UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Navigating through investment obstacles in the emerging markets:

the specific role of macroeconomic governance indicators for the inflow of foreign direct investment

Marcus Ewerstrand

UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

UNIVERSITY OF GOTHENBURG

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by

EWERSTRAND, MARCUS

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Following the Asian financial crisis in 1997-1998, macroeconomic governance focusing on the institutional quality of emerging markets has become an important research area in the context of corporate governance and investor protection within finance. Meanwhile, the inflow of foreign direct investment to emerging markets has continued to increase, especially into Asian countries. The main purpose of this thesis is to separately examine the six governance indicators, which were developed by Kaufmann, Kraay and Mastruzzi at the World Bank, for the inflow of foreign direct investment into the emerging markets, both global and Asian. This thesis will make use of panel data from 1996 to 2008 for 37 emerging market countries and include macroeconomic control variables. The empirical results indicate that control of corruption, regulatory quality, level of development, trade openness, gross capital formation and household consumption expenditure are important determinants of global FDI inflows. However, for Asian countries, the results show that rule of law, political stability, level of development, trade openness and household consumption expenditure are crucial determinants for the recent inflow of FDI.

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Contents

1 Introduction

Following the Asian financial crisis in 1997-1998, the last decade has seen corporate and macroeconomic governance in emerging markets becoming an important topic in the research community and the investment management industry (Johnson et al., 2000; La Porta et al., 2000; Claessens and Fan, 2002; Cornelius, 2004, pp.1-22, 2005, pp.12-23). For example, Johnson et al. (2000) found that besides corporate governance in Asia, weak legal institutions relating to investor protection were an important factor for the sharp downturn in financial markets during the crisis, affecting both currency and stock prices negatively. Although such events served to make investors more risk-averse during that period, recent studies have suggested that the overall institutional quality, i.e. macroeconomic governance based on aggregated indicators, show a positive and significant relationship with the inflow of foreign direct investment (FDI) (Adeoye, 2009; Wernick et al., 2009; Anghel, 2005, pp.2-40). At the same time, the inflow of FDI into the emerging markets, especially into the Asian continent, has continued to increase rapidly for the last decade.[1] These studies focus on the governance indicators developed by Kaufmann et al. (2009) at the World Bank for the analysis of governance at the macro-level, such as "Regulatory Quality", "Rule of Law", "Voice and Accountability", "Control of Corruption", "Political stability" and "Government Effectiveness". However, there have been no greater separate econometric studies of the governance indicators and FDI inflows using panel data for the global and Asian emerging markets, which is the focus of this thesis.

The importance of macroeconomic governance for corporate governance on firm-level has also been raised lately, e.g. by Doidge et al. (2007) in the paper: "Why do countries matter so much for corporate governance?". According to Doidge et al. (2007), country characteristics account for variance in governance ratings (data from CLSA, S&P and FTSE ISS) much more than firm characteristics. What's more, Doidge et al. (2007) find evidence suggesting that firm characteristics have little to no significance for the governance ratings in developing countries.

Cornelius (2004, pp.1-22, 2005, pp.12-23) recognize the World Bank's governance indicators as a useful approach for assessing corporate governance on firm-level. This is because the quality of the legal system, based on legal rules, legal families and political structure, is the basis for strong investor protection, thus removing any form of expropriation by insiders and protecting the outside minority shareholders (La Porta et

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[1] See appendix, figure 1

al., 2000; Jordan and Lubrano, 2008, pp.1-35). Johnson et al. (2000) were able to show that law and order as well as the extent of shareholder protection in reality, was more of a marker for the variation in stock market performance and exchange rates than other macroeconomic variables during the Asian financial crisis. Countries such as Hong Kong and Singapore handled the crisis much better than other countries who suffer from poor governance and low quality of institutions, e.g. Russia and the Philippines (Johnson et al, 2000; Clarke, 2005, pp.1-42; Anghel, 2005, pp.2-40). Moreover, Claessens et al. (1999, pp.21-23) concluded that the risk of expropriation is a matter of the greatest concern in the principal-agent problem of public corporations in East Asian countries. As has just been seen, macroeconomic governance is critical for developing businesses within a country. An illustrative example is the current situation for IKEA's business operations in Russia where corruption is a major obstacle to generating secure and stable relationships with suppliers and other stakeholders such as local administration (Stott, 2010).

Certainly, many institutional investors are aware of such obstacles when investing in the emerging markets, and therefore take precautionary action by implementing investment policies. CalPERS (California Public Employees' Retirement System) have their own investment policy for "Emerging equity market principles" which covers a number of different factors, e.g. "Political stability" (1.Political risk, 2.Civil liberties, 3.Independent judiciary and legal protection) and "Transparency" (1.Freedom of press, 2.Monetary and fiscal transparency, 3.Stock exchange listing requirements, 4. Accounting standards) (CalPERS, 2007, pp.1-6). Many of these factors and others mentioned in their investment policy are covered in broad terms by the governance indicators constructed by Kaufmann et al. (2009, pp.2-103) and are therefore beneficial to investors performing market and risk analysis. FDI itself is characterized by long-term holdings and is also of interest to other types of investors, as it is suggestive of future economic prospects and business confidence in various industries and regions (Adeoye, 2009).

Hence, before entering the emerging markets, investment trends and patterns based on governance can be examined by assessing which kind of role each governance indicator has on the inflow of FDI, as well as other macroeconomic factors such as economic growth and stability, household consumption expenditure, wages and remittances, and infrastructure development. The macroeconomic factors above have been studied thoroughly against the inflow of FDI by many academics lately with various outcomes (e.g. Jensen, 2003; Blonigen, 2005; Dhakal, 2007; Mehta, 2007; Al-

Sadig, 2009; Vijayakumar et al., 2010). Adeoye (2009) has investigated some of these factors, albeit within a limited time period (1997-2002). This thesis will focus on major emerging market countries on a global level and countries located in South, Southeast and East Asia.[2] These subcontinents have a specific market characterization of family-owned businesses, which poses interesting questions on the many governance issues related to this type of ownership structure and society.

The key research questions are as follows:

– What was the specific macro-level role of each governance indicator for the inflow of FDI (during 1996-2008) to emerging markets, both global and Asian?

– What other macroeconomic factors (during 1996-2008) have influenced the inflow of FDI to emerging markets, both global and Asian?

The main objective of this thesis is to separately examine the governance indicators created by Kaufmann et al. (2009, pp.2-103) at the World Bank, using panel data as suggested by Anghel (2005, pp.2-40). I will also use a data set including all six governance indicators and other more comprehensive control variables for the inflow of FDI, with observations for the whole period of 1996-2008 compared to Adeoye (2009) and Wernick et al. (2009). The empirical results for macroeconomic governance suggest that globally, the control of corruption and regulatory quality is important, while for Asian countries, political stability and rule of law are the most crucial governance indicators on macro-level for the inflow of FDI.

The thesis is structured as follows. The second section is a presentation and discussion of the existing literature, based on previous research. The third section is a description of the data and the econometric model, as well as an assessment of the research methodology. Empirical results are put forward and discussed in section four, after which the final section provides appropriate conclusions as well as suggestions for future research.

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[2] See appendix for the country list

2 Literature review

This section briefly discusses the existing literature on foreign direct investments (FDI).

2.1 Definition of FDI and how it is measured

The general definition of foreign direct investment (FDI), as stated by the World Bank (2000, p.337), is the net inflow of investment with the purpose of acquiring a long-term management interest (i.e. minimum 10 percent of ordinary shares or voting power) in an operating enterprise located in a non-resident country of the direct investor. However, it should be noted that some countries also consider data which includes direct investors in possession of less than 10 percent of ordinary shares, although it is not recommended by international standards (IMF, 2003, p.23-24). Two qualifications are used here: (1) if a direct investor holds less than 10 percent of the ordinary shares, but still has an active and strong influence in management, the transaction will still be recorded and transferred to the FDI statistics. And (2), vice versa; if the direct investor owns more than 10 percent of the ordinary shares, but lacks active and strong influence in management, it will not be covered by the FDI statistics (World Bank, 2000, pp.334-337; IMF, 2003, p.23-24). The direct investor may be a private or public enterprise, an individual, an associated group of individuals or a government. The net inflows of investment are derived through the sum of reinvestment of earnings, equity capital and short- and long-term capital. It is compiled in the balance of payments which covers the transaction data and in the statements of international investment position (IIP) (IMF, 2003, p.7). From the end of World War II onwards, foreign direct investment has become a vital component in the capitalization of developing countries (Krugman and Obstfeld, 2009, p.632).

2.2 General determinants of FDI

Many academics have in the past studied the determinants for the inflow of foreign direct investment as shown in the theoretical and empirical surveys done by Nonnenberg and Mendonca (2004, pp.1-19) and Singh and Jun (1995, pp.2-34). One of the earliest contributions to the research area of FDI was made by Dunning (1988, p.13-40) who presented the OLI paradigm. The OLI paradigm captures the main determinants of FDI based on the theory of international production. According to Dunning (1988, p.13-40), multinational firms are involved in three consecutive activities; first ownership (O), then localization (L), followed by internationalization (I). All three activities are considered to be beneficial in a global competitive environment. The ownership advantage means that

a firm must have either production or a product, e.g. production technology or intangible assets in a foreign market such that the firm will be more competitive and be able to influence the market. The next step, localization, implies that a firm must have identified a certain type of advantage between the home country and other foreign countries, e.g. labor cost and institutional framework consisting of political landscape, infrastructure and market characteristics. Finally, a firm must find an international advantage in not licensing to another market actor in a foreign country, but internally benefiting from its ownership abroad (Dunning, 1988, p.13-40; Anghel, 2005, pp.2-40). Blonigen (2005) distinguishes between internal and external firm-specific factors for multinational enterprises' decision-making when investing abroad and affecting FDI location. The internal factors consist of intangible assets regarded as public goods, e.g. managerial skills or technology, which is independent of the location of the production plants. Thus, firms in possession of such assets will have an incentive to have several plants.

During recent years, studies of global financial integration and economic growth have spurred many academics to delve deeper into the subject (Dhakal, 2007; Mercereau, 2005, pp.3-38; Taek-Dong Yeo, 2008, pp.1-20). Blonigen (2005) highlights exchange rate effects, taxes, institutions, trade protection, and trade effects as exogenous macroeconomic factors affecting the decision-making of FDI for multinational enterprises. For the emerging markets, macroeconomic factors are a common area of study when aiming to identify the drivers of inwards FDI (Vijayakumar et al., 2010; Dhakal, 2007; Mehta, 2007). Vijayakumar et al. (2010), in the analysis of determinants for the inflow into the BRICS countries (i.e. Brazil, Russia, India, China and South Africa), present potential variables influencing the inflow of FDI, which they group into seven categories encompassing broad macroeconomic factors; "Economic stability and Growth prospects", "Currency value", "Market size", "Infrastructure facilities", "Gross capital formation", "Labor cost" and "Trade openness". Some of these categories have been used before by Singh and Jun (1995, pp.2-34). In addition, Mehta (2007) analyzes the global competitive index (GCI), discussing push and pull factors of FDI for dividing different factors into subgroups for the econometric model.

2.2.1 Economic stability and sustainable growth

For any investor, the stability and sustainable growth of an economy is essential for coping with uncertainty. A rapidly changing macroeconomic environment could expose investors to more risks, which is something best avoided or minimized (Nonnenberg and

Mendonca, 2004, pp.1-19). According to Vijayakumar et al. (2010), a stable (predictable) economy with normal or high sustainable growth rates should most likely receive a higher amount of FDI compared to an economy characterized by uncertainty and high volatility. There are several indicators for economic growth and sustainability, e.g. gross domestic product (GDP) and inflation (Mehta, 2007). Inflation is, in the view of Vijayakumar et al. (2010), a rather ambivalent variable of economic stability, as it may have both a positive or negative sign. Nonnenberg and Mendonca (2004, pp.1-19) argue that one important aspect of inflation is that it's influenced by monetary and fiscal policies, which could lead to unpredictable inflation rates in future. Consequently, because investors may prefer investing in a more stable economy with sustainable growth, inflation is expected to show a negative sign, and thus a negative influence on FDI (Sahoo, 2006, pp.4-43; Adeoye, 2009; Nonnenberg and Mendonca, 2004, pp.1-19). Adeoye (2009), Vijayakumar et al. (2010), Nonnenberg and Mendonca (2004, pp.1-19) and Anghel (2005, pp.2-40), all found that inflation had a negative sign, but insignificant as determinant for the inflow of FDI in developing countries.

2.2.2 Market characteristics

Market factors such as market size measured by the variables gross domestic product (GDP) and GDP per capita (level of economic development), are common in many recent studies (Adeoye, 2009; Wernick et al., 2009; Mehta, 2007). Market size is expected to be highly significant and positive by Adeoye (2009), Vijayakumar et al. (2010), and Singh and Jun (1995, pp.2-34). Sahoo (2006, pp.4-43) found market size measured by GDP to be significant and an important determinant of FDI flows into South Asian countries. However, Huggins (2007, pp.6-62) found GDP per capita to be negative and significant for the inflow of FDI in a sample of 18 Latin American countries during 1980-2003.[3] In contrast to FDI, with portfolio flows as dependent variable, Huggins (2007, pp.6-62) found GDP per capita to be positive and significant, but insignificant if domestic variables such as corruption were included in the model. Adeoye (2009) found GDP per capita, level of economic development, to be insignificant which has also been the case in some previous similar studies, e.g. Asiedu (2002) on Africa, Holland and Pain (1998, pp.3-38) in their study of countries in central and eastern Europe.

Trade openness is generally expected to be positive and significant as a determinant of FDI (Vijayakumar et al. et al., 2010; Asiedu, 2002; Adeoye, 2009). Trade openness is regarded by Vijayakumar et al. (2010) as one of the key determinants of FDI,

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[3] For more details, see section 2.2.4

since FDI is to a great extent export-oriented; however, intermediate, complementary and capital goods also need to be taken into account. This was confirmed by Sahoo (2006, pp.4-43) who found trade openness to be a significant factor for the inflow of FDI to South Asia. In recent papers, trade openness is measured as exports plus imports divided by GDP, and the variable used is trade as percentage of GDP (Jensen, 2003; Wernick et al., 2009; Adoeye, 2009).

Another interesting variable is gross capital formation (GCF), measured as acquisitions minus disposals of fixed assets. Higher gross capital formation can act as a driver for economic growth. However, according to Vijayakumar et al. et al. (2010), the role of GCF in the inflow of FDI is unclear, seeing as it can take a positive or a negative sign although significant as a determinant of FDI. In the study of the BRICS countries, GCF was found to be significant at a ten percent significance level and taking a negative sign. It is possible that under privatization, GCF can even be reduced. Vijayakumar et al. (2010) state that the significant and negative impact of GCF on the inflow of FDI suggests that privatization and changes in ownership do not have any influence on the gross capital formation of the BRICS countries.

2.2.3 Infrastructure development

The infrastructure development in a foreign country is crucial for economy expansion. The need for a reliable supply of services and goods is critical for the society to function properly, which is why infrastructure is expected to have a positive and significant impact on the inflow of FDI (Adeoye, 2009; Vijayakumar et al., 2010). Aseidu (2002) found that infrastructure development was of less importance for the inflow of FDI in some parts of Africa's emerging market regions. In contrast to Aseidu (2002), Sahoo (2006, pp.4-43) found infrastructure to be an important factor for the FDI flows into South Asia in a study focusing on the period 1975-2003. Vijayakumar et al. (2010) constructed an index with the use of data on "Fixed line mobile phone subscribers (per 100 people)", "Electric Power Consumption (kWh per capita)" and "Energy use (kg of oil equivalent per capita)" from the World Development Indicators (World Bank). Similarly, Vijayakumar et al. (2010) showed that for the BRICS countries, infrastructure facilities have a significant and positive influence on the inflow of FDI. Sahoo (2006) also included the same factors as Vijayakumar et al. (2010), though Sahoo (2006) extended the analysis slightly with more factors, e.g. number of Internet users and air freight.

2.2.4 Wages, remittances and household consumption expenditure

Labor cost is a factor expected to be significant for the inflow of FDI, as production is often outsourced from more developed and mature countries to less-developed countries, who have a greater supply of cheap labor force. Intuitively, higher production (fixed) cost relating to higher labor cost should impact FDI inflows negatively (Vijayakumar et al., 2010). This phenomenon is known as efficiency-seeking FDI, while market-seeking FDI relates to other macroeconomic factors such as market characteristics, e.g. market size (high demand and economy of scale; mass production) (Mehta, 2007; Athukorala, 2009).

Previous research has suggested that labor force growth is a crucial factor for the inflow of FDI, e.g. by Sahoo (2006, pp.4-43). Vijayakumar et al. (2010) used "workers' remittances and compensation of employees, received", as a proxy for labor cost, and concluded that wages are a significant determinant and have a negative relationship with FDI inflows, as was expected. Indeed, one can question whether "workers' remittances and compensation of employees, received" is a relevant proxy for local wages since it doesn't primarily measure local wages, but can be seen as an additional (external) source of income from abroad. However, e.g. should the people in Brazil receive more funds from migrant workers abroad, it may cause local wages to rise as a private capital push for further economic growth and development in a low-income environment (Huggins, 2007, pp.6-62). From the empirical results of Vijayakumar et al. (2010), it appears that for the BRICS-countries, as the transfer of funds from a host country to one of the BRICS-countries increases, the inflow of FDI decreases (since Vijayakumar et al. (2010) found workers' remittances and compensation of employees (received) to be negative and significant). This may indicate that the BRICS-countries are not considered to be those "poor" countries in the study of Vijayakumar et al. (2010), or that there is competition between external sources of capital if remittances are used for external financing of existing or new businesses, rather than pure income for living.

The empirical results of Huggins (2007, pp.6-62), suggest that the inflow of remittances (as a dependent variable) from the host country to the country of origin (in Latin America) goes down as GDP per capita goes up. Logically, a citizen living in a country in Latin America receives more funds (additional income) from relatives and others abroad if that particular country is considered to be poorer with respect to GDP per capita. Huggins (2007, pp.6-62) found that poorer countries in Latin America (1980-2003) with lower GDP per capita and debt, and higher levels of trade and inflation, attracted more remittances (with remittances as the dependent variable). Huggins (2007, pp.6-62), who studied the determinants of FDI inflows, portfolio flows,

remittances and a joint model of capital flows, argues that remittances are the most stable form of capital.

Using various regression techniques such as Granger causality, Dhakal et al. (2007), were able to show that FDI-growth causality relates to lower income levels measured by GDP per capita concerning the Asian (South/Southeast/East Asian) countries. Thus, according to Dhakal et al. (2007), the effects of FDI on economic growth are more positive in countries with lower income levels. For example, Huggins (2007, pp.6-62) found GDP per capita to be negative and significant for the inflow of FDI. According to Huggins (2007, pp.6-62), lower GDP per capita means that there is an (arbitrage) opportunity for foreign direct investors to take advantage of lower income levels and flat wage growth, e.g. outsourcing, which occurs along the US border to Latin America, and can be explained in the context of labor-intensive industries. Hence, FDI is exploiting the business environment of lower GDP per capita and the upside potentials (arbitrage) of private consumption elsewhere. Hewko (2002, pp.3-25) argues that the most vital determinant for the inflow of FDI is the existence of profitable business opportunities, since a rational investor will only make an investment decision if the net present value is strictly positive. Also Dhakal et al. (2007) have pointed out that the cross-country differences in FDI-growth causalities in Asia may be accounted for the investor's incentives, e.g. the search of low-cost production areas or access to large consumer markets.

Another proxy for wages (and also the development of consumer markets) is household consumption expenditure per capita, used by Adeoye (2009). Data availability is the biggest reason for its use in the assessment of local wages in global emerging market countries. Adeoye (2009) assumes that a wage increase will result in a subsequent increase in household consumption expenditure. Adeoye (2009) found household consumption expenditure to be negative but insignificant, and concludes that the shift from efficiency-seeking FDI to market-seeking FDI could provide an explanation, as labor cost is no longer the most crucial factor for foreign investors.

2.3 Macroeconomic governance indicators and FDI

The interest in examining macroeconomic governance focusing on institutional quality began to increase in the end of the 1990's as new data became available and research groups started to analyze governance factors and make cross-country comparisons, e.g. by the World Bank organization (Kaufmann et al, 2009, pp.2-103).

Objective measurement of macroeconomic governance is very difficult, as data on e.g. corruption or the protection of property rights, is very hard to obtain in practice. Therefore, most of the measures are either subjective or perception-based (Anghel, 2005, pp.2-40). The perception–based measures of governance in the data set constructed by Kaufmann et al. (2009, pp.2-103) are a rigorous attempt to assess the governance on macro-level, such as "Regulatory Quality", "Rule of Law", "Voice and Accountability", "Control of Corruption", "Political Stability" and "Government Effectiveness".[4]

Adeoye (2009), as with most previous studies[5], constructs an overall index for governance by taking the average of all the indicators, as opposed to analyzing each governance indicator separately. According to Arndt and Oman (2006) at the OECD Development Centre, aggregating the six indicators into an overall index of governance on macro-level can be a problem in terms of statistical inference, as the properties of the underlying data make the structure itself too complex to begin with, as shown by various examples provided by OECD Development Centre. Wernick et al. (2009), in contrast to similar studies, made a creative and successful attempt at constructing a governance variable by principal component analysis, PCA. They found this new variable, which captured more than eighty percent of the variations in the governance indictors, to have a positive and significant impact on the FDI inflows. The limitation of the studies above is that they say nothing of the specific role of each indicator for the inflow of FDI. Anghel (2005, pp.2-40), however, analyzed five of the six present indicators separately ("Voice and Accountability" is not included) based on cross-sectional data, as opposed to, e.g. Adeoye (2009) and Wernick et al. (2009), who used panel data for the analysis of governance. Anghel (2005, pp. 2-40), who conducted a worldwide study of both developed and developing countries between 1996 and 2000, found that these five indicators were almost always significant when using cross-sectional data (should be compared to the statistical advantages of panel data[6]).

Anghel (2005, pp.2-40) also extended the analysis of governance by incorporating the data set of La Porta et al. (1999) measuring business regulation, bureaucratic delays, corruption and property rights. Anghel (2005, pp.2-40) found that all of the governance indicators had an impact on the inflow of FDI, except in the case of political stability as the logarithm of trade openness was introduced. Governments that are more effective

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[4] See section 3.1.1 for the definitions
[5] See also Masron and Abdullah (2010, pp. 1-16). "*Institutional quality as a determinant for FDI Inflows: Evidence From ASEAN*", Fazio and Talamo (2003), *"How "attractive" is governance for FDI?"*, and others mentioned by Arndt and Oman (2006). "*Development Centre Studies Uses and Abuses of Governance Indicators: Complete Edition*" (SourceOECD Governance).
[6] I will discuss the advantages of panel data in section 3.2.1

and have a higher degree of protection concerning property rights tend to attract foreign investors, while the quality of governance as measured by La Porta et al. (1999) indicate that bureaucratic delays index and the business regulation index do not influence the inflow of FDI individually (Anghel, 2005, pp.2-40). Furthermore, Anghel (2005, pp.2-40) found that the quality of institutions is important for the inflow of FDI, as well as trade openness and quality of institutions jointly. However, trade openness appears to not have the same importance as an individual factor for FDI.

There have been other attempts at measuring macroeconomic governance, e.g. in the context of China by Fan et al. (2007, pp.1-27), based on expert opinion from International Country Risk Guide (ICRG). By using only two of the governance indicators, rule of law and control of corruption from ICRG, Fan et al. (2007, pp.1-27) found rule of law to be negative while control of corruption positive, although insignificant as determinants of FDI inflows. A couple of studies have found rule of law to be negative, however, few studies seem to have found rule of law both significant and negative. Hewko (2002, pp.3-25), Perry, A. (2000a, 2000b), Yun-Han Chu et al. (2008, pp.31-34), Thi (2008), and Randall (2008, pp.39-44), discuss the different perceptions of rule of law in Asia between citizens living in authoritarian regimes in Asia, and "outsiders" such as NGOs and foreign investors. To summarize: all studies above have shown that it is problematic to measure rule of law by surveys, because foreign investors have imperfect information, Asian citizens think differently about the concepts of rule of law and democracy, and outsiders have a difficult time understanding rule of law in Asia (both the cultural difference and the legal origin is essential). Fan et al. (2007, pp.1-27) argues that rule of law, which is a survey variable, is a post-entry result rather than a pre-entry decision, and is usually more positive because of (quote): *"self-selection and power of cognitive dissonance"* (Fan et al., 2007, pp. 22-23; Verbeek, 2008, pp.249-253). This means that foreign investors, having had a good experience, tend to give a high mark, while investors with negative views would have dropped out.

Nevertheless, Fan et al. (2007, pp.1-27) conclude that China is receiving more FDI than is predicted by the model. Hence, either foreign investors are speculating as to whether there will be an improvement of governance for the future or not, or if foreign investors are being more protected by the government than their Chinese equivalent (Fan et al., 2007, pp.1-27). According to La Porta et al. (1999), countries that have a larger government and collect more taxes will also have a propensity to perform better, in contrast to countries that are smaller and collect fewer taxes.

Other important contributions have been made by Bussner and Hefeker (2007), Vittorio and Ugo (2006, pp.3-25), Bénassy-Quéré et al. (2005, pp.4-28), Wei (2000), Lucas (1993) and Schneider and Frey (1985). Bussner and Hefeker (2007) studied eighty-three countries between 1984 and 2003, using data from the International Country Risk Guide (ICRG), and found in the cross-country analysis that only three governance factors were closely linked to FDI: government stability, religious tensions, and democratic accountability. Similar to Wernick et al. (2009), Vittorio and Ugo (2006, pp.3-25) studied the Kaufmann's governance indictors, but chose to concentrate on a small group of countries around the Mediterranean (including African countries) between 1995 and 2004, and constructed an overall index of Kaufmann's governance indicators using the principal component analysis. Vittorio and Ugo (2006, pp.3-25) found this new variable to be a significant determinant for the inflow of FDI.

Bénassy-Quéré et al. (2005, pp.4-28) focused on the database "The Institutional Profiles" developed from surveys under the French Ministry of Finance. Bénassy-Quéré et al. (2005, pp.4-28) examined fifty-two foreign countries in the year of 2001. They found institutional quality to be important, even if GDP per capita is not considered, for the inflow of FDI. The result also indicates that the tax systems, easiness to create a company, lack of corruption, transparency, contract law and security of property rights among others, are crucial factors to be considered in the governance framework.

Wei (2000) made an interesting contribution to the research field of FDI by examining the effects of corruption for the inflow of FDI. By studying the effects of taxation and corruption on FDI flows from fourteen source countries to forty-five host countries, Wei (2000) concludes that an increase in the tax rate on multinational enterprises, and an increase in the corruption level in the host countries appear to reduce the inflow of FDI. For example, if the level of corruption in Singapore were to increase to Mexico's level, it would have a negative effect on the inflow of FDI, and this would be equivalent to an "extra" tax rate from eighteen up to fifty percentage points (Wei, 2000). Huggins (2007, pp.6-62) also found that corruption is a significant domestic variable preventing the inflow of FDI, from studies of Latin American countries during 1980-2003.

Lucas (1993) developed a theoretical model of a multiple product monopolist in the context of foreign capital, which is estimated for seven countries in Asia. The results suggest that inwards FDI tends to increase with higher cost levels within the source country and perhaps most interestingly, political stability tends to have much stronger influence on inward FDI than economic determinants.

Moreover, Schneider and Frey (1985), in their study of eighty developing countries, checked four models for analyzing the determinants of FDI, which were estimated and controlled with ex-post projections. According to Schneider and Frey (1985), a political-economic model combining both economic and political factors tends to perform much better than a purely economic model. Their results suggest that higher GNP per capita increases the inflow of FDI, while political instability has a negative effect on the inflow of FDI. Without political stability, regulation and laws could change in an unfavorable manner, thus exposing foreign investors to more external risk factors. For example, according to Krugman and Obstfeld (2009, p.644), in the case of Indonesia and the Asian financial crisis, the political instability and the economic crisis were negatively reinforcing each other, ultimately leading to a huge drop in confidence towards the national banks during the crisis in 1997-1998.

3 Research methodology

This section describes the data and econometric model used for the analysis.

3.1 Data description

The worldwide governance indicators of Kaufmann et al. (2009, pp.2-103) have been collected at the World Bank.[7] The available data for these indicators is from 1996 to 2008 (annual data). Thus, I have gathered all explanatory variables within this period for a total of 37 emerging market countries around the world on four different continents.[8] The definition of an "emerging market" is debatable. However, I have included countries from both the Morgan Stanley's Emerging Market Index and Standard & Poor's Emerging Market index. I have also included other countries in Asia for the analysis, belonging to the MSCI list (MSCI Barra, which cover 22 emerging market countries), FTSE emerging markets list ('Advanced emerging markets' and 'Secondary emerging markets') and the Economist list of emerging market countries, including the list of countries by Kvint (2009, pp.90-91). I have also included binary dummy variables to control for individual characteristics of continents and subcontinents. The rationale for including dummy variables for regions is to absorb cultural effects and other factors such as location, which is unique in terms of natural resources etc. (Adeoye, 2009).

3.1.1 Governance indicators

The aggregated governance indicators are built on hundreds of specific (non-aggregated) individual variables, which measure governance globally from thirty-five different data sources (retrieved by thirty-three organizations). Each indicator and its underlying data reflect the views of the private and public sector, citizens and NGO experts around the world (Kaufmann et al., 2009, pp.2-103). The advantage of the governance indicators is that they cover a broad number of critical factors, which are relevant for market and risk analysis.

All governance indicators are constructed on the basis of percentile rank (0-100). For all 212 countries, Kaufmann et al. (2009, pp.2-103) give each country a specific percentile rank based on the underlying data, and relative to other countries. E.g. if China's percentile rank was 70.00 for "Political Stability" in the year of 2000, it means that 70% of the countries performed much worse than China and 30% better in comparison (Kaufmann et al. 2009, pp.2-103; Adeoye, 2009).

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[7] Governance Matters VIII, Aggregate and Individual Governance Indicators 1996–2008
The World Bank, Development Research Group
Macroeconomics and Growth Team (June 2009)
[8] See appendix for list of countries

Below, the macroeconomic governance indicators are described. I label them 'Test variables' since the main focus of this thesis is to check the significance of these variables on the inflow of FDI, the dependent variable. The test variables are included in equation (6) and (7) in section 3.2.2 (Model specification).

1. **Voice and Accountability**: capturing the perception of how well a country is governed by its institutions and elected politicians in terms of accountability and transparency (Kaufmann et al., 2009, pp.2-103). There should be no asymmetry in information, so the citizens can make their judgment properly. Thus, it is expected that a more stable macroeconomic environment, which promotes openness and accountability, will attract FDI to a greater extent than if the accountability is low and the financial institutions and government are untrustworthy in the fiscal and monetary policies as well as civil liberties. This requirement is essential when investing in any country. Reputation is an important aspect in the context of corporate finance and investment management (Tirole, 2006, pp.535-541).

2. **Political stability** (and violence): this analysis is similar to 'Voice and Accountability'. A more stable political environment with less likelihood of governments being overthrown or destabilized by unconstitutional means or violence, including terrorism, is expected to attract more FDI (Kaufmann et al., 2009, pp. 2-103). With long-term stability, a country has a better position to strengthen its reputation and build closer relationships with foreign investors who appreciate negotiation with parties who respect democratic values such as civil liberties. Without political stability, regulations and laws could change in an unfavorable manner, thus exposing a foreign investor to more risk. This is known as time inconsistency in the context of democracy (elections) and property rights institutions[9] which should protect investors and other stakeholders from expropriation by the current government and elite (Tirole, 2006, pp.536-537).

3. **Government effectiveness**: capturing the perceptions of the public services and civil services in terms of quality and the degree of its independence from outside political pressures, as well as the quality of formulation and implementation of policies and the government's credibility to commit to such policies (Kaufmann et al.,

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[9] For example: judiciary institutions and regulatory agencies or central banks regarded as independent by the outside community (Tirole, p. 537)

2009, pp.2-103). Government effectiveness is expected to have a positive impact on the inflow of FDI for a number of reasons. Most importantly, a society which has effective government mechanisms is more likely to have a better investment climate for stakeholders and entrepreneurs as well as for domestic and foreign investors.

4. **Regulatory Quality**: capturing the perceptions of the government's ability to formulate and implement adequate policies and regulations which enhance the development of the private sector (Kaufmann et al., 2009, pp.2-103). It is expected that regulatory quality will be important for the inflow of FDI since the financial sector is heavily dependent on the regulatory framework for banks, institutional investors and stakeholders in the country (Tirole, 2006, pp.535-541).

5. **Rule of Law**: capturing the perceptions of how well agents in the society have confidence and abide by rules such has contract enforcement and property rights, as well as the courts and the police for the likelihood of crime and violence (Kaufmann et al., 2009, pp.2-103). Rule of law is expected to be very important, especially for investors since expropriation of outside minority shareholders has been an issue in the past following the track records of the emerging markets. Contracting and property rights institutions have a central role in securing the interest of borrowers, investors and stakeholders (Tirole, 2006, p.536). If the contract enforcement is imperfect, in theory, such an environment will lead investors only to receive a fraction of the nominal claim in return. Thus, weak enforcement will therefore result in a cut in the pledgeable income. The strength of the enforcement is controlled by the laws and regulations that will guarantee the minority shareholder protection and transparency by the courts who are assigned to work effectively and independently (Tirole, 2006, p.538). It is expected that rule of law will have a positive impact on the inflow of FDI.

6. **Control of Corruption**: capturing the perceptions of public power and if exercised for private gains, including state assets being "captured" by private interest and elites (Kaufmann et al., 2009, pp.2-103). Corruption is a serious threat to the economy because resources may be misallocated while simultaneously undermining democratic values. In many cases, corruption tends to increase as real per-capita income decreases. Countries with regulations upholding corruption will eventually harm future economic growth. Compared to mature countries, poor developing countries lack sufficient resources and strong institutions, e.g. police force, to fight corruption

effectively. In reality, poverty itself tends to justify not abiding by the rules (Krugman and Obstfeld, 2009, pp.626-627). It is expected that control of corruption will have a positive impact on the inflow of FDI.

3.1.2 Macroeconomic factors

As stated previously, the dependent variable is inwards foreign direct investment (percentage of GDP). Other macroeconomic (independent) variables that have been included in the analysis are[10]:

1. Trade (sum of exports and imports in goods and services, percentage of GDP)
2. Gross capital formation (percentage of GDP)
3. GDP per capita (constant US$)
4. Inflation, consumer prices (annual percentage)
5. Infrastructure Index[11] (based on "Electric power consumption, kWh per capita", "Energy use, kg of oil equivalent per capita" and "Mobile and fixed-line telephone subscribers, per 100 people")
6. Workers' remittances and compensation of employees, received (percentage of GDP)
7. Household final consumption expenditure per capita (constant US$)

The seven variables above act as control variables in equation (6) and (7) in section 3.2.2 (Model specification). If we are interested in the relationship between the inflow of FDI and the test variables for macroeconomic governance, we also need to control for differences, e.g. in GDP per capita and trade openness. This is an important notion under the ceteris paribus condition, which implies that it is not possible to interpret a coefficient in the regression model and at the same time ignore other important variables.[12]

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[10] For full reference, see appendix
For discussion on these factors, see section 2.2 (literature review) and 4.1, 4.2 (empirical results)
[11] Vijayakumar et al. (2010) use a similar approach but for the BRICS-countries and over a different time period (1975-2007)
[12] For further discussion, see Verbeek (2008), p.54

3.2 Econometric model

3.2.1 Panel data

One important advantage of panel data compared to time series or cross-sectional data sets is the allowance of identification of particular parameters or economic questions without having to make any restrictive assumptions (Verbeek, 2008, p. 356; Hsiao, 2003, p.3). Typically, panel data includes a larger set of data points, thus increasing the degrees of freedom as well as reducing the collinearity between the explanatory variables, which improves the efficiency of the estimators (Hsiao, 2003, p.3). Nijman and Verbeek (1990) showed that in a comparison of a pure cross-section and a pure panel and a combination of both data sets, panel data will typically yield better estimators, which are more efficient in comparison to a series of cross-sections in a model with exogenous variables and same number of observations. Hence, since panel data is often more accurate, there is a motivation for analyzing all the six governance indicators separately against the inflow of FDI by using panel data (i.e. longitudinal data) which can take care of multicollinearity among the explanatory variables and also for a longer time period and the emerging markets.

One of the trickiest tasks for researchers is often to decide which model to use. A good starting point is the OLS model as a benchmark for the fixed effects and random effects regression models. In this thesis, I will use the Hausman test to decide if fixed effects or random effects should be used. Hausman (1978) proposed a simple test in which x_{it} and α_i are uncorrelated under the null hypothesis, i.e. test if the random effects and fixed effects estimators are significantly different:

$$\chi_K^2 = (\hat{\beta}_{FE} - \hat{\beta}_{RE})'[V(\hat{\beta}_{FE}) - V(\hat{\beta}_{RE})]^{-1}(\hat{\beta}_{FE} - \hat{\beta}_{RE}) \qquad (1)$$

Where the χ_k^2 denotes the Chi-squared distribution, and K is the number of elements in the estimated $\hat{\beta}$, i.e. K degrees of freedom (Verbeek, 2008, p.368).

Previous empirical research has made frequent use of the random effects method rather than fixed effects for analyzing FDI flows across countries (e.g. Adeoye, 2009, and Vijayakumar et al., 2010). Intuitively, since we believe that there are differences among countries and continents/subcontinents, it seems sound to use the random effects model. GLS with random effects is also a better choice than OLS, since the assumption of homoskedasticity is not likely to hold with empirical data, which usually tends to be heteroskedastic across individuals (Verbeek, 2006, p.356).

The standard linear regression (of ordinary least square, OLS) model for panel data can be written as (Verbeek, 2008, p.356; Wooldridge, 2002, pp.247-249; Baltagi, 2001, p.11):

$$y_{it} = \beta_0 + x_{it}'\beta + \varepsilon_{it} \tag{2}$$

One-way error component, composite error, for disturbances:

$$\varepsilon_{it} = \alpha_i + u_{it} \tag{3}$$

Where:

$$i = 1,...,N \qquad \text{(Cross-section)}$$

and

$$t = 1,...,T \qquad \text{(Time-series)}$$

The fixed effects model, a modified version of the OLS model, has an intercept that varies over the observation $i = 1,...,N$ (Verbeek, 2008, pp. 359-360):

$$y_{it} = \alpha_i + x_{it}'\beta + u_{it}, \qquad u_{it} \sim i.i.d.(0,\sigma_u^2) \tag{4}$$

Equation (2) and (3) is also referred to the random effects model if we assume certain properties of the error term (independently and identically distributed over i, i.i.d.):

$$y_{it} = \beta_0 + x_{it}'\beta + \alpha_i + u_{it}, \qquad \alpha_i \sim i.i.d.(0,\sigma_\alpha^2) \text{ and } u_{it} \sim i.i.d.(0,\sigma_u^2) \tag{5}$$

The GLS estimator, which is similar to the OLS estimator but more efficient, is an optimal combination of the between estimator and the within estimator. α_i is a specific component for each individual (individual heterogeneity), which is unobservable and does not vary over time. The idiosyncratic errors, u_{it}, are assumed to be uncorrelated over time and will capture the remaining disturbances (Wooldridge, 2002, p.251; Baltagi, 2001, p.11; Verbeek, 2008, p.364).

3.2.2. Model specification

In this thesis, I will study two models; one model which includes a global sample of emerging market countries and another model which focuses on an Asian sample of emerging market countries. In this way, we can check the significance of the dummy variables controlling for location on both continent and subcontinent level with special focus on South, Southeast and East Asia. The purpose of the dummy variables is to

control for ambiguous factors such as location, natural resources, cultural effects and so forth, which may have an influence on the inflow of FDI into the emerging markets.

Panel data model with dummy variables for different continents[13] (6):

$$FDI_{it} = \alpha + \beta_1 ACC_{it} + \beta_2 PSTAB_{it} + \beta_3 GOVEFF_{it} + \beta_4 REGQ_{it} + \beta_5 RLAW_{it} + \beta_6 CCORR_{it} +$$
$$\beta_7 TRADE_{it} + \beta_8 GCF_{it} + \beta_9 GDP_{it} + \beta_{10} INFL_{it} + \beta_{11} COMP_{it} + \beta_{12} EXP_{it} + \beta_{13} INFRA_{it} +$$
$$\beta_{14} dyAMA_{it} + \beta_{15} dyASA_{it} + \beta_{16} dyCEE_{it} + \beta_{17} dyAFA_{it} + \varepsilon_{it}$$

Asian subcontinents (South/Southeast/East Asia) (7):

$$FDI_{it} = \alpha + \beta_1 ACC_{it} + \beta_2 PSTAB_{it} + \beta_3 GOVEFF_{it} + \beta_4 REGQ_{it} + \beta_5 RLAW_{it} + \beta_6 CCORR_{it} +$$
$$\beta_7 TRADE_{it} + \beta_8 GCF_{it} + \beta_9 GDP_{it} + \beta_{10} INFL_{it} + \beta_{11} COMP_{it} + \beta_{12} EXP_{it} + \beta_{13} INFRA_{it} +$$
$$\beta_{14} dySA_{it} + \beta_{15} dySEA_{it} + \beta_{16} dyEA_{it} + \varepsilon_{it}$$

Where:

$'i'$ = country (e.g. Singapore, China or Brazil)

$'t'$ = time period (annual, 1996-2008)

$'\alpha'$ = intercept in the model

$'\varepsilon_{it}'$ = composite error term

Dependent variable

$'FDI'$ = Inflow of foreign direct investment (% of GDP)

Test variables

$'ACC'$ = Voice and Accountability (percentile rank 0-100)

$'PSTAB'$ = Political stability (percentile rank 0-100)

$'GOVEFF'$ = Government effectiveness (percentile rank 0-100)

$'REGQ'$ = Regulatory quality (percentile rank 0-100)

$'RLAW'$ = Rule of law (percentile rank 0-100)

$'CCORR'$ = Control of corruption (percentile rank 0-100)

Control variables

$'TRADE'$ = Trade (sum of exports and imports in goods and services, % of GDP)

$'GCF'$ = Gross capital formations (% of GDP)

$'GDP'$ = Gross domestic product per capita (constant US$)

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[13] Adeoye (2009) also include dummy variables for different continents

'INFL' = Inflation (annual %)

'COMP' = Workers' remittances and compensation of employees, received (% of GDP)

'EXP' = Household final consumption expenditure per capita (constant US$)

'INFRA' = Infrastructure index* (based on "Electric power consumption, kWh per capita", "Energy use, kg of oil equivalent per capita" and "Mobile and fixed-line telephone subscribers, per 100 people")

Dummy variables (continents and subcontinents)

'dyAMA' = Binary dummy variable (1/0) for countries belonging to America

'dyAFA' = Binary dummy variable (1/0) for countries belonging to Africa

'dyCEE' = Binary dummy variable (1/0) for countries belonging to Central or East Europe

'dyASA' = Binary dummy variable (1/0) for countries belonging to Asia

'dySA' = Binary dummy variable (1/0) for countries belonging to South Asia

'dySEA' = Binary dummy variable (1/0) for countries belonging to Southeast Asia

'dyEA' = Binary dummy variable (1/0) for countries belonging to East Asia

The dummy variables indicate whether a country is within a particular continent/subcontinent. If so, the country is assigned a value of '1' for that continent/subcontinent, and '0' for the other geographical areas.

*An infrastructure index has been constructed for each i and t of all countries:

$$INFRA_{it} = \frac{\sum_{j}^{3} Y_{jt}}{3} \qquad \text{where} \quad Y_{jt} = \frac{X_{jt}}{X_{jt-1}} \times 100 \qquad (8)$$

Y_{jt} corresponds to the transformed value (an index expressed in percentage) of the jth indicator at time t for each country.

X_{jt} corresponds to the value of jth indicator at time t for each country.

3.3 Methodology discussion

In econometric analysis, it is always important to be aware of potential problems concerning model specification and the quality of the data. In this study, variables have been chosen based on economic theory as well as the availability of data, using economic arguments from previous research - as discussed in the literature review - in order to avoid problems with omitted variables (Verbeek, 2008, p.58). Moreover, the use of panel data will reduce the collinearity between the explanatory variables.

One common issue with empirical data concerns misleading inferences. In the ordinary least square model (OLS), it is assumed that the disturbances are characterized by homoskedasticity, i.e. with same variance over individuals and time (Baltagi, 2001, p.77). However, although the regression coefficients may still be accurate, standard errors are biased in the presence of heteroskedasticity and the estimates are no longer efficient. Serial correlation is yet another issue that needs to be addressed, as a potential unobservable shock, e.g. from correlated omitted variables, can change the behavior of the variables between time periods (Baltagi, 2001, p.77; Hsiao, 2003, p.57). Similarly to heteroskedasticity, the estimates are consistent but not efficient, and the standard errors are biased. In empirical research, one way of reducing the problems of heteroskedasticity (such as positive skewness) has been to transform the data and estimate a loglinear model, or to transform some variables into natural logarithms. However, this is not an attractive route if the variables have large nonpositive values (also concerning dummy variables) and in such case we include the original (untransformed) variable into our model (Verbeek, 2008, pp.55-56). Furthermore, depending on the nature of the raw data, one might lose important information when transforming the variable.

Another way to deal with heteroskedasticity is to use robust inference (Verbeek, 2008, p.372). Typically, the solution is to use an autoregressive model such as AR(1) or compute robust standard errors (Wooldridge, 2002, pp.274-276; Baltagi, 2001, p.81). It is always important to make the analysis robust if possible, especially with fixed T and large N asymptotics (Wooldridge, 2002, p.263). 'Robust standard errors' (also called Huber-White Sandwich) or 'cluster-robust standard errors' allow for arbitrary autocorrelation and heteroskedasticity and should be used if such are suspected (Verbeek, 2008, p.372). The advantage of the cluster-robust standard error (available as an option in STATA - statistical/data analysis software) is also the robustness to

moderate misspecification and within-cluster correlation. [14] Even if errors are unclustered, one would reach roughly the same estimates using the cluster-robust estimator, as long as the number of clusters is large (Nichols and Shaffer, 2007, pp.19).

The cluster-robust standard error estimate will converge to the true standard error as the number of clusters M goes to infinity and not by the number of observations N, i.e. the cluster-robust estimator is asymptotic for M, the number of clusters (Nichols and Shaffer, 2007, pp.7-32). Experimental research has found that the number of clusters which are needed to make inference accurate are roughly fifty, but it is considered to be of adequate precision as long as the number of clusters is much greater than the number of parameters, and not M-2 or M-1 as well as M<10. In particular, if the number of clusters is less than ten, one might be worried about estimates being biased downwards (Nichols and Shaffer, 2007, pp.7-32).

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[14] STATA (FAQ): http://www.stata.com/support/faqs/stat/cluster.html (retrieved: 2010-04-10)
"Comparison of standard errors for robust, cluster, and standard estimators" (William Sribney, StataCorp)

4 Empirical results and discussion

This section presents the statistical results from the econometric model and analyzes the outcome in light of previous empirical results.

4.1 Global emerging market countries

The descriptive statistics and correlation tables for all variables for the global emerging market countries, i.e. all thirty-seven countries, are given in table three and five in the appendix. From those tables, we can see that the standard deviation for GDP per capita, inflation (annual percentage) and household final consumption expenditure per capita is relatively high compared to the other variables. This is not surprising, as the definition of an emerging market country is a country evolving from 'developing' to 'developed'. This means that the variation across countries is high, i.e. the distance between the former and latter could be very large, which increases the variation to such an extent that homoskedasticity no longer is a feasible assumption. Moreover, since the number of clusters is much greater than the number of parameters[15], the cluster-robust estimator provides a solution when dealing with the presence of heteroskedasticity and autocorrelation.

Table number five shows that the correlation between GDP per capita (constant US$) and household final consumption expenditure per capita (constant US$) is very high. Fortunately, the issue of multicollinearity (as discussed in the methodology section) can be handled by using panel data for the regression analysis; one of the major advantages of this data structure.

The Hausman test shows (see table one) that the random effects model is the preferred choice as we test whether the random effects and fixed effects estimators are significantly different (Verbeek, 2008, p.368, 288). Since the Hausman test is not significant, we can conclude that there is no correlation between the explanatory variables x_{it} and the individual effects α_i. For comparison, I have included both the ordinary least squares (OLS), random effects (RE) and fixed effects results (FE) in table number one. By looking at the OLS results, we see that more variables are significant than in the RE- or FE-models. It is generally unreasonable to assume that error terms from different time periods are uncorrelated (Verbeek, 2008, p.356). The (pooled) OLS results tend to overstate the precision gain, leading to underestimated standard errors and t-statistic that can be greatly inflated.

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[15] STATA (statistics/data analysis software) reports that there are thirty clusters in the global sample

Table 1

Panel Data Regressions for Global Emerging Market Countries

The sample used in this study consists of global emerging market countries (Asia, America, Central and Eastern Europe, and Africa) from 1996 to 2008. The dependent variable is the inflow of FDI (% of GDP). Regression coefficients are reported with t-values in parenthesis. The t-values in regression 'RE' are adjusted for heteroskedasticity and arbitrary autocorrelation with the cluster robust estimator for variance. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively. 'OLS' is equal to Ordinary Least Squares, 'RE' is equal to GLS Random effects and 'FE' is equal to GLS Fixed effects. Number of country-year observations is 481. Number of countries is 37.

Inflow of FDI (% of GDP)	OLS	RE	FE
Voice and Accountability	-0.0426	-0.0132	0.0119
	(-2.68)***	(-0.64)	(0.32)
Political Stability	0.0156	0.0052	0.0197
	(0.90)	(0.13)	(0.56)
Government Effectiveness	-0.0541	0.0044	0.0335
	(-1.59)	(0.13)	(0.75)
Regulatory quality	0.0727	0.0428	0.0354
	(3.28)***	(1.91)*	(1.03)
Rule of Law	-0.0009	-0.0147	-0.0179
	(-0.03)	(-0.24)	(-0.31)
Control of Corruption	0.0736	0.0514	0.0440
	(2.32)**	(1.70)*	(1.00)
Trade (sum of exports and imports in goods and services, % of GDP)	0.0162	0.0299	0.0681
	(3.05)***	(1.83)*	(3.53)***
Gross capital formation (% of GDP)	0.0858	0.0725	0.0729
	(2.21)**	(2.13)**	(1.22)
GDP per capita (constant US$)	-0.0013	-0.0011	-0.0018
	(-4.53)***	(-1.80)*	(-2.71)***
Inflation (annual, %)	-0.0016	-0.00023	0.0016
	(-0.09)	(-0.01)	(0.07)
Infrastructure index	-0.0018	0.0140	0.0073
	(-0.06)	(0.63)	(0.26)
Workers' remittances and compensation of employees, received (% of GDP)	0.0290	0.0312	-0.0142
	(0.54)	(0.32)	(-0.06)
Household final consumption expenditure per capita (constant US$)	0.0022	0.0016	0.0029
	(4.20)***	(1.70)*	(2.35)**
Binary dummy variable (1/0) - America	1.6620	1.1256	(dropped)
	(1.92)*	(0.89)	
Binary dummy variable (1/0) - Asia	0.8735	-0.1924	(dropped)
	(1.29)	(-0.09)	
Binary dummy variable (1/0) - Africa	(dropped)	-0.4581	(dropped)
		(-0.23)	
Binary dummy variable (1/0) - Central and Eastern Europe	1.9197	(dropped)	(dropped)
	(1.99)**		
Adj. R²	0.3513		
Hausman test (Prob > Chi²)		11.38 (0.5792)	

The conclusion is that the RE-model is preferred, as both the OLS- and FE-results are rejected on the basis of violation of the assumptions underlying the OLS-model and the Hausman test.

The RE-results show that the test variables 'Control of Corruption and 'Regulatory Quality' are significant at a ten percent significance level. The control variables, 'Trade' (measured by the sum of exports and imports in goods and services, as percentage of GDP), 'Gross capital formation' (as percentage of GDP), 'GDP per capita' and 'Household final consumption expenditure per capita' are significant as well (see table one for significance level).

Thus, both 'Control of corruption' and 'Regulatory Quality' have a significant influence on the inflow of FDI. This result coincides with the outcome of Wei (2000), Anghel (2005, pp.2-40), Bénassy-Quéré et al. (2005, pp.4-28), Huggins (2007, pp.6-62) and La Porta et al. (1999) who found, e.g. corruption and business regulation to be important determinants for the inflow of FDI. Corruption is apparently a more established determinant compared to regulatory quality in the past literature. Intuitively, regulatory quality may actually be an effective way to battle corruption in emerging markets. A country lacking in regulatory quality will have greatly lowered opportunities of coping with corruption. Described in detail, we see that as regulatory quality is positive and significant, it follows that the inflow of FDI is positively influenced by regulation that is based on formulating and implementing adequate policies and regulations, enhancing the development of the private sector (Kaufmann et al., 2009, pp.2-103). Ergo, implementing regulations which come into practice and are adequate in terms of quality, rather than being characterized by conflicting bureaucracy and low effort outcome, is important, e.g. in the financial interactions between foreign direct investors and local authorities.

Nevertheless, control of corruption remains a big challenge for both large and small emerging market countries on the African continent, as well as in South America and Asia. In countries such as Russia, corruption tends to be widespread and difficult to control (Stott, 2010). The findings of Wei (2000) are providing a good economic argument as to why control of corruption is crucial for FDI inflows. In an analogy between taxation and corruption, Wei (2000) showed the difference between low and high levels of corruption measured by adding an additional tax. The problem of corruption is that it tends to block a country's future prospects as resources become misallocated, e.g.

projects which need funding, and have a positive net present value, don't receive any because of corruption within the society (Krugman and Obstfeld, 2009, pp.625-627).[16]

Checking the control variables, the coefficient sign of GDP per capita is negative and significant. Both GDP and GDP per capita have been found to be positive and significant in previous empirical research, e.g. Vijayakumar et al. (2010). However, there are exceptions. Adeoye (2009), Asiedu (2002) and Holland and Pain (1998, pp.3-38) found GDP per capita and GDP, level of economic development, to be insignificant. Furthermore, we can see that the household final consumption expenditure per capita is positive and significant. From these results, one may think that the inflow of FDI (as a percentage of GDP) is driven by the consumption expenditure from households rather than market size. This could be the case; after all, larger emerging market countries such as China attract FDI by sheer volume (economics of scale) and high demand. Even though a country may have very low GDP per capita and possibly high variation within the country, consumption expenditure per capita can still lead to a positive inflow of FDI. According to Dhakal et al. (2007), the effects of FDI on economic growth are more positive in countries with lower income levels. Most importantly, Huggins (2007, pp.6-62) also found GDP per capita to be negative and significant for the inflow of FDI. Huggins (2007, pp.6-62) argues that lower GDP per capita means that there is an (arbitrage) opportunity for foreign direct investors to take advantage of lower income levels and flat wage growth.

In addition, we can see that the control variables of trade and gross capital formation are positive and significant. It indicates that trade openness measured by trade (sum of exports and imports in goods and services, as a percentage of GDP) is vital for the inflow of FDI. Emerging market countries with a liberalized market economy characterized by trade openness seems to attract FDI. Adeoye (2009) who had a broad sample of emerging market countries and Vijayakumar et al. (2010) who analyzed the BRICS-countries, expected to find trade openness to be significant and positive; however, the empirical results showed no significance. However, Sahoo (2006, pp.4-43), found trade openness to be a significant factor for the inflow of FDI into South Asia. As mentioned in the beginning, gross capital formation (as a percentage of GDP) is also found to be positive and significant. Curiously, Vijayakumar et al. (2010) found this to be significant and negative, expecting a positive or negative relationship with the inflow of FDI. The significant and negative effect of GCF for the inflow of FDI suggests that

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[16] See Krugman and Obstfeld (2009, pp. 625-627) for graphical evidence and further discussion

privatization and changes in ownership have no influence on the gross capital formation of the BRICS-countries according to Vijayakumar et al. (2010). Hence, the result in table one showing a positive and significant relationship between gross capital formation and the inflow of FDI, would imply that privatization and changes in ownership may have some influence on the gross capital formation of the global emerging market countries compared to the BRICS-countries, according to the interpretation made by Vijayakumar et al. (2010). Moreover, the positive and significant result of gross capital formation is a signal that FDI is determined by the (positive) economic confidence in emerging market countries, seeing as higher gross capital formation can act as a driver for better investment climate and economic growth.

Discussing the control variables that were insignificant such as inflation, we see that it has a negative sign which was expected but it is not significant here. This result is not a big surprise, given that other studies, e.g. Nonnenberg and Mendonca (2004, pp.1-19), Anghel (2005, pp.2-40), Vijayakumar et al. (2010) and Adeoye (2009), all found that inflation had a negative sign, but insignificant as determinant for the inflow of FDI. Likewise, the infrastructure index and workers' remittances and compensation of employees (received) (as a percentage of GDP) are found to be insignificant in table one. Vijayakumar et al. (2010) found both of these variables to be significant arguing that FDI flow is attracted by low wage countries and countries which have good infrastructure facilities (analyzing the BRICS-countries from 1975 to 2007). Sahoo (2006, pp.4-43) also found infrastructure to be an important factor for the FDI flows into South Asia. However, Asiedu (2002) found that infrastructure development was of less importance for the inflow of FDI in some parts of Africa's emerging market regions.

The result in table one, in contrast to Vijayakumar et al. (2010), shows that in the last decade, the importance of remittances and compensation of employees (received) has not been a significant determinant on global-level for FDI inflows. Vijayakumar et al. (2010) found this variable to be significant and negative, signaling that the inflow of FDI would drop if transfer of funds increased from the host country to the country of origin. If remittances and compensation of employees (received) has some influence on local wages is not possible to say at this point. It is not reasonable to believe that this variable would be a good proxy for local wages. However, it is interesting that lower GDP per capita and higher consumption expenditure per capita attracts more FDI. From an investor's incentive perspective, as discussed by Dhakal et al. (2007) and Huggins (2007, pp.6-62), the ultimate arbitrage opportunity would be to have production in one country

with low GDP per capita, i.e. with lower wages, fixed costs etc., and at the same time direct access to larger consumer markets in the same or/and another country.

Finally, in accordance with Adeoye (2009), no location with respect to major continents was found to be significant. It is possible that by using continents as dummy variables we are covering too large a geographical area to provide any significant details about localization in terms of natural resources, culture and other production factors.

4.2 Asian emerging market countries

The descriptive statistics and the correlation table for the eleven emerging market countries in the Asian sample (South/Southeast/East Asia) are given in table number four and six in the appendix. We can see that the standard deviation of GDP per capita is relatively high in comparison with the other variables. The standard deviation is also slightly higher than for the global sample with all thirty-seven countries, which indicates that the level of (economic) development varies to a greater extent in (South/Southeast/East) Asia. However, the mean of GDP per capita is smaller than what is presented in table three for all countries. It is also worth noting that the gross capital formation (% of GDP) has a mean higher than in table three. This may indicate that for the period of 1996-2008, compared with the global sample, the sample countries of Asia experienced relatively stronger economic prospects.

Starting with the analysis of table number two, we can first of all see that the random effects model is preferred, and the fixed effects model is rejected by the Hausman test. As with Vijayakumar et al. (2010), because the OLS-results are similar to the random effects results in terms of coefficient signs and significance, we compare the random effects model to the fixed effects model. As there is a high number of parameters and few clusters in the Asian sample[17], it is plausible to question how well the cluster-robust estimator will work in terms of degrees of freedom. In this case, using the Huber-White Sandwich estimator is a better alternative for robust inference in the presence of heteroskedasticity.

The random effects results show that the governance indictors, 'Political Stability' and 'Rule of Law', are significant. Perhaps unexpectedly, political stability has a positive influence while rule of law has a negative impact on the inflow of FDI. Thus, higher percentile rank of political stability would mean higher levels of FDI inflows and the exact opposite in the issue of rule of law, which decreases levels of FDI inflows.

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[17] STATA (statistics/data analysis software) reports that there are nine clusters in the Asian sample

Table 2

Panel Data Regressions for

Asian Emerging Market Countries

The sample used in this study consists of emerging market countries in Asia (South/Southeastern/East Asia) from 1996 to 2008. The dependent variable is the inflow of FDI (% of GDP). Regression coefficients are reported with t-values in parenthesis. The t-values in regression 'RE' are adjusted for heteroskedasticity with the Huber-White Sandwich estimator for variance. ***, **, * denote significance at the 1%, 5% and 10% levels, respectively. 'RE' is equal to GLS Random effects, and 'FE' is equal to GLS Fixed effects. Number of country-year observations is 142. Number of countries is 11.

Inflow of FDI (% of GDP)	RE	FE
Voice and Accountability	0.0801	-0.0304
	(1.32)	(-0.32)
Political Stability	0.1634	0.2086
	(2.69)***	(2.23)**
Government Effectiveness	0.0967	0.0025
	(0.83)	(0.02)
Regulatory quality	0.0832	-0.0625
	(1.03)	(-0.55)
Rule of Law	-0.2487	-0.0985
	(-2.11)**	(-0.64)
Control of Corruption	-0.0594	0.1206
	(-0.67)	(1.05)
Trade (sum of exports and imports in goods and services, % of GDP)	0.0561	0.1146
	(1.95)**	(2.83)***
Gross capital formation (% of GDP)	0.1001	0.0830
	(0.98)	(0.73)
GDP per capita (constant US$)	-0.0051	-0.0005
	(-3.90)***	(-0.20)
Inflation (annual, %)	0.0277	-0.0773
	(0.32)	(-0.85)
Infrastructure index	-0.0846	-0.0424
	(-1.18)	(-0.55)
Workers' remittances and compensation of employees, received (% of GDP)	-0.1649	0.7226
	(-1.15)	(1.44)
Household final consumption expenditure per capita (constant US$)	0.0080	-0.0004
	(3.19)***	(-0.09)
Binary dummy variable (1/0) - Southeast Asia	-6.2236	(dropped)
	(-1.95)*	
Binary dummy variable (1/0) - South Asia	0.8156	(dropped)
	(0.22)	
Binary dummy variable (1/0) - East Asia	(dropped)	(dropped)
Hausman test (Prob > Chi²)		19.74 (0.1020)

Such a result begs the question: Is this feasible? If rule of law has a negative coefficient, foreign direct investors would not consider if the agents in the society have more confidence and abide by the rules (Kaufmann et al., 2009, pp.2-103). From the results, we would conclude that the inflow of FDI into South/Southeast/East Asia is driven more by political stability, trade openness and household consumption expenditure than greater rule of law and higher GDP per capita.

Using regression techniques such as Granger causality, Dhakal et al. (2007) were able to show that FDI-to-growth and growth-to-FDI causality relates to more limited rule of law in both causalities and lower income levels measured by GDP in the former causality concerning the Asian (South/Southeast/East Asian) countries. Thus, the effects of FDI on economic growth are more positive in countries with lower income levels and more limited rule of law. Dhakal et al. (2007) conclude that the pull effect of economic growth on the inflow of FDI is greater in the situation of institutional weakness. In addition, since there is some form of substitutability between weak institutions and economic growth in stimulating FDI, institutional weakness is not so harmful for foreign investment as it is for domestic investments.[18] As a result, growth will stimulate more inflow of FDI when the domestic institutions are weaker (Dhakal et al., 2007).

Yun-Han Chu et al. (2008, pp.31-34), Thi (2008), Randall (2008, pp.39-44) and Hewko (2002, pp.3-25), also support the unconventional view of rule of law, but in the context of differences in the perception of rule of law in Asia and transition economies. Thi (2008), who has fifteen years of experience in rule of law issues in Asia, concludes that there is a huge difference across continents between the reality and rhetoric of rule of law. Furthermore, according to Yun-Han Chu et al. (2008, pp.31-34), Asian citizens think differently about the concepts of rule of law and democracy, which has also been suggested by EAB (East Asian Barometer) surveys. Some citizens might think that rule of law is strong, but it is in fact not. For example, the principle of juridical independence has very little support in countries such as the Philippines, Thailand and China but the citizens still tend to give democratic values such as rule of law a higher mark in surveys compared to people in South Korea who are more critical (Yun-Han Chu et al., 2008, pp.31-34; Randall, 2008, pp. 39-42). La Porta et al. (2000) and Jordan and Lubrano (2008, pp.1-35) emphasized the importance of the legal framework such as legal origin. Differences in culture and tradition between developed and developing emerging

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[18] This is very interesting since Fan et al. (2007) concluded that foreign investors are being more protected by the government than compared with Chinese equivalent

markets may therefore explain why the perceptions of rule of law are found to have a negative impact on the inflow of FDI.

Seeing as the measure of governance is perception-based, one naturally questions how well it corresponds to reality in the case of rule of law in Greater East Asia. Although there are perceptions within the society or by outside organizations that rule of law is "good", this may not be eye to eye with investors, who would not be eager to invest in a country where rule of law is perceived to be "good" but in reality is not. Hence, there could be different views on rule of law depending on whether the perceptions come from an organization or directly from foreign direct investors. It is possible that the governance indicator doesn't cover the perceptions of all foreign direct investors. Fan et al. (2007, pp.1-27) argue that the high mark of rule of law originates from post-entry result rather than pre-entry decision, which is usually more positive because of self-selection and positive experience (Fan et al., 2007, pp. 22-23; Verbeek, 2008, pp.249-253). This tells us that foreign investors with positive experiences will tend to give a high mark, while investors with negative views would have dropped out from the survey (an example of self-selection).

Some foreign direct investors might have better (real-time) information on the condition of rule of law in countries which are more objective in nature. Even if courts were to prosecute and be able to solve many cases in terms of quantity, it does not follow that the quality of the outcome would be deemed as satisfactory by (outside) foreign investors. The situation in India, where it has been observed that the rule of law tends to be displaced by the rule of judges, illustrates the severe problems in some of the countries in Asia (Simon, 2006)[19]. Furthermore, if the outcome of previous legal cases against foreign direct investors has been dreadful in the past, rule of law may cause some investors to avoid countries with such characteristics. Rule of law could also be related to long battles in legal processes, increasing the bureaucratic burden on foreign direct investors such that the transaction costs rocket, i.e. time and capital are scarce resources and greater 'Asian' rule of law does nothing to alleviate the situation. According to Hewko (2002, pp.3-25), there is strong support for the above reasoning. Transaction costs have a close link to rule of law and could be a key explanation for the results.

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[19] Robinson, S. (2006), *"For Activist Judges, Try India"* (Time Magazine). These kinds of headlines in the media would of course affect investors one way or another.

Hewko (2003, pp.3-25) and Perry (2000a)[20], argue that the information held by foreign investors is imperfect as foreign investors don't perform ex-ante investment analysis consistently regarding the state of the host country's legal institutions and system.

Quote from the article *"Foreign direct investment: Does the Rule of Law matter?"*:

"In short, most foreign investors were willing to accept or ignore actual problems in the legislation and legal system if they had a visceral "feel good" perception of the target country. Conversely, if the general perception of a country were to decline, foreign investors would be more hesitant even if, on paper, the state of the legal system were actually improving."

Hewko (2002), p.8

The quote from Hewko's (2002, pp.3-25) paper above tells us that foreign investors would be more risk-averse if the information about the legal system is not trustworthy, which is an understandable outcome. Consequently, it could imply that foreign investors in some cases are unaware of whether they have perfect information or not. Should the foreign investor have their head office and most vital parts of the management located elsewhere, it could be difficult to make the right judgment concerning the status of rule of law in the host country. In particular, asymmetry of information would be a problem, because agents in the host country know better how to deal with stakeholders, e.g. the contact with local authorities and how to quickly win battles in courts and other legal institutions. Moreover, even if the foreign direct investor was operating in the host country, there could still be potential problems, e.g. cultural clashes about certain legal issues such as property rights. However, this should induce foreign investors to not only invest a significant amount of funds into the host country but also to gain a first-hand experience of doing business within the country for the long-term.

Apart from rule of law, from table number two, we also see that political stability is highly significant, and that it has a positive influence on FDI inflows. In the previous empirical research, it has been argued that political stability has an influence on the inflow of FDI into Asian (South/Southeast/East Asia) countries. Lucas (1993), who developed a theoretical model of a multiple product monopolist in the context of foreign capital, found that political stability tends to have much stronger influence on inwards FDI than economic determinants. Similarly, Schneider and Frey (1985) were able to show that a political- economic model, which combines both economic and political factors, tends to perform much better than a pure economic model. More importantly,

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[20] For further discussion, see also Amanda Perry (2000b), *"An Ideal Legal System for Attracting Foreign Direct Investment? Some Theory and Reality"*

according to Schneider and Frey (1985), political instability has a negative effect on the inflow of FDI. Political stability implies that a more stable political environment with less likelihood of governments being overthrown or destabilized by unconstitutional means or violence, including terrorism, is expected to attract more FDI (Kaufmann et al., 2009, pp.2-103). It is reasonable to assume that without political stability, regulations and laws could change in an unfavorable manner, thus exposing foreign investors to more external risk factors. The Asian financial crisis is a good example of how political stability played an important role in supporting the financial system (Krugman and Obstfeld, 2009, pp.644). Therefore, the positive and significant relationship between political stability and foreign direct investment might be explained in the context of the Asian financial crisis in which countries afterwards focused more on political stability in order to restore confidence in the national economy.

Focusing on the control variables, table two shows that 'Trade', 'GDP per capita', 'Household final consumption expenditure per capita' and 'Binary dummy variable (1/0) - Southeast Asia' are significant. Once again, trade, GDP per capita and the consumption expenditure of households is significant as with the global sample where all countries are included. However, trade is less significant, now only significant at a five percent level compared to one percent significance level (see table one and two for comparison). The analysis is similar as with the global sample of emerging market countries. Household consumption expenditure tends to have positive influence on the inflow of FDI while GDP per capita has the opposite. Other empirical work, e.g. Sahoo (2006, pp.4-43) found market size measured by GDP to be significant and an important determinant of FDI flows into South Asian countries. Adeoye (2009) did not find GDP per capita and household final consumption expenditure per capita to be significant for similar emerging market countries in the global sample.

Nevertheless, the interpretation of these results would be that the inflow of FDI (as a percentage of GDP) is driven by increasing levels of consumption expenditure per capita including greater trade openness, and at the same time lower levels of GDP per capita. Thus, it seems that foreign direct investment is looking to exploit the business environment of lower GDP per capita and the upside potentials of private consumption. Here, we find some support from Hewko (2002, pp.3-25) who argues that the most vital determinant for the inflow of FDI is the existence of profitable business opportunities. Although a country might have an overall positive governance profile, it would not attract FDI if foreign direct investors cannot identify projects where the net present value is significantly greater than zero. An analogy can be provided from the stock

market where a contrarian investor would like to buy a share at low price and make an exit when the price is significantly higher, i.e. only invest when the market overacts and goes down in which new opportunities emerges. Thus, as the GDP per capita goes up, investment opportunities with considerable upside potentials may be less visible.

In addition, Dhakal et al. (2007) suggest that the cross-country differences might be explained by the investor's incentives, e.g. the search of low-cost production areas or access to the consumer markets. This could also explain why GDP per capita has a negative influence since investors want to invest in a low-cost production area and therefore discourage increased levels of GDP per capita, and/or gain access to large consumer markets such as China, where the household consumption expenditure per capita could have a positive influence on FDI.

As we proceed to look further at the results in table number two, it is apparent that infrastructure and inflation is negative and insignificant, but the dummy variable of Southeast Asia is negative and significant at a ten percent significance level. This is interesting since Sahoo (2006, pp.4-43) found infrastructure to be an important factor for the FDI flows into South Asia. The most likely explanation is that Sahoo (2006) also took other infrastructure factors in a broader context and for a longer period during 1975-2003 compared to this study.

The dummy variables of subcontinents such as South/Southeast/East Asia narrows down the geographical area, thus better capturing the aspect of localization compared to the dummy variables for whole continents (see table one). This might bring clarity to the question why Adeoye (2009) was unable to find the dummy variables of continents to be significant. What is striking is that the dummy variable of Southeast Asia has a negative relationship with the inflow of FDI. Adeoye (2009) expected an ambiguous impact, i.e. that some of the dummy variables of continents could either be positive or negative depending on ambivalent factors, e.g. trade treaties, culture and multilateral institutions' which may have some influence on FDI inflows. Hence, from the results in table number two, the dummy variable of Southeast Asia indicates that emerging market countries located in the subcontinent of Southeast Asia tend to have a negative impact on the inflow of FDI, but only at a ten percent significance level.

5 Conclusion

This thesis has separately examined the six governance indicators on macro-level, and other macroeconomic factors as potential determinants of foreign direct investment (FDI) into emerging markets, both global and Asian, over the period 1996-2008. As cross-sectional data in general contains less information (data points), less degrees of freedom and has potentially more pervasive problems of collinearity between the explanatory variables, I have used panel data and without aggregating the governance indicators compared to previous studies. The empirical results are based on a large sample of global emerging market countries consisting of thirty-seven countries within four different continents, and a smaller sample of Asian emerging market countries which covers eleven countries located in the subcontinents of South, Southeast and East Asia.

Returning to the research questions posed in the introduction, I have found control of corruption and regulatory quality to have a significant and positive role on macro-level for the inflow of FDI into the global emerging markets. As the control of corruption and regulatory quality improves, FDI inflows (as a percentage of GDP) tend to increase. The empirical results of the global sample therefore show that corruption and regulation have still had a significant impact on FDI during the last decade, following earlier studies in this research area. It signals that changes in governance perception of the emerging markets may take longer than expected. Foreign direct investors may have learned from experience to be more cautious when investing in the emerging markets. Hence, foreign direct investors value more control of corruption and greater regulatory quality as it increases the chances of investments abroad being more profitable, e.g. in terms of less transaction costs. For the sample of Asian emerging market countries, political stability has a significant and positive role on macro-level for the inflow of FDI, while rule of law is found to have a negative and significant role on macro-level for FDI inflows. It seems that foreign direct investors still appreciate political stability more, as it has been a crucial determinant for the inflow of FDI in the past. Political stability could be important in terms of risk exposure towards various stakeholders, to build confidence on the financial markets and to create a favorable business environment for foreign direct investors. The surprising result of rule of law being shown to have a negative influence on FDI inflows is quite contradictory to the expectations on a greater and more effective rule of law to have a positive impact on the inflow of FDI. The perception of rule of law might be different between foreign direct investors, ex-ante and ex-post, and the survey respondents located within a country in Asia, and outside observers. Self-selection bias has also been found to be a statistical issue in this matter.

Moreover, foreign direct investors might be more risk-averse and be guided by their own subjective perceptions of rule of law rather than actual improvements in the state of the legal system. The likelihood of increased transaction costs may also provide an explanation for why foreign direct investors have no trust towards "efficient" or "effective" legal regimes and the higher perceptions of rule of law perceived by the own people and other outsiders. Hence, the lack of transparency in rule of law seems to be a problem in the Asian countries. The result is also interesting in light of previous empirical evidence of FDI inflows and (South/Southeast) Asia have showing that growth-FDI/FDI-growth causality is strengthened by more limited rule of law in the host country.

The empirical findings of the control variables show that trade openness and household consumption expenditure have a positive and significant influence on the inflow of FDI for both the global and Asian emerging markets. Gross capital formation has also been found to be significant and positive for the inflow of FDI into the global emerging markets, which indicates that privatization and changes in ownership may have some influence on the gross capital formation of the global emerging market countries in accordance with prior research conclusions. GDP per capita, level of (economic) development tends to have a negative influence on FDI in both the global and Asian emerging markets. The negative coefficient of GDP per capita, in the context of previous empirical research on growth-FDI/FDI-growth causality, may indicate that effects of FDI on economic growth are also more positive in countries with lower income levels. Investor's incentives in terms of arbitrage opportunities, e.g. the search of low-cost production areas (labor and facilities) and/or access to the consumer markets may provide an answer to the perplexing results above of negative GDP per capita and positive consumption expenditure per capita influence on FDI inflows.

While this thesis has provided some empirical evidence which support prior empirical studies, it highlights the complexity of rule of law as a determinant of FDI inflows into the Asian emerging markets. However, more empirical research needs to take place in order to grasp this area of FDI inflows and the rule of law in Asian emerging markets since transparency itself tends to be an issue. Moreover, further research could also consider other types of proxies for wages, as more consistent data may be available for a larger number of emerging market countries in the future. It would also be beneficial if more investigations could be made between the different kinds of governance indicators, perhaps to check their accuracy through time, and differentiate between the perception of survey respondents and what is actually true in terms of other

scientific evidence. Ultimately, improving the measures of governance quality will help investors and others to perform better market and risk analysis in the future.

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Appendix

Figure 1

Development of inwards foreign direct investment

Figure 1 shows the inflow of FDI as a percentage of GDP (on aggregated level)

to emerging markets during 1996-2008

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
■World benchmark	1,29%	1,61%	2,35%	3,47%	4,33%	2,59%	1,91%	1,52%	1,76%	2,16%	2,99%	3,62%	2,78%
■37 Global emerging market countries	2,73%	4,17%	3,13%	3,80%	4,15%	3,27%	2,31%	2,35%	3,36%	4,36%	5,27%	5,76%	5,29%
■10 Asian emerging market countries	4,38%	5,11%	4,40%	5,81%	7,24%	4,57%	3,16%	3,71%	5,77%	5,31%	6,74%	7,48%	6,95%
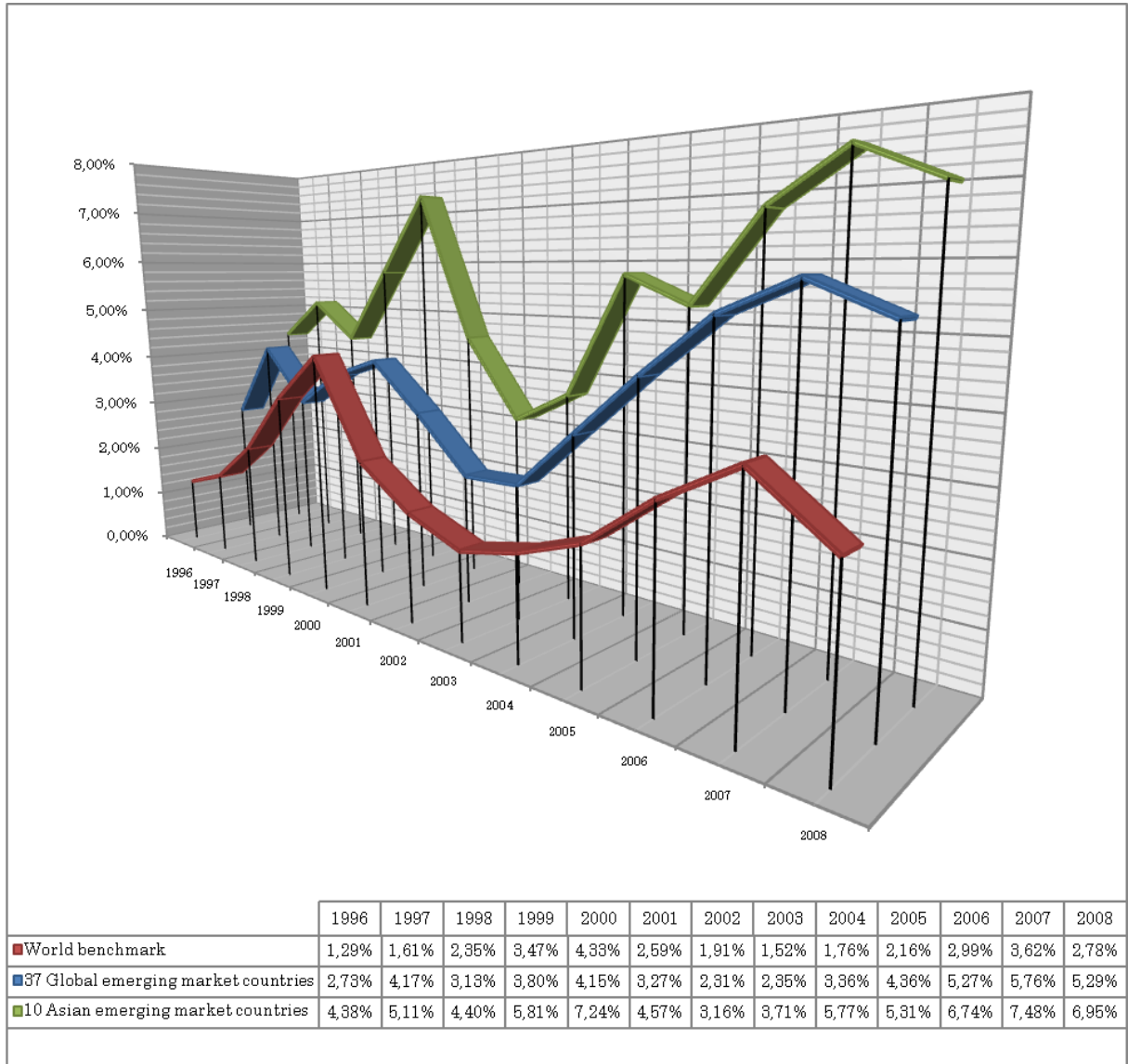
Data source: FDISTAT, United Nations Conference on Trade and Development

Table 3

Descriptive Statistics for Global Emerging Market Countries

Table 1 shows the descriptive statistics for 37 emerging market countries (globally) from 1995 to 2008. The data has been collected at UNCTAD - FDISTAT, Word Bank - Worldwide Governance indicators (WGI), and World Bank - World Development indicators (WDI).

Variable	Obs	Mean	Std. Dev.	Min	Max
Inflow of FDI (% of GDP)	481	3.8534	4.5712	-2.8623	36.6152
Voice and Accountability	481	43.1110	21.5256	3.8278	88.9423
Political stability	481	37.9741	23.9826	1.4000	96.1000
Government Effectiveness	481	57.1471	21.0199	2.3000	100.0000
Regulatory quality	481	55.8976	22.3953	0.0000	100.0000
Rule of Law	481	51.5955	22.8586	1.4000	95.7143
Control of Corruption	481	52.0597	23.8379	2.4272	99.5146
Trade (sum of exports and imports in goods and services, % of GDP)	463	89.4660	72.0751	14.9328	456.6461
Gross capital formation (% of GDP)	454	22.9459	6.4150	7.9052	44.5453
GDP per capita (constant US$)	471	5592.3400	6814.9580	238.0584	34587.1200
Inflation (annual, %)	471	65.1827	1125.7050	-3.9587	24411.0300
Infrastructure index	370	109.4351	7.9754	94.0000	164.0000
Workers' remittances and compensation of employees, received (% of GDP)	403	2.7180	4.3245	0.0015	25.0964
Household final consumption expenditure per capita (constant US$)	401	2860.7900	3288.3770	198.9276	18303.0100
Binary dummy variable (1/0) - Africa	481	0.1622	0.3690	0.0000	1.0000
Binary dummy variable (1/0) - Asia	481	0.5405	0.4989	0.0000	1.0000
Binary dummy variable (1/0) - Central and Eastern Europe	481	0.1081	0.3108	0.0000	1.0000
Binary dummy variable (1/0) - America	481	0.1892	0.3921	0.0000	1.0000

Table 4

Descriptive Statistics for Asian Emerging Market Countries

Table 3 shows the descriptive statistics for 11 emerging market countries in Asia (South/Southeastern/East Asia) from 1996 to 2008. The data has been collected at UNCTAD - FDI statistics, Word Bank - Worldwide Governance indicators (WGI), and World Bank - World Development indicators (WDI).

Variable	Obs	Mean	Std. Dev.	Min	Max
Inflow of FDI (% of GDP)	142	4.9420	6.3911	-2.8623	36.6152
Voice and Accountability	142	42.0258	19.5579	4.8077	71.6346
Political stability	142	44.0562	26.5799	2.8000	96.1000
Government Effectiveness	142	63.4527	20.2601	19.4313	100.0000
Regulatory quality	142	59.8163	22.6308	22.9268	100.0000
Rule of Law	142	58.4199	20.1690	17.1429	95.7143
Control of Corruption	142	53.9123	24.2688	7.7670	99.5146
Trade (sum of exports and imports in goods and services, % of GDP)	134	115.6297	90.0984	22.1872	456.6461
Gross capital formation (% of GDP)	139	27.7551	7.1754	11.3674	44.5453
GDP per capita (constant US$)	142	4837.0110	7059.0190	327.8211	29185.1600
Inflation (annual, %)	141	5.8171	6.3655	-1.7103	58.3871
Infrastructure index	109	111.0114	7.2510	96.3225	144.8000
Workers' remittances and compensation of employees, received (% of GDP)	124	3.1316	3.6000	0.1003	13.7275
Household final consumption expenditure per capita (constant US$)	114	1828.7080	2196.6710	238.3011	9724.60500
Binary dummy variable (1/0) - Southeast Asia	142	0.5423	0.4999	0.0000	1.0000
Binary dummy variable (1/0) - South Asia	142	0.1831	0.3881	0.0000	1.0000
Binary dummy variable (1/0) - East Asia	142	0.2745	0.4479	0.0000	1.0000

Table 5

Correlation matrix for Independent variables

Global Emerging Market Countries

Table 4 shows the correlation between the variables in the Global sample of countries.

	FDI	ACC	PSTAB	GOVEFF	REGQ	RLAW	CCORR	TRADE	GCF	GDP
FDI	1.0000									
ACC	0.1993	1.0000								
PSTAB	0.4353	0.4847	1.0000							
GOVEFF	0.4112	0.6675	0.6777	1.0000						
REGQ	0.4684	0.6694	0.6239	0.8663	1.0000					
RLAW	0.4091	0.6003	0.7211	0.8892	0.8119	1.0000				
CCORR	0.4389	0.6234	0.6591	0.9160	0.8641	0.9127	1.0000			
TRADE	0.3282	0.2788	0.5641	0.4370	0.4209	0.4487	0.3704	1.0000		
GCF	0.2063	-0.1162	0.3168	0.1839	0.0512	0.2280	0.1007	0.2102	1.0000	
GDP	0.1592	0.5602	0.3682	0.5408	0.5218	0.4961	0.5151	0.5464	-0.0087	1.0000
INFL	-0.1345	-0.1788	-0.2961	-0.2841	-0.2002	-0.2793	-0.3058	-0.1876	-0.1413	-0.1645
INFRA	-0.0502	-0.3125	-0.0912	-0.2460	-0.2777	-0.1979	-0.2464	-0.0709	0.2709	-0.2992
COMP	0.0907	-0.2705	-0.1443	-0.1485	-0.1069	-0.0291	-0.0937	0.0868	-0.0109	-0.2732
EXP	0.1824	0.5831	0.3591	0.5417	0.5291	04893	0.5161	0.5167	-0.0298	0.9913
dyAFA	-0.1457	-0.2806	-0.1364	-0.3356	-0.2665	-0.1396	-0.1921	-0.1115	-0.0990	-0.2546
dyASA	0.0070	-0.1651	-0.0641	0.2035	0.0523	0.2424	0.1154	0.1172	0.2358	-0.0572
dyCEE	0.1181	0.3966	0.3785	0.2258	0.2042	0.1584	0.1292	0.3738	0.0317	0.3389
dyAMA	0.0128	0.0976	-0.1222	-0.1533	-0.0134	-0.3016	-0.0864	-0.3515	-0.2235	-0.0033

	INFL	INFRA	COMP	EXP	dyAFR	dyASA	dyCEE	dyAMA
GDP								
INFL	1.0000							
INFRA	-0.0865	1.0000						
COMP	-0.1218	0.1868	1.0000					
EXP	-0.1546	-0.3043	-0.2594	1.0000				
dyAFR	0.0046	0.1758	0.1237	-0.2566	1.0000			
dyASA	-0.0385	0.0952	0.2156	-0.0908	-0.3869	1.0000		
dyCEE	-0.0001	-0.1413	-0.1765	0.3304	-0.1575	-0.3928	1.0000	
dyAMA	0.0416	-0.1384	-0.2096	0.0446	-0.2193	-0.5472	-0.2227	1.0000

FDI: Inflow of FDI (% of GDP)
ACC: Voice and Accountability
PSTAB: Political stability
GOVEFF: Government Effectiveness
REGQ: Regulatory quality
RLAW: Rule of Law
CCORR: Control of Corruption
dyAMA: Binary dummy variable (1/0), America
dyAFA: Binary dummy variable (1/0), Africa

TRADE: Trade (sum of exports and imports in goods and services, % of GDP)
GCF: Gross capital formation (% of GDP)
GDP: GDP per capita (constant US$)
INFL: Inflation (annual, %)
INFRA: Infrastructure index
COMP: Workers' remittances and compensation of employees, received (% of GDP)
EXP: Household final consumption expenditure per capita (constant US$)
dyCEE: Binary dummy variable (1/0), Central and Eastern Europe
dyASA: Binary dummy variable (1/0), Asia

Table 6

Correlation matrix for Independent variables

Asian Emerging Market Countries

Table 5 shows the correlation between the variables in the Asian sample of countries.

	FDI	ACC	PSTAB	GOVEFF	REGQY	RLAW	CCORR	TRADE	GCF	GDP
FDI	1.0000									
ACC	0.0925	1.0000								
PSTAB	0.6186	0.1502	1.0000							
GOVEFF	0.5156	0.4719	0.7760	1.0000						
REGQY	0.6076	0.5475	0.7246	0.8876	1.0000					
RLAW	0.5166	0.5817	0.7884	0.9143	0.8593	1.0000				
CCORR	0.5811	0.4578	0.8080	0.9556	0.8955	0.9365	1.0000			
TRADE	0.3352	-0.0170	0.5536	0.4576	0.4712	0.3359	0.4238	1.0000		
GCF	0.0548	-0.4738	0.2188	0.0483	-0.1604	0.0431	0.0683	-0.2064	1.0000	
GDP	0.1189	0.5014	0.5286	0.6935	0.5946	0.6338	0.6176	0.1349	0.0604	1.0000
INFL	-0.0065	-0.0563	-0.2347	-0.3067	-0.0378	-0.1966	-0.2349	-0.0560	-0.3290	-0.1362
COMP	-0.1356	-0.0417	-0.2970	-0.3676	-0.2644	-0.3609	-0.3861	0.0481	-0.3301	-0.3890
EXP	0.1855	0.5377	0.5505	0.7077	0.6408	0.6647	0.6432	0.1121	0.0314	0.9912
INFRA	-0.1602	-0.4260	-0.2080	-0.4331	-0.4696	-0.4385	-0.4459	-0.1071	0.3343	-0.3876
dySEA	-0.2576	-0.1759	-0.2433	-0.4094	-0.2821	-0.4801	-0.4637	0.5031	-0.4420	-0.3902
dySA	-0.1857	0.2634	-0.3781	-0.1598	-0.2581	0.0531	-0.0933	-0.4764	0.0096	-0.2676
dyEA	0.3943	0.0061	0.5090	0.5353	0.4687	0.4657	0.5472	-0.2043	0.4552	0.5880

	INFL	COMP	EXP	INFRA	dySEA	dySA	dyEA
INFL	1.0000						
COMP	0.0041	1.0000					
EXP	-0.1075	-0.3642	1.0000				
INFRA	-0.1404	0.2030	-0.3914	1.0000			
dySEA	0.1296	0.4067	-0.4221	0.1768	1.0000		
dySA	-0.0035	0.0133	-0.2656	0.0057	-0.3873	1.0000	
dyEA	-0.1330	-0.4338	0.6199	-0.1885	-0.7833	-0.2697	1.0000

FDI: Inflow of FDI (% of GDP)

ACC: Voice and Accountability

PSTAB: Political stability

GOVEFF: Government Effectiveness

REGQ: Regulatory quality

RLAW: Rule of Law

CCORR: Control of Corruption

dySEA: Binary dummy variable (1/0), Southeast Asia

dyEA: Binary dummy variable (1/0), East Asia

TRADE: Trade (sum of exports and imports in goods and services, % of GDP)

GCF: Gross capital formation (% of GDP)

GDP: GDP per capita (constant US$)

INFL: Inflation (annual, %)

INFRA: Infrastructure index

COMP: Workers' remittances and compensation of employees, received (% of GDP)

EXP: Household final consumption expenditure per capita (constant US$)

dySA: Binary dummy variable (1/0), South Asia

Data sources

World Bank Governance Indicators
(http://info.worldbank.org/governance/wgi/index.asp)

World Bank Development Indicators
(http://data.worldbank.org/data-catalog)

United Nations Conference on Trade and Development (UNCTAD)
(http://stats.unctad.org/FDI/ReportFolders/reportFolders.aspx)

Economics Library/Finance Lab,
University of Gothenburg

Sample country list

Argentina	Malaysia*	Zimbabwe
Bahrain	Mexico	
Brazil	Morocco	
Chile	Nigeria	
China (Mainland)*	Oman	
Colombia	Pakistan	
Czech Republic	Peru	
Egypt	Philippines*	
Ghana	Poland	
Hungary	Russia	
Hong Kong*	Saudi Arabia	
India*	Singapore*	
Indonesia*	South Africa	
Israel	Sri Lanka*	
Jordan	Thailand*	
Kenya	Turkey	
Korea, South*	Venezuela	
Kuwait	Vietnam*	

* Sample of Asian countries in the study
(South/Southeast/East Asia)
excl. Greater Middle East and Eurasia

Source (list/definition of emerging market countries):

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