant of foreign production location option

Then, the following table is about classification of FDI determinants by UNCTAD.

Table 2.1 : The UNCTAD's classification of FDI determinants

Determinants	Explanations
Market-seeking	To open or secure markets (market size market growth, market structure, business competiveness)
Resources-seeking	To secure resources supplies (raw material, cheap labor) or technology for their home or other developed markets.
Efficiency-seeking	To gain the synergies through the international integration of production and service activities. This sort of FDI can be either buyer driven or producer driven, and is related to labor productivity, transportation and communication costs consideration.
Created-asset-seeking	To upgrade production capabilities through the acquisition of new assets.
Government policy and macroeconomic framework	Environmental Incentives: liberalization and privatization policies, macroeconomic policy, tax policy, trade policy.

Source: UNCTAD World Investment Report 2006, Ch. IV: Driers and determinants. pp. 141-168

2.1.4 FDI Inflows and Corruption

Corruption has been described in different ways, in terms of various forms that corruption can take which involving practices such as bribery, extortion, influence, fraud, and embezzlement. However, we use Macrae's (1982: 679) definition since we take care only with corruption that affects the costs of investment operations. He labels corruption as an "agreement" that engages "a private exchange between two parties (the 'demander' and the 'supplier'), which (1) has a power on the distribution of resources either immediately or in the future, and (2) occupies the use or misuse of public or collective responsibility for private ends." In our case, the demander may the public officials and the foreign investors are the supplier.

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economic freedom. According to Houston (2007), investigating the effects of corruption on a country's economic performance, found that corruption has positive effects on economic growth in countries with a weak rule of law, while it has negative effects in countries with noise institutions. Then, Swaleheen and Stansel (2007) also described that corruption improves economic growth in countries with high economic sovereignty, while it hampers economic growth in countries with low economic sovereignty.

2.2 Previous Empirical Studies

Becker (1968) is the first who has investigated the economics of corruption. Becker applies economic analysis to foster optimal public and private policies to fight illegal behavior. After that, a lot of studies, both empirical and theoretical have analysed the correlation of corruption with a lot of economic variables. On the theoretical side, Rose-Ackerman (1975), Lui (1985) and Sheilfer and Vishny (1993) are some of the influential studies in corruption area. Actually, there are smaller numbers of studies say that corruption can have positive effect whilst most of the theoretical studies examine the negative effects of corruption, for example Lui (1985) studies the effect of bribery in terms of a queue where clients having different assessments of time. Those are ranked by classify of their bribe payments to the server of the queue. The author explains that the strategies of bribing of customers who have different form of time penchant that related to a Nash equilibrium that minimizes the standard value of the time costs.

national income level rose. Then, the authors (p.70) close that the importance of the risk factor ought to "be discounted, although it would not be impossible to assign it some small weight as a decision factor".

Hines (1995) does not find a significant correlation between total inward FDI and corruption in the host country. He applies data on US foreign investment in 35 countries for the time after 1977, then he employs the data of corruption from BI and investigates four indicators of US foreign investment in host countries, those are FDI, joint venture activities, aircraft exports and capital/labor ratios. He gets no evidence clearly for the fact that the anti-bribery laws endorsed in the US controled its investment in corrupt countries. Due to the author (p.20), "…it is noteworthy that local corruption has an insignificant effect on post-1977 growth of FDI….".

Lipsey (1999) investigates the location choice of US affiliates in Asia by using cross-country data in 10 developing Asian economies (other than Japan and the Middle East). The author classifies location by operation size, which is determined by variables such as the stock of investment, production (as in gross product) sales and employment. The author does not deal with the issue of corruption totally but instead, applies two measures of institutional characteristics in his field such as overall competitiveness index issued in the World Competitiveness Report by the World Economic Forum, and a index of corruption which applied in Mauro's (1995) study and showed by BI. He also finds factors such as capital intensity, extent of research and development, the degree of export orientation, and dependence on imports from the United States. Then, he investigated it buy using regression analysis. The author gets that variables such as market size, per capita income and tax rates of US

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affiliates, distance from the United States showed half the variation among the FDI recipient countries due to attracting US FDI. He gets as well that corruption has a significant negative impact on US FDI in Asian countries statistically. On the other hand, countries that had the highest level of US FDI also leveled high apropos determines of institutional characteristics including low levels of perceived corruption. Nevertheless, while the deviations from the equations position Asian economies, the effect of institutional variables became less.

Drabek and Payne (1999) get that managing for other factors, the attractiveness of host countries' to foreign investors is connected strongly to the transparency degree. They investigate it by using data on 52 countries over the years 1991-1995. Then, the authors apply a "Transparency Index" from the International Country Risk Guide (ICRG). It is packages effectively several variables such as the level of corruption, law and order, and bureaucratic quality, among others. The authors apply 2SLS and replication exercises and get a positive impact significantly of transparency (higher rank shows a higher level of transparency) on FDI. Nevertheless, the effect on FDI was less significant while elements of individual of the Transparency Index were used.

Then, Abed and Davoodi (2000) and Al-Sadig (2009) use comparable methodologies and get nearly the same results. They analyze the effect of corruption level on inward FDI (the former focuses on transition economies and uses per-capita FDI) by using both cross-sectional and panel data analysis. They get that countries with low levels of corruption be likely to attract more FDI. Nevertheless, the structural reform factor and institutions, the effect of corruption becomes insignificant

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after calculating respectively. It leads to the results that reform of structural and strengthening institutions are more essential than decreasing the level of corruption whilst attempting to push FDI flows.

Wei (2000) by using three separate corruption indexes from Business International, ICRG and Transparency International (TI) correspondingly studies the impact of corruption on bilateral investment from 12 countries to 45 host countries in 1993. First, the author regresses FDI on corruption, tax rate and a set of control variables by applying the method of OLS. The results show that higher level of corruption or tax rate in the host country reduces inward FDI in a significant way statistically. The second, to take account of zero-FDI values that were plunged in the previous estimation or a Double-Log linear model, a modified version of the Tobit model is applied. Then, the results are the same as in the previous problem qualitatively. The author concludes that corruption reduces FDI in a way that is numerically as well as quantitatively large. He also gets that American investors are no more unenthusiastic to host country corruption than other investors although the Foreign Corrupt Practices Act of 1977.

Smarynzka and Wei (2000) apply the data of firm level on foreign investment in 73 East-European countries for the period 1988-1995 widely and get that corruption has a significant effect on the choice of entry mode of the foreign investor in a study where the choice of entry mode of foreign investors is investigated. The authors apply the data on corruption from the World Bank and Transparency International. They get that corruption in the host country creates the investor of foreign countries prefer a joint venture to single ownership by controlling

for investors' technological sophistication, firm size, production diversification, GDP and other factors. On the other hand, the authors say that foreign investors are less disposed to form joint ventures related to fear of technological leakage if foreign investors have complicated technology.

Discussing in the developing countries, Akçay (2001) utilizes cross-sectional data from 52 developing countries with two different index of corruption to guess the effects of the level of corruption on FDI inflows. He falls short to find indication of a negative relationship between FDI and corruption. He wraps up that the most important determinants of FDI are market size, corporate tax rates, labor costs, and openness.

Habib and Zurawicki (2002) find the effect of corruption on bilateral FDI by using data on 89 countries for the period 1996-1998. The data of bilateral FDI from the International Monetary Fund (IMF 2000) is used by them and data on corruption is taken from Transparency International. Their analysis included in seven home countries. Firstly, they investigate the effect of host country corruption on FDI. Then, they analyze the impact of the absolute difference between the levels of corruption of the home and host countries by using the PROBIT approach. Other factors such as population, GDP growth, and unemployment among others are controlled simultaneously. In the first case, they get that corruption has a significant (at less than 5 percent significance level) negative impact on FDI statistically. In next case, the authors get that corruption still has a negative impact significantly on FDI by using the absolute difference in the corruption levels between the home and host countries, even though the results are just marginally significant (i.e. at the 10 percent

significance level). Similar to Habib and Zurawicki, Zhao, Kim and Du (2003) find that the presence of high corruption and low transparency significantly hindered the inflow of FDI to host countries. They investigate the influences of corruption and transparency on the level of foreign direct investment (FDI) by using cross section data of 40 countries in 7 years.

The next authors, Voyer and Beamish (2004) by using a single source country, apply cross-sectional regressions to examine the effects of the level of corruption on Japanese FDI in 59 (developed and emerging) host countries. They discover that Japanese FDI is negatively related to the level of corruption especially in emerging countries. Auxiliary, their results reveal that in emerging countries where a complete legal system is underdeveloped or does not exist to effectively reduce illegal activities, corruption dishes up to reduce Japanese FDI inflows.

Then, empirical evidence for the relations of home and host-country levels of corruption is combined. Buckley *et al.* (2007) and Morck *et al.* (2008) get that the outward of China's FDI is biased toward host countries that are lacking in strong market institutions and that have a high level of state involvement in the economy, characteristics that may be indicative of corruption. It is also related to Rose-Ackerman's (1999) views. Alternatively, Delios *et al.* (2005) find that the level of corruption in the host-country does not affect Japanese FDI to OECD countries. Then, Cuervo-Cazurra and Genc (2008) tried to investigate MNCs from developing countries and get that they are investing disproportionately in so-called "least developed countries" where the institutions of economic and governance are less

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established well.

The recent study which related to corruption and FDI is done by Woo (2010). He tries to empirically find the correlation between the perceived level of corruption and the FDI attractiveness of countries, since previous studies show no dominant frameworks to form hypotheses. The author examines the effect of corruption on the FDI attractiveness by applying a sample of 90 countries from 1984-2004. The result of this study said that corruption generally has harmful effect on attracting FDI. Then, the author also finds that corruption causes more problems for those countries which need FDI for their economic development.

The review of literature in this part provides a mixed picture on the empirical correlation between corruption and FDI evidently. Consequently, in the next and following chapters, we try to show a theoretical as well as empirical testing of the correlation between corruption and FDI inflows in Newly Industrialized Countries such as China, India, Mexico, Brazil, Turkey, and South Africa over the period 1995 to 2009.

CHAPTER III

METHODOLOGY AND RESEARCH

3.1 Introduction

In order to establish an empirical relationship between FDI and corruption, panel regression analysis is used. This chapter is organized as follows: in the first part of this chapter, the methodology and econometric model used to test the empirical relationship between FDI and corruption. The data is discussed in detail in the next section.

3.2 Econometric Model and Methodology

The regression analysis carried out in this chapter makes use of panel data. According to Baltagi (2005), panel data analysis shows regression analysis with both a spatial and temporal dimension. The spatial dimension is to set cross-sectional unit of observation. These could be countries, firms, products, groups of people, or even individuals. The temporal dimension is kind of periodic observations of a set of variables characterizing these cross-sectional units over a particular time span. In this study, this pooled data set, sometimes called time series-cross sectional data, includes a total 90 observations. In other words, the 6 countries are followed for 15 years sampled annually, it is from 1995 to 2009. There are several advantages of using panel or pooled cross-section and time-series data, which allow one to observe differences in the behavior of individual units both across cross sections as well as over time. According to Baltagi (2005), the advantages of using panel data are:

framework. With this background, we construct a parsimonious model in this section that is linear in its parameters.

3.2.1 Econometric specification

Our basic model takes the following form:

$$y_{it} = \beta x_{it} + \delta_i + \varepsilon_{it} \quad i = 1,\dots,N \text{ and } t = 1,\dots,T$$

where y_{it} and x_{it} represent the dependent and independent variables respectively for the ith country at time t; δ_i represents unobserved factors which are time invariant and specific to each country; and ε_{it} represents the remaining effects which are assumed to vary over both individuals and time periods. It is assumed that $\varepsilon_{it} \sim IN(0, \sigma^2)$. The Fixed Effects model allows for possible correlation between the unobserved effect and the individual regressors.

In terms of the variables in our model, the above equation can be re-written as

Log Foreign Direct Investment Inflows = f(Corruption, Control Variables)

Or

FDI Inflows = f (CORR, GDPG, OPEN, POPG)

Where

FDI inflow   = FDI into country i

CORR   = Index of Corruption

GDPG   = Gross Domestic Product Growth Rate

OPEN   = Opennes

POPG   = Population Growth

3.2.2 Methodology

Ali Al-Sadiq (2009) has applied the method of panel data to investigate the effects of corruption on FDI inflows. He used panel data for 117 countries over the period 1984-2004. As we have described, panel data offers a wide range of opportunities in terms of spatial and temporal dimension for researchers within regression analyzed. According to Robert Yaffe (2003), panel data set was divided into three:

1. The Constant Coeeficients Model (CCM)

One type of panel model has constant coefficients, referring to both intercepts and slopes. In the event that there is neither significant country nor significant temporal effects, we could pool all of the data and run an ordinary least squares regression model. Although most of the time there are either country or temporal effects, there are occasions when neither of these is statistically significant. This model is sometimes called the pooled regression model.

2. The Fixed Effects Approach

Another type of panel model would have constant slopes but intercepts that differ according to the cross-sectional (group) unit—for example, the country. Although there are no significant temporal effects, there are significant differences among countries in this type of model. While the intercept is cross-section (group) specific and in this case differs from country to country, it may or may not differ over time. These models are called fixed effects models.

After we discuss types of fixed effects models, we proceed to show how to test for the presence of statistically significant group and/or time effects. Finally, we discuss the advantages and disadvantages of the fixed effects models before entertaining alternatives. Because i-1 dummy variables are used to designate the particular country, this same model is sometimes called the Least Squares Dummy Variable model

$$y_{it} = a_1 + a_2 group_1 + a_2 group_2 + ... + a_n group_n + \beta_2 X_{2it} + \beta_3 X_{3it} + e_{it}$$

Or we convert to our model,

$$FDI_{it} = a_1 + a_2 Country_1 + a_2 Country_2 + ... + a_n Country_n + \beta_2 CORR_{2it} + \beta_3 GDPG_{3it} + e_{it}$$

3. The Random Effects Model (REM)

Robert Yaffe (2003) underlines that Prof. William H. Greene calls the random effects model a regression with a random constant term (Greene, 2003). One way to handle the ignorance or error is to assume that the intercept is a random outcome variable. The random outcome is a function of a mean value plus a random error. But this cross-sectional specific error term vi, which indicates the deviation from the constant of the cross-sectional unit (in this example, country) must be uncorrelated with the errors of the variables if this is to be modeled. The time series cross-sectional regression model is one with an intercept that is a random effect.

$$y_{it} = \beta_{0i} + \beta_1 x_{it} + \beta_2 x_{it} + e_{it}$$

$$\beta_{0i} = \beta_i + v_i$$

$$\therefore y_{it} = \beta_i + \beta_1 x_{it} + \beta_2 x_{it} + e_{it} + v_i$$

Under these circumstances, the random error v_i is heterogeneity specific to a cross-sectional unit—in this case, country. This random error v_i is constant over time. Therefore, $E\left[v_i^2 \mid x\right] = \sigma_i^2$ The random error e_{it} is specific to a particular observation. For v_i to be properly specified, it must be orthogonal to the individual effects. Because of the separate cross-sectional error term, these models are sometimes called one-way random effects models. Owing to this intrapanel variation, the random effects model has the distinct advantage of allowing for time-invariant variables to be included among the regressors.

3.2.3 Statistical Testing

Due to Baltagi (2005), the assumptions is needed for making multiple regression equation testing to see whether the regression model that was made could be applied.

1. Autocorrelation

Autocorrelation test is used to determine whether there is any devation classical autocorrelation assumption, namely the correlation between residuals in one observation with another observation on the regression model. Prerequisites that should be fulfilled are the absence of autocorrelation in the regression model. Testing method that often used is by Durbin-Watson test (DW test) with the following conditions:

    a. If d is smaller than dL or greater than (4-dL) then the null hypothesis is rejected, which means there is autocorrelation.

b. If d is in between dU and (4-dU), the null hypothesis is accepted, which means there is no autocorrelation.

c. If d is in between dL and dU or in between (4-dU) and (4-dL), it does not produce definitive conclusions.

Value of dU and dL can be seen from Table Durbin Watson statistics that depend with the number of observations and many variables that explain. Durbin Watson test formula is :

$$d = \frac{\sum(e_n - e_{n-1})^2}{\sum e_x^2}$$

Which,

d = Durbin-Watson value

e = residual

2. Heteroscedasticity Test

Heteroscedastisity test used to determine whether there is any deviation heteroscedasticity classical assumption, namely the inequality of the residual variance for all observations in the regression model. A prerequisite that must be fulfilled in the regression model is the absence of symptoms of heteroscedasticity. There are several testing methods that can be used such as the Park Test, Test Glesjer, Seeing Patterns Regression Graphics, and Spearman Correlation Coefficient Test.

3. Multikolinearity

Ragner Frish created double multikolinearity. It means there is a perfect linear relationship among independent variables in regression model. There is some reasons why multikolinearity happens in regression. Those are:

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a. Error theory in regression function formation

b. Total observations that will be analyzing in regression model are too small.

There are several methods to investigate the multikolinearity:

a. Using Variance Inflation Factor (VIF), if the value of VIF < 10, so there is no problem with multikolinearity.

b. Compare the value of individual coefficient determination (r^2) with (R^2)

c. Through eigenvalue and condition index.

3.2.4 Hypothesis Testing

To investigate whether the model applied is good or not, there are several criteria for statistical testing of the coefficient of determination or R-Sq, F test and t test.

1. The Coefficient of Determination

Due to Nachrowi and Usman (2002), to test the adequacy of regression models, can be seen from the coefficient of determination (R-Sq). The value of determination coefficient is a measurement which shows the large contribution of the explanatory variables against response variables. The greater the coefficient of determination, then the model will be better.

2. F test

According to Nachrowi and Usman (2002), F test used to see whether the explanatory variables together (simultaneously) gave a significant effect or no effect

on the dependent variable. The first step that we have to do is create the hypothesis:

Ho = independent variable have no significant effect to the dependent variable.

Ha = independent variable significantly affects to the dependent variable

$$F_{test} = \frac{R^2 / (k-1)}{(1 - R^2)/(n-k)}$$

R^2 = determination coefficient

k   = independent variable

n   = total sample

F-table $= \{a; df_1 = (n-1); df_2 = (n-k-1)\}$, then if F-test > F-table, Ho is rejected and we accept Ha. It means that all of independent variables together significantly affect dependent variable.

3. **T-test**

According to Nachrowi and Usman (2002), T test is a test to find out whether or not a significant regression coefficient. T test used to see whether the explanatory variables individually significant effect or no effect on the dependent variable.

$$H_0 = \beta \qquad\qquad H_a : \beta \neq 0$$

Based on the data, value of β will be tested, if $\beta = 0$. It means that coefficient of dependent does not have significant effect with independent variable. If $\beta \neq 0$, it means that coefficient of dependent have significant effect with independent variable. T-test is:

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$$\{T_{test}\} = \frac{\bar{\beta}_j}{SE\left(\bar{\beta}_j\right)}$$

$$\{T_{table}\} = \{a; df = (n-k)\}$$

If t-test > t-table, means that H_0 rejected, it means that $\beta \neq 0$ or β is statistically significant. So, this hypothesis test is to test the significance of independence variables to dependence variables.

3.2.5 Model Testing

3.2.5.1 Redundant Fixed Effects Tests (Pooled OLS vs. Fixed Effects)

If there are no unobserved individual effects, i.e. $\delta_i = 0$, then the equations in section 3.2.1 reduce to the multiple linear regression model. As a result, the pooled Ordinary Least Squares (OLS) will produce unbiased, consistent and efficient estimates. However, in the presence of unobserved heterogeneity, which is a typical feature in panel data, the OLS parameter estimates will be unbiased, consistent but inefficient. Furthermore, if $\text{Cov}\left(x_{it}, \delta_i\right) \neq 0$, the pooled estimates will be biased and inconsistent. Therefore, this heterogeneity is accounted for using the Fixed Effects model. Note that even if $\text{Cov}\left(x_{it}, \delta_i\right) \neq 0$, the estimates of the FE model will be unbiased and consistent.

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3.2.5.2 Hausman Test (Fixed Effect Vs Random Effect)

According to Hausman (1978), the Hausman specification test compares the fixed versus random effects under the null hypothesis that the individual effects are uncorrelated with the other regressors in the model. If correlated (H0 is rejected), a random effect model produces biased estimators, violating one of the Gauss-Markov assumptions; so a fixed effect model is preferred. Based on Greene (2003), shows that Hausman's essential result is that the covariance of an efficient estimator with its difference from an inefficient estimator is zero.

$$m = \left(b_{Robust} - b_{Efficient} \right) \overset{\Lambda}{\Sigma}^{-1} \left(b_{Robust} - b_{efficient} \right) \square \, X^2 \left(k \right)$$

$$\overset{\Lambda}{\Sigma} = Var \left[b_{Robust} - b_{Efficient} \right] = Var \left(b_{Robust} \right) - Var \left(b_{Efficient} \right)$$

is the difference between the estimated covariance matrix of the parameter estimates in the LSDV model (robust) and that of the random effects model (efficient). It is notable that an intercept and dummy variables should be excluded in computation.

3.3 DATA

The key variable to be explained in this study is the flow of FDI in a sample of 6 Countries which are China, India, Brazil, Mexico, Turkey, and South Africa over the period 1995 to 2009. The following paragraphs explain the data and its sources in detail.

3.3.1 Dependent Variable: Foreign Direct Investment

The FDI measure is based on the inflows of FDI (annual, and in US $) as reported in the OECD (2011). Foreign direct investment is defined as *Direct investment is a category of cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor. The motivation of the direct investor is a strategic long-term relationship with the direct investment enterprise to ensure a significant degree of influence by the direct investor in the management of the direct investment enterprise. The "lasting interest" is evidenced when the direct investor owns at least 10% of the voting power of the direct investment enterprise"* (OECD, 2008). The data covers FDI inflows in 6 countries for the period 1995-2009. FDI inflows are calculated as the average of the years (with each average except the last, consisting of 4 years) so that volatility or wide year-to-year fluctuations in the flow of FDI is reduced to some degree.

For the purpose of analysis, our intention is to have the greatest coverage of countries and for the maximum period possible. Therefore, the choice of countries and the number of years used are constrained by the availability of consistent data for the maximum number of countries and years respectively.

3.3.2 Independent Variables

The key regressor in our analysis is a measure of corruption. The choice of the control variables is based on what the literature on the determinants of FDI suggests and also by data availability.

(a) Corruption

The index for corruption is taken from Transparency International (TI). This organisation was established 1993 to raise awareness of international corruption and to create a coalition of interests from both the public and the private sectors to combat it. The index of corruption (CPI) will appear annually. The Corruption Perceptions Index (CPI) table shows a country's ranking and score, the number of surveys used to determine the score, and the confidence range of the scoring. The rank shows how one country compares to others included in the index. The CPI score indicates the perceived level of public-sector corruption in a country/territory. The CPI is based on 13 independent surveys. However, not all surveys include all countries. The surveys used column indicates how many surveys were relied upon to determine the score for that country. As of 2010, The index of corruption ranks 178 countries on a scale from 10 (very clean) to 0 (highly corrupt).

(b) GDP growth

A high growth rate of GDP is an indicator of future market potential. The growth hypothesis states that a country with higher growth offers better opportunities for making profits than one that is growing slowly (Lim 1983). Thus, an impressive

CHAPTER IV

CORRUPTION AND FDI IN SIX NEWLY INDUSTRIALIZED COUNTRIES

4.1 China

4.1.1 Foreign Direct Investment

China has become a major player in the world foreign direct investment market. After emerging, during the 1980s, from its isolation and beginning its integration into the world economy, China rapidly became a major host country for foreign direct investment (FDI). Foreign firms were attracted by both the country's growing domestic market and its potential as an export platform.

After years of isolation and poor economic performance, China's economy began to open up in the 1980s, including for FDI. While foreign firms were attracted by the Chinese market, the government initially wanted foreign affiliates to be export-oriented. Firms were attracted by the availability of skills at low wages and an improving infrastructure; in addition, the regulatory framework for FDI improved over time. And, of course, firms wanted to establish a foothold in the country's huge market. This strategy proved successful, both for the government and multinational enterprises (MNEs): over half of China's exports originate today from foreign affiliates located in the country, and this share has, if anything, grown, while total exports rose from US$ 149 billion in 1995 to US$ 1.2 trillion in 2009. China became the new "workshop of the world".

Over time, the Government of China opened its domestic market to sales by foreign affiliates located in the country. This went hand-in-hand with the country's

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The following chart shows the FDI inflows in China from 1995 through 2009.

Figure 4.1.1 FDI Inflows, 1995 through 2009
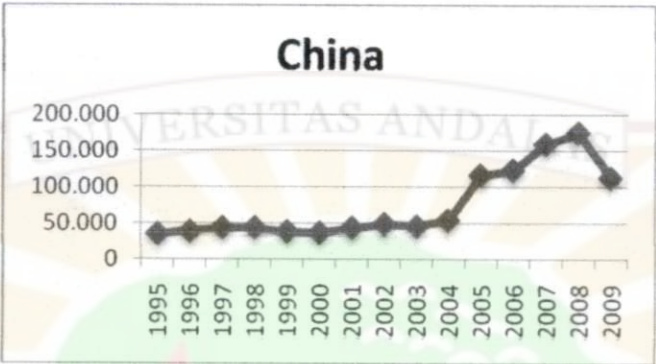
Source: Writer's compilation (OECD)

4.1.2 Corruption

The People's Republic of China suffers from widespread corruption. For 2010, China was ranked 78 of 179 countries in Transparency International's Corruption Perceptions Index, ranking slightly above fellow BRIC nations India and Russia, but below Brazil and most developed countries.

Weak state institutions are blamed for worsening corruption in reform-era China. Corruption in China results from the Party-State's inability to maintain a disciplined and effective administrative corps, according to Lü Xiaobo, Assistant Professor of Political Science at Barnard College. Then According to Lu (2000), the Chinese reform-era state has also been an enabling factor, since state agencies have been granted regulatory power without institutional constraints, allowing them to tap

into new opportunities to seek profits from the rapid growth in businesses and the economy. This takes place at both the departmental and individual level. Then Lu (2000) also emphasizes that corruption here is part of the dilemma faced by any reforming socialist state, where the state needs to play an active role in creating and regulating markets, while at the same time its own intervention places extra burdens on administrative budgets. Instead of being able to reduce the size of its bureaucratic machinery (and therefore opportunities for corruption), it is instead pressed to expand further. Officials then cash in on the regulatory power by "seeking rents".

The following chart shows the index of corruption in China from 1995 through 2009.

Figure 4.1.2 Corruption Index, 1995 through 2009

Source: Writer's compilation (Transparency International)

4.2 India

4.2.1 Foreign Direct Investment

Starting from a baseline of less than $1 billion in 1990, a recent UNCTAD survey projected India as the second most important FDI destination (after China) for

transnational corporations recently. As per the data, the sectors which attracted higher inflows were services, telecommunication, construction activities and computer software and hardware. Mauritius, Singapore, the US and the UK were among the leading sources of FDI.

The following figure shows the FDI Inflows in India from 1995 through 2009.

Figure 4.2.1 FDI Inflows, 1995 through 2009

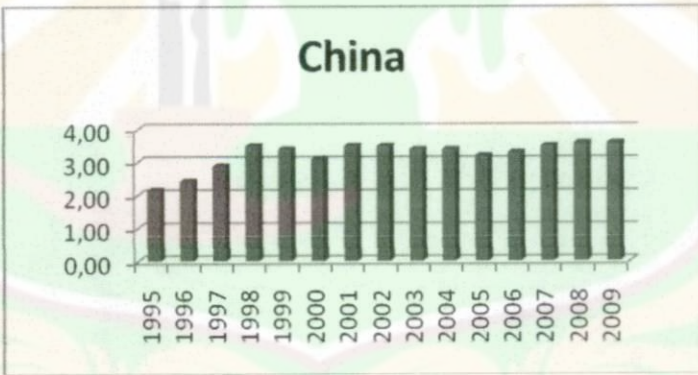*Source: Writer's compilation (OECD)*

4.2.2 Corruption

Transparency International (TI) in India found that more than 50% of the people had firsthand experience of paying bribe or peddling influence to get a job done in a public office in 2005. Taxes and bribes are common between state borders; On Businessweek (2007), Transparency International estimates that truckers pay annually US$5 billion in bribes. Then, The Times of India (2009) showed the survey of the leading economies of Asia, revealed Indian bureaucracy to be not just least

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efficient out of Singapore, Hong Kong, Thailand, South Korea, Japan, Malaysia, Taiwan, Vietnam, China, Philippines and Indonesia; further it was also found that working with India's civil servants was a "slow and painful" process.

The following table shows the index of corruption in India from 1995 through 2009.

Figure 4.2.2 Corruption Index, 1995 through 2009
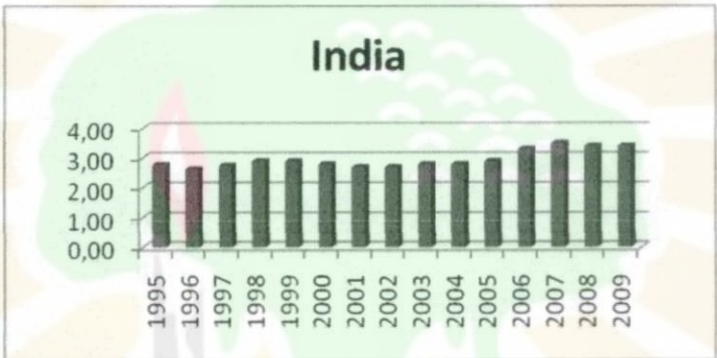
Source: Writer's compilation (Transparency International)

4.3   Brazil

4.3.1   Foreign Direct Investment

The growth in the attractiveness of Brazil as a recipient of foreign investment is directly attributed to the economic liberalization implemented under finance minister, and later president, Fernando Enrique Cardoso in 1994. He instituted a new currency, reined in the hyperinflation that had plagued the country for decades, and opened up previously closed industries to private ownership.

These provisions saw foreign portfolio investment go from $760 million the year it was enacted to $30 billion in 1997. Foreign direct investment rose from $19 billion in 1997 to $28.9 billion in 1998 and $28.5 billion in 1999, and then to a record $32.8 billion in 2000. Brazil's surplus on its capital account was over $19 billion in 2000, but not quite enough to prevent a balance of payments deficit of $2.3 billion because of a $10.4 billion debt servicing payment on official development assistance (ODA). A plunge in FDI to $22.5 billion in 2001, in the context of the global economic slowdown and worldwide decline in foreign investment after the 11 September 2001 US terrorist attacks, presented the Brazilian government with serious difficulties in making its debt servicing obligations. The gap would have to be filled through a combination of IMF loans, foreign borrowing, and sales in shares of state-owned enterprises (SOEs). In 2002 the constitution was amended to allow up to 30% foreign ownership in Brazilian media, but with provision that editorial control remain in Brazilian hands.

Investment comes mainly from the United States and EU countries. Investment from the Cayman Islands is thought to represent mainly repatriation of Brazilian capital through FDI, but it is also increasingly a conduit for US-based companies like Enron Corporation before its bankruptcy in October 2001. Investment from Spain and Portugal, which does not appear on the 1997 top ten list, increased in 1998 due to investment in the telecommunications and banking sectors. According to a study by the Brazilian Studies Center for Transnational Companies and Economic Globalization (SOBEET), the stock of FDI in Brazil was $130.7 billion as of

obstacles in terms of implementation and lack of political support, anti-corruption initiatives in Brazil are formally strong and well-developed.

The following table shows the corruption index in Brazil from 1995 through 2009.

Figure 4.3.2 Corruption Index, 1995 through 2009
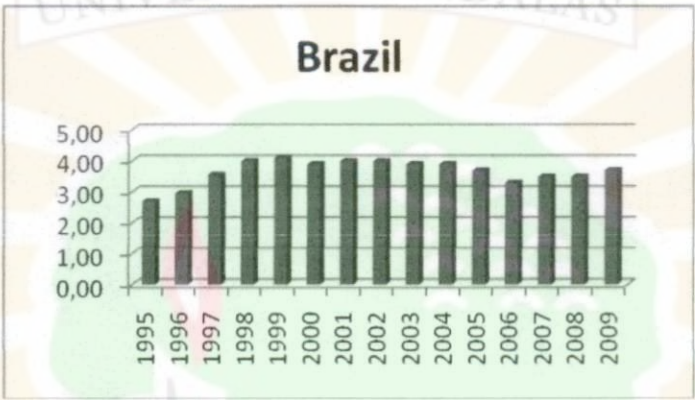
Source: Writer's compilation (Transparency International)

4.4 Mexico

4.4.1 Foreign Direct Investment

Since about 1995 foreign direct investments (FDI) in to Mexico have increased substantially. A New foreign direct investment law instituted in 1993 abolished restrictions to foreign ownership in the majority of Mexico's economic activities. In recent years Mexico has come in second place as a leader in receiving the most FDI from any other Latin American country. According to Ministry of Finance, in the year 2000 "by country, the United States alone account for 60.4% of FDI in the country through 11,630 subsidiary companies established in Mexico". The textile, garments, automotive and electronic sectors have been the largest and fastest

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growing investments in recent times In 2009 manufacturing alone was responsible for 77% of FDI in Mexico.

The following chart shows the FDI Inflows in Mexico from 1995 through 2009.

Figure 4.4.1 FDI Inflows, 1995 through 2009
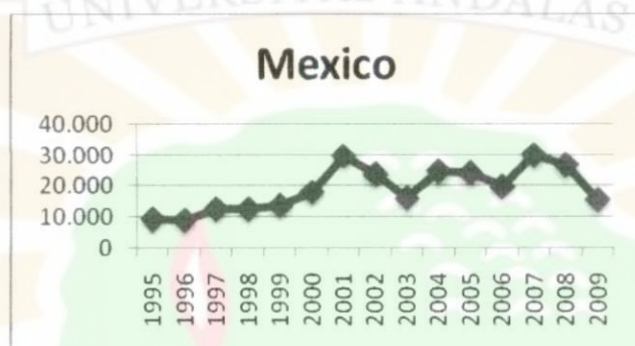
Source: Writer's compilation (OECD)

4.4.2 Corruption

Mexico's federal government has introduced several measures to eliminate non-transparent practices in its public and private sectors in order to stimulate private sector growth. Anti-corruption initiatives, activities and legislation have also increased significantly since 2000. However, reports and surveys indicate that corruption has taken on institutionalised dimensions in some economic sectors. Another pressing issue is the fact that local politicians and police are frequently accused of being involved in corruption and of collaborating with powerful drug cartels in the Northern States of Mexico. Nevertheless, there are great variations in the level and impact of corruption within the different Mexican states.

4.5 Turkey

4.5.1 Foreign Direct Investment

According to UNCTAD World Investment Prospects Survey (2008-2010), Turkey is the 15th most attractive destination for Foreign Direct Investment (FDI) in the world. Then, Turkey is a very large source of foreign direct investment in central and eastern Europe, with more than $1.5 billion invested. 32% has been invested in Russia, primarily in the natural resources and construction sector, and 46% in Turkey's Black Sea neighbours, Bulgaria and Romania. Turkish companies also have sizable FDI stocks in Poland, at about $100 million.

In terms of FDI Inflows, the development of them can be seen in the following chart.

Figure 4.5.1 FDI Inflows, 1995 through 2009

Source: Writer's compilation (OECD)

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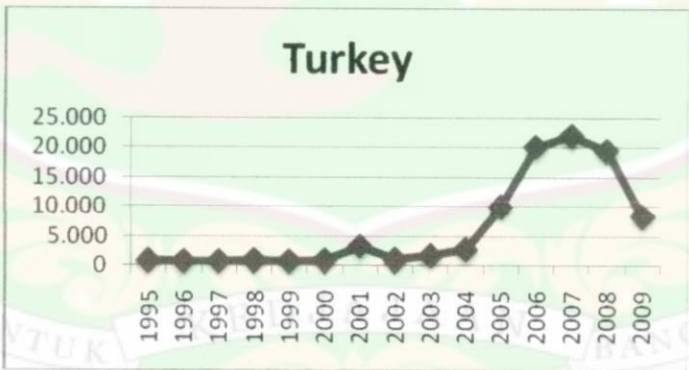
4.6   South Africa

4.6.1   Foreign Direct Investment

Efforts so far appear to have been successful, and South African business has become increasingly integrated into the international community; foreign investment into the area has grown substantially over the past few years as a result. With its advantageous location and a government receptive to foreign direct investment, South Africa certainly looks as though it is becoming an international force to be reckoned with.

The leadership is receptive to foreign investment, and South Africa has made good progress in dismantling its old economic system, which was based on import substitution, high tariffs and subsidies, anti-competition measures, and widespread government intervention. The government has substantially reduced its role in the economy, and in the interests of promoting private sector investment competition, has reduced import taxes and subsidies to local firms, eliminated the punitive non-resident shareholders tax, removed certain limits on hard currency repatriation, and reduced the secondary tax on corporate dividends (soon to be replaced by a new dividends tax in line with international norms).

Changes made to the South African corporate tax system in 2001 and 2002 have somewhat worsened the situation for foreign-owned companies which have tax residence in the country, although the 2003 and 2004 budgets ameliorated the situation to some extent.

According to Maxwell (2012), the more visible measures affecting business in the 2006/7 budget included:

- Adjustments to tax brackets for qualifying small businesses with turnover less than R14 million, up from R6 million.

- A 150% deduction for R&D expenditure.

- A tax amnesty for small businesses (turnover not exceeding R5 million) in which taxes due for years ending up to 31 March 2004 will be waived.

- A 10% non-disclosure penalty will be payable in 2005.

- A reduction in the transfer duty for companies and trusts from 10% to 8% with effect from 1 March 2006.

- Proposal for an anti-avoidance rule in relation to the purchase of a company's shares by its subsidiary.

Then, the following figure shows the FDI Inflows in South Africa from 1995 through 2009.

Figure 4.6.1 FDI Inflows, 1995 through 2009
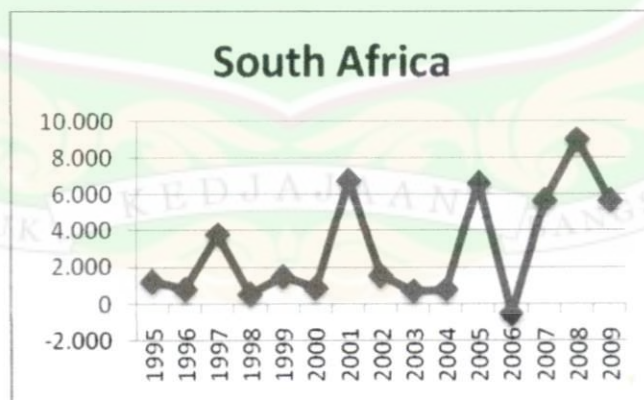
Source: Writer's compilation (OECD)

CHAPTER V

EMPIRICAL RESULTS AND ANALYSIS

This chapter tests the empirical relationship between corruption and FDI inflows. The parameters of the regression models are determined using the ordinary least squares approach. The calculations have been done by the statistical software tool Eviews 6. As has been discussed in Chapter 3, the response variable in the regression models is *log* of foreign direct investment inflows. The general form of the empirical model is

Log Foreign Direct Investment Inflows = f(Corruption, Control Variables)

Or

FDI Inflows = f (CORR, GDPG, OPEN, POPG)

then, expressed using the abbreviations of the variables summarized in apendix. More precisely, six regression equations will be estimated.

We will use panel data method because the data of this study possesses time series and cross-section. On other hand, it is required because sometimes the estimations of model are not significant because there are missing variables that also determine the quality of the model. With panel data models, it can be issued unobserve variables which named the individual effect so that the model will be better.

Individual effect is categorized two kinds which are Fixed Effect and Random Effect. In the hypothesis that if the source data comes from a sample of the allegations of the panel, it will be random effect model, yet when source data is

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aggregate data then the tendency will be the fixed effect.

However, the Redundant Fixed Effect Test and Hausman test can decide which one is better.

5.1 Efficiency Model Testing

5.1.1 Redundant Fixed Effects Tests (Pool Vs Fixed Effect)

a. If Ho is accepted, then the method will be pool (finished up here).

b. If Ho is rejected, then the method will be fixed effects model (continued to the next step)

Due to the data of this study, Rebundant Fixed Effect Tests shows the following result.

Redundant Fixed Effects Tests
Pool: MODELFDIANDCORRUP
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	27.685176	(5,83)	0.0000

These results indicate that the Cross-Section F is significant (Prob. 0.0000 is less than 5%) so H0 is rejected and H1 accepted, then we follow the Fixed Effect model.

5.1.2 Hausman Test (Random Effect Vs Fixed Effect)

a. If Ho is accepted, then the method will be Random Effect (finished up here).

b. If Ho is rejected, then the method will be Fixed Effects.

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Due to the data of this study, Hausman Test shows the following result.

Correlated Random Effects - Hausman Test
Pool: MODELFDIANDCORRUP
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.482950	1	0.0021

These results indicate that Cross Section Random is significant (Prob. 0.0021 is less than 5%) so H0 is rejected and H1 accepted, then we follow the Fixed Effect model.

Based on those explanations, the author starts with the cross-sectional analysis by using the fixed effects model, as an initial step to confirm previous studies, using averages for the entire period 1995-2009. Also, to achieve worthwhile results about the impact of corruption, the author will take out the model with specifying Newly Industrialized Countries as of 2011.

Controlling for a range of other factors that may affect the flow of FDI inflows. Table 5.1 presents the results by using OLS cross-sectional regression. Six different regressions are run. As a first step, model (1) in the first column, the natural logarithm of FDI inflows is regressed against the chosen corruption index without any control variables included. These simplified equations give us a first impression about the relationship between the two variables. Model (2) reports the results after we add GDP growth. Model (3) reports the results after we employ the degree of opennes. Model (4) tries to estimate FDI inflows, index of corruption and the degree of opennes. Model (5) shows the result of regression between FDI inflows, index of corruption and population growth. Then, the last model(6) employs our full variables.

Table 5.1

Dependent variable : FDI inflows, annual average. 1995-2009, Fixed Effects,

Newly Industrialized Countries

Independent variable	1	2	3	4	5	6
Constant	7.636409 (23.91258)*	7.433959 (21.86478)*	7.399975 (25.19447)*	7.446350 (25.80086)*	9.583222 (22.59919)*	8.907249 (18.70912)*
CORR	0.591557 (6.762613)*	0.622286 (6.932739)*	0.450551 (5.181844)*	0.452915 (5.406477)*	0.316659 (3.816842)*	0.287088 (3.140473)*
GDPG		0.018576 (2.027937)**	0.003454 (0.369038)			0.001420 (0.170023)
OPEN			0.016371 (4.273946)*	0.015519 (4.379630)*		0.012096 (3.265220)*
POPG					-0.704659 (-5.206379)*	-0.529472 (-3.685402)*
R²	68.3791%	69.5042%	72.8005%	71.6101%	74.1467%	78.7375%

Notes:

1. N=90; total number of countries = 6 (Newly industrialized country as of 2011).

2. Figures in parentheses are t-Statistic.

3. *, **, *** denote 1, 5, 10 percent level of significance respectively.

4. Standard errors are Cross-section weights (PCSE)-corrected for Heteroskedasticity

5.2   Empirical Result and Analysis

5.2.1   Corruption

As can be seen from all regression results, the coefficient of corruption is positive and significant at 1 percent level. Results imply that Newly Industrialized Countries with high corruption will attract relatively more FDI inflows. It supports the argument of Bayley (1966) who said that "corruption in developing nations is not necessarily antipathetic to the development of modern economic and social system;

that corruption serves in part at least a beneficial function in developing socities". Huntington (1968) also support his argument which is said "in terms of economic growth, the only thing worse than a society with a rigid, over-centralized, dishonest bureaucracy is one with a rigid, over centralized, honest bureucracy. Then, Woo (2010) argues that what Bayley (1966) and Huntington (1968) said in the developing country where cumbersome is pervasive, corruption may truly improve efficiency and help growth. He underlines that until the 1997 financial crisis, some Southeast Asia countries showed the evidence that corruption actually foster economic growth, for instance in Indonesia, Thailand, and other countries. Due to Tanzi (2002), those countries have been said to grow rapidly in spite of or even because of a higher level of corruption. Moreover, Campos at al (2001) emphasized that those countries have attracted a substantial flow of foreign capital.

Woo (2010) said that although Bayley (1966) and Huntington (1968) do not investigate their argument, their arguments have some approaching when we believe the strategic behavior of multinational enterprises (MNes). He said also that those MNEs have been seeking better places to invest their capital resources. Dunning (1992) said that MNEs will choose a specific country or region based on their expectation about the condition of specific location. Woo (2010) emphasized that among many factors included in the condition of specific location, favorable macroeconomic, microeconomic, and FDI specific government policies are crucial for the MNEs because these factors are connected to how well they can develop their advantages. Due to Li and Resnic (2003), it would raise the probability of those states being chosen as the destination of FDI if the host government offers special treatment

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for the MNEs. Moreover, if we look at the MNEs' point of view, corruption would not substance as long as the host government protects their benefit from their investment. It looks like "give me 1, you will get 10". According to Tarzi (1991), MNEs would get to shape and foster allied local group maintain their advantages. He underlines that MNEs might desire those countries where individual leaders were well known to get private payments in exchange for their efforts to protect status quo.

This result also supports Kim, Haksoon (2010) who has investigated 305 countries year observations are in the sample from 1990 till 2002 spanning 28 countries. It showed that FDI inward performance has consistently positive relationships with the level of corruption of government.

China, India, Brazil, Mexico, South Africa, and Turkey are better places to invest capital resources and some of them are famous as most corrupt country in the world based on Transparency International, it is not amazed that the result of regression is positive and significant. If the index of corruption increased 1 point, so FDI inflows in those countries will be 0.287088.

5.2.2 Openness

Openness also emerges as having a statistically significant influence on FDI inflows to new industrialized country as of 2011. The relationship between openness and FDI inflows is positive and statistically significant at 1 percent level. However, the quantitative impact is very small, a unit increase in the openness of newly industrialized countries will increase FDI inflows by at most 0.012096.

The result support the study of Akçay (2001) who investigated 52 developing countries. He said that the most important determinants of FDI are market size, corporate tax rates, labor costs, and openness.

The result also supports the study of Baharom, Habibullah and Royfaizal (2008). This study examines the role of trade openness and foreign direct investment in influencing economic growth in Malaysia which is one of Newly Industrialized Countries, during 1975-2005, using the Bounds testing approach suggested by Pesaran et al. (2001). These empirical results demonstrate that trade openness is positively associated and statistically significant determinant of growth, both in short run and the long run.

5.2.3 Population Growth.

The population growth rate has negative sign and statistically significant at 1 percent level. It means that, an increase in the population growth of Newly Industrialized Countries will decrease FDI inflows at 0.529472. This finding against assumption which is the market-seeking FDI is attracted to a country with large market size and its economy is growing over time.

This result supports Ali Al-Sadiq (2009) who investigated the effects of corruption on FDI inflows. He used panel data for 117 countries over the period 1984-2004. The growth rate of population is found to have a negative effect.

5.2.4 GDP Growth

The sign of GDP growth coefficient, although positive, has no statistical significant. It means that there is no contribution statistically in explaining the FDI inflows to Newly Industrialized Countries.

The result supports Karimi, Sharif and Yusop, Zulkornain (2009) who have tested the direction of causality between FDI and growth in Malaysia which is one of Newly Industrialized Countries. Their empirical findings based on the Toda-Yamamoto causality test seem to suggest that there is not a strong evidence of a bi-directional causality between GDP and FDI. Based on these results the assumption that FDI case growth, vice versa, raised some doubts. Also according to bounds tests there is not long-run relationship between FDI and GDP in Malaysia.

The result also supports Lipsey (2002) who studied the relationship between the size of inward FDI stocks or flows to GDP and growth. He takes a more favorable view from reviewing the micro literature and argues that there is evidence of positive effects. Surveying the macro empirical research led Lipsey to conclude, however, that there is no consistent relation between the size of inward FDI stocks or flows relative to GDP and growth. He further argues that there is need for more consideration of the different circumstances that obstruct or promote spillovers.

CHAPTER VI

CONCLUSION AND RECOMMENDATION

Based on the empirical results of research and discussion from the previous chapter, the main objective of this research is to examine whether a relationship exists between FDI inflows and corruption in six Newly Industrialized Countries. Those are China, India, Mexico, Brazil, South Africa, and Turkey, over the period 1995 to 2009. In this paper, the author used the panel data analysis by using the fixed effects model to empirically test the empirical relationship between corruption and FDI inflows. From the analysis of data that has been done, it is obtained conclusions and recommendations.

6.1 Conclusion

Based on the estimation that explained in the previous chapter concludes as follows:

- As far as newly industrialized countries are concerned, results indicate that corruption by itself is a dominant factor influencing FDI inflows. The coefficient on the variable corruption is positive in sign and statistically significant at 1 percent level of significance. On other hand, we found that openness is a strongly positive factor in influencing FDI flows in newly

industrialized countries. Then, we got that population growth has negative sign and statistically significant at 1 percent level.

6.2 Recommendation

- The causality issue between corruption and FDI has not been attended in this study. It is possible that not only does research about corruption impacts on FDI but FDI could in turn have a feedback effect on corruption, which can influence the overall result. Consequently, further research in this area can investigate the causality issue, and also use a better set of control variables for estimation that will make the empirical relationship between corruption and FDI more strong.

- This study focuses on the effect of corruption on FDI inflows in Newly Industrialized Countries generally. The further research in this area can determine the type of corruptions and find what are the effects of those kind of corruptions on FDI inflows.

- The further research in this era can determine what is the main variable which affects FDI strongly.

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Country	Year	FDI	CORR	GDPG	OPEN	POPG
Brazil	1995	9,64395794071472	2,70	4,416831993317330	16,0318089934719	1,52509042226595
Brazil	1996	10,03308934065350	2,96	2,150000000000010	14,9328355709283	1,52941866746484
Brazil	1997	10,27859206618390	3,56	3,374938815467440	15,8410835242316	1,52572694407878
Brazil	1998	10,46023025835480	4,00	0,037879684651628	15,86500216999727	1,51100380073501
Brazil	1999	10,45603836062420	4,10	0,250857886640631	20,2271361502347	1,48037724764946
Brazil	2000	10,51559887607910	3,90	4,308208021529250	21,7198736394451	1,43731778284406
Brazil	2001	10,35135857278230	4,00	1,310369800389250	25,6783469622221	1,39582704545444
Brazil	2002	10,21985173137680	4,00	2,658326817826430	26,6796001142221	1,35449561512891
Brazil	2003	10,00618888982760	3,90	1,149135077559980	27,0621219001993	1,29882799876897
Brazil	2004	10,25877811733430	3,90	5,712292376002050	28,9731949247437	1,22587770990992
Brazil	2005	10,17800637260570	3,70	3,159673612849470	26,6483609882272	1,14292330014478
Brazil	2006	10,27467056731300	3,30	3,955360369890570	25,8341478566642	1,05430709712133
Brazil	2007	10,53888653715520	3,50	6,091543950204920	25,2110963483112	0,97410613188330
Brazil	2008	10,65377341722620	3,50	5,164114489500730	27,1393439811284	0,91528462893280
Brazil	2009	10,41411359332510	3,70	-0,644634565339416	22,2989922533677	0,88535814547532
China	1995	10,55447704562340	2,16	10,900000000000000	38,8075832250940	1,08650915088974
China	1996	10,60400993241220	2,43	10,000000000000000	38,0575641541626	1,04814151412165
China	1997	10,64577781291890	2,88	9,300000000000000	39,0126436242727	1,02345002419879
China	1998	10,64099691773770	3,50	7,800000000000010	36,3932537662924	0,95955040629815
China	1999	10,58829972493740	3,40	7,600000000000010	37,6906967784675	0,86585139299328
China	2000	10,58431652144090	3,10	8,400000000000010	44,2436257838374	0,78795659295399
China	2001	10,64582787992710	3,50	8,300000000000000	43,0805516497794	0,72638063783853
China	2002	10,69291738730950	3,50	9,099999999999990	47,6953392272446	0,66999956775863
China	2003	10,67280601190250	3,40	10,000000000000000	56,9135249014220	0,62286093613358
China	2004	10,73986098709940	3,40	10,100000000000000	65,3520676994078	0,59393281511214
China	2005	11,06892761168210	3,20	11,300000000000000	68,6329089388635	0,58812498955699
China	2006	11,09377178149870	3,30	12,700000000000000	70,5670717957572	0,55837436737300
China	2007	11,20439133191930	3,50	14,200000000000000	68,0279605580831	0,52227186639228
China	2008	11,24328614608340	3,60	9,600000000000010	62,2437749287781	0,51238693163744
China	2009	11,05766610390980	3,60	9,199515319839380	49,0157146945766	0,50639501144296
India	1995	9,33142729652074	2,78	7,569254011201050	23,1316490086952	1,78404051588515
India	1996	9,40191725051757	2,63	7,557211630563330	22,1871629321269	1,76287306912228
India	1997	9,55858858310820	2,75	4,054498470247170	22,8880050394262	1,74170562235941
India	1998	9,42045085910607	2,90	6,193540472094100	23,9849954231358	1,72053817559652
India	1999	9,33605927786635	2,90	7,387311360405600	25,2761349053680	1,69937072883366
India	2000	9,55448916000382	2,80	4,030409290817020	27,3816851336194	1,67820328207080
India	2001	9,73814608871206	2,70	5,216894583667780	26,4071818976442	1,61597492095966
India	2002	9,75027691515399	2,70	3,766831254533970	29,9661324367168	1,55374655984852
India	2003	9,63578523553365	2,80	8,370896842500270	30,9008389901914	1,49151819873739
India	2004	9,76125107430866	2,80	8,278173809103650	36,8574635379767	1,42928983762625
India	2005	9,88115632107556	2,90	9,318924227278390	41,3150764322672	1,36706147651513
India	2006	10,30826553320990	3,30	9,271832224149560	45,3087008043465	1,38163945975815
India	2007	10,40625055422660	3,50	9,817003677277470	44,8821661045406	1,34038183992227
India	2008	10,63755977136120	3,40	4,932375368664980	52,7136616604775	1,34038183992248
India	2009	10,55141339858110	3,40	9,104929523341770	44,8568158477718	1,34038183992266
Mexico	1995	9,97892425409065	3,18	-6,217986759842770	58,0658053583774	1,72870804236383
Mexico	1996	9,96310048475754	3,30	5,139827628015370	62,0954265979691	1,70381217428386
Mexico	1997	10,10821162675010	2,66	6,775549310001760	60,6403533192910	1,67248944256902
Mexico	1998	10,10404798222480	3,30	4,906525709688610	63,5084945517679	1,62190358258794
Mexico	1999	10,14236173359080	3,40	3,873255441260310	63,0940629803221	1,54646171522506
Mexico	2000	10,25791315769250	3,30	6,601984351223360	63,8722798913207	1,45705210417250
Mexico	2001	10,47506951062890	3,70	-0,156984193599754	57,3329334047150	1,36119630994259
Mexico	2002	10,37863460142790	3,60	0,826684578952765	55,4616814705824	1,27927451563827
Mexico	2003	10,21075183811560	3,60	1,351528629678630	52,1712154334368	1,22828709076313
Mexico	2004	10,39476607150920	3,60	4,053439330464190	54,9790226141951	1,21812001371677
Cmexico	2005	10,38525561710780	3,50	3,205432102480730	55,6544973309068	1,23576334512804
Mexico	2006	10,29996491460310	3,30	5,150152030847050	57,1842418916273	1,26122258329107
Mexico	2007	10,47812869806340	3,50	3,260246799071270	57,4355551976609	1,27664081232855
Mexico	2008	10,43052703505370	3,60	1,500729615554490	58,3286695251581	1,27945194405232
Mexico	2009	10,19243370739660	3,30	-6,078970728133840	56,8748040002383	1,26311539380709
SouthAfrica	1995	9,09385793508407	5,62	3,115695719349260	44,8657160698608	2,16220952830940

SouthAfrica	1996	8,91255788423884	5,68	4,306696210586810	47,9252468123060	2,22517827721723
SouthAfrica	1997	9,58167929317177	4,95	2,646764319423380	48,0330454443671	2,28814702612507
SouthAfrica	1998	8,74935367822001	5,20	0,517382743042290	50,1633845143188	2,35111577503288
SouthAfrica	1999	9,17706174992189	5,00	2,358128598840510	48,0753562169932	2,41408452394071
SouthAfrica	2000	8,94808021411233	5,00	4,154588521635030	52,7863200562979	2,47705327284857
SouthAfrica	2001	9,83148988447327	4,80	2,735423149811840	56,2058871868493	1,82957182259704
SouthAfrica	2002	9,19565369188450	4,80	3,667837611093900	62,0104745660011	0,96205619397713
SouthAfrica	2003	8,86548405076347	4,40	2,949074424693550	53,4224152225043	1,27269227223172
SouthAfrica	2004	8,90199615162445	4,60	4,554543403660840	53,1437397590430	1,18188382569482
SouthAfrica	2005	9,82264342284540	4,50	5,277116991550130	55,2312355434026	1,13719439372082
SouthAfrica	2006	-8,72158615990146	4,60	5,603717692647490	62,4594465837814	1,12184950164560
SouthAfrica	2007	9,75547992690301	5,10	5,567888056386480	65,5186130507111	1,09667880359512
SouthAfrica	2008	9,95455782490470	4,90	3,576079689454570	74,2338528999327	1,10405721543541
SouthAfrica	2009	9,75558883915372	4,70	-1,682180037417300	55,7124487002962	1,07454088225289
_Turkey	1995	8,94694327069783	4,10	7,878266876485450	44,2426347506171	1,63286603336027
_Turkey	1996	8,85853719756964	3,54	7,379664475936690	49,3693148863728	1,61323948032440
_Turkey	1997	8,90579588036787	3,21	7,577663647525280	54,9703235724023	1,59405961635130
_Turkey	1998	8,97312785359970	3,40	2,308214654810950	41,5179649994893	1,56616141108194
_Turkey	1999	8,89376176205794	3,60	-3,365344813312360	38,7258772130262	1,52683447649146
_Turkey	2000	8,99211148778695	3,80	6,774455167461000	43,1921455493582	1,48077826186390
_Turkey	2001	9,52530400995824	3,60	-5,697476761648520	50,7562314256237	1,43098663767517
_Turkey	2002	9,03422726077055	3,20	6,163839762379820	48,8000824820889	1,38665737383279
_Turkey	2003	9,23095955574857	3,10	5,265264614309430	47,0327180294622	1,35565903103077
_Turkey	2004	9,44482519950975	3,20	9,362808854577010	49,7371767973815	1,34232460400035
_Turkey	2005	10,00134423041160	3,50	8,401617471929980	47,2068797587133	1,34034351745155
_Turkey	2006	10,30502875374630	3,80	6,893488998326420	50,2509563061213	1,34157536461881
_Turkey	2007	10,34334950209930	4,10	4,668579111152640	49,8071138374164	1,33648009422933
_Turkey	2008	10,29012368827430	4,60	0,658839040685805	52,2485953557171	1,32133518899402
_Turkey	2009	9,92474435247995	4,40	-4,825875295437630	47,7382416537750	1,29228158932082

Model 1.

Dependent Variable: FDI?
Method: Pooled EGLS (Cross-section weights)
Date: 12/24/11   Time: 15:53
Sample: 1995 2009
Included observations: 15
Cross-sections included: 6
Total pool (balanced) observations: 90
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.636409	0.319347	23.91258	0.0000
CORR?	0.591557	0.087475	6.762613	0.0000
Fixed Effects (Cross)				
_BRAZIL--C	0.491131			
_MEXICO--C	1.254560			
_CHINA--C	0.436304			
_INDIA--C	0.611944			
_SOUTHAFRICA--C	-2.427251			
_TURKEY--C	-0.366690			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.683791	Mean dependent var	57.96005
Adjusted R-squared	0.660932	S.D. dependent var	32.94520
S.E. of regression	1.788980	Sum squared resid	265.6373
F-statistic	29.91406	Durbin-Watson stat	1.017053
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.195157	Mean dependent var	9.787641
Sum squared resid	307.3401	Durbin-Watson stat	2.359224

Model 2.

Dependent Variable: FDI?
Method: Pooled EGLS (Cross-section weights)
Date: 12/24/11   Time: 15:55
Sample: 1995 2009
Included observations: 15
Cross-sections included: 6
Total pool (balanced) observations: 90
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.433959	0.339997	21.86478	0.0000
CORR?	0.622286	0.089760	6.932739	0.0000
GDPG?	0.018576	0.009160	2.027937	0.0458
Fixed Effects				
(Cross)				
_BRAZIL--C	0.528114			
_MEXICO--C	1.173811			
_INDIA--C	0.418211			
_CHINA--C	0.667902			
_SOUTHAFRICA--				
C	-2.437202			
_TURKEY--C	-0.350835			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.695042	Mean dependent var	50.93304
Adjusted R-squared	0.669009	S.D. dependent var	26.11836
S.E. of regression	1.636984	Sum squared resid	219.7368
F-statistic	26.69855	Durbin-Watson stat	1.128333
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.192324	Mean dependent var	9.787641
Sum squared resid	308.4219	Durbin-Watson stat	2.352754

Model 3.

Dependent Variable: FDI?
Method: Pooled EGLS (Cross-section weights)
Date: 12/24/11   Time: 15:56
Sample: 1995 2009
Included observations: 15
Cross-sections included: 6
Total pool (balanced) observations: 90
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.399975	0.293714	25.19447	0.0000
CORR?	0.450551	0.086948	5.181844	0.0000
GDPG?	0.003454	0.009359	0.369038	0.7131
OPEN?	0.016371	0.003830	4.273946	0.0001
Fixed Effects				
(Cross)				
_BRAZIL--C	0.860794			
_MEXICO--C	1.076701			
_INDIA--C	0.521064			
_CHINA--C	0.361574			
_SOUTHAFRICA--				
C	-2.413607			
_TUREKY--C	-0.406527			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.728005	Mean dependent var	48.88600
Adjusted R-squared	0.701142	S.D. dependent var	25.21069
S.E. of regression	1.463221	Sum squared resid	173.4224
F-statistic	27.09999	Durbin-Watson stat	1.181829
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.185619	Mean dependent var	9.787641
Sum squared resid	310.9824	Durbin-Watson stat	2.344154

Model 4.

Dependent Variable: FDI?
Method: Pooled EGLS (Cross-section weights)
Date: 12/24/11   Time: 15:58
Sample: 1995 2009
Included observations: 15
Cross-sections included: 6
Total pool (balanced) observations: 90
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.446350	0.288609	25.80086	0.0000
CORR?	0.452915	0.083773	5.406477	0.0000
OPEN?	0.015519	0.003544	4.379630	0.0000
Fixed Effects (Cross)				
_BRAZIL--C	0.835037			
_MEXICO--C	1.100367			
_CHINA--C	0.520146			
_INDIA--C	0.364849			
_SOUTHAFRICA-- C	-2.413132			
_TURKEY--C	-0.407266			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.716101	Mean dependent var	52.28520
Adjusted R-squared	0.691866	S.D. dependent var	29.45506
S.E. of regression	1.515996	Sum squared resid	188.4560
F-statistic	29.54793	Durbin-Watson stat	1.166969
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.186901	Mean dependent var	9.787641
Sum squared resid	310.4929	Durbin-Watson stat	2.346857

Model 5.

Dependent Variable: FDI?
Method: Pooled EGLS (Cross-section weights)
Date: 12/24/11   Time: 16:02
Sample: 1995 2009
Included observations: 15
Cross-sections included: 6
Total pool (balanced) observations: 90
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.583222	0.424052	22.59919	0.0000
CORR?	0.316659	0.082964	3.816842	0.0003
POPG?	-0.704659	0.135345	-5.206379	0.0000
Fixed Effects (Cross)				
_BRAZIL--C	0.451740			
_MEXICO--C	0.716177			
_CHINA--C	0.392711			
_INDIA--C	0.589648			
_SOUTHAFRICA--C	-1.860387			
_TURKEY--C	-0.289888			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics			
R-squared	0.741467	Mean dependent var	48.78141
Adjusted R-squared	0.719397	S.D. dependent var	27.26749
S.E. of regression	1.408980	Sum squared resid	162.7883
F-statistic	33.59638	Durbin-Watson stat	1.214690
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.159162	Mean dependent var	9.787641
Sum squared resid	321.0854	Durbin-Watson stat	2.267327

Model 6

Dependent Variable: FDI?
Method: Pooled EGLS (Cross-section weights)
Date: 12/24/11   Time: 16:05
Sample: 1995 2009
Included observations: 15
Cross-sections included: 6
Total pool (balanced) observations: 90
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.907249	0.476091	18.70912	0.0000
CORR?	0.287088	0.091416	3.140473	0.0024
GDPG?	0.001420	0.008350	0.170023	0.8654
OPEN?	0.012096	0.003705	3.265220	0.0016
POPG?	-0.529472	0.143667	-3.685402	0.0004
Fixed Effects (Cross)				
_BRAZIL--C	0.732318			
_MEXICO--C	0.726833			
_CHINA--C	0.472863			
_INDIA--C	0.408804			
_SOUTHAFRICA--C	-2.001108			
_TURKEY--C	-0.339710			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics			
R-squared	0.787375	Mean dependent var	46.57033
Adjusted R-squared	0.763455	S.D. dependent var	23.49790
S.E. of regression	1.368922	Sum squared resid	149.9158
F-statistic	32.91659	Durbin-Watson stat	1.216744
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.160308	Mean dependent var	9.787641
Sum squared resid	320.6478	Durbin-Watson stat	2.276969