Essays on Foreign Direct Investment in Developing Countries

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Both econometrics and economic theory are the servants and most definitely not the masters of reality. In consequence, whenever theory and reality collide it is theory and not reality that must give way (Greenaway et al. 2007)**.**

Thesis Abstract

The first chapter assesses the relative importance of *WTO* accession in general and that of its three major components, that is, *TRIMS*, *TRIPS* and liberalisation in particular in increasing a developing country's attractiveness for overseas investors. Using annual data for a panel of 90 developing countries over the years 1980-2007, I found that trade and investment liberalization, removal of market distortions through *TRIMS*, strengthening and worldwide harmonisation of *IPR* standards through *TRIPS* adds to a developing country's ability to host additional *FDI*. Consistent with the prediction of the market size hypothesis, population is found to have a significant positive effect on inward *FDI*. *WTO* membership, agglomeration and sound macroeconomic management have plausible significant effects on *FDI* inflows. Traditional *FDI* factors such as infrastructure availability, financial development and education, though regarded as important location determinants, are not robust with respect to alternative proxies and specification of the estimating model. Language and geographic location dummies confirm that foreign firms prefer Anglophones, and are reluctant to invest in South Asia and Francophone countries.

In the second chapter, I investigate the effects of linkage factors with *OECD* countries on *FDI* inflows into leading/emerging developing countries. I use the standard gravity model approach, utilising annual data for 12 developing host and 16 *OECD* source countries from 1990 to 2007, to demonstrate that the increased association between a developed and a developing country is associated with large positive foreign direct investment inflows to the developing country. I found that a bilateral investment treaty, trade agreement and adherence to intellectual property rights conventions/treaties, results in increased *FDI* inflows, and are increasing with market size of the partners and their geographical proximity to each other. Moreover, I have shown that this effect occurs not only in case of bilateral accords but also multilateral and global pacts involving other countries, signalling increased commitment of the host country to potential overseas investors. However, their effect is more profound when the source and host countries are both members of/adhere to the same pact. These findings are found to be robust across different estimation techniques, model specifications and alternate proxies for variables[1].

Finally, in the third chapter, I explore the effects of corruption and political and economic institutions on foreign direct investment inflows in five South Asian nations, that is, Bangladesh, India, Nepal, Pakistan and Sri Lanka. Owing to the long-term relationship with the host, strong institutions and absence of corruption and bureaucratic intervention are crucial location advantages of host countries, especially for those which lack abundant natural resources to attract foreign investors like the *SAARC* economies. For a thorough analysis, I exploited not only the aggregate measures of institutional strength from Fraser Institute, Polity IV and Freedom House from 1970-2009 but also the disaggregated clearly focused set of institutional measures from the Political Risk Services, that are, the sub-components of the International Country Risk Guide for 1984-2008. I found that changes in the institutional variables do not have an overall significant positive impact on *FDI* when aggregate measures of institutional efficiency are employed. However, when these collective measures are disaggregated to a more clearly focused set of factors, their increased effectiveness leads to additional *FDI* inflows at least for some indicators.

1. Part of the results from the second chapter are published as Shah (2011).

Dedication

To my beloved mother, father,

younger sister, brother

and memories of my elder brother (late).

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All praise is to Allah, who has made it possible for me to complete this programme despite all odds.

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Thesis Introduction

The proportion of affiliate products in world trade has increased many fold during the last few decades and so has the importance of the factors helping or resisting their flow. Keeping this in mind, the three chapters collectively explore the question: how the developing countries can enhance their ability to host more foreign direct investment *(FDI)*? Or what are the factors/characteristics that multinational seeks from a host location for their possible overseas expansion?

Though, the three essays investigate *FDI* flows the issues addressed in each of them is distinct from the other two. For example, in chapter one I analyse the role of World Trade Organisation *(WTO)* induced liberalisation and the agreements on Trade Related Investment Measures *(TRIMS)* and Trade-Related Aspects of Intellectual Property Rights *(TRIPS)* in boosting *FDI* to developing countries. Chapter two considers the role of bilateral associations in improving *FDI* inflows from the source Organisation for Economic Cooperation and Development *(OECD)* countries into their dyad partners from a selected group of leading/emerging developing host countries. Whereas, chapter three examines the part that host institutions in five south Asian countries play in enhancing inward *FDI* from abroad.

The role of *WTO* has drawn limited attention in the *FDI* literature and so far researchers have not examined its impact on inward *FDI* in general and of its three major organs, that are, Trade Related Investment Measures *(TRIMS)*, Trade-Related Aspects of Intellectual Property Rights *(TRIPS)* and *WTO* induced liberalisation in particular, as advocated in the first chapter. Understanding the role of *TRIMS*, *TRIPS* and liberalisation on *FDI* is important for firms and governments in formulating appropriate business, investment, trade liberalisation and intellectual property policies. By joining *WTO*, a member commits not only to reduced

tariffs but also to augmented liberal economic policies in the sense of refraining from a range of market interventions that might affect the operations of local and foreign (direct) investors. Similarly, increasing globalisation of the business activities and the role of technological development in economic progress has made minimum universal intellectual property standards an issue of potential concern for researchers, academicians, firms (foreign and local) and state policymakers, hence focus on *TRIPS* seems equally and suitably well-timed.

Thus, in order to create an investment promoting, free of market distortion environment in the host economy it is important to continuously understand, explore, and grasp the existing and possible new factors that may influence *FDI* inflows. The first chapter by specifically examining the role of *TRIMS, TRIPS* and the *WTO* induced liberalisation in inward *FDI*, using annual data for a panel of 90 developing countries over the years 1980-2007 sheds some light on the issue. The study also takes into account the relative importance of other variables such as market size, agglomeration, labour availability, human capital and so on. The findings support the fact that *WTO* membership, liberalisation, *TRIPS* and *TRIMS* have a significant positive effect on inward investment and also add to the existing *FDI* literature by empirically examining for the first time the role of the three primary *WTO* components in influencing foreign investment inflows in developing countries.

In chapter two I focus on the fact that global financial and economic transactions such as *FDI* ought to extend over international borders, involving states with different trade and investment laws (Li 2005) which results in added complexity and uncertainty and raise the costs of doing business abroad (Alcacer and Ingram 2008). I argue that states with historical bonds, existing associations, common values, regional propinquities and similarities of culture are expected to be more connected to each other and offer coherent governing

standards, thus reducing the transaction costs and risks related with overseas operations[2]. Similarly, foreign investors are usually sceptical about the quality of institutions in developing countries therefore, adherence to intellectual property rights *(IPRs)* related conventions, bilateral investment treaties *(BITs)*, trade agreements *(TAs)* as well as regional and international accords like *NAFTA*, *ASEAN*, *SAFTA* and *WTO*, among many others, provide mechanisms for making commitments to foreign investors about the treatment of their assets. Thus, investors from abroad feel reassured as international obligations are considered more credible and reneging on them more costly (Buthe and Milner 2008).

Using annual data for a panel of sixteen *OECD* source countries: Australia, Austria, Denmark, Finland, France, Germany, Italy, Japan, Portugal, South Korea, Netherland, Spain, Sweden, Switzerland, United Kingdom, United States and twelve host leading developing countries: Brazil, China, Czech Republic, Egypt, India, Hungary, Malaysia, Mexico, Morocco, Poland, South Africa and Turkey, from 1990-2007, I have tried to investigate the importance of linkage factors like same colonial background, language, religion, ethnic origin, trade agreements, bilateral investment and double taxation treaties in affecting *FDI* inflows into a developing country and have found support for this argument. Moreover, their effect is stronger when both the host and the source countries belong to the same agreement.

Taxation treaties, *BITs*, *TAs* and adherence to intellectual property conventions are individually analysed with different sets of location *FDI* factors in earlier empirical research on overseas investment into a country but so far their significance in enhancing a developing countries potential to attract direct investment from abroad collectively is not considered. Their (mostly) positive independent effects are established; however, the extent of their

2. When multinationals broaden their production activities beyond their domestic borders, they are essentially subject to different regulatory regimes which expose them to a complex set of risks varying to some extent between each host nation (Gemayel and Chan 2004).

relevance in presence of one another is not tested until now. Similarly, no one has utilised them as a bridge that helps in overcoming the friction or resistance caused by their geographical distance, cultural, lingual and institutional disparities or difference in governing laws. In addition, to my knowledge, separating out the effect of the *TAs* or *IPR* treaties where both the host and source are members as a linkage factor is not tested until now.

Though, the last three decades saw an overall surge of *FDI* flows to the developing countries, they varied by region and even between countries with in a region (Afza and Khan 2009). Moreover, the end of the cold war in the 1990, dried up aid flows to the developing world (Quazi 2007) ensuing an intense competition among the developing countries to attract inward *FDI* (Aqeel and Nishat 2004). In this scenario, the third chapter addresses the question that how effective the availability of stable economic and political institutions and a corruption-free state apparatus are, in influencing the flow of *FDI* to the South Asian Association for Regional Cooperation (*SAARC*) countries or South Asia?

The long term commitment associated with *FDI* (Jensen 2008a) requires stable and consistent positive economic and political institutional influences to enable the *MNCs* to optimally utilise their innate organisational core competencies and the tangible location advantages offered by the host country (Ramirez 2006). The vital argument is that a realistic firm will choose a country where institutions contribute to lower production costs and increases return on investment, thus maximising profits (Sun et al. 2002).

Economic institutions favourable to foreign enterprises facilitate them in acquiring information required to accommodate a set of idiosyncratic market hazards and to improve product quality and production processes within their internal settings. Furthermore, developed political and legal institutions eradicate corruption and make bureaucracy liable for their actions which facilitate multinationals to achieve a greater degree of operational independence to optimally utilise their resources.

The capacity of a developing country to host *FDI* is likely to be at least partly determined by the effectiveness and transparency of its institutional framework, thanks to the effects this has on investors' expectations from the host domestic market and business environment (Janicki and Wunnava 2004). Therefore, political and economic stability, as well as transparent legal regulations concerning foreign ownership are all important variables to potential investors and it is very critical for developing countries to warrant a risk free political and economic environment (Jensen 2008b).

Corruption concerns an investor because it raises the costs of operation and heightens uncertainty about the economic environment that he/she has to tackle (Habib and Zurawicki 2002). Besides, corruption in the state apparatus and bureaucracy creates distortions in the market by providing some companies preferential access to profitable market segments and causing bottlenecks for others thus discouraging organisational performance (Kawai 2009). Therefore, restricting the pervasiveness of corruption is important for *FDI* and the belief that foreign investors abhor arbitrary bureaucratic interference in their operations and their desire to exercise corporate governance in a transparent and fair regulatory and legal environment at least in the developing world seems natural (Altomonte 2000).

Sustained conducive political climate attracts foreign investments because although present economic conditions may appear satisfactory and suggest good prospects for the future, the possibility that they will not materialize due to unfavourable political conditions cannot be ruled out (Jensen 2008a). Political volatility may interrupt the economic process and affect in particular foreign investment. Internal political troubles may be projected towards foreigners and create additional difficulties for foreign owned firms. Foreign direct investors will expect this danger to be lower in the case of a government with more democratic orientation, especially if its rhetoric is for enhancing foreign investment and

multinational presence (Addison and Heshmati 2003). *MNCs* are expected to favour such regimes as they expect that their assets are shielded from predatory banditry of dictators.

Good institutions are expected to ensure the security of foreign investor's property, guarantee political stability, wane corruption, promote a good investment climate and improve business operating conditions leading to increased *FDI* inflows (Krifa-Schneider and Matei 2010). These themes are germane to countries at all levels of economic development, and regions of the world (Rodriguez et al. 2006), but are particularly important for the developing countries devoid of abundant natural resources, such as the *SAARC* nations, to lure overseas investors.

The graphical analysis for Bangladesh, India, Nepal, Pakistan and Sri Lanka highlights that changes in the institutional variables do not have an overall significant positive impact on *FDI* in all the countries when aggregate measures of institutional efficiency are employed in the regressions. However, when these collective measures are disaggregated into more clearly focused set of factors, their increased effectiveness leads to additional *FDI* inflows at least for some variables (Kapuria-Foreman 2007). Probably it is due to the fact that observable institutional variables, such as economic system or political orientation, are excessively rudimentary to capture the intrigues that help to shape policies and institutions that affect the business market variables (Baltagi et al. 2007).

I believe that this study will at least add a few new vistas to the burgeoning research on overseas investment in the developing countries and will be a nouvelle contribution to the *FDI* literature in many ways.

Chapter 1 *WTO* & Inward *FDI* in Developing Countries. Is it *TRIMS*, *TRIPS* or Liberalisation?

Abstract

This chapter assess the relative importance of *WTO* accession in general and that of its three major components, that is, *TRIMS*, *TRIPS* and liberalisation in particular in increasing a developing country's attractiveness for overseas investors. I also take into account infrastructure and skilled labour availability, macroeconomic stability, agglomeration, market size, economic development, regional and income groupings, language and access to sea. Using annual data for a panel of 90 developing countries over the years 1980-2007, I found that trade and investment liberalization, removal of market distortions through *TRIMS*, strengthening and worldwide harmonisation of *IPR* standards through *TRIPS* adds to a developing countries ability to host additional *FDI*. Consistent with the prediction of the market size hypothesis, population is found to have a significant positive effect on inward *FDI*. *WTO* membership, agglomeration and sound macroeconomic management have plausible significant effects on *FDI* inflows. Traditional *FDI* factors such as infrastructure availability, financial development and education, though regarded as important location determinants, are not robust with respect to alternative proxies and specification of the estimating model. Language and geographic location dummies confirm that foreign firms prefer Anglophones, and are reluctant to invest in South Asia and Francophone countries.

1.1. Introduction

The proportion of affiliate products in world trade has increased many fold during the last few decades and so has the importance of the factors helping or resisting their flow[3]. Initially researchers studying the behaviour of multinationals *(MNCs)* hypothesised that they undertake foreign direct investment *(FDI)* only to establish production units for supplying the host market, necessitated by their desire to tariff jump the less profitable option of exporting in the presence of import duties (Blonigen 2002). The steady decline of average tariff rates over the eighties, nineties and especially the advent of 1995 World Trade Organisation *(WTO)* agreement led to the transition away from tariff jumping *FDI*, since investment of this type is less likely to be found in open economies, devoid of market distortions (Medvedev 2006b).

Recent empirical evidence indicates that increased liberalisation and elimination of market interventions positively affect *FDI* inflows. At the same time the growing share of knowledge intensive merchandise in global trade points to the increasing significance of international intellectual property rights *(IPRs)* standards for multinationals. Apart from these factors a firm's investment decision is likely to be influenced by the traditional location pull factors such as the capacity of the host country to provide the necessary infrastructure, labour skills and sound macroeconomic environment to enable the multinational to optimally utilise its resources.

The role of *WTO* has drawn limited attention in the *FDI* literature and so far researchers have not examined its impact on inward *FDI* in general and of its three major organs, that are,

3. On average 50 percent of *US* trade occurs between the affiliates of the same multinational where as 90 percent of *US* exports and imports flow through a *US MNC* (Blonigen 2006). The multinationals hire more than 80 million people worldwide (Li et al. 2010) and overall *MNC* trade account for about 70 percent of world trade (Li and Resnick 2003).

Trade Related Investment Measures *(TRIMS)*, Trade-Related Aspects of Intellectual Property Rights *(TRIPS)* and *WTO* induced liberalisation in particular, as advocated in this chapter. Understanding the role of *TRIMS, TRIPS* and liberalisation on *FDI* is important for firms and governments in formulating appropriate business, investment, trade liberalisation and intellectual property policies. By joining *WTO*, a member commits not only to reduced tariffs but also to augmented liberal economic policies in the sense of refraining from a range of market interventions that might affect the operations of local and foreign (direct) investors. Every member state makes this commitment to all other members without any preferences.

Most of the developing countries offer incentives to attract foreign investors in the desired sectors, activities and locations (Rose-Ackerman and Tobin 2005). These may include accelerated depreciation on plants and machinery, import privileges, tax concessions, tax holidays, tax credits and export subsidies. They at times regulate and limit the economic activities of multinationals operating in the country. Such controls include restrictions on foreign equity ownership[4], local employment, minimum export, domestic content requirements and limitations on transferring profits earned by the foreign affiliates to the source country (Brooks et al. 2008).

The aim of trade related invested measures *(TRIMS)* is to remove, universalise, institutionalise and streamline this selective "rewards and punishment" approach that has long been a feature of the regulatory framework governing *FDI* in host countries.

Similarly, Trade-Related Aspects of Intellectual Property Rights *(TRIPS)* regulating worldwide intellectual property standards has attained nouvelle eminence in view of the efforts made by countries to move toward a knowledge based economy. Increasing

4. For example the Indian 1973 Foreign Exchange Regulation Act obliges foreign firms to restrict their equity ownership to 40%, of the total. However, multinationals exporting 100% of their outputs are exempted from this regulation. Malaysia also attaches overseas equity ownership to export levels (Balasubramanyam 1991).

globalisation of the business activities and the role of technological development in economic progress has made minimum universal intellectual property standards an issue of potential concern for researchers, academicians, firms (foreign and local) and state policymakers, hence focus on *TRIPS* seems equally and suitably well-timed.

In case of a dispute between two member countries, *WTO* has a state to state dispute settlement mechanism. It renders binding decisions on the violator. Unlike most of the other decision making in the organisation the decision of the dispute settlement panel does not require unanimity among members.

The internationalisation of multinational production activities has shifted the competition for *FDI* from rent seeking to the establishment of an enabling, business friendly commercial environment, consistent with *WTO* objectives[5]. Thus, in order to create an investment promoting, free of market distortion environment in the host economy it is important to continuously understand, explore, and grasp the existing and possible new factors that may influence *FDI* inflows. This study by specifically examining the role of *TRIMS, TRIPS* and the *WTO* induced liberalisation in inward *FDI*, using annual data for a panel of 90 developing countries over the years 1980-2007 sheds some light on the issue. The study also takes into account the relative importance of other variables such as market size, agglomeration, labour availability, human capital and so on. The findings support the fact that *WTO* membership, liberalisation, *TRIPS* and *TRIMS* have a significant positive effect on inward investment and also add to the existing *FDI* literature by empirically examining for the first time the role of the three primary *WTO* components in influencing foreign investment inflows in developing countries.

5. With the *WTO* led, increasing trade liberalisation, the old "tariff factory" model of *FDI* has given way to a new *FDI*-led, export-oriented paradigm and can be characterized as a switch from "rent-seeking" to "efficiency-seeking" *FDI* (Brooks et al. 2008).

The following section provides the literature review. Section three and four explore the interrelationship between location *FDI* factors and *WTO* components respectively with *FDI* inflows. The fifth section presents the reduced form empirical model and examines the estimation issues. Section six reports and analyse the empirical results and discuss the robustness checks. The final section, seven, presents some conclusions.

1.2. Literature Review

Economists like V. N Subramanyam, David Sapsford, Stephen Pfaffenzeller, David Greenaway, Kumar, Maskus and Morrissey recognises the role of *TRIMS, TRIPS* and *WTO* induced liberalisation in increasing *FDI* inflows to developing countries. They acknowledge the fact that these measures provide coherence and consistency in trade and investment policies governing multinational operations around the globe but are apprehensive of the negative effects of multinational activity on the host economy and desire that *WTO* mechanisms need to cover both the host's and investor's interests[6]. However, my aim in the present study is not to gauge their beneficial/harmful effect on the host's economy but only to quantify their potential positive/negative influences on *FDI* inflows.

TRIMS according to Balasubramanyam (1991) cover an extensive set of regulations and incentives that influence the operations of multinationals. It enables host countries to provide the *MNCs* with their required ingredients to let them optimally utilise their expertise and control their non beneficial activities (Balasubramanyam and Sapsford 2001). This carrot and stick policy if utilised suitably can lead to higher investment, but this will also come at the cost of other nations not doing so. On the contrary, its improper utilisation will hinder

6. Nevertheless, Kumar (2003) is even sceptical of *WTO's FDI* enhancing ability, citing the example of many African and Caribbean countries who joined *WTO* with no substantial effect on inward *FDI*. However, Asiedu (2004) states that Sub-Saharan countries failed to increase *FDI* inflows despite internal institutional improvement because they made absolute progress but were relatively far behind in comparison to other countries and regions of the world.

multinational's functions in the host market, driving the existing ones out and detering potential new ones. Therefore, the nonexistence of artificial state imposed barriers to trade and non discriminatory business policies shall support the efficient allocation of not only the domestic resources but also the imported ones, thus engendering competition which provides a powerful stimulus for investment in technology and the formation of human skills. This shall help to advance a domestic business climate which is conducive to both, specialisation and the generation of scale economies (Greenaway et al. 2007), fostering foreign direct investment inflows[7].

Similarly, in the present day globalizing economy the conception of knowledge and its adaptation to product designs and production practices are progressively becoming crucial for market success (Maskus 2000). In this background multinationals wish to exploit their technical advantages on the international scale and to parameterize the appropriation of these advantages from competitive rivals. Both tasks can be made easier with stronger and more harmonized world wide *IPR* standards (Maskus 2002), the function that *TRIPS* is performing at the moment. Before *TRIPS* the *IPR* regime in each country was a matter of individual state preferences (Maskus 1997) and the inclusion of *TRIPS* in *WTO* brought the host's domestic governing standards relating to intellectual property under a universalised global purview (Maskus 1998b), reducing/eliminating foreign investor's scepticism and prompting them to invest[8].

According to Maskus (1998c, page 196) "The *TRIPS* Agreement ushers in a new global framework for *IPRs*. It markedly strengthens minimum standards for protection, moving the system closer to harmonisation,…..It also expands the choice sets available for high-technology firms in deciding how best to service international markets - through inter firm or intra-firm trade, investment, joint ventures, licensing, patent pooling or cross-licensing agreements with competing foreign firms, and pricing to market. Little is known about how

7. Moreover, these *WTO* mechanisms will "contribute to the improvement of the investment climate; help create a stable, predictable, and transparent environment for investment; enhance business confidence" (Brooks et al. 2003). Virtues the investors are looking for, leading to more *FDI* inflows.

8. This effect though is expected to vary from country to country (Maskus 1998a).

this change will influence resource flows and the distribution of benefits and costs across countries and over time".

The 1995, World Trade Organisation *(WTO)* agreement caused overall global trade liberalisation and the inclusion of *TRIMS* and *TRIPS* agreements in it led to dramatic reductions on *FDI* related restrictions in the developing countries and substantially improved their intellectual property rights standards (Brooks et al. 2003), resulting in improved *FDI* inflows. Nonetheless, there is no quantitative evidence on the effects of these *WTO* instruments on the investment decision of foreign direct investors (Morrissey 2008).

Therefore, this chapter attempts for the first time to measure their individual effects on the inward *FDI* potential of the developing countries and provide the much needed quantitative evidence of their positive/negative influences[9].

1.3. Theoretical Foundations of the Location Factors Affecting Inward *FDI*

In order to deal with the primary question addressed in this chapter, I need to first discuss and sift the impact of host country characteristics that affect the location decision of overseas investors. Once I have controlled for them then the effect of *WTO* and its three major components, that is, *TRIMS, TRIPS* and liberalisation on the inward *FDI* in a developing country can be explored and assessed with appropriate proxies.

The criteria for variable choice include ease of data availability, sound theoretical justifications, and the variable's robustness in the empirical *FDI* literature. I have made a conscious attempt to gauge the relative importance of each factor. However, it is difficult, at

9. I expect that the positive quantitative results can also be used as a potential argument for the establishment of a multilateral agreement on investment *(MAI)* and answer the question raised by Kennedy (2003) "A *WTO* Agreement on Investment: A Solution in Search of a Problem".

times, because the factors are interrelated and vary across countries and time periods in distinct orders.

1.3.1. Market Size

Empirical *FDI* literature has established the importance of market size on inward *FDI*. The primary explanation is based on the presence of economies of scale. Bigger markets offer additional possibilities to fully exploit the factors of production and make an optimal use of the imported technology. However, increased liberalisation and lower trade tariffs over the years, particularly with the inception of *WTO*, has made this argument debatable.

In open economies multinationals can attain economies of scale through global sales and are not solely dependent on domestic consumers. Nevertheless, owing to relative immobility of labour across international borders even in liberalised countries host market size matters. Glaring examples are of export oriented vertical *FDI* in Mexico, China, Malaysia, Indonesia and the Eastern European countries, especially in labour intensive industries.

In addition, large economies provide more opportunities of diversification and can sustain supplementary economic activities. This will affect the investment decision of *MNCs* seeking conglomeration or strategic expansion, for example Boeing, General Motors and Motorola's investment in China (Feenstra 1998). Similarly, *FDI* in the services sector have a direct association with domestic market size.

In the empirical analysis I have used *GDP* and population as alternative proxy measures and expect a positive relationship between *FDI* inflows and market size.

1.3.2. Economic Development /Capital Abundance/Income Level

The capacity and availability of local entrepreneurship is generally assumed to have a positive association with the extent of economic development and is of fundamental importance for attracting *FDI* in joint ventures with domestic partners.

Similarly, human capital has a direct relationship with economic progress and capital abundance and will induce *FDI* with a high technology component, requiring enhanced labour skills.

Moreover, the degree of development of a developing economy shall positively affect *FDI* inflows as it indirectly implies expected quality of domestic infrastructure.

Gross domestic product per capita *(GDPPC)* also signifies the income level of the host country population and hints at the expected quantity and kind of goods that can be sold in the host market.

The type and pattern of inward *FDI* is expected to be reflective of a country's level of development (Loungani et al. 2002) and causes it to become more horizontal as development proceeds (Maskus 1998a).

I have employed per capita gross domestic product and a few other per worker and per capita measures as proxies for the development level/capital abundance of the host developing country and expect a positive influence on *FDI* inflows[10].

1.3.3. Agglomeration

Strong agglomeration effects are found on *FDI* inflows (Li et al. 2010). With the rise in the number of firms in a particular location the cost of production for all firms shall fall together. Concentrated production and investment activities are expected to foster the

10. However, due to its direct association with wage level it may exert a negative effect on inward *FDI* (Cieślik 2005a). The details and sources of all the variables are provided in appendix 1.1.

development of better quality differentiated producer inputs making economies of scope highly cost effective.

It also causes the pool of locally specialised expert labour to develop making it profitable for new multinationals to locate in the vicinity. Therefore, multinational firms tend to establish manufacturing affiliates in locations specialised in similar production activities because access to intermediate inputs, low transportation costs, coupled with large manufacturing sector and economies of scale requires and encourages concentration of production (Braunerhjelm and Svensson 1996). Glaring examples are the agglomeration of high technology activities in Silicon Valley, United States; of software development in Bangalore, India; of the port wine industry in Oporto, Portugal; of the cutlery manufacturing in Solingen, Germany; and of the financial services sector in the City of London and in Hong Kong, China (Dunning 2009) [11].

Multinationals decision to invest abroad also involves substantial fixed costs of identifying an efficient location, acquiring knowledge of the local regulatory environment, and coordination of suppliers (Blonigen et al. 2005). Therefore, the level of existing accumulated *FDI* stock shall certainly have a demonstration effect on the location choice of foreign firms not familiar with local market conditions, for example consumer preferences, tax procedures, attitudes and behaviours of local workers and political culture (Kawai 2009). A higher level of accumulated *FDI* stock will evidently manifest an overall better investment environment in a developing host country, encouraging more investors from abroad.

I have utilised lagged value of *FDI* stock as a proxy for agglomeration and expect it to have a positive effect on overseas investment.

11. Agglomeration apparently turns into a self perpetuating/re-enforcing process once a certain level is realised (Campos and Kinoshita 2003).

1.3.4. Labour /Human Capital /Skill level

The availability of low cost skilled labour is one of the prime attractions for multinational's investment in developing countries (Morrissey 2008). It is crucial for vertical *FDI* and is considered highly favourable for horizontal *FDI* as well (Ismail 2009), because it enables multinationals to take advantage of lower production costs.

Vertical multinationals investment pattern suggests that primarily the relatively labour abundant countries host *FDI* (Egger and Pffafermayr 2004a). However, the expected effect of increased labour availability cannot be established a priori: For example when there is high unemployment in an economy workers are willing to accept lower wages but it might be caused by adverse business environment which discourage investors (Cieślik 2005b).

The ability of workforce to adopt new techniques and state of the art technology is also important (Altomonte and Guagliano 2003) and is usually measured through literacy rate (Wei 1995), their education level, public and private sector spending on the education sector, average years of schooling and enrolment ratios at the primary, secondary and tertiary stages (Braga and Cardoso 2004).

According to Nelson and Phelps (1966) education increases the capability of an individual to process and understand information and educated people are better able to cope with the implementation of new technology. Consequently, the availability of skilled labour shall facilitate the multinationals in introduction of latest production machinery and new operating procedures (Carstensen and Farid 2004). An obvious example is the success story of Ireland, which invested heavily in human capital, increasing both the quantity and quality of *FDI* (Rios-Morales and O'Donovan 2006).

Capable and economical human capital presence in a country is also expected to increase service sector *FDI* inflows. For example, the General Electric Capital Services back office service centre in India serving local and worldwide clients since 1996, or the opening

of the DHL European Information Technology *(IT)* operations centre in Prague in 2003 (Kalotay 2004) were due to the availability of economically efficient workforce. Therefore, I expect a positive effect of the existence of abundant indigenous human capital on *FDI* inflows[12].

1.3.5. Infrastructure

The amount, availability and quality of supportive infrastructure is essential for the smooth functioning of multinational's affiliate production and trade activities. Better infrastructure can significantly reduce overhead costs (Asiedu 2004) and thereby positively affect investor's location decision (Shah and Ahmed 2003). If infrastructure functionality alone is not multinational's engine of production, it for sure is their wheel of economic activity in the developing countries (Khan and Kim 1999).

In *FDI* literature infrastructure is captured with the total length of metalled roads, rail networks, uninterrupted power and water supply, number of sea and international airports, dummy variables for their existence and lately telecommunication density approximated with the number of fixed line telephone and mobile phone subscribers or internet access possibilities.

Multinationals are expected to prefer countries with well established/developed infrastructure as other things constant they can optimally utilise the imported machinery/paraphernalia in such economies.

Though, the use of tele-density as an infrastructure proxy is questioned on the pretext of the extent to which it can facilitate multinationals operations (Morisset 2000). Nevertheless, the emergence and growth of transnational corporations to the present level seems

12. I have utilised literacy rate and average years of schooling from Barro and Lee dataset (2010), gross enrolment ratios at the pre-primary, primary, secondary and tertiary levels and the total labour force from the world development indicators as alternative proxies for availability of human capital in a host developing country.

inconceivable without an adequate communication infrastructure at the international level. The complex nature of ever increasing communication needs between the headquarters and the subsidiaries indicates the existence of a dynamic and mutual relationship between communication infrastructure, information flows and economic, financial, trade and other kinds of spatial interactions. Consequently, higher density of telecommunications network shall decrease coordination costs between firms and their affiliates (Campos and Kinoshita 2003). Hence, I have utilised the number of mobile and landline telephone subscribers in the host economy and expect a direct positive association between it and *FDI* inflows[13].

1.3.6. Macroeconomic Stability

Inflation, government budget balance, interest and exchange rates are used to measure macroeconomic stability of a host country. An economy with a good track record of fiscal prudence, financial stability and managing inflation and interest rates without sudden and abrupt fluctuations in exchange rate shall gain investors confidence and encourage them to invest[14].

I have used inflation and direct exchange rate to proxy macroeconomic stability. However, the impact of both of them is ambiguous and will depend on the extent of multinational local liability exposure. On the one hand, devaluation/depreciation will make their products cheaper in international markets. On the other, if they require a high import component, it will make the intermediate inputs expensive, making their products non-competitive in the local market. Nonetheless, the effect on re-exports will be negligible and will partly benefit *MNC's* due to reduction in the cost of inputs procured from the local

13. I have also utilised gross fixed capital formation as an alternative proxy for infrastructure availability (Asiedu 2004, Haile and Assefa 2006).
14. Especially, in the current climate of global economic slowdown.

market[15]. Nevertheless, the negative impact on *FDI* of excessive volatility can erode the apparent attractiveness resulting from currency depreciation (Xing and Wan 2006), as greater exchange rate instability prompts the multinationals to wait, depressing at least current levels of *FDI* in the economy (Blonigen 2005)[16].

Similarly, if lending is done in the local currency, unanticipated inflation or depreciation will benefit them but high inflation rates also signals internal economic strain and the inability or unwillingness of the government and the central bank to balance the budget and restrict money supply (Schneider and Frey 1985). Considering that one of the standard symptoms of the loss of fiscal or monetary control is unbridled inflation, it will discourage savings and dampen private, domestic and foreign investment as evident from low *FDI* in many African, Caribbean, Latin American and Pacific countries (Morrissey 2008).

Though, less pronounced for *FDI* in developing countries, exchange rate changes also have a source country effect and may alter the speed and volume of their overseas investment. For example, a real appreciation of *US* dollar hastens *US* multinational investment into the *OECD* countries due to expected expensiveness of the exported products and cheaper foreign assets value (Pan 2003). However, if a future real appreciation is forecasted *MNCs* will postpone their investments.

In the developing economies macroeconomic instability indicates domestic policy failures and adds to the perceived risk of foreign investors, rendering the probable positive effects of liberalisation, regional/global harmonisation, integration and commitments ineffective (Balasubramanyam et al. 2002). Therefore, allowing for the fact that investors

15. Worst effected would be multinational investments in energy production because insulation tactics such as foreign currency payment conditions will also falter after a certain stage. For example, in Indonesia and Philippines during the Asian financial crises when local currencies depreciated sharply leading to defaults on payments in foreign currencies, contrary to outsourcing operations such as Nike's arrangements with local manufacturers in Indonesia in the same period. The payment defaults may even lead to macro/government level default due to severe foreign exchange problems for example see Khan and Kim (1999) for *US* dollar indexed tariff structure arrangements with power producers in Pakistan.

16. Continuous depreciation/devaluation will negatively affect foreign investors due to erosion of their investments value (Banga 2003).

prefer to invest in more stable economies that reflect a lesser degree of uncertainty, it is reasonable to expect a negative effect on foreign direct investment of economic instability in a developing host country.

1.3.7. Financial Development

Presence of a developed financial system and the provision of efficient credit and financial services shall facilitate foreign investors especially in the services sector. Acknowledged positive functions of financial development are: reducing information asymmetry problems, channelling resources efficiently, pooling and diversification of risk, mobilizing savings, facilitating trading, hedging, aiding the exchange of goods and services and monitoring managers by exerting corporate control (Dutta and Roy 2011).

I am using two main measures of stock market development: total number of listed companies and their total market capitalisation[17]. However, due to the non availability of data for the complete sample, I am using three additional measures of banking sector development in this chapter. As a measure of the ability of banks to mobilise funds[18] and overall size of the financial sector relative to the economy I have used liquid liabilities *M3* as a percentage of *GDP*[19]. To measure the ability of financial systems to channel funds from depositors to investors I have added the domestic credit provided by the banking sector as a percentage of *GDP* (Deichmann et al. 2003). According to Baltagi et al. (2009, page 289) "this indicator measures the ease with which any entrepreneur or company with a sound project can obtain finance". To measure the possible investment opportunities, support for new firms in the

17. It will gauge the possibility of access to the capital market by new companies, the availability of financial instruments trading facilities and timing and settlements of such trades.
18. These funds do not necessarily signify the amount of capital available to entrepreneurs.
19. According to world development indictors *(WDI)* they are the sum of currency and deposits in the central bank *(M0)*, plus transferable deposits and electronic currency *(M1)*, plus time and savings deposits, foreign currency transferable deposits, certificates of deposit, and securities repurchase agreements *(M2)*, plus travellers checks, foreign currency time deposits, commercial paper, and shares of mutual funds or market funds held by residents.

economy and the ease of getting credit I have utilised domestic credit to private sector as a percentage of *GDP*[20] (Portes and Rey 2005).

Assuming that these measures play a positive role in a country's financial development (Baltagi et al. 2007), I have also used an average of the five proxies and expect it to exert a strong positive effect on the *FDI* inflows.

1.3.8. Geographical Location, Sea Access, International Language & Income Group

I have also tried to gauge the effects of geographical location, population ability to speak an international language, regional and income based dummies and access to sea. Data on these variables was constructed from the US Central Intelligence Agency's *(CIA)* world fact book and Centre d'Etudes Prospectives et d'Informations Internationales *(CEPII)*.

Access to water appears to be important for international trade due to the significantly cheaper ocean transportation of intermediate or finished goods. Even within a country proximity to sea is important as evident from Japanese investment clusters in the Chinese coastal provinces of Jiangsu, Shanghai, Guangdong and Zhejiang (Kawai 2009).

However, it is difficult to theoretically justify, and empirically gauge the significance of the other dummy variables like language, regional and income based dummies in *FDI* flows.

The classification of the host developing countries into different income and regional groups and sea access, language and *WTO* membership dummies is given in appendix 1.2.

20. Domestic credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of non equity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises as well.

1.4. Relationship between *FDI* inflows, *TRIMS*, *TRIPS*, Liberalisation and *WTO* membership

Multinationals *(MNCs)* global production activities combine features of international financial flows, worldwide trade (Feenstra 1998) and multinational political economy (Li et al. 2010), but *FDI* in itself is a phenomenon more complex than all of them (Palit and Nawani 2007). It requires a minimum 10% ownership of an overseas enterprise and entails a long term presence. Therefore, the decision to choose the host location is of crucial importance for a multinational and depends among other things on safety of intellectual and physical property, economic conditions, liberalisation and the extent to which the investors are given preferential access to the local market. In this respect investment regime, *IPR* regulations, trade restrictions, and the degree of state intervention in the market shall certainly effect the decision of firms to invest.

To gauge the general effect of *WTO* membership I have utilised a dummy variable getting a value of one if a country has joined it before the 1st of July in a particular year and zero otherwise. The individual effects of *TRIMS, WTO* induced liberalisation and *TRIPS* are discussed in the following discussion.

1.4.1. Trade Related Investment Measures (*TRIMS*)

TRIMS are a collection of incentives and restrictive measures, designed usually but not exclusively by a developing country to influence *FDI* (Balasubramanyam 1991). Recognising that these measures are inconsistent with *GATT* article *III*, requiring members to provide national treatment and article *XI* prohibiting them from imposing quantitative restrictions *TRIMS* were included in *WTO* to prohibit such practices. Explicitly identified as inconsistent

with the two articles are measures related to local content, trade balancing, import substitution, foreign exchange, and export limitation requirements (Brooks et al. 2003)[21].

TRIMS agreement includes both new and existing investments and equally covers local and foreign firms[22]. It disallow local content requirements such as obligatory purchases or use of domestic products; trade balancing issues, that is, attaching the procurement or use of imported items to an amount related to the volume or value of local products exported; foreign exchange balancing restrictions e-g binding access to foreign exchange to an investor's foreign exchange earnings (Kennedy 2003). These restrictive measures limit a multinational's control over its affiliate operations and weaken its competitiveness in the host market. Ramirez (2006) attributes Chile's increased *FDI* inflows to its structural reform program, in consonance with its *WTO* membership, liberalising the *FDI* laws regarding the repatriation of profits, local content and export requirements.

TRIMS Agreement relies on the state-to-state system of arbitration and lacks investor-to-state mechanisms to ensure that investors' grievances are heard[23]. However, in case of a violation a dispute settlement panel is established between the two states which give a binding judgement[24].

WTO requires member states to notify all measures that do not conform to the *TRIMS* agreement within three months of accession. The developed members are given two years, developing five and least developed seven years to eliminate all distortions

21. According to Greenaway et al. (2007) the pervasive factor and product market distortions that import substitution policies introduces alone are enough to bias investment away from activities where a country enjoys comparative advantage, causing their sub-optimal utilisation.

22. China, fulfilling *WTO* accession conditions, extended the tax benefits to the local producers in addition to the foreign ones which lead to increased *FDI* inflows instead of reducing them (Walmsley et al. 2006).

23. Certain trade agreements like *NAFTA* and most bilateral investment treaties generally contain third party arbitration commitments on expropriation, transfer of funds, and compensation.

24. The states have the option of resolving dispute outside the panel. However, once it is brought before the panel, the decision is binding for example against Indonesia and Canada (Bora 2002). Details of the Indonesian case of customs duties exemption are at: http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds54_e.htm. For details on complaint against Canada value added content requirements visit: http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds139_e.htm. Details of all the disputes are at: http://www.wto.org/english/tratop_e/dispu_e/dispu_agreements_index_e.htm?id=A25#selected_agreement.

(Balasubramanyam and Sapsford 2001). However, if a developing or least developed country is unable to implement *TRIMS* in the cut-off time, under article 5.3 they can apply for an extension and many have done so varying from less than a year for Chile to seven years for Pakistan[25].

I have utilised the number of trade agreements *(TAs)* signed by a developing country as a proxy for *TRIMS* from the *WTO* regional trade agreements information system database[26]. Unlike the universality of the *TRIMS* agreement, *TAs* involves only two or a few partner countries but their focus and commitment to the level of liberalization usually go beyond that of *WTO* especially in the context of tariff and service liberalisation (Bora 2002). Although, like *TRIMS* most trade accords contain no explicit provisions concerning the treatment of *FDI*. Still, in principle these agreements whether bilateral or regional, are associated with the steady decrease of measures restricting the entry and operations of foreign firms and application of positive treatment standards with an outlook to discourage discrimination against them (Banga 2003). Similarly, according to Adams et al. (2003) and Medvedev (2006, a and b) the third wave of trade agreements signed from late 1980s onwards contain investment provisions which are useful for *FDI* due to a number of reasons for example, investment protection, liberalisation, market access, investment promotion and cooperation. They also indirectly facilitate overseas investors by streamlining and removing impediments associated with excess bureaucracy and improving the overall business and investment environment. In addition, the signatory regimes in order to provide a credible assurance to their partners of an open policy on trade and investment, on a minimum has to maintain or strengthen economically liberal policies domestically to maximize the benefit from these

25. See details at http://www.wto.org/english/res_e/booksp_e/analytic_index_e/trims_01_e.htm.
26. One of the reasons for using them as a proxy for *TRIMS* is the unavailability of a suitable alternative. *TRIMS* exist in each country to various degrees and each state has only to report to the *WTO* secretariat the existing irregularities/shortcomings. Members are not required to specify the extent of promulgation.

international agreements for example, in Mexico following *NAFTA*[27]. Trade agreements vary from one another but in sum they institutionalise and set standards for liberal economic policies (Bora 2002). Thus they may be considered as a less extensive but more intensive version of *WTO*.

The *TRIMS* agreement is important for *FDI* because it is instrumental in eliminating non-tariff barriers to trade in goods associated with foreign investment. It gives investors from abroad the assurance that they may freely buy, sell, import, and export goods for the optimal utilisation of their investment and repatriate profits[28]. It also ensure the provision of level playing field for all investors irrespective of their nationality, as most favoured nation treatment obliges the host country to offer equally advantageous investment conditions to potential investors from all signatories and national treatment mandates no discrimination between foreign and domestic investors. Therefore, I postulate that neutral policies designed to enhance the efficiency of investment are better suited for attracting overseas investors and expect a positive relationship between *TRIMS* implementation and *FDI* inflows. The extent of the net impact, however, depends on the interaction of several variables including the effect of different existing *TRIMS* which coexist to varying degrees in each developing country.

1.4.2. Openness/Liberalisation

Developing countries imposed quotas, custom duties and tariff barriers in the 1970s and 1980s predominantly for import substitution and to some extent for technology transfer and other spill over considerations. This caused tariff jumping *FDI* in these countries necessitated by the cost considerations resulting from tariff and other restrictions. These artificial constraints in the protected countries/sectors promised high returns to *MNCs*. The developing

27. Thus, suggesting to the potential investors that a more receptive investment climate exists.
28. According to Morrissey (2002, page 65) "The motivation for companies in seeking the prohibition of *TRIMS* was that such measures reduce their potential gains from locating in the host". The *TRIMS* agreement forbidding trade distorting activities of the host governments is silent about the same behaviour by the *MNCs*; however, this is not my focus here.

countries imposed further investment constrictions fearing the transfer of major share of the profits abroad. These steps trimmed down the transient tariff jump gains of foreign investors and the host country's *FDI* attraction potential (Balasubramanyam et al. 2002).

At the same time the success of East Asian countries (Balasubramanyam and Sapsford 2001) and particularly Mexico in drawing *FDI* owing to trade and investment liberalisation led many other developing countries to open up their economies (Nunnenkamp 2002)[29]. For example, Poland's increasing commercial ties with Western Europe and its rapid liberalization and deregulation program led to multi-fold increase in inward *FDI* in the early 1990s (Cieślik 2005b)[30]. Even Sub-Saharan countries like Mali and Mozambique witnessed increased *FDI* after introducing reforms, reducing tariffs and elimination of non-tariff barriers (Morisset 2000).

The *GATT/WTO* obliges all members to reciprocate tariff concessions to one another but they do not have legal compulsion to extend them to non-members and can discriminate against their imports (Subramanian and Wei 2007).

The *WTO* led elimination of the transient policy imposed trade restrictions are expected to promote the efficient utilisation and allocation of both imported and domestic resources, engendering competition that can promote an environment conducive for specialisation and scale economies (Greenaway et al. 2007). In the past three decades most of the developing countries have gradually adopted more progressive and open policies towards *FDI* and liberal trade regimes (Dunning 2009) and have consequently, witnessed increased overseas investment, a trend that appears likely to continue (Brooks et al. 2008).

29. We need to remember that many African countries despite liberalising their markets failed to attract substantial foreign direct investment *(FDI)* inflows, whereas countries like China, though late comer in the *WTO* club witnessed significant inward investment (Kumar 2003).

30. Poland, Hungary and the Czech Republic are the *CEEC* leaders in liberalisation reforms, deregulation, openness and *FDI* inflows (Holland and Pain 1998, Altomonte 2000 and Resmini 2000).

However, theoretically the impact of liberalisation on a country's ability to attract overseas investment depends on the type of *FDI* and whether trade and *FDI* substitutes each other or creates complementarity effects. Market access oriented horizontal multinationals will be attracted by high trade barriers and openness will negatively affect their investment decision (Rose-Ackerman and Tobin 2005). Whereas geographically segmented export oriented vertical *FDI* will be positively affected by a more open and liberalised economic and trade regime. Production in the host country will replace exports of finished goods from the home country, but at the same time will create demand for intermediate products used by the foreign affiliate due to fragmentation of production.

Put differently market-seeking *MNCs* undertake horizontal *FDI* where as the efficiency-seeking ones make vertical investments. One exception is the resource seeking *FDI*. Multinationals involved in such investments are only interested in the natural resource, irrespective of the labour cost or expected domestic sales volume (Johnson 2006).

In light of the increasing sensitivity of multinationals to input prices and quality of the product, closed economies are likely to attract less investment these days than they may have in the past (UNCTAD 1998).

Production of one product line may generate demand for other product lines of the parent company. Affiliates often facilitate the marketing/distribution of the parent's entire product line, thereby improving the competitive position of the foreign investor vis-à-vis local firms and those exporting from other countries (Maskus 1998a). Accordingly, trade liberalization has become an important complement to programs encouraging inward investment (Subramanian and Wei 2007).

In the present study I have utilised trade (sum of exports and imports of goods and services) measured as percentage of *GDP* as a proxy for a host country's openness and

anticipates a positive association between *FDI* inflows and a developing country's market liberalisation[31].

1.4.3. Trade Related Aspects of Intellectual Property Rights (*TRIPS*)

The 1995 *WTO* trade related aspects of intellectual property rights *(TRIPS)* agreement stipulated minimum standards for intellectual property right (trademarks, copyrights, patents, industrial designs etc) laws and their enforcement (Park 2008) without reservations, but the agreement doesn't precludes any member from adopting stronger procedures. As *IPRs* are a critical component of national business regulatory regimes it is expected that compliance with the *TRIPS* agreement shall improve the domestic institutions responsible for *IPR*[32]. However, *TRIPS* give the signatory governments a great deal of flexibility in their choice of policies to ensure the minimum level of property rights protection stipulated in the agreement so long as they do not unduly frustrate the intentions of *TRIPS* (Desbordes and Vicard 2009).

TRIPS obligations include immediate provision of national[33] and most favoured nation *(MFN)* treatment to all members and in case of disputes over *IPR* issues it specifies a dispute settlement mechanism.

It extensively covers copyright and related rights (i.e. the rights of performers, producers of sound recordings and broadcasting organizations, computer programs and databases); trademarks including those in services; geographical indications of origin; industrial designs; patents including the protection of new varieties of plants[34]; the layout

31. I acknowledge the fact that though, extensively used in the *FDI* applied literature as a measure of openness aggregate trade somehow has a limited scope in terms of predicting a country's trade policy regime. However, according to Xing and Wan (2006) trade as a percentage of *GDP* can also be used to proxy the economic policy preferences of the host regime and for Roberts and Almahmood (2009) it shows the extent of the host country integration with the world economy.
32. The minimum standards set in the *TRIPS* agreement are much stronger than the norm in most developing countries (Maskus 1998b).
33. Paris Convention also requires the provision of national treatment for all foreign firms (Li 2005).
34. Countries can't exclude any area and in case of infringement the burden of proof lies on the accused.

designs of integrated circuits; and undisclosed information including trade secrets and test data for particular minimum duration of protection periods[35].

Considering that worldwide economic interdependence is becoming increasingly apparent, *WTO*, while cutting tariffs and lowering trade barriers, is prodding its member nations to continue parleys on strengthening the intellectual property right protection under the *TRIPS* framework (Yang and Cheng 2008). Prior to *TRIPS* each country's *IPR* systems were mostly an affair of individual choice, subject only to requirements of any international convention or treaty it felt appropriate to join (Maskus 1997). *TRIPS* harmonised and strengthened minimum *IPR* protection standards worldwide and tilted the balance of economic rewards toward original, innovative and inventive interests and away from copying, imitation, adaptation and reverse engineering.

Developed nations were given one year, developing/transition economies five and the least developed ones eleven years to bring their *IPR* regimes at par with *TRIPS*. Nevertheless, the least developed countries that on average have low levels of patent protection and needs to make the most substantive adjustments in their *IPR* systems were granted extension until July 2013 on 29 November, 2005 under article 66.1, to become compliant with *TRIPS*[36].

Though, *TRIPS* agreement has intensified interest in, and research on, the economics of intellectual property protection worldwide (Ginarte and Park 1997), its expected effects on *FDI* are debatable. On one hand, by discouraging imitation and counterfeiting it shall help multinationals to recapture the consumer market (Helpman 1993) and increase profit from

35. Copy rights for a minimum of 50 years (Article 10.1 & 12), patents at least 20 years (Article 33), 50 years for performers and producers of phonograms, and 20 years for broadcasting organizations (Article 14.5), industrial designs 10 years divisible in two five year terms (Article 26.3) and layout designs for integrated circuits 10 years (Article 38) for details visit http://www.wto.org/english/tratop_e/trips_e/intel2_e.htm.
36. See details at the *WTO* website http://www.wto.org/english/news_e/pres05_e/pr424_e.htm.

FDI[37]. On the other hand, stronger trademarks and patents will make arms length licensing more cost effective causing *FDI* substitution.

TRIPS-FDI linkage also varies from sector to sector, based on their sensitivity to *IPR* standards. *MNCs* in the services sector and those manufacturing products that are hard to imitate or with a high capital requirement such as automobiles will be indifferent where as *MNCs* dealing in pharmaceuticals, detergents, cosmetics, software, electrical equipment etc will be apprehensive of weak *IPR* regime (Javorcik 2004). Countries seeking investments in these sectors are expected to offer strong protection to these firms in order to affect their decision of how best to serve international markets through inter-firm or intra-firm choices.

The *FDI* sensitivity is also somehow dependent on the host country's stage of development. Developing countries with a relatively capital intensive labour force have greater abilities to imitate and reverse engineer new technologies.

Similarly, a weak *IPR* regime increases imitation possibilities thus eroding *MNC's* ownership and a country's location advantages but add to the benefits of internalisation. Hence based on a nation's state of *IPR* promulgations, *MNCs* can serve an overseas market by choosing among several options: exports, *FDI*, joint ventures and licensing, and the relationship between *IPR* protection through *TRIPS* and *FDI* remains an empirical question that has yet to receive adequate attention[38].

In line with the findings of Lee and Mansfield (1996), Javorcik (2004) and Seyoum (2006) I expect *FDI* inflows to be directly responsive to the increasing intellectual property rights in developing economies. In the empirical analysis I have used Ginarte and Park

37. Though, not the focus of the present study it points to the need of enacting sound competition policies and other issues in developing countries, see Richardson (2000) and Maskus (2000, 2002). Morrissey (2002) analysing *TRIMS* argues for developing extensive competition laws to check the activities of *MNCs* in the developing countries post *WTO* and *TRIMS*.
38. Data availability constraint for developing countries may partially be the reason for this oversight.

index[39], the number of total, resident and non-resident patents, industrial designs and trademarks, as alternative proxies for *TRIPS* to gauge the strength of *IPRs* in a developing country.

1.4.4. Summary

Building on the prior discussion, this chapter seeks to provide an insight into the role of *WTO* membership in general and *TRIMS, TRIPS* and liberalisation in particular, in motivating multinationals to engage in foreign direct investment.

Though, the importance of the traditional location factors such as the size of the market to be served, the long-term macroeconomic stability of the host country, the supply of skilled or trainable workers, the presence of modern communications infrastructure and agglomeration economies still exist for many prospective investors. However, once these criteria are satisfied, then the extent of *TRIPS* and *TRIMS* implementation and *WTO* led liberalisation of the host economy shall certainly influence the investor's choice among the probable investment sites.

In spite of, the observable significance of *FDI* and *MNCs* in the world economy, research on the factors that determine *FDI* patterns and effect the *MNCs* investment decisions is in its early stages (Blonigen 2006). Especially, for factors like *TRIPS*, liberalisation, exchange rates and macroeconomic development I cannot simply conclude that they have an ambiguous effect. Instead, meaningful insights evolve from exploring questions such as, when a factor should matter for *FDI*, or even just a particular form of *FDI* through creative utilisation of the available data (Subramanian and Wei 2007).

39. The Ginarte and Park index takes into account five categories of patent laws: (1) extent of coverage, (2) membership in international patent agreements, (3) provisions for loss of protection, (4) enforcement mechanisms, and (5) duration of protection. The index ranges from zero to five with the higher values indicating a stronger level of protection see Ginarte and Park (1997) and Park (2008).

Therefore, all the factors which theoretically have an ambiguous effect and can act either way is an open empirical question that we shall allow the data to settle is the result and analysis section.

1.5. Empirical Model and Estimation Issues

According to Blonigen (2006) "deriving a theoretically based empirical specification of *FDI* is a fairly complicated problem". Nevertheless, on the basis of the arguments on the possible determining factors of inward *FDI* in the third and fourth section, I postulate the following reduced form set up to explain the effect of *TRIMS* and *TRIPS* implementation and *WTO* induced liberalisation on the investment inflows into developing countries:

$$FDI_{jt} = f\begin{pmatrix} Agglomeration_{jt}, MarketSize_{jt}, EconomicDevelopment_{jt}, \\ MacroeconomicStability_{jt}, LabourSkills_{jt}, Infrastructure_{jt}, \\ FinancialDevelopment_{jt}, TRIMS_{jt}, Openness_{jt}, TRIPS_{jt}, \\ WTO_{jt}, SeaAccess_{j}, Language_{j}, Geographicalregion_{j} \end{pmatrix} (1)$$

Where the subscript *j* denotes a developing country and varies from 1 to 90. The time subscript *t* varies from 1 to 28 covering the years 1980 to 2007. Therefore, I can have a total of 90*28= 2520 observations for each variable included in the sample. FDI_{jt} is the stock of the foreign direct investment from rest of the world in country *j*. The choice of aggregate *FDI* stock in the host country as the dependent variable, in addition to data availability, was necessitated by the inadequacy of the available alternative, the net *FDI* inflow, where I cannot distinguish whether a reported positive (negative) value is caused by decreased (increased) outflows or increased (decreased) inflows. This would have complicated interpreting the results.

I acknowledge that *TRIMS*, *TRIPS* and liberalisation, depending on its type, influences differently the inward *FDI*. However, due to the absence of comprehensive disaggregated data on various *FDI* types (market seeking, asset seeking, resource seeking, efficiency seeking and strategic seeking)[40], sectors, and sources (whether it is coming from a developing or a developed country) I am unable to make any distinctions on these lines and incapable to make any bilateral comparisons.

Log linearising equation 1 and replacing the variables with the appropriate proxies gives:

$$\begin{aligned} \ln fdi_{jt} = {} & \alpha_0 + \beta_1 \ln fdi_{jt-1} + \beta_2 \ln Population_{jt} + \beta_3 \ln Gdppc_{jt} + \beta_4 Trade_{jt} \\ & + \beta_5 \ln ExchangeRate_{jt} + \beta_6 \ln GSEP_{jt} + \beta_7 \ln TeleDensity_{jt} + \\ & \beta_8 FinancialDevelopment_{jt} + \beta_9 \ln TradeAgreements_{jt} + \beta_{10} \ln Patents_{jt} \\ & + \beta_{12} Region_j + \beta_{13} Language_j + \beta_{14} SeaAccess_j + \xi_{jt} \end{aligned} \quad (2)$$

Where, *ln* is used for natural log. Logging the variables helps in reducing the expected hetereoskedasticity (Resmini 2000). The definitions and sources of all the variables are given in appendix 1.1.

Table 1.1 provides the summary statistics for each variable used in the empirical estimations including means, standard deviations, minimum and maximum values and the number of observations.

To utilise the appropriate panel estimation model for a large and diverse cross-section of countries as in this study I carried out the Hausman (1978) specification test to choose between the fixed and random effect model. The test with the following results chi^2 (6) = 64.70, Prob > chi^2 = 0.0000 reject the null hypothesis assumptions that the coefficients estimated by the efficient random effects estimator are the same as the one estimated by the

40. For details see Dunning (1998b page 53, 2004 page 283, 2006 page 206 and 2009 page 11). Moreover, according to Markusen (2001a) almost all the multinationals are involved in both horizontal and vertical *FDI* to varying extents in different markets.

consistent fixed effects estimator and suggests the application of the fixed effect estimator, indicating the presence of correlation between the individual component and the explanatory variables, that is, between the α_i and X_{it}[41] (Braga and Cardoso 2004).

Table 1.1. Summary Statistics

Variable Name	Number of Observations	Mean Value	Standard Deviation	Minimum Value	Maximum Value
Ln*FDI* Stock	2520	20.62	2.28	7.08	28.04
LnGDP	2520	22.77	1.95	17.69	28.85
Ln Population	2520	15.86	1.92	10.60	20.99
LnGDPPC	2520	6.91	1.12	4.42	9.70
LnGDPPCPPP	2520	7.64	1.09	4.78	10.17
LnGFCFPC	2520	5.29	1.32	0.00	8.36
LnTrade%GDP	2520	4.15	0.55	1.99	5.64
Ln Exchange Rate	2520	3.18	2.44	0.00	12.99
Ln Inflation	2520	2.26	1.32	-3.29	10.10
Ln Labour	2464	15.02	1.81	10.41	20.46
LnGDPPW	2464	7.82	1.14	3.29	10.61
LnGFCFPW	2464	6.04	1.60	0.00	8.98
LnGSEPP	1147	3.03	1.15	0.00	4.96
LnGSEP	2520	4.51	0.33	2.86	5.14
LnGSES	2520	3.60	0.76	1.25	4.72
LnGSET	1064	2.13	1.04	0.00	4.23
Ln Literacy Rate	2072	4.17	0.44	2.47	4.61
Average Years Of Schooling	2072	5.36	2.31	0.61	11.55
Ln Tele-Density	2520	12.23	2.81	0.00	20.63
LnGFCF	2520	21.12	2.11	0.00	27.96
DCBS%GDP	2427	45.51	39.10	-72.99	333.98
DCPS%GDP	2427	30.44	26.21	0.68	210.41
M3%GDP	1067	43.07	23.47	6.54	143.01
LnLDCT	918	4.38	1.53	0.00	8.69
MCLC%GDP	899	33.24	43.77	0.00	328.87
Financial Development	2520	20.96	18.80	-10.55	141.83
Ln Trade Agreements	2520	0.81	0.65	0.00	3.52
Ln Enforced Trade Agreements	2520	0.74	0.63	0.00	3.46
Ln Trade Marks	2520	4.66	3.78	0.00	12.49
Ln Total Industrial Designs	2520	1.91	2.77	0.00	12.49
Ln Resident Industrial Design	2520	1.55	2.52	0.00	12.44
Ln Non-Res Industrial Design	2520	1.27	2.08	0.00	9.54
Ln Total Patents	2520	2.29	2.80	0.00	11.12
Ln Resident Patents	2520	1.21	1.99	0.00	10.37
Ln Non-Resident Patents	2520	2.12	2.70	0.00	10.49
Ginarte & Park Index	2128	2.15	0.83	0.03	4.69
All the dummies vary from 0 to 1.					

41. Or in other words the unit error component is correlated to the regressors $\{H_0: E (U_{it}/X_{it} \neq 0)\}$ (Winchell 2007).

I carried out The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity[42] which failed to reject the null hypothesis of constant variance or homoskedastic standard errors $chi^2(1) = 0.54$, Prob > chi^2 0.4643 (Carr et al. 2001).

To measure the extent of collinearity between the independent variables I used variance inflation factor $VIF = \left(1 \big/ 1 - R^2 \right)$ as an indicative statistic. It shows the effect of linear associations between the explanatory variables upon the variances of the estimators as measured by the coefficient of determination R^2. In other words the *VIF's* of the respective explanatory variables shows the increase in the variance of the model due to the fact that they are not orthogonal to one another[43].

The estimations from *VIF* show the presence of multicollinearity between certain variables like total labour, enrolment ratios and population etc. This is also evident from the high correlation between these explanatory variables as can be seen from the correlation matrix given as table 1.2.

Except for the alternative proxies of the same variable, I need to be careful about a high level of correlation among regressors as collinearity among the model's independent variables inflates standard errors and results in over fitting, potentially over estimating the effects of some collinear variables and underestimating the effects of others. In such cases, the more common approach is to drop the problematic variable or, if the theory stresses its inclusion, to estimate the model as it is and mention that the standard errors are likely to be inflated and the coefficients unstable. Due to this effect I am unable to use some variables in the presence of others and this issue is further discussed in the results and analysis section while justifying the use of certain proxies.

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42. For theoretical purpose consult Hsiao (2003, page 55-57), Studemund (2006, Chapter 10) or Wooldridge (2009, Chapter 8).
43. For details see Asteriou (2006, Chapter 6), Gujarati (2006, Chapter 12), Stock and Watson (2007, page 206-210) or Newbold et al (2010, page 610-613).

Table 1.2. Correlation Matrix

No	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	ln*FDI*St	100																														
2	lnpop	57	100																													
3	lngdppc	65	-10	100																												
4	lnTrade	07	-46	24	100																											
5	lnInf	-01	10	06	-16	100																										
6	lnXrat	-29	02	-44	-07	-13	100																									
7	lnLab	58	99	-08	-45	09	04	100																								
8	lngsepp	60	09	70	18	15	-38	12	100																							
9	lngsep	48	14	47	14	09	-17	18	51	100																						
10	lngses	69	10	80	27	14	-43	11	72	67	100																					
11	lngset	66	08	82	18	10	-41	08	69	55	86	100																				
12	lnlit	57	01	69	29	19	-27	05	70	74	77	68	100																			
13	AvgYrsSc	59	-11	80	39	07	-39	-08	74	57	82	77	87	100																		
14	lnTele	76	53	56	-04	-02	-21	54	56	51	58	58	46	46	100																	
15	lngfcf	89	77	55	-16	10	-26	77	52	45	61	58	46	42	81	100																
16	fd	49	14	44	32	-08	-41	13	43	22	50	41	32	46	40	42	100															
17	lnta	56	24	46	02	02	-16	24	40	23	40	47	30	42	51	47	09	100														
18	lntm	61	56	39	-23	21	-26	56	46	38	46	43	38	33	57	71	31	31	100													
19	lnTid	66	63	31	-20	-02	-20	63	32	26	38	36	25	23	61	71	24	53	65	100												
20	lnRid	66	63	31	-22	02	-25	64	36	27	37	31	29	27	57	72	23	48	69	86	100											
21	lnNrid	66	58	38	-22	04	-25	59	43	31	41	37	36	35	58	70	25	47	71	84	95	100										
22	lnTp	68	55	43	-12	07	-37	55	40	30	47	47	33	37	58	73	36	46	73	69	79	79	100									
23	lnRp	66	62	35	-21	06	-31	62	32	24	41	39	26	29	57	74	33	43	67	67	77	74	90	100								
24	lnNrp	67	52	43	-11	08	-36	53	39	30	46	47	34	38	56	71	36	46	69	67	77	79	96	88	100							
25	G&P	51	12	46	11	-14	-14	15	41	24	38	44	39	49	50	37	20	56	21	37	36	42	27	18	27	100						
26	*WTO*	14	02	05	13	-22	12	04	09	08	07	09	07	12	20	04	01	33	-12	08	-01	03	-07	-09	-08	49	100					
27	SA	02	39	-20	-25	-01	01	37	01	-01	-05	-12	-16	-20	16	20	-01	10	15	19	24	22	19	24	19	-13	03	100				
28	LAC	22	-25	54	01	17	-25	-23	56	37	45	54	51	50	15	11	-01	15	20	04	07	23	16	05	18	23	-03	-16	100			
29	Sea	42	19	39	11	12	-28	19	35	29	46	37	40	29	27	43	28	05	29	30	25	26	29	24	27	04	-13	-02	19	100		
30	English	01	10	-14	12	05	-04	09	16	01	05	-18	10	06	05	02	32	-12	07	-10	-09	-11	-08	-08	-07	-10	01	33	-32	10	100	
31	French	-50	-24	-49	-01	-30	31	-25	-73	-47	-61	-55	-67	-62	-50	-50	-34	-21	-51	-17	-26	-34	-37	-35	-39	-24	01	-13	-44	-27	-42	100
Correlation rounded off to the nearest percentage, those less than 0.01 is rounded off to one percent																																

1.6. Result's Discussion and Sensitivity Analysis

In table 1.3 using fixed effects panel estimation I have tried to establish a set of location factors for the baseline model to measure the effects of *WTO* related aspects. The third column presents the result of a fixed effects regression assuming host country specific intercepts. The coefficient for the market size variable (population) is positive and significant as expected. An increase in the size of a host country is associated with more *FDI* inflows. Using the log of gross domestic product as a proxy for the market size produced the same results but I avoided using it due to the expected endogeneity between current *GDP* and contemporary *FDI* inflows[44]. A country's development level proxied by gross domestic product per capita is a positive, statistically significant determinant of foreign direct investment location. The array of coefficient estimates of above one indicates that foreign direct investment is very responsive to per capita *GDP* in the host developing countries.

Trade (sum of the imports and exports of goods and services) as a percentage of *GDP* employed as a measure of liberalization reveals with a strongly positive and highly significant coefficient that increased openness of the host country causes more *FDI* because of lower trade barriers. In terms of discussion in section three, trade substitution is expected under horizontal investment as firms economize on trade barriers in serving consumers. Trade complementation is expected in vertical investments, particularly if vertical fragmentation results in the production of both intermediates and final goods within the firm.

44. However, Palit and Nawani (2007) analysing *FDI* inflows into 14 developing Asian economies found market size to be either insignificant or negatively significant arguing that the primary type of investment in these countries is resource-seeking, export oriented *FDI* for which host market size is immaterial.

Table 1.3 Estimation Results -- Controlling for Conventional *FDI* Location Pull Factors

Est. Method / Variables	Proxy Utilised	Fixed Effects															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Market Size	lnPop	2.6206* (0.1154)	2.5526* (0.1168)	1.8333* (0.0351)	1.3533* (0.1910)	1.7312* (0.1481)	2.0674* (0.1683)	2.6179* (0.1956)	1.6955* (0.2336)	1.0063* (0.2165)	0.4548$^{\varphi}$ (0.2549)	2.4643* (0.1328)	1.5016* (0.1375)	1.4953* (0.1369)	2.3694* (0.1036)	2.2204* (0.1977)	2.1849* (0.1977)
Economic Development	lnGDP PC	1.2812* (0.0495)	1.2298* (0.0516)	1.2947* (0.0484)	1.3246* (0.0496)	1.2961* (0.0484)	1.3294* (0.0506)	0.9397* (0.0601)	1.3934* (0.0575)	1.2899* (0.0637)	0.9208* (0.0769)	1.1994* (0.0588)	1.4466* (0.0457)	1.4033* (0.0478)	1.0133* (0.0511)	0.9909* (0.0572)	1.0095* (0.0591)
Openness	Trade %GDP	1.1433* (0.0775)	1.1505* (0.0774)	0.9255* (0.0785)	1.0786* (0.0731)	0.9297* (0.0785)	0.9243* (0.0784)	0.9443* (0.0806)	1.0524* (0.0871)	1.0455* (0.0860)	1.0418* (0.0870)	1.1353* (0.0792)	1.0552* (0.0730)	1.0242* (0.0734)	1.1929* (0.0698)	1.1861* (0.0806)	1.0835* (0.0809)
Macro-economic Stability	ln Inflation		-0.0678* (0.0196)					-0.0443* (0.0159)			-0.0421$^{\varphi}$ (0.0216)	-0.0669* (0.0196)			-0.0543* (0.0158)	0.0769* (0.0167)	-0.0946* (0.0167)
	lnEx. Rate			0.2405* (0.0227)	0.3116* (0.0392)	0.2424* (0.0227)	0.2417* (0.0227)		0.2101* (0.0247)	0.2054* (0.0247)			0.2389* (0.0236)	0.2445* (0.0233)			
Human Capital	% GSEPP				0.0468 (0.0499)												
	%GSEP					0.2311$^{\varphi}$ (0.1375)						0.1339 (0.1406)	0.1073 (0.1266)	0.1036 (0.1263)	-0.1087 (0.1186)	-0.0569 (0.2428)	-0.0704 (0.2382)
	%GSES						-0.2459* (0.1056)										
	%GSET							0.2108* (0.0729)									
	Literacy Rate								-0.1497 (0.2687)								
	Av Years School									0.1737* (0.0461)	0.1233* (0.0471)						
Infra-structure Availability	lnTele Density										0.2716* (0.0363)						
	ln GFCF											0.0351 (0.0314)					
Financial Development	DCBS% GDP												0.0010 (0.0008)				
	DCPS %GDP													0.0047* (0.0015)			
	M3% GDP														0.0009 (0.0014)		
	ln LDCT															0.1660* (0.0344)	
	MCLC %GDP																0.0031* (0.0006)
R-Squared		46.87%	47.10%	51.49%	68.49%	53.40%	47.35%	56.92%	58.81%	62.51%	56.34%	47.95%	62.83%	62.87%	50.11%	59.27%	61.18%
No of Observations		2520	2520	2520	1147	2520	2520	1064	2072	2072	2072	2520	2427	2427	1067	918	899
Standard errors are reported in parenthesis under the coefficient estimates. * represents significance at 1 %, α at 5 % and φ at 10 %.																	

Complementarities arise primarily from increases in demands for intermediates in vertical relationships, while substitution emerges from trade displacement among final goods. Therefore, the strong positive significant effect may also imply that the predominant structure or type of *FDI* in the developing countries is vertical, since lower trade barriers encourage vertical type of *FDI* by facilitating the imports of intermediate inputs and machinery. If this is the case then *FDI* contributing to increased trade flows could make the sum of exports and imports as a percentage of *GDP* potentially endogenous. However, given that, the sample period starts at 1980, that is, prior to the beginning of the transition from tariff-jumping *FDI* and when the volume of *FDI* inflows to developing countries was limited; the endogeneity problem is less likely to be severe and substantially affect the results.

The overall positive impact of trade liberalisation appears to assert the argument that market reforms and opening of the economy leads to a general reduction in administrative barriers and improves the business environment in the host country, conveying the right signals to the international business community, and thus increases *FDI* inflows.

Factors representing macroeconomic stability such as inflation and exchange rate are introduced in model 2 and 3 (table 1.3) respectively. Other results remain the same as presented in the previous regression, that is, model 1. The coefficient for inflation is significantly negative showing that an increase in consumer prices causes a decrease in inward *FDI*. This result supports the empirical evidence that sound macroeconomic management and the ability of the host government to monitor and manage inflation encourage foreign investors[45].

Using direct quote, that is, *1US$* = units of host country's currency, as exchange rate gives a positive coefficient at 1% significance level. It indicates that depreciation/devaluation

45. Macroeconomic uncertainty discouraging inflows of *FDI* imply that foreign investors perceive a higher level of uncertainty equal to taking a greater risk and thus avoid such economies.

inducing a reduction in local production costs in term of foreign currency stimulates more investment inflows[46]. The estimated coefficients are consistent with the proposition that a diminished currency value is associated with greater *FDI* inflows. This is also because a depreciated currency value would lead to higher relative wealth position of foreign investors and hence lower the relative cost of capital. This permits the investors from abroad to make a significantly larger investment in terms of the domestic currency. Host's currency depreciation also makes products from the source country expensive when denominated in the local currency, thus eroding their cost competitiveness and makes *FDI* a viable option to relocate production to the host (Pan 2003).

The positive significant coefficient for depreciation also indicate that for the most part the type of *FDI* is vertical because in case of horizontal *FDI* devaluation will trim down the (dollar) value of the remittances of profits and dividends to the parent reducing the rate of return on its initial investment (Ramirez 2006) and discourage overseas investors[47].

Assuming wage level to be highly correlated with gross domestic product per capita (*GDPPC*) I should have witnessed a significantly negative coefficient for it in line with the hypothesis in the second section that availability of cheap labour is of prime importance for establishing production facilities in developing countries. A plausible explanation is that low wages do not necessarily reflect low production costs because labour productivity may be low. Per capita *GDP* also signifies a country's level of human capital and its capacity to adopt new technologies. Hence, it can be positively correlated with inward investment. The *GDPPC* variable, positively significant in all regressions presented in tables 1.3 to 1.6 at 1

46. An interesting case is that of *ASEAN* countries. Since mid 1980s China devaluing the Yuan against the dollar, indirectly devalued it against the yen as well, while Indonesia, Malaysia, Thailand and Philippines (the *ASEAN*-4) pegged their currencies to *US* dollar. The devaluation of the Yuan led to the appreciation of the *ASEAN*-4's currencies versus the Yuan, making their products expensive, thereby improving China's competitiveness for *FDI* (Xing and Wan 2006).
47. The *MNC's* can hedge themselves against such scenarios by making purchase contracts in foreign currencies. However, these arrangements can have a negative effect on the host foreign reserves position e-g see Khan and Kim (1999) for *US* dollar indexed tariff structure arrangements with power producers in Pakistan.

percent level, is intuitively valuable as a measure of productivity and economic development in addition to being a yardstick for market strength and income level.

To investigate availability of skilled and educated labour, I have utilised six different educational measures in models 4 to 9 in table 1.3. Literacy rate and gross school enrolment in pre-primary level are insignificant, whereas I cannot use secondary and tertiary enrolment and average years of schooling because of their high correlation with the development level variable leading to possible multicollinearity problem. Including average years of schooling and literacy rate from Barro and Lee education data set (2010) cause a loss of observations because they don't cover the following countries: Angola, Burkina Faso, Chad, Ethiopia, Guinea, Lebanon, Madagascar, Nigeria, Oman, Samoa, Seychelles, Solomon Islands, St Kitts, St Lucia, St Vincent and Vanuatu.

According to Wooldridge (2009) conventionally $VIF > 10$ and $\rho > 0.90$ is considered a symptom of problematic multicollinearity. Nonetheless, it is very difficult to exactly predict at what degree correlation between the explanatory variables will distort the results, and will vary between sample sizes and different data sets. Sun et al. (2002) considers a $\rho > 0.70$ to be causing serious multicollinearity and avoids using these variables in the same regression. The severity of the problem can be seen from the negative sign of the significant secondary enrolment coefficient[48]. This effectively leaves me with only one option, i-e, using the primary enrolment ratio in the remaining regressions. Its coefficient is positive and statistically significant at the 10 percent level (model 5). Accordingly, an increase in the primary enrolment is associated with a higher inward *FDI*. It points to the fact that a skilled labour force helps to attract foreign investors, presumably because it is crucial for the

48. Similarly, I am unable to use total labour as it has a 99% correlation with the market size proxy. I also tried to use gross fixed capital formation and *GDP* per worker as proxy for labour productivity and wage levels but they also cause multicollinearity with development level proxy.

implementation of innovative production technologies and for the adaptation of a corporate business culture[49].

The coefficient for tele-density in model 10, used as a proxy for infrastructure is positive and statistically significant at 1% significance level. It supports the evidence that availability of better communication infrastructure represents value added factors that lead investors to choose a particular location. However, it reduces the coefficient for population to less than half its value and it is significant at ten percent only with the inclusion of the tele-density variable. This is due to the correlation between the *GDPPC* and the infrastructure proxy (Kumar 2006). Gross fixed capital formation used as the alternative proxy for infrastructure is insignificant as well[50]. Therefore, I don't utilise the infrastructure variable in the remaining estimations[51]. However, this doesn't mean that infrastructure is not important; rather the unavailability of a suitable proxy and the high correlation between *GDPPC* and tele-density necessitates its exclusion. As a significant coefficient for the infrastructure variable could in fact be covering the hidden positive impact of *GDPPC* if it is excluded instead of tele-density.

Next I test the role of financial development in affecting the *FDI* potential of a host developing country. The stock market proxies' i-e, the number of domestic listed companies and their total market capitalisation though, significant are very taxing on the sample size reducing it to one third (model 15 and 16). Liquid liabilities *(M3)* is insignificant, whilst domestic credit to private sector is positive and statistically significant at 1% level but only

49. For opposite results see Holland and Pain (1998) who utilising educational attainment and average years of schooling found it to be insignificant and termed the *CEEC* education system as "emphasising knowledge accumulation rather than problem solving" (Holland and Pain 1998, page 33).
50. According to *WDI* Gross fixed capital formation includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. For its empirical utilisation see Asiedu (2004) and Haile and Assefa (2006).
51. Assuming that *GDPPC* signifying overall local economic development shall induce efficiency seeking firms vying for better infrastructure.

cause a meagre effect of 0.0047 on *FDI* inflows[52]. Though, not shown in table 1.3 but using an equally weighted average of the five financial development proxies was also insignificant.

To see the earlier empirical utilisation of the other proxies for the variables and their positive/negative effects please consult appendix 1.4.

These estimations have effectively established a basic model of inward foreign investment as a function of a host country's market size, development level, macroeconomic stability and human capital. I can now investigate the individual effects of *WTO* relevant factors. The explanatory power of the baseline model with an average R-square of over 50 percent seems reasonable.

In table 1.4, model 1, I present the baseline model again. In the second model I include the number of trade agreements signed by a host developing country, used as a proxy for *TRIMS*. It is significant at 1% level and its positive coefficient shows that an increase in the number of trade agreements signed by the host (better *TRIMS* implementation) causes additional inward *FDI*, for example China as part of *WTO* accession removed the local content requirements and extended the tax benefits to the local producers in addition to the foreign ones and *FDI* increased as a result[53]. Also evident from the second model is the increase in explanatory power of the model from 53% to 61.5%, which maintains above sixty percent in the remaining estimations in table 1.4. In model 2 table 1.4 the openness coefficient decreases from 0.92 to 0.83 with the inclusion of the *TRIMS* proxy. This signifies that in addition to harmonising the treatment of foreign firms among the signatories it also has a role in providing preferential access, which was earlier manifested in the liberalisation variable.

52. This result is in accordance with the findings of Portes and Rey (2005).
53. Sun et al. (2002) and Walmsley et al. (2006) attributes the post 1999-2000 revival of *FDI* in China to its *WTO* related reforms.

Table 1.4 Estimation Results -- Controlling for the Three Major *WTO* Components i-e *TRIMS, TRIPS* and Liberalisation

Estimation Method / Variables	Proxy Utilised	**Fixed Effects**										
		1	2	3	4	5	6	7	8	9	10	11
Market Size	Ln Population	1.7312* (0.1481)	1.0410* (0.1846)	1.1839* (0.1803)	1.0703* (0.1844)	1.0485* (0.1851)	1.0403* (0.1847)	1.0383* (01846)	1.0529* (0.1844)	1.0442* (0.1848)	1.0607* (0.1846)	0.7359* (0.1997)
Economic Development	Ln GDPPC	1.2961* (0.0484)	1.2069* (0.0502)	1.2166* (0.0505)	1.2024* (0.0501)	1.2106* (0.0506)	1.2044* (0.0506)	1.1944* (0.0512)	1.2066* (0.0501)	1.2069* (0.0502)	1.2039* (0.0501)	0.9182* (0.0664)
Openness	Trade % GDP	0.9297* (0.0785)	0.8312* (0.0795)	0.8403* (0.0799)	0.8248* (0.0794)	0.8394* (0.0808)	0.8246* (0.0812)	0.8107* (0.0812)	0.8204* (0.0795)	0.8321* (0.0796)	0.8225* (0.0795)	0.9057* (0.0853)
Macroeconomic Stability	Exchange Rate	0.2424* (0.0227)	0.2331* (0.0226)	0.2335* (0.0226)	0.2335* (0.0225)	0.2318* (0.0227)	0.2337* (0.0226)	0.2348* (0.0226)	0.2434* (0.0229)	0.2323* (0.0227)	0.2430* (0.0228)	0.1641* (0.0235)
Human Capital	Education	0.2311$^{\varphi}$ (0.1375)	0.2927$^{\alpha}$ (0.1368)	0.2514$^{\varphi}$ (0.1368)	0.2476$^{\varphi}$ (0.1371)	0.2954$^{\alpha}$ (0.1369)	0.2913$^{\alpha}$ (0.1369)	0.2917$^{\alpha}$ (0.1368)	0.2963$^{\alpha}$ (0.1367)	0.2916$^{\alpha}$ (0.1369)	0.2949$^{\alpha}$ (0.1367)	0.2640$^{\varphi}$ (0.1418)
TRIMS	TAs		0.4187* (0.0678)	0.3750* (0.0713)	0.4179* (0.0677)	0.4207* (0.0679)	0.4182* (0.0678)	0.4189* (0.0678)	0.4148* (0.0677)	0.4181* (0.0678)	0.4155* (0.0677)	0.2410* (0.0736)
TRIPS	Trade Marks				0.0352* (0.0099)							
	Industrial Design					-0.0075 (0.0131)	0.0062 (0.0151)	0.0233 (0.0187)				
	Patents								0.0368* (0.0138)	-0.0082 (0.0207)	0.0372* (0.0141)	
	G&P Index											0.3806* (0.0494)
R-Squared		53.40%	61.52%	60.26%	61.58%	61.53%	61.49%	61.48%	61.34%	61.54%	61.32%	62.27%
No of Observations		2520	2520	2520	2520	2520	2520	2520	2520	2520	2520	2128
Standard errors are reported in parenthesis under the coefficient estimates. * represents significance at 1 %, α at 5 % and φ at 10 %. Models 5-7 present results for total, resident and non-resident industrial designs and models 7-9 for total, resident and non-resident patents.												

Generally, the preferential treatment under a trade agreement makes it easier for the multinational to import raw material or intermediate inputs and export manufactured goods back to the developed or other countries, though, I acknowledge that the effect will vary depending on the terms of the individual agreements and the member states[54]. In this aspect it can be even termed as a mini *WTO* in itself. In model 3, I check for the number of enforced trade agreements to see whether enforcement has any additional effects. The significance level remains the same with a slightly reduced coefficient. Therefore, I stick to the earlier proxy of signed *TAs* in the remaining estimations.

In models 4 to11, I test for the effects of *TRIPS* on enhancing a developing country's inward *FDI* potential. The coefficients for total trade marks, total and non-resident patents and Ginarte and Park index are positively significant at one percent level[55]. Whereas, industrial designs (total, resident or non-resident) have no effect on *FDI* inflows. An increase in the number trademarks, total patents, non-resident patents and Ginarte and Park *(G&P)* index cause an increase in *FDI* inflows[56].

The positive and statistically significant coefficients for trademarks, patents and *G&P* index are in accord with the proposition that the volume of overseas direct investment in a developing country tends to be directly related to the strength of protection over there. However, I believe, that it is primarily the strength of patents and the *G&P* index that is of paramount importance for production facilities. Trademarks will primarily affect the

54. Such accords sometime contain supplementary provisions on policies that might be beneficial to foreign investors (Neumayer and Spess 2005).
55. The Ginarte and Park Index is criticised that it is based on statutory provisions and not actual state of protection in a country. As I am using it for the promulgation of *TRIPS* in the host countries, therefore, it suits the analysis requirement, to the extent, that it measures the generation or strengthening of *IPR* institutions. Furthermore according to Park (2008) the issue of actual protection is more relevant to the developed *OECD* and less to the developing countries as the issue with the latter ones is lack of the existence of such laws.
56. The sample size reduces to 2128 from 2520 as Ginarte and Park index doesn't cover the following countries: Barbados, Gambia, Guinea, Lebanon, Lesotho, Libya, Oman, Samoa, Seychelles, Solomon Islands, St Kitts, St Lucia, St Vincent and Vanuatu.

distribution/sales of relatively low tech goods, such as textiles, garments and other consumer items, because the ease of imitating such products in the presence of weak trademarks regime limits foreign firms' incentive to sell them in a particular location. Stronger trademarks are expected to effectively lower the costs of selling, because a multinational faces a lesser pressure to discipline local imitators.

Implementing the *TRIPS* agreement, other things equal, shall increase a developing country's capacity of attracting more *FDI* and its strengthening in general shall enable *MNCs* to protect their market share[57]. The estimation results in table 1.4 utilising different proxies/mechanisms of *TRIPS* enforcement emphasise its importance in stimulating foreign investors to make *FDI*.

Given the importance of the variation in *IPR* standards and *TRIMS* in modern times, an empirical investigation into their determinants should be able to account for its variation both across countries and over time. Consequently, in table 1.5, I control for *WTO* membership dummy and other regional, lingual and sea access dummies that are invariant over time and cannot be tested with panel data fixed effects or first difference dynamic models since these factors are either spanned by the country dummies or are differenced away and cannot be identified[58]. I therefore, have to use the alternative panel data technique, that is, random effect method to shed light on role of these factors.

It will also act as a robustness check of the results with the fixed effect model. It is evident from table 1.5 that the random effects specification produces essentially the same

57. However, the effect will vary from industry to industry and their sensitivity to *IPR* protection. Patents safety will be important for pharmaceutical and detergent manufacturers against multinationals with products that are difficult to imitate for example, machinery. Similarly, trade in goods where trademarks are not as significant is less sensitive to variations in *IPR*s since there is little threat of losing market share to local infringing firms, for details see Maskus (1998a) and Javorcik (2004). According to Li and Resnick (2003) page 185-186, "Theft of intellectual property is perhaps the most prevalent form of seizure in the contemporary world, with entertainment, software, pharmaceutical, and publishing firms facing significant losses".

58. Strictly speaking, with the Hausman specification test favouring the fixed effects model, it is the appropriate estimation technique to use.

estimates as the fixed effects model regressions in table 1.4. Model one shows the positive effects of a larger market, degree of development, market liberalisation, macroeconomic stability, *TRIMS* and *TRIPS*. In model 2, I introduce the *WTO* dummy, it is significant at one percent level and the positive coefficient shows that it leads to an increase in inward *FDI*[59]. Moreover, it reduces the individual coefficients of liberalisation from 0.89 to 0.84 and that of *TRIMS* from 0.50 to 0.24, showing that they were partly representing the *WTO* effect. Most pronounced is the positive effect on *TRIPS* coefficient which doubles from 0.02 to 0.04 and its significance level increases from 5% to 1%. This demonstrates that *WTO* membership leads to strengthening of *IPRs* in the developing countries and enhances their *FDI* hosting potential with a higher significance level[60].

I can say that *TRIMS*, *TRIPS* and *WTO* induced liberalisation have their individual effects but *WTO* membership has a positive influence of its own in addition to its three primary components[61]. This raises a question. What is causing this additional membership effect? One plausible explanation might be the synergies of the three components and there are also the expected positive effects of General Agreement on Trade in Services *(GATS)*[62] and the agreement on Subsidies and Countervailing Measures *(SCM)*[63] (Morrissey 2008).

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59. However, we need to remember that most of the countries joined WTO in the first year i-e January 1995 and the time taken by each member for implementing the commitments made will vary. I am unable to strictly quantify the extent of commitment level in individual members. Moreover, the ones who joined later may have implemented some of the commitments during the accession negotiations.

60. According to Maskus (1998a page 136-137) the harmonization of global minimum standards through *TRIPS* "presents great opportunities for firms that develop technologies and products because they will no longer have to pay as much attention to local protection and enforcement problems in safeguarding their proprietary information. In turn, they can focus their R&D programs on those areas with the highest global payoffs".

61. Though, not the focus of my study but the significant positive effect of *WTO* and its components can be used as a viable argument in support of the need for establishing a comprehensive multilateral investment agreement on lines of the *WTO* trade agreement.

62. GATS include the right to establish a foreign presence and market access principles. It governs trade in all type of services except maritime and air transport services (Kennedy 2003). However, it is conditional to the initial commitment of the signatory country. For details visit: http://www.wto.org/english/tratop_e/serv_e/gatsqa_e.htm.

63. *WTO* agreement on Subsidies and Countervailing Measures *(SCM)* impose restrictions on subsidies given to the exporting firms, and use of local inputs. It also limits any firm specific subsidies to 15 percent of total investment expenditure (Banga 2003). Therefore, it could be invoked by the *MNCs* to eliminate/limit these investment subsidies. For details visit: http://www.wto.org/english/tratop_e/scm_e/subs_e.htm.

Table 1.5 Estimation Results -- Controlling for *WTO* Membership and Time Invariant Phenomenon

Estimation Method /Variables	Proxy Utilised	Random Effects											
		1	2	3	4	5	6	7	8	9	10	11	12
Market Size	Ln Population	0.8816* (0.0553)	0.8244* (0.0555)	0.8515* (0.0554)	0.8421* (0.0556)	0.8565* (0.0553)	0.9074* (0.0568)	0.8451* (0.0554)	0.8962* (0.0614)	0.8508* (0.0567)	0.8381* (0.0569)	0.8661* (0.0638)	0.6802* (0.0630)
Economic Development	Ln GDPPC	1.1953* (0.0461)	1.1029* (0.0473)	1.0956* (0.0471)	1.0891* (0.0478)	1.0691* (0.0482)	1.0699* (0.0481)	1.0643* (0.0482)	1.0686* (0.0482)	1.1025* (0.0508)	1.0949* (0.0509)	1.0978* (0.0509)	0.7987* (0.0506)
Openness	Trade % GDP	0.8985* (0.0765)	0.8481* (0.0759)	0.8474* (0.0757)	0.8548* (0.0758)	0.8449* (0.0759)	0.8307* (0.0759)	0.8311* (0.0760)	0.8291* (0.0758)	0.8587* (0.0764)	0.8529* (0.0765)	0.8379* (0.0764)	0.6396* (0.0721)
Macroeconomic Stability	Exchange Rate	0.2152* (0.0197)	0.1757* (0.0203)	0.1727* (0.0201)	0.1753* (0.0202)	0.1744* (0.0201)	0.1787* (0.0201)	0.1834* (0.0204)	0.1806* (0.0204)	0.1721* (0.0202)	0.1736* (0.0202)	0.1809 (0.0204)	0.1135* (0.0202)
TRIMS	TAs	0.5057* (0.0548)	0.2448* (0.0641)	0.2449* (0.0640)	0.2326* (0.0645)	0.2358* (0.0643)	0.2295* (0.0642)	0.2321* (0.0643)	0.2295* (0.0642)	0.2375* (0.0645)	0.2406* (0.0644)	0.2349* (0.0643)	0.1461* (0.1146)
TRIPS	Non Res. Patents	0.0283$^{\alpha}$ (0.0137)	0.0406* (0.0136)	0.0417* (0.0135)	0.0387* (0.0136)	0.0399* (0.0136)	0.0409* (0.0136)	0.0390* (0.0136)	0.0406* (0.0136)	0.0409* (0.0137)	0.0412* (0.0137)	0.0418* (0.0136)	0.0437* (0.0129)
WTO	Membership		0.4635* (0.0610)	0.4626* (0.0609)	0.4707* (0.0611)	0.4755* (0.0611)	0.4629* (0.0611)	0.4743* (0.0610)	0.4645* (0.0613)	0.4638* (0.0613)	0.4674* (0.0613)	0.4564* (0.0614)	0.1146$^{\alpha}$ (0.0567)
Geographic Regions	South Asia			-1.0968$^{\alpha}$ (0.4985)		-1.0314$^{\alpha}$ (0.4870)	-1.4563* (0.4971)	-1.2235$^{\alpha}$ (0.4925)	-1.4402* (0.5002)	-1.0601$^{\alpha}$ (0.4968)	-1.0781$^{\alpha}$ (0.4929)	-1.4859* (0.5060)	-1.3159* (0.5017)
	Latin Am & Caribbean				0.3961$^{\varphi}$ (0.2379)	0.2915 0.2336	0.5175$^{\alpha}$ (0.2406)	0.0939 (0.2458)	0.4285 (0.3024)	0.4351$^{\varphi}$ (0.2566)	0.4103 (0.2549)	0.4928 (0.3089)	0.4419 (0.3054)
Sea Access	Dummy					0.4232$^{\varphi}$ (0.2461)	0.3498 (0.2431)	0.4047$^{\varphi}$ (0.2461)	0.3566 (0.2444)		0.4957$^{\varphi}$ (0.2554)	0.4478$^{\varphi}$ (0.2555)	0.6803* (0.2529)
Language	English						0.6734* (0.2128)		0.5663$^{\varphi}$ (0.3063)			0.4772 (0.3154)	0.3899 (0.3146)
	French							-0.6544* (0.2543)	-0.1759 (0.3601)			-0.3312 (0.3773)	-0.2891 (0.3743)
Income Groups	Low Income									0.3602 (0.3106)	0.4936 (0.3159)	0.5735$^{\varphi}$ (0.3235)	0.3532 (0.3182)
	Lower Md Income									0.3328 (0.2651)	0.3559 (0.2633)	0.3945 (0.2613)	0.4071 (0.2578)
Time Trend													0.4584* (0.0426)
R-Squared		62.31%	64.09%	65.12%	64.75%	66.28%	67.86%	67.28%	67.87%	65.88%	66.55%	68.20%	68.30%
No of Observations		2520	2520	2520	2520	2520	2520	2520	2520	2520	2520	2520	2520
Standard errors are reported in parenthesis under the coefficient estimates. * represents significance at 1 %, α at 5 % and φ at 10 %.													

Estimates from model 3 and 4 confirm the importance of controlling for regional effects. The South Asian countries seems to deter overseas investors despite the post 1990 surge of *FDI* into India and this effect is robust to inclusion of other variables[64]. The Latin American & Caribbean countries exhibit significant positive effects in some models. Though, insignificant and not shown in the table the Sub-Saharan[65] countries have a negative coefficient and the East Asian & Pacific ones a positive one.

Access to sea has a significant effect and the positive coefficient exhibits that a host country is expected to receive more inward *FDI* if it is not landlocked (model 5). This underscores the importance of ocean accessibility and other features coincidentally shared by countries with a sea port for example the significantly cheaper ocean transportation and its importance in global merchandise trade flows. Glaring example is the concentration of *FDI* in Chinese coastal provinces despite the fact that inland provinces are rich in natural resources unlike the coastal ones that are devoid of them (Sun et al. 2002)[66].

In model 6, I included the language dummy; the coefficient for the Anglophone countries is significant at one percent level, whereas the one for francophone's is significantly negative in model 7. However, both are sensitive to specifications and turn insignificant in some of the following regressions. The coefficients for Spanish and Portuguese were insignificant despite the fact that the Latin America & Caribbean *(LAC)* countries predominantly speaks these two languages and the regional dummy for *LAC* is significantly positive at least in some regressions. These asymmetries in the effects of regional and lingual

64. This may be caused by the political and economic instability and insurgencies in the region, such as the Maoists in Nepal, *LTTE* in Sri Lanka and Islamists problems in Pakistan. Moreover, according to Asiedu (2004, 2006) 40% of South Asian people live on less than a dollar a day which is second only to the Sub-Saharan African *(SSA)* countries of above 48%.
65. Asiedu (2002) and Aizenman and Spiegel (2006) found a significant negative coefficient for *SSA* countries.
66. It also indicates that probably *FDI* in China is more market and efficiency seeking rather than resource seeking and the investors intend to utilise its skilled cheap labour and huge market, instead of extracting natural resources.

dummies on inward *FDI* seem difficult to interpret. The dummies for the income groups though, positive were generally insignificant[67].

Like most regression based analysis, omitted variable bias cannot be altogether written off, for example the host country dummies will capture merely the time invariant lingual or geographic effects. Consequently, to control for time variant phenomenon affecting the countries μ_t was added to model 12 in table 1.5. Its coefficient is significant at 1 % level and reduces the effect of the other variables, though most remain significant at the same level. The worst affected is the *WTO* membership dummy which is reduced to 0.11 from 0.45, but still significant, though at only 5% level now[68]. According to Mátyás (1998) without properly controlling for these effects the coefficients estimates can lead us to make incorrect inferences. Hence, with its inclusion, I perceive that omitted variable shall not, significantly, bias the results, as potentially all static relationships involving the host countries are accounted for. However, we need to remember that a time trend is somewhat restrictive, unlike time dummies, and allows only to capture a decreasing, increasing or smooth pattern of *FDI* flows.

In table 1.5, I have utilised only the non-resident (foreign) patents as a control variable for *TRIPS*, nevertheless, the same results can be obtained with total trademarks, total patents and Ginarte and Park index. The high explanatory power of the model with R-squared (R^2) in the range from 62% to 68% leads me to say that these results represent fairly well the pattern of inward *FDI* stocks.

While all the results in table 1.4 and 1.5 indicate the significance of *TRIPS*, ultimately *IPRs* may no longer play much of a role in determining *FDI* location choices. At the moment

67. Though, I have tried various combinations but avoided using all the dummies for the same characteristic as it may lead to the dummy variable trap causing exact multicolinerity, see Harms and Ursprung (2001) and Asteriou (2006, page 205).
68. This will also control for the overall acceleration in *FDI* inflows to developing countries post 1990 and especially 1995 onwards (as evident from appendix 1.3) and helps to control exclusively for the *WTO* membership effect.

the strengthening of current levels of *IPR* regimes across the developing countries act as a positive *FDI* inducing factor but the trend toward harmonization of *IPRs* within *TRIPS* may offset such advantages. That is, the attractiveness of countries that are strengthening their *IPRs* shall increase; the relative attractiveness of those already offering strong *IPRs* shall decrease after a certain maximum level. This indicates the importance of exploring the effects of *IPR* strengthening and harmonisation in the leading developing countries or the emerging economies. As can be seen from appendix 1.3 the share of *FDI* inflows going to the top few recipients closely follows the overall increasing inward *FDI* trend in the developing countries and the *FDI* flows are highly skewed in their favour (Addison and Heshmati 2003)[69].

In table 1.6, I control for the agglomeration effects by using the lagged value of *FDI* accumulated stock as a proxy. The inclusion of the lagged dependent variable in the empirical model implies that there is correlation between the explanatory variables and the error term since lagged *FDI* depends on u_{it-1} which is a function of the α_0, the country fixed effects. Because of this correlation, the preferred dynamic panel data estimation estimator is the Arellano-Bover/Blundel-Bond model, which basically differences the model to get rid of country specific effects or any time invariant country specific variable. This also eliminates any endogeneity that may be due to the correlation of these country specific effects and the right hand side independent variables (Baltagi et al. 2009).

The coefficient for agglomeration is strongly positive in all the specifications in table 1.6, indicating that earlier presence of multinationals and clustering of their industrial activities tends to generate positive externality and demonstration effects. To assess the validity of the specifications in table 1.6, I also compute the Sargan test for over identifying restrictions. As the probability value of the Sargan Test indicates that the over identifying

69. I have analysed the effect of *IPR* in leading/emerging developing countries in chapter 2 and in Shah (2011). According to (Maskus 1998a) a total of fifteen countries received 80% of the FDI inflows to the developing countries.

Table 1.6 Estimation Results -- Dynamic Model

Estimation Method /Variables	Proxy Utilised	Arellano-Bover/Blundell-Bond										
		1	2	3	4	5	6	7	8	9	10	11
Agglomeration	L*FDI* Stock	0.8291* (0.0066)	0.8246* (0.0067)	0.8290* (0.0066)	0.8279* (0.0066)	0.8237* (0.0067)	0.8245* (0.0068)	0.8267* (0.0066)	0.8255* (0.0069)	0.8244* (0.0068)	0.8290* (0.0070)	0.8552* (0.0075)
Market Size	Ln Population	0.4231* (0.0207)	0.3934* (0.0229)	0.4232* (0.0207)	0.4171* (0.0210)	0.3889* (0.0232)	0.3668* (0.0253)	0.3709* (0.0250)	0.3712* (0.0260)	0.3616* (0.0259)	0.3394* (0.0267)	0.3419* (0.0295)
Economic Development	Ln GDPPC	0.2674* (0.1917)	0.2668* (0.0191)	0.2673* (0.0194)	0.2599* (0.0199)	0.2599* (0.0196)	0.2414* (0.0213)	0.2369* (0.0209)	0.2407* (0.0213)	0.2403* (0.0214)	0.2372* (0.0214)	0.1734* (0.0255)
Openness	Trade % GDP	0.3001* (0.0310)	0.2547* (0.0346)	0.3002* (0.0310)	0.2841* (0.0324)	0.2423* (0.0356)	0.2207* 0.0369)	0.2287* (0.0363)	0.2226* (0.0370)	0.2186* (0.0371)	0.2104* (0.0372)	0.1523* (0.0407)
Macroeconomic Stability	Exchange Rate		0.0265* (0.0090)			0.0256* (0.0091)	0.0141 (0.0104)		0.0123 (0.0108)	0.0150 (0.0105)	0.0224$^{\alpha}$ (0.0108)	0.0097 (0.0114)
	Inflation			-0.0002 (0.0062)	0.0008 (0.0063)			0.0044 (0.0063)				
Human Capital	Education				0.1102$^{\varphi}$ (0.0643)	0.0962 (0.0639)	0.0.0842 (0.0642)	0.0895) (0.0645)	0.0833 (0.0642)	0.0810 (0.0643)	0.0770 (0.0644)	0.0499 (0.0669)
TRIMS	TAs						0.0532$^{\alpha}$ (0.0241)	0.0720* (0.0213)	0.0512$^{\alpha}$ (0.0243)	0.0507$^{\alpha}$ (0.0243)	0.0489$^{\alpha}$ (0.0242)	0.0569$^{\varphi}$ (0.0291)
TRIPS	Trade Marks								-0.0032 (0.0047)			
	Industrial Design									0.0053 (0.0059)		
	Patents										0.0259* (0.0081)	
	G&P Index											0.0082 (0.0189)
Wald Test Probability > Chi^2		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sargan Test Probability > Chi^2		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
No of Observations		2430	2430	2430	2430	2430	2430	2430	2430	2430	2430	2052
Standard errors are reported in parenthesis under the coefficient estimates. * represents significance at 1 %, α at 5 % and φ at 10 %.												

restrictions cannot be rejected.

Low accumulated *FDI* stock can also be termed as relative remoteness of a developing host country and indirectly signifies the importance of transaction costs in terms of information gathering and familiarity with local market conditions affecting the investment location decision of foreign investors. This leads overseas investors to undertake *FDI* in anticipation that they may benefit from the presence of the others, and of having access to localized support facilities, shared service centres, distribution networks, customized demand patterns and specialized factor inputs. On the contrary, Sun et al. (2002) investigating *FDI* in Chinese provinces found that agglomeration effects have a certain limit beyond which positive externalities of investing in the same location turns negative and therefore, overseas investors need to invest into the Chinese provinces that are not already over flooded with *FDI*.

Market size, economic development, liberalisation, *TRIMS*, *TRIPS* (patents) still exerts a significant effect, whereas, labour skills and macroeconomic stability are sensitive to specifications. However, it shall be kept in mind that agglomeration is proxied by past *FDI* stocks which are attracted in part by these variables. For this reason, agglomeration may be swamping there significant effect.

My postulates in section three and four are generally supported by the empirical estimation results in table 1.4, 1.5 and 1.6. The three of them utilising different estimation techniques acknowledge the role of *TRIMS*, *TRIPS* and liberalisation in positively influencing *FDI* inflows. As an additional robustness check I have also used a reduced sample of 60 largest countries on the bases of their 1980 population. However, doing so does not cause a quantitative change in the results

Summarising, on one hand the removal of market distortions, tariff reduction, liberalization of markets and strengthening of *IPRs* are easing the trans-border movement of

goods, intangible assets, services and investments. On the other, scientific, technical, and organizational change, whenever it enhances the interdependence of value-added activity, is necessitating worldwide production to be undertaken within a firms' affiliate, under single ownership, and for part of the activity to be spatially concentrated. It would seem that as fast as trade and investment related market failures are removed factors making for interdependencies and protection of intangible assets are becoming more important.

1.7. Conclusion

Utilising fixed effects, random effects and a dynamic panel model I have investigated the effect of *TRIMS*, *TRIPS*, *WTO* membership and trade and investment liberalisation on *FDI* inflows in a sample of 90 developing countries over the years 1980-2007, after controlling for the traditional location determinants of inward *FDI*.

The results confirm that dismantling and reducing *TRIMS* related market distortions, and strengthening and harmonising of intellectual property rights through *TRIPS* adds to a country's chances of hosting additional *FDI*. Liberalisation of the trade and investment environment positively affects the investors' choice of making *FDI*.

Presence of a large domestic market, economic development and agglomeration exert a strong positive influence. Macroeconomic stability, human capital and infrastructure though significant are sensitive to specifications and estimations techniques. However, this does not imply that they can be left out of a coherent strategy to increase the attractiveness of a developing country for the overseas investors. Largely, the results are consistent with the proposition that a diminished currency value is associated with greater *FDI* inflows. The evidence suggests that strong financial development in the developing countries can attract *FDI* inflows but the effect is rather mild.

Finally, it is found that the geographic regional and lingual characteristics of the developing country affect the multinational firm's investment decision. The probability of firms investing in an economy with coastal access is found to be considerably greater than that of investing in a landlocked one. Latin American and Caribbean countries seems to be their preferred region and South Asia the least sought after. English being the lingua franca of global commerce exerts a positive effect on multinationals, whereas, French a negative one, probably due to large number of Sub-Saharan and North African francophone countries. Spanish and Portuguese speaking nations have a positive but insignificant effect; the same is for East Asian and Pacific region. The Sub-Saharan countries make a negative insignificant influence.

The positive impact of *IPR* worldwide harmonisation under *TRIPS* highlights the importance of the rapport between strong *IPR* protection and investment inflows in the developing countries. However, as most of them are in the process of strengthening their *IPR* regimes, the strong positive effect calls for analysing their effect in a select group of leading developing countries with relatively better/stronger *IPR* laws, in order to explore whether enhanced harmonisation after a certain level leads to increased inflow or *FDI* decay.

Similarly, the close association of the *TRIMS* proxy, that is, trade agreements, with economic reforms and liberalisation, and the fact that a country's system of *IPR* protection is inextricably bound with its entire legal apparatus, requires the need of a thorough study of a developing country's economic and political institutions and their effect on inward *FDI*. The ideal candidates are the South Asian economies with a robust negative coefficient.

The results analysis signals interesting patterns of multinational behaviour that national governments can refer to in their effort to attract foreign direct investment.

I can conclude that even now much of the *FDI* in developing countries is prompted by traditional location factors. Nevertheless, even there multinational firms, when they have a

choice, value distortion free market conditions together with a liberal macroeconomic environment and investment framework and the strength of the institutions governing the host country's *IPR* laws, tend to play a more decisive role than they once did.

Chapter 2 Linkages with *OECD* and *FDI* Inflows in Leading/Emerging Developing Countries

Abstract

In this chapter I investigate the affects of linkage factors with *OECD* countries on *FDI* inflows into leading/emerging developing countries. Linkage factors manifest the relationships between a particular pair of source and host country, or a specific dyad and other countries in the region or world. I use the standard gravity model approach, utilising annual data for 12 developing host and 16 *OECD* source countries from 1990 to 2007, to demonstrate that the increased association between a developed and a developing country is associated with large positive foreign direct investment inflows to the developing country. I find that a bilateral investment treaty, trade agreement and adherence to same intellectual property rights conventions/treaties, results in increased *FDI* inflows, and are increasing with market size of the partners and their geographical proximity to each other. Moreover, I have shown that this effect occurs not only in case of bilateral accords but also multilateral and global pacts involving other countries, signalling increased commitment of the host country to potential overseas investors. However, their effect is more profound when the source and host countries are both members of/adhere to the same pact. These findings are found to be robust across different estimation techniques, model specifications and alternate proxies for variables[70].

70. Parts of the results from the second chapter are published as Shah (2011).

2.1. Introduction

Multinationals' overseas production exceeded global trade by mid nineties (McCorriston 2000), signifying the importance of affiliate's production and foreign direct investment (*FDI*) in world economy (Li and Resnick 2003). The inflow of *FDI* into developing countries has witnessed a constant increase over the period under study, reaching their highest ever level of $500 billion in 2007 (UNCTAD 2008), but has significantly varied between them over time[71]. Focusing on the fact that global financial and economic transactions such as *FDI* ought to extend over international borders, involving states with different trade and investment laws (Li 2005) which results in added complexity and uncertainty and raise the costs of doing business abroad (Alcacer and Ingram 2008). I argue that states with historical bonds, existing associations, common values, regional propinquities and similarities of culture are expected to be more connected to each other and offer coherent governing standards, thus reducing the transaction costs and risks related with overseas operations[72]. Similarly, foreign investors are usually sceptical about the quality of institutions in developing countries therefore, adherence to intellectual property rights *(IPRs)* related conventions, bilateral investment treaties *(BITs)*, trade agreements[73] *(TAs)* as well as regional and international accords like *NAFTA*[74], *ASEAN*, *SAFTA* and *WTO*, among many others, provide mechanisms for making commitments to foreign investors about the treatment of

71. For an analysis of changes in the geographical distribution of *FDI* between the developing countries consult Dunning (1998a).
72. When multinationals broaden their production activities beyond their domestic borders, they are essentially subject to different regulatory regimes which expose them to a complex set of risks varying to some extent between each host nation (Gemayel and Chan 2004).
73. A variety of terms are used in the literature e-g, regional trade agreements *(RTAs)* (Frankel et al. 1996), regional integration agreements *(RIAs)* (Balasubramanyam et al. 2002), preferential trade agreements *(PTAs)* (Medvedev 2006a) and economic partnership agreements *(EPAs)* (Morrissey 2008), all varies slightly from each other but here I collectively call them as trade agreements *(TAs)*.
74. North American Free Trade Agreement (*NAFTA*), Association of Southeast Asian Nations (*ASEAN*), South Asian Free Trade Agreement (*SAFTA*) and World Trade Organisation (*WTO*).

their assets. Thus, investors from abroad feel reassured as international obligations are considered more credible and reneging on them more costly (Buthe and Milner 2008).

Based on the notion of gravitational attraction over space, the primary logic underlying the gravity model is that interaction between two places is a function of the concentration of relevant variables in the two areas, and of the distance between them (Blonigen 2005). Apart from its extensive exploitation in studies of international trade flows, the gravity model has also been used by Wei (1995), Chunlai (1997), Kleinert and Toubal (2005, 2006), Stein and Daude (2007), Ismail (2009) and Li et al. (2010) in research on *FDI* flows.

As Dunning ornately illustrates in his eclectic *OLI*[75] paradigm, many factors are responsible for multinational investments abroad. In view of the fact that these factors can be found in diverse locations, the basic idea for applying the gravity model in accordance with Dunning's theory is that each of them may be termed as ownership advantages (source country factors), the location advantages (factors relevant to and offered by the host country) and the internalisation advantages (firm specific factors/characteristics) that are beneficial only when used itself by the firm. The multinational firm has to overcome disadvantageous aspects like distance and take advantage of the favourable bilateral/mutual multilateral linkage factors like *BITs*, mutual *TAs* and same *IPR* treaties to be able to optimally utilise the ownership or internalisation related features at a particular location. The capacity of a source country to invest in any or all of promising host economies is reflected in the source country factors. Whereas, the distinct attributes of the host country that seize the attention of the multinationals from all the source nations are manifested in the host country factors. The relationship between a particular source country and host country, or the specific dyad and other countries in the region or world is represented by the linkage factors.

75. Ownership (O), Location (L) and Internalisation (I). For details see Dunning (1977, 1998a, 1998b, 2001, 2003, 2004, 2006 and 2009), Dunning and Dilyard (1999) and Narula (2006).

I believe that bi-multinational treaties are mandated to assist economic transactions, facilitate global investment flows and cooperation between states (Li et al. 2010). Using annual data for a panel of sixteen Organisation for Economic Cooperation and Development *(OECD)* source countries: Australia, Austria, Denmark, Finland, France, Germany, Italy, Japan, Portugal, South Korea, Netherland, Spain, Sweden, Switzerland, United Kingdom, United States and twelve host leading developing countries: Brazil, China, Czech Republic, Egypt, India, Hungary, Malaysia, Mexico, Morocco, Poland, South Africa and Turkey, from 1990-2007[76], I have tried to investigate the importance of linkage factors like same colonial background, language, religion, ethnic origin, trade agreements, bilateral investment and double taxation treaties in affecting *FDI* inflows into a developing country and have found support for this argument. Moreover, their effect is stronger when both the host and the source countries belong to the same agreement.

Developing countries that participate in more investment treaties and trade agreements, have better *IPR* standards, are signatory to additional bi/multilateral pacts and are *WTO* members experience greater *FDI* inflows than otherwise after controlling for many other mutual factors including shared membership in a custom union, adjacency and the traditional location determinants of *FDI*.

Taxation treaties, *BITs, TAs* and adherence to intellectual property conventions are individually analysed with different sets of location *FDI* factors in earlier empirical research[77] on overseas investment into a country but so far their significance in enhancing a developing countries potential to attract direct investment from abroad collectively is not considered. Their (mostly) positive independent effects are established; however, the extent

76. Therefore, I have a total of 12*16= 192 bilateral developed source and developing host country pairs and 192*18= 3456 observations for each variable included in the sample.
77. Mentioned in detail in the following section, that is, section two.

of their relevance in presence of one another is not tested until now. Similarly, no one has utilised them as a bridge that helps in overcoming the friction or resistance caused by their geographical distance, cultural, lingual and institutional disparities or difference in governing laws. In addition, to my knowledge, separating out the effect of the *TAs* or *IPR* treaties where both the host and source are members as a linkage factor is not tested until now.

Therefore, this chapter contributes to the literature in three respects. Firstly, unlike existing literature, it investigates the nexus of *FDI* inflows into developing host countries and associations with the *OECD* source countries as bridges overcoming the resistance offered by distance, tariffs and other factors hindering the inward *FDI*. Secondly, it highlights for the first time the significant positive effects of the bilateral or mutual multilateral agreements and thirdly it controls for a larger set of linkage factors e-g mutual *IPR* conventions, *BITs*, joint *TAs*, taxation treaties and membership in a custom union. Thus, I believe that this research will be a nouvelle contribution to the *FDI* literature in many ways.

The rest of the chapter is organised as follows. Literature review is given in section two, which is followed, in section three, by a conceptual premise of linkage factors, *FDI* location determinants, factors causing frictions and *FDI* inflows into developing countries. In section four I consider the rational for using the gravity model for *FDI* inflows. Estimation model and data are discussed in section five followed by empirical concerns in section six. The results presented in the accompanying tables are analysed in section seven with some robustness checks. The last section, eight, concludes with a summary of the findings and some suggestions for future research.

2.2. Literature Review

Multinational's global Production, investment and trade activities need to overcome the friction/resistance offered by geographical distance and governing institutional differences

between the source and host nations which act as an abyss/wall between the two states involved. However, I postulate that the existence of associations/similarities between them acts as bridges, facilitating bilateral economic activities.

Investors prefer large markets (McCallum 1995, Morisset 2000, Okubo 2004, Seyoum 2006 and Awokuse and Yin 2010), relatively developed economies (Coughlin et al. 1991, Habib and Zurawicki 2002, Adam and Filippaios 2007 and Woo and Heo 2009) and countries open to world trade and investment (Harms and Ursprung 2001, Busse and Hefeker 2007, Krifa-Schneider and Matei 2010 and Dutta and Roy 2011).

Roberts and Almahmood (2009) analysing *FDI* inflows into Saudi Arabia from 33 source countries for 1980-2005 in terms of source country's characteristics utilised bilateral trade as a measure of bilateral linkages between the two nations. I follow their intuition using it as a measure of bilateral linkages in addition to openness of the host economy.

Javorcik (2004) examining *FDI* inflows to Eastern European and ex Soviet states found that weaker intellectual property protection in technology-intensive sectors deter investors from abroad. Awokuse and Yin (2010), utilising patents and Ginarte and Park (1997) index as proxies for *IPR* protection in China investigated its effect on inward *FDI* for a panel of 38 source countries spanning 1992-2005, found positive effects of better *IPR* protection. Lee and Mansfield (1996) analysing *FDI* activities of 100 United States manufacturing firms in 14 countries found that the degree of intellectual property protection in the host economy not only effects the volume of US *FDI* but also its composition. I am using an extended set of proxies to measure the strength of *IPR* protection in the host economy e-g the number of foreign, local and total patents, trademarks and industrial designs, as well as the Ginarte and Park Index. Moreover, as a measure of commonality I have employed the intellectual property right treaties and conventions, where both the host and source are members.

Büthe and Milner (2008) examining the effect of preferential trade agreements on *FDI* inflows in 122 developing countries for a twenty year period from 1970 to 2000 found strong positive effects on *FDI* inflows. On the contrary, Balasubramanyam et al. (2002) found for 381 occurrences of *FDI* flows in 1995 that it's not the existence of a regional trade agreement but the economic attributes/characteristics of the host and the source country that matters. However, Medvedev (2006b) analysing a larger set of preferential trade agreements found that they positively affect *FDI* inflows despite the fact that after *WTO*, trade agreements matters only at the margins. I am making use of the number of trade agreements where both the host and source are jointly members in addition to the proxies utilised by them, to control for their effect in the sense of bridges of commonality, trouncing the hurdles due to existing disparities.

Egger and Pffafermayr (2004b) investigating the effect of *BITs* on outward *FDI* stocks for the period 1982-1987 found strong positive significant effects of a ratified *BIT*[78]. Desbordes and Vicard (2009) analyzing the effect of bilateral investment treaties on *FDI* stocks found that, though, they have a positive effect; the influence is stronger when the countries have tense pre *BIT* relations. Similarly, Tobin and Rose-Ackerman (2005) investigating *FDI* inflows into 63 countries found a meagre positive effect of *BITs*. Moreover, in case of riskier countries the effect was negative and only in the countries with a conducive business environment it exhibited a positive effect. Mina (2009) exploring the effect of *BITs* on *FDI* inflows in Gulf Cooperation Countries for 1984-2002 found that *BITs* concluded with *OECD* countries negatively effects *FDI* inflows where as those signed with non *OECD* high income countries have a positive effect. Neumayer and Spess (2005) found a consistently robust positive significant effect of *BITs* on *FDI* flows for a panel of 119

78. They found that just signing a BIT also exert a positive effect on FDI inflows, however, it is insignificant.

countries over the period 1970-2001. Hallward-Driemeier (2003) using *FDI* outflows from 20 *OECD* countries to 31 developing countries from 1980-2000 does not found any significant evidence of *BITs* positively effecting *FDI* inflows into the developing countries. Therefore, I believe that empirically it is an open question and controlling for it will add to the existing *FDI* literature.

Brenton et al. (1999) exploring the effect of economic integration between the European Union and Central Eastern European Countries (CEECs) on *FDI* inflows in *CEECs* for a sample of 35-50 countries found strong effects on *FDI* inflows but these inflows doesn't have a clear negative effect on *FDI* flows to other countries[79]. Globerman (2004) examining the effect of regional integration on *FDI* inflows remarked that the European single market programme not only "encouraged intra-regional *FDI*, extra-regional *FDI* increased even more". Moreover, Lee et al. (2010) found for a set of 54 countries that the extent of political relations also effect *FDI* inflows. Stein and Daude analysing bilateral *FDI* inflows from 17 source *OECD* states into 57 host countries for 1997-1999 found that even time zone matters for *FDI* inflows and states with similar time zones receive more *FDI*. Consequently, I have tried to control for the possible effects of these phenomenon as well.

The above mentioned studies have not utilised these variables collectively as I have done in this chapter. Similarly, they have not investigated them for a set of relatively progressive (developed) developing countries. The most distinct feature is their utilisation as bridges overcoming the abyss resulting from spatial distance and dissimilarities in investment governing laws that hinders *FDI* inflows. Hence, I expect that my findings shall augment many existing results and add to the vast *FDI* research literature some new ways of interpreting and exploring similar phenomenon's.

79. They were not affecting the *FDI* into other countries.

2.3. The Premise of Linkage & Location Factors and *FDI* Inflows into Leading Developing Countries

Here I focus on the conceptual connections between economic integration resulting from bilateral and mutual multilateral associations, location factors, variables causing overseas investment decay and *FDI* inflows into developing countries. Bilateral or shared multiparty linkages integrating two countries can affect *FDI* inflows through various channels. I assume that each host country has some existing relationship with all source countries, and hosts some *FDI* originating from them. I also assume that in each host country there are some barriers to inward *FDI* that have the effect of discouraging additional flows. I believe that increased association between the developed source and the developing host country, may it be historical, cultural or through bi-multilateral treaties, pacts, accords or agreements helps in reducing these barriers that cause overseas investor's hesitation to make inward *FDI*. It is obvious that the extent to which they affect foreign investors' decision will depend upon the precise nature of economic integration or investment facilitation resulting from the relevant characteristics of the linkage factors germane to *FDI*, trade or leading to overall harmonisation with global standards.

A few principal ways through which integration due to these linkages and the host's primary location factors can influence *FDI* inflows are analysed in the ensuing discussion.

2.3.1. Bilateral Investment Treaties

A bilateral investment treaty *(BIT)* is a legal agreement between two states to establish a simple, clear and transparent framework for the reciprocal facilitation and treatment of *FDI* (Elkins et al. 2006), ensure foreign investors of protection against expropriation[80] (Minor

80. Expropriation is defined as the involuntary or forced divestment of equity ownership of foreign direct investors against their will, or that of the managers of their overseas assets across national borders (Li 2005).

1994) of their physical and intellectual property (Mina 2009) including dispute resolution mechanisms under third party arbitration usually via the International Centre for Settlement of Investment Disputes *(ICSID)* or the United Nations Commission on International Trade Law *(UNCITRL)*. Thus, reducing overseas investors scepticism about risks and costs of doing business abroad (Neumayer and Spess 2005). Especially, in developing countries it shall erase the apprehensions about their poor state of investment governing institutions, rampant corruption, prevalent political instability and other economic risks, and act as a screening device for the investors from developed countries.

The first *BIT* was signed between Germany and Pakistan in 1959 and they flourished to 2460 by 2006 due to their positive relationship with *FDI* protection[81] (Egger and Pfaffermayr 2004b), ex-ante transparency and ex-post binding guarantee to multinationals of compensation in case of unfair treatment or state confiscation of their property (Morrissey 2008). As a consequence, in 1980 only 5% of the world total *FDI* was under a *BIT's* purview but by 2000 it has already surpassed the 50% mark (Sumner 2008).

A bilateral investment treaty often incorporate "national treatment" stipulating that investors from abroad may be treated better but cannot be treated worse than the locals[82] and "most favoured nation" status promising equitable and non discriminatory privileges to all foreign investors (UNCTAD 1998). However, some sectors considered sensitive to a state's national security, defence or of strategic importance may be excluded from a *BIT* purview (Rose-Ackerman and Tobin 2005).

Since *FDI* involves a long term investment, multinationals are averse to adverse policy changes (Desbordes and Vicard 2009). Therefore, I expect that by signing a *BIT* a developing

81. With the increase of *BITs* in 1980s and 1990s, outright expropriations of foreign investors assets declined and practically ceased to take place (Minor 1994).
82. On the contrary, and very distant from being impartial, overseas investors are treated better than the local ones and are mostly provided with far superior security (Neumayer and Spess 2005).

country gives credible commitments to foreign investors about the treatment of their capital (Simmons and Hopkins 2005). Reneging on any of them after ratification can be very costly due to the possibility of being sued under the mandatory dispute settlement provisions before an independent arbitrating body[83].

Though *BITs* are signed between two countries the aggrieved investor (multinational) does not require the permission of his home country to initiate arbitration proceedings (UNCTAD 2008). Therefore, by ascertaining a private stakeholder's right of recourse, and chances of getting an acceptable lawful decision, a *BIT* shall enhance the reputational value of a host country. Thinking on these lines *BITs* are signed between two countries to encourage, promote and protect each other's investment in the respective host territories and shall add to the attractiveness of a host country for investment inflows.

2.3.2. Trade Agreements

The main focus of a trade agreement is removal of restrictions and market distortions to facilitate cross border flow of goods among members. However, due to the intimate relationship of trade with *FDI* and affiliate's production (Balasubramanyam et al. 2002), the *TAs* that materialised after the late eighties, known as the deep integration, third wave of trade agreements (Medvedev 2006b), incorporated investment related provisions and policies to stabilise local markets including consensus on rules and regulations governing multinational presence and their investments protection. They extend in some cases to proper investor state dispute settlement mechanism as in *NAFTA* (Morrissey 2008).

The signing and successful implementation of a trade agreement leads to the formation of a large homogenous market encouraging inflows of *FDI* (Globerman 2004). In case of

83. Recently considerable amounts are returned to the foreign investors by the governments of the Czech Republic ($350 million), Lebanon ($266 million), and Ecuador ($70 million), following arbitration decisions under the purview of their respective *BIT's* (Elkins et al. 2006).

adjacent countries it is like pushing the national borders outwards to encompass all members (Hejazi 2009). The imposition of one tariff, rules of origin *(ROO)* or domestic content requirement within the signatories will exempt from tariffs products with a certain percentage of local value addition[84]. This will promise increase in sales or faster market growth which is a major attraction for foreign investors.

I expect, to the extent that trade agreements increases the effective size of the local market and remove impediments to both trade and multinational activity (Egger and Pfaffermayr 2004a), they will positively affect direct overseas investment[85]. My focus will be on the effects of the mutual trade agreements where both the source and the host are members to see that how far they enhance the association between the two countries and helps in overcoming the frictions offered by their spatial separation and manmade transient barriers.

2.3.3. Market Size

The studies on multinationals enterprises support the hypothesis that large host economies receive more foreign direct investment (Wei 1995, Chunlai 1997 and Blonigen 2005) due to greater opportunities for economies of scale (Ang 2008).

Market size measured by host economy's *GDP*, population or in case of a dyad by the product or sum of their *GDP's* is probably one of the most widely recognised location determinant of *FDI* inflows and is usually an essential part of the independent variables used to explain the flow of *FDI* between countries. For example, Egger and Pfaffermayr (2004a)

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84. *NAFTA* requires 62% value addition under *ROO* for duty free sale in the member countries (Balasubramanyam et al. 2002). However, the necessity of providing the proof increases transaction costs (Morrissey 2008). Products from Mexican Maquiladoras, can avail several benefits relating to U.S. duties, depending on components and/or type of merchandise they manufacture. Under the harmonized tariff sections 9802.00.40, 9802.00.60 and 9802.00.80, duty is assessed only on value added component, and under the United States Generalized System of Preferences *(GSP)*, if 35% or more of the product is deemed Mexican content, it may enter duty free. Details are available at United States Department of Labour, Bureau of International Labour Affairs website, http://www.dol.gov/ilab/media/reports/nao/maquilad.htm.

85. Harmonisation of tax and other regulations, elimination of trade barriers and mutual recognition of standards in the December 31st, 1992 *EU* Single Market Programme *(SMP)* is an example which attracted increased *FDI* from *US* and Canada (Globerman 2004).

found an increasing relationship between inward *FDI* and growing bilateral market size as approximated by the sum of the source and host countries *GDP*.

2.3.4. Economic Growth, Capital Abundance, Relative Factor Endowments.

Among developing countries growing real per capita gross domestic product signifies a relatively vibrant economy suitable for multinational's products. Foreign investors perceive rising personal income of the local population as increase in their purchasing power and a source of potential profits from prospective future sales (Feenstra 1998)[86]. The relative richness/poorness of the population determines a country's trading, production and international investment patterns (Loungani et al. 2002).

While for some, the absolute difference between source and host real per capita income connote relative factor endowments disparity (Ismail 2009), for many others it indicates the development gap between the two economies (Stein and Daude 2007) [87].

If it is taken as a measure of capital abundance or labour capital ratio, being in the middle of the rich and poor countries the ones in my sample are probably the ideal destinations for the relatively capital intensive sectors (Frankel et al. 1996). Therefore, I perceive a positive influence on *FDI* inflows.

2.3.5. Custom Union

If the association/integration is characterised by the formation of a custom union the common tariff adopted by members will, on one hand, create a bigger market and, on the other, exempt from tariffs products from within the union for example in European Union *(EU)* or the Mercosur states. This will increase not only the sales of final products but is expected to divert purchases of intermediate inputs from out of the union sources in favour of

86. Though, it shall be kept in mind, that, this may also signal increase in labour costs.
87. Generally, countries that are similar in factor endowments witness horizontal *FDI*, whilst vertical *FDI* takes place between countries with different factor endowments (Johnson 2006).

union members prompting existing multinationals to invest more for capacity expansion[88]. Firms not located in the union, which were previously exporting products to the member states, are not entitled for tariff free import to the union[89]. Consequently, they have an added monetary reason to establish production facilities to avoid the likely substitution of their merchandises[90]. Therefore, for example if a foreign *MNC* has to choose between a *EU* member and a non *EU* state it will choose the member over other prospective hosts because of free access to all *EU* and *EFTA* countries (Brenton et al. 1999)[91].

The degree to which integration resulting in a union formation will act as an incentive for additional *FDI* from existing multinationals and potential new entrants from outside will depend upon the level of the product substitution threat, as well as the costs of increasing or establishing new production capacity within the union.

2.3.6. Intellectual Property Rights

Theoretically, the nature of the relationship between *IPR* protection and *FDI* inflows into large developing countries is quite ambiguous and there is a paucity of empirical literature focusing on them. Strong *IPR* implementation may cause a shift to licensing from direct investment, whilst a weaker one will increase the chances of imitation, deterring altogether any chances of *FDI*. Multinationals can choose between greenfield *FDI*, acquisitions, licensing, joint venture or exporting from home, based on the degree of *IPR* imposition in the host economy.

88. Members of *NAFTA* and *EU* undertake more *FDI* within member states (Balasubramanyam et al. 2002).
89. This is subject to abolition of tariffs between the members and adoption of a common universal tariff on imports from non members (Wonnacott and Wonnacott 1981).
90. This imminent diversion effect will most probably cause tariff jumping *FDI*.
91. According to Carstensen and Toubal (2004) most of the *FDI* in the CEECs goes to Poland, the Czech Republic and Hungary, which are the three largest CEECs and also the initial constituents of the 1992 Central European Free Trade Area *(CEFTA)* agreement. As a result, investment in one of these countries warranted access to all of their markets and to the nearby *EU*.

Weak *IPR* regimes are expected in relatively larger middle income countries as they can easily copy or reverse engineer latest technologies (Maskus 1998c)[92]. Low *FDI* in *IPR* sensitive sectors such as chemicals, drugs, health care, electrical equipment, computer software will materialise if *IPR* regime is weak (Lee and Mansfield 1996) or may cause an altogether switch over from manufacturing to distribution (Javorcik 2004). On the contrary, sectors requiring complex technology or highly capital intensive sectors such as automobile manufacturing are relatively immune to imitation and will be mildly affected.

Though, weak *IPR* reduces a nation's location advantage and a firm's ownership benefit, it enhances gains from self production through internalisation to other modes of investment[93].

As my sample comprises of leading developing countries which are fairly large and vibrant economies, exhibiting an enhanced threat of imitation, it seems logical to perceive that strong *IPR* implementation will lead to increased *FDI* inflows. Lee and Mansfield (1996) studying 100 major *US* multinational's investment in developing countries, Javorcik (2004) analysing *FDI* in Eastern European Transition Economies and Awokuse and Yin (2010) who examined *FDI* inflows in China found a positive relationship between stronger *IPR* protection and multinational investment. I have utilised the number of *IPR* conventions and treaties to which both the host and source countries adhere to see if this mutual relationship exert any supplementary positive effect on *FDI* inflows in comparison to the other variables proxying the strength of intellectual property rights in the developing host countries and expect a positive significant influence.

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92. Existing knowhow and dearth of state of the art technology makes them concentrate their *R&D* efforts on imitation, reverse engineering and adaptation. A classic example is of Chinese employees establishing their own detergent manufacturing facilities once they knew the inputs (Javorcik 2004, page 43).

93. Internalisation in contrast to licensing will diminish the chances of the licensee violating the contract and becoming a direct competitor in a weak *IPR* economy.

2.3.7. National Borders, Contiguity and Adjacency

As the word –multinational– imply they do business across international borders. The negative impact on *FDI* and trade of international borders delimitating state boundaries is caused by various types of dissimilarities ranging from lingual, cultural, institutional, legal and many others including trade barriers[94]. These differences indicate that the investment and trade reducing distance effect is expected to be higher across national borders (Helliwell 2002, and Anderson and Wincoop 2003). Though, it seems very difficult to separately gauge the significance of the integration impeding effects of each of them. Their presence indicates that there is some room for deeper market integration. According to McCallum (1995) on average the Canadian provinces trade with each other 20 times more than with a *US* state even across the innocuous Canada and United States border.

Though, "the nations of the world remain stubbornly apart" (Loungani et al. 2002, page 256) in spite of visible globalisation, strong positive effects of adjacency on *FDI* flows are expected (Brenton et al. 1999)[95]. Several reasons can be mentioned for making adjacent country a preferred *FDI* host including lesser cultural differences due to the presence of ethnic minorities with common language, culture, religion, history and so on with the people of the source country. Similarly, accessibility due to spatial closeness and favourable logistics increases the probability for economic agents to be involved in cross-country transactions that over time enhance familiarity with local environment and institutions (Cieślik 2005a, Chidlow et al. 2009).

94. Chen (2004) stresses that since national trade barriers such as tariffs, quotas, exchange rate variability, different governing laws and varying customs regulations increase the transaction costs of shipments crossing international borders, the choice of a variable as the measure of border is crucial for evaluating the expected size of the border effect.

95. Adjacency matters in terms of foreign direct investment as evident from the greater incidence of German and Austrian *FDI* in Czech Republic and Hungary, Germany in Poland and Sweden and Finland in Estonia (Altomonte 2000, Resmini 2000 and Johnson 2006).

The physical separation of countries hamper *FDI* and trade flows but among adjacent countries the border effects are expected to be much lower in comparison to other states and a high level of *FDI* inflow is expected in regions of the developing countries neighbouring the source country (Holland and Pain 1998), especially in presence of *TAs*, taxation treaty or *BITs* eliminating/reducing the artificial barriers, for example, 85% of Hong Kong outward *FDI* is located in the neighbouring southern provinces of China (Quazi 2007).

2.3.8. Distance

Distance signifies not only geographical but also differences in culture, language and shared values. Multinational firms are expected to undertake most of its production in nearby regional or local markets in order to avoid the increasing costs associated with managing affiliates far from their headquarters in unfamiliar foreign markets (Brenton et al. 1999).

In accordance with transaction cost approach I assume increasing distance from the source country to decrease the possibility and extent of production in the host country due to higher communication costs, informational costs of diversity in custom laws, different tax regulations and additional burden of overseas placement of personnel e-g even in *EU* the incidence of *FDI* is higher between members that are closer to each other (McCorriston 2000). Similarly, the comparatively negligible investment of the Non-European *MNCs* in the *CEEC* reinforces this consideration (Resmini 2000).

Proximity to the point of sale, due to transport and other transfer costs, is expected to positively affect the investment decision. Whereas, an inward *FDI* decay is expected with increasing distance owing to higher monitoring costs (Carr et al. 2001). Consumers in distant

countries may love to consume overseas products, (Hummels and Levinsohn 1993) but a higher transport cost diminishes the chances of a local consumer base[96].

Distance erodes the application of familiar institutions, commonality of laws, standards, tastes, the density of social networks and mutual trust (Helliwell 2002) and creates an interaction barricade between economic agents (Portes and Rey 2005). Geographical proximity matters in multinational *FDI* decision as evident from Japan, Korean, Hong Kong, Taiwan and other Southeast Asian countries investment in China counting for over 80% of total overseas capital inflows in the country (Sun et al. 2002).

Goods are transported mainly by sea in global trade (Okubo 2004) due to its relative cost advantage (McCallum 1995). However, I am using geographic distance between the capitals (or most populous cities) of the source and host countries assuming that it will cater for territorial distance between landlocked or adjacent countries as well. I expect a negative effect of increasing distance on *FDI* inflows; nevertheless, given that increasing distances make both trade and control of overseas *FDI* more difficult, the net effect is ambiguous (Blonigen and Wang 2004).

2.3.9. Language and Colonial Ties

These variables are interchangeably used to account for other transaction costs (Stein and Daude 2007) associated with operating an overseas affiliate. *FDI* unlike trade or portfolio investment usually involves (at least temporary) relocation of some employees to the host country for initial set up, coordination with the headquarters, training of local employees and

96. If the transport costs are sufficiently high, *FDI* is the trade alternative for multinationals but they also require an existing customers base to undertake a long term investment as is evident from *FDI* literature, especially Vernon's (1966, 1979, 1994) Product Cycle Hypothesis, see also Teece (1985 page 237). Awokuse and Yin (2010) in accordance with the proximity concentration hypothesis found evidence for increased horizontal *FDI* in China with increasing distance from the source country, however, vertical *FDI* with geographically fragmented production is expected to be negatively affected by increasing distance (McCorriston 2000) due to the transportation of intermediate inputs or semi finished goods (Loungani et al. 2002). One exception to the distance effect is the resource seeking *FDI*. Multinationals undertaking such investments are only interested in the particular location of the natural resource, irrespective of distance as their scarce availability makes them valuable to the extent that transport cost become irrelevant.

to facilitate the transfer of tangible and especially intangible assets. Therefore, *FDI* between culturally distant nations is expected to incur additional costs of familiarising their staff to an environment which may be alien, perplexing and stressful or in rare circumstances even hostile.

Interaction between countries with formal colonial ties is expected to be higher due to greater understanding of each other's culture, values, and ability to speak a similar language. Rietveld and Janssen (1990) analysing the volume of phone calls between Netherland and Indonesia found it to be relatively higher due to former colonial ties. Portes and Rey (2005) expect such affinities to positively affect international economic relations. According to Rios-Morales and O'Donovan (2006) while Germany is the *EU* leader in worldwide investment, Spain is the highest EU investor in the Latin American & Caribbean countries due to lingual similarities and former colonial ties[97].

Although, it is difficult to theoretically substantiate, and empirically determine the significance of language alone in *FDI* flows, two examples of United States -- United Kingdom and Hong Kong -- China are noteworthy. While *UK* trade more with the *EU* most of its *FDI* is in *US*. Similarly, *UK* receives the largest share of *US* investment among the *EU* members (Balasubramanyam et al. 2002). Hong Kong's *FDI* share in China was above 50 % since the 1979 open door policy (Wei 1995) and singularly accounted for 30 to 50 percent of *FDI* in China between 1995 to 2005 (Hejazi 2009)[98]. The reasons for these high level

97. Due to high human interaction and significance of similar language Spanish firms are the key players in service sector for example, "The Spanish banks Santander Central Hispano (SCH) and Bilbao Vizcaya Argentaria *(BBVA)* own 52% of the assets of the region's top 10 transnational banks. In the telecoms, electric power and gas distribution Telefónica and Endesa are among the leading foreign firms" (Rios-Morales and O'Donovan 2006 page 56).

98. Many Chinese firms register in Hong Kong to reinvest in mainland China due to protections, special tax favours, subsidy incentives and other preferential treatments offered to foreign firms (Wei 1995, and Hejazi 2009). Therefore, the role of Hong Kong as an offshore financial centre for *FDI* in China from the native Chinese and other countries (Taiwan) is to be kept in mind. Quazi (2007) and Cuervo-Cazurra (2008) term it as the "round trip" back to China of the Chinese capital. Whereas, Wei (2000b) call it the "false foreign capital".

investments include a common Cantonese language in addition to commonality of governing structures and political and cultural ties (Quazi 2007)[99].

Desbordes and Vicard (2009) found shared language to positively affect *FDI* inflows, where as for Elkins et al. (2006) *BITs* are much more likely to be negotiated among country dyads sharing a common language. According to Feenstra (1998) United Kingdom on average remains the largest single investor in the United States. Wei (1995) believes that high incidence of *HK's FDI* in China is due to existing cultural and linguistic ties that helps greatly in reducing contractual and informational costs. Even among the Chinese provinces the prevalence of Hong Kong's *FDI* in Guangdong and Taiwan's investments in Fujian are attributed to their historical ethnic relationships and language similarities (Sun et al. 2002).

As countries in my sample share such characteristics I have included dummies for common language and former colonial ties as explanatory variables and expect a positive association with *FDI* inflows.

2.3.10. Increased Commitment

Official bi/multilateral interstate accords have arguably contributed to increase investment, both from within the signatories as well as from other countries by maintaining the confidence of investors in the commitment of concerned governments to pro investment policies and promised safeguards of their assets[100]. Countries that stipulate a dispute settlement system in investment promotion plans (Morrissey 2008) and lock in reforms concerning contract enforcement, property rights and protection mechanisms that results in

99. Loungani et al. (2002), sighting *FDI*'s higher informational requirements, found greater language effects on direct overseas investment in comparison to trade.
100. According to Balasubramanyam et al. (2002) Mexico's extended commitment to liberalization and reform policies following the inception of *NAFTA* lead to increased *FDI* inflows.

minimising the risk of expropriation for a longer period and exhibit stability and predictability of regulations are expected to gain investors confidence[101].

Implementing the investor friendly conventions in the deep integration third wave *TAs*, *BITs* property protection provisions and the strengthening of *IPR* regime in a developing country will influence the investment inflows across all sectors due to their signalling role (Javorcik 2004) to the foreign investor of a state's promise of *FDI* safeguard and continuation of investment promotion policies. The pledge of a durable lasting association from the *FDI* source economy is also important for example the *US* commitment of a long term trade relationship reassured foreign investors of the recovery of Mexican economy following the peso collapse (Gould 1996).

2.3.11. Summary

In summary, the available evidence suggests that market size, stability of macroeconomic policies, propinquity of language, geographical immediacy, formal integration and investment agreements have identifiable effects in promoting closer investment, trade and *FDI* ties. However, their indirect effects may be stronger than the direct ones.

Trade agreements in general intend to promote trade liberalisation and investment inflows (Morrissey 2008) whereas investment treaties' focal point is protecting investor's assets.

Therefore, so far as formal interstate agreements resulting in lowering of tariffs, import duties, liberalizing international trade, and creating large markets contribute to investment safety, economic growth and higher real incomes, these agreements by increasing the

101. Many researchers believe that one of the major contribution of *NAFTA* was to "lock in" the commitment of Mexican businesses and government to North American economic integration, for example see Globerman (2004) and Medvedev (2006a).

linkages between them are expected to stimulate increased inward *FDI* over the long run. The expected signs of the factors discussed above are summarised in table 2.1.

Table 2.1 Expected Signs of Factors effecting *FDI* Inflows into Leading Developing/Emerging Countries

Variable/Factor	Expected Sign
Investment Treaties	Positive
Trade Agreements	Mostly Positive
Market Size	Positive
Difference in Factor Endowments	Mostly Positive
Custom Union	Positive
Intellectual Property Rights (*IPR*)	Mostly Positive
Adjacency, Contiguity	Positive
Distance	Negative
Colonial Ties	Positive
Common Language	Positive
International Commitment	Positive

2.4. The Gravity Model and *FDI*

As stated earlier the gravity model conjectures that like the gravitational pull over space, the economic/population masses of the two countries exert a magnetic pull of interaction between them, whereas the distance among them offers a friction of resistance to this attracting force of interaction. I utilise the standard gravity model to demonstrate that the variables that help in reducing the resisting space/frictions between economic agents of a developed and a developing country and increase the association between them are associated with investment inflows to the developing country. Moreover, I have shown that this effect occurs not only in the case of increased bilateral harmonization due to mutual international accords but also multinational and global pacts involving other countries. However, the effect is stronger for the agreements where both the host and source countries are members.

Gravity model known as the “workhorse” of empirical studies in multinational economics (Eichengreen and Irwin 1995) was originally applied in economic literature to

explain bilateral trade flows (Evenett and Keller 2002). This versatile model has produced some of the clearest and most robust empirical results (Linders and Groot 2006). Their persistent recognition in international economics has been reinforced by continuous efforts to apply them to different trade theories e-g Anderson (1979), Bergstrand (1985), Feenstra et al. (2001) and Rose (2004). Similarly, recent econometric research has improved their statistical reliability (Anderson and Wincoop 2003, Buch et al. 2004, and Silva and Tenreyro 2005). According to Evenett and Hutchinson (2002, page 489)

"Selective breeding practices tend to improve the performance of racehorses, and so have been with the gravity model".

Their proven empirical success in the analysis of international trade, lead to the use of gravity models in other bilateral empirical contexts, such as national borders effect by Helliwell (2002), equity flows by Portes and Rey (2005) and *FDI* flows e-g Brenton et al. (1999), Buch et al. (2001), Carr et al. (2001), Rose (2003), Cuervo-Cazurra (2008) and Desbordes and Vicard (2009).

Contrary to trade, the gravity models used in *FDI* studies are devoid of fully developed theoretical foundations and the existing theory on *FDI* has yet to provide clear and empirically testable propositions on the effects of dyadic associations (Blonigen 2005)[102]. In fact, with different types of multinational firms the impact of preferential bilateral trade liberalisation through *TAs*, investment safety through *BITs*, security of intellectual property (*IPR* treaties) and their linkage effect is difficult to deduce theoretically due to the high degree of required dimensionality (Brenton et al. 1999). One approach to clarifying these effects is to use simulation models, but here also the results are dependent upon the choice of model specific parameters.

102. For example see Balasubramanyam et al. (2002), Stein and Daude (2007), Alcacer and Ingram (2008), Hejazi (2009) etc.

Markusen (2000) embedding Dunning's *OLI* paradigm in a general equilibrium model with endogenous *MNCs* has produced simulation results[103] which can be used for integration effects of trade agreements, factor endowments, country sizes, trade costs and to some extent investment liberalisation but cannot be utilised to measure the *FDI* facilitation effects of *BITs* and *IPR* conventions[104].

Nonetheless, the empirical findings discussed in the premise suggests that *FDI* is likely to respond positively to increased bilateral associations regardless of whether the multinational's production structure is vertical or horizontal as they enables them to better exploit firm specific (ownership & internalisation) advantages in foreign markets (location). Likewise these connections, in addition to direct *FDI* facilitation, also affects *FDI* indirectly by influencing economic and non-economic variables that in turn affect the risk adjusted profitability of overseas investments. Similarly, consistent with its utilisation in trade flows the gravity model predicts that the magnitude and strength of bilateral *FDI* flows are some direct function of the masses of the two countries and have an inverse relationship with distance between them (Stein and Daude 2007).

2.5. Estimation Model and Data

Based on the discussion in section 2.4 and the predictions of the premise a gravity equation linking the *FDI* inflows into a developing country and the variables either aiding or resisting these flows can be expressed as:

$$FDI_{ijt} = \alpha\left(Mass_{ijt}\right)^{\beta}\left(A_{ijt}\right)^{\gamma}\left(X_{ij}\right)^{\delta}\left(Z_{jt}\right)^{\vartheta}\xi_{ijt} \qquad (1)$$

103. He empirically tested for these utilising a simple panel and a gravity model in Carr et al. (2001).
104. Markusen (2001b) has attempted to look for the effects of contract enforcement and intellectual property protection utilising a two stage game model with possibility of defection for the agent in the second stage, who can thereby erect a rival firm. He finds that if increased enforcement results in a shift from exporting to production in the host, it is beneficial for both. The model predictions are unclear for increased competition as a result of higher *MNC* presence.

Where *j* represents the host developing country, *i* denote the source *OECD* country, *t* shows the time period. The dependent variable FDI_{ijt} is the current dollar value of *FDI* inflows in country *j* originating from *i* at time *t*[105]. $Mass_{ijt}$ is the sum of yearly host and source real gross domestic product (*RGDP).* A_{ijt} represent a set of other key variables e.g., differences in factor endowments, the state of *IPR* standards, capital labour ratio, development gap, number of *BIT's*, and mutual *TA's* that can facilitate or hamper *FDI* inflows including the sum of bilateral flow of goods and services for a specific year. X_{ij} are the time invariant variables like distance between the two countries or dummies for common language, ethnicity, adjacency, and colonial/historical ties that usually helps to reduce informational costs for business transactions between citizens of the two nations. They are specific to the particular country pair *ij* and can include dummies to measure the set of incentives provided to the investors from source country *i* by the host *j* under a *BIT* or *TA*. Z_{jt} are the host country characteristics such as market growth, income level, political and economic stability, degree of openness, risk level and policy variables. ξ_{ijt} represents the omitted variables and other influences on *FDI* inflows. It is assumed to be statistically independent of (orthogonal to) the explanatory variables and normally distributed with constant variance and zero mean.

Most of the empirical studies specify the model in double log form, that is, taking the logs of the dependent and independent variables and estimate it by ordinary least squares (Daude and Stein 2007). The log form helps in reducing the skewness of the variables (Blonigen and Wang 2004) and has exhibited the best adjustment to the data in the empirical trade literature. Following Brenton et al. (1999), Balasubramanyam et al. (2002), Sun et al.

105. I use *FDI* inflows instead of *FDI* inflow as a percentage of host country's *GDP* because it directly show the change in inflows where as the *FDI/GDP* shows significance of *FDI* for the host country's economy.

(2002) and Okubo (2004), equation (1) can be augmented with appropriate proxies for the variables mentioned above that are empirically important for explaining *FDI* inflows.

The log-linearised form will be:

$$\begin{aligned} \ln FDI_{ijt} = {} & \alpha_0 + \beta_1 \ln\left(Gdp_i + Gdp_j\right)_t + \beta_2 \ln\left(Gdppc_i + Gdppc_j\right)_t + \\ & \beta_3 \ln Gdppc_{jt} + \beta_4 \ln BilateralTrade_{ijt} + \beta_5 \ln Distance_{ij} \\ & + \beta_6 BIT_{ijt} + \beta_7 TA_{ijt} + \beta_8 IPR_{ijt} + \beta_9 TaxationTreaty_{ijt} + \\ & \beta_{10} Border_{ij} + \beta_{11} Language_{ij} + \beta_{12} Colony_{ij} + \\ & \beta_{13} CustomUnion_{ij} + \beta_{14} WTO_{ij} + \xi_{ijt} \end{aligned} \qquad (2)$$

Where *ln* is used for the natural logarithm applied to both sides. Due to log specification I can interpret the coefficients as elasticities but log of zero is undefined (Wei 2000b) and I lose about 17.5 % (602) of the total observations for *FDI* inflows. This is undesirable as far as the excluded observation convey important information about investment flows. Different methods are adopted to circumvent this problem, from using a semi-log form where *FDI* flows are in levels and the independent variables in log form, to simply omitting the zero observations (Linders and Groot 2006). In the earlier approach the constant elasticity between *FDI* and the explanatory variables no more exists (Eichengreen and Irwin 1995) where as the latter one is not favoured as zero values for investments are expected between distant countries and skipping them may cause an estimation bias especially if their occurrence is not random[106]. Hence, following Stein and Daude (2007), Ranjan and Lee (2007), Asiedu and Freeman (2009), Ismail (2009) and Kawai (2009) I use as

106. In accordance with the Newtonian gravitational law (if the gravity model has to be applied) *FDI* like gravitational force can be very close to zero, but never zero. In numerous cases, these zero observations arise simply because some countries record bilateral *FDI* in thousands or millions of US dollars, and when rounded off, small *FDI* values are recorded zero. This implies that by omitting the zero flow observations I lose information on the causes of very low *FDI*, which could be caused among other things by higher information costs due to unfamiliarity with the distant markets for horizontal *FDI* and increasing transportation costs for intermediate products in case of vertical *FDI*.

ln (1 + FDI_{ijt}) dependent variable[107]. This has the advantage of simplicity and the values are almost the same as *ln (1 + FDI_{ijt}) = ln FDI_{ijt}*. Similarly, following Neumayer and Spess (2005) negative *FDI* values were set equal to 1[108] as they mostly show occurrences of disinvestment and their inclusion negligibly affect the results[109].

The sum of source and the host country's real gross domestic product is included to control for their joint mass. To take account of disparity in factor endowments or economic development between the source and host economies I have utilised difference in their real gross domestic product per capita (*RGDPPC)*. To control for tariff jumping *FDI*, I have included the sum of the bilateral trade including services, however a trade agreement or *MFN* status under a *BIT* will affect its coefficient in addition to the trade liberalisation due to *WTO* membership.

Bilateral distance between the two countries is obtained from three different sources in kilometres, miles and nautical miles, based on the great circle formula (that utilises latitudes and longitudes) and direct distance between the political capitals of the two countries as well as the population weighted distance between the populous cities of the dyad members[110]. Distance proxies trade as well as monitoring cost thus its coefficient will depend primarily on the type of *FDI*. Horizontal *FDI* will substitute trade due to distance related increasing transport cost but will have a negative effect on vertical *FDI*. Similarly, monitoring cost has a direct association with distance.

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107. Sun et al. (2002) used 10^{-4} for zero values instead of taking their log, Wei (2000b) use a TOBIT model with the dependent variable equal to *ln(FDI + 0.1)* and Bénassy-Quéré et al. (2007) used *ln(0.3 + FDI)* as the dependent variable.
108. Blonigen and Wang (2004) set the negative values of the dependent and explanatory variables equal to 0.1 before taking the logs.
109. We need to remember that as *FDI* data from the *OECD* data base is in millions of *US* dollars there by taking log of *1 + FDI*, I am in fact adding an inflow of a million *US* dollars to each bilateral dyad. To minimize the measurement error, I first converted the unit of *FDI* from $1,000,000 to $1 and then add 1 before taking logs. The same was done to the explanatory variables on RHS in case it was in multiple units.
110. General information about the source and host countries and their latitudes and longitudes are given in appendix 2.1. Computing these distances are discussed in detail in Fitzpatrick and Modlin (1986).

Table 2.2 shows the number of *BITs* signed and ratified by the host countries for 1990--2007 from *ICSID* and United Nations Conference on Trade and Development *(UNCTAD).* Whereas, the list of all the *BITs* signed and ratified by the host developing countries are given as appendix 2.2. It is evident that most of the *BITs* are not implemented right away and some of them remain ineffective over the 18 years period under study. The information also varies between the two sources as well and this contrast is examined in the following section.

Table 2.2 Number of Investment Treaties Signed and Ratified by the Host Developing Countries

Country	*UNCTAD* Database of *BITs*				*ICSID* Database of *BITs*			
	Signed		Ratified		Signed		Ratified	
	1990	2007	1990	2007	1990	2007	1990	2007
Brazil	0	15	0	0	0	15	0	0
China	17	118	14	86	24	92	20	69
Czech Rep	3	74	0	70	3	80	0	77
Egypt	11	101	6	72	8	84	5	38
Hungary	17	59	13	55	18	59	14	57
India	0	67	0	50	0	55	0	49
Malaysia	15	65	12	45	15	67	13	34
Mexico	0	25	0	21	0	23	0	22
Morocco	3	59	1	34	5	35	1	20
Poland	16	63	7	60	16	62	7	61
South Africa	1	45	1	24	0	42	0	22
Turkey	10	77	7	58	10	73	7	62

Appendix 2.3 lists all the trade agreements signed by the host countries from *WTO* regional trade agreements information system and McGill university preferential trade agreements database with their *WTO* notification status and whether they are bi-multilateral. To gauge the state of *IPR* protection in the host countries Ginarte and Park Index[111], the number of trademarks, industrial designs, resident and non resident patents and the *IPR*

111. It examines five categories of the patent laws: (1) extent of coverage, (2) membership in international patent agreements, (3) provisions for loss of protection, (4) enforcement mechanisms, and (5) duration of protection. See Ginarte and Park (1997, page 284) and Park (2008, page 761).

treaties and conventions signed by each of them is considered[112]. The descriptive statistics for the dependent and independent variables are summarised in table 2.3.

Table 2.3 Descriptive Statistics

Variable	*No. of Observations*	*Mean*	*Standard Deviation*	*Minimum*	*Maximum*
LnFDI	***3456***	***13.40***	***7.99***	***0***	***23.378***
LnRGDP	***3456***	***27.94***	***1.03***	***25.8***	***30.836***
LnPOP	***3456***	***18.65***	***1.21***	***16.53***	***21.207***
LnRGDPPC (S-H)	***3456***	***9.61***	***0.56***	***0***	***10.633***
LnRGDPPC (H)	***3456***	***8.76***	***0.58***	***7.28***	***10.048***
LnGFCFPW	***3456***	***9.08***	***0.45***	***5.51***	***10.02***
LnBilateral Trade	***3456***	***21.00***	***1.68***	***13.69***	***26.783***
LnDistance	***3456***	***8.45***	***0.95***	***5.62***	***9.797***
BITs	***3456***	***0.55***	***0.497***	***0***	***1***
TAs	***3456***	***0.77***	***1.04***	***0***	***3.610***
IPR	***3456***	***2.02***	***0.50***	***0***	***2.890***
Taxation Treaty	***3456***	***0.81***	***0.38***	***0***	***1***
Custom Union	***3456***	***0.265***	***0.44***	***0***	***1***
Adjacency	***3456***	***0.026***	***0.16***	***0***	***1***
Language	***3456***	***0.109***	***0.31***	***0***	***1***
Colony	***3456***	***0.083***	***0.27***	***0***	***1***
Sea Access	***3456***	***0.833***	***0.37***	***0***	***1***
WTO	***3456***	***0.68***	***0.46***	***0***	***1***
CMEU	***3456***	***0.5***	***0.50***	***0***	***1***
For TAs and IPR it's the number of agreements or treaties in which the dyad members have mutual membership					

2.6. Empirical Concerns

To utilise the appropriate estimation model I carried out the Breusch and Pagan (1980) Lagrange multiplier *(LM)* test to choose between pooled *OLS* and random effects (*GLS*) $\left[ln\ fdi(id,t) = Xb + u(id) + e(id,t)\right]$ (Baltagi 2009 page 70)[113] and it confirms the suitability of random effects *(GLS)* over the pooled *OLS* model for my data set with following results $chi^2 = 1109.87$, Prob > $chi^2 = 0.0000$.

112. The definitions and sources of these and all the other variables used in the analysis are given in appendix 2.4.
113. Discussed in detail in Baltagi (2009) chapter 4 "Tests of Hypothesis with Panel Data" page 57-85.

The result of the test clearly rejects the null in the favour of the random effects but according to Green (2008 page 206) it is best to reserve judgement at this point as the fixed effects model might induce the same results[114]. I therefore, performed the Hausman (1978) specification test to choose between the fixed and random effect model. The test with the following results chi^2 (4) = 5.93, Prob > chi^2 = 0.2048 fails to reject the null hypothesis assumption that the coefficients estimated by the efficient random effects estimator are the same as the one estimated by the consistent fixed effects estimator and suggests that random effects model is consistent and more efficient. This also confirms the assumption that the individual effects are adequately random and are normally distributed with no correlation between the α_i *and* X_{it}[115]. I will therefore, report singular results for pooled and fixed effects for the sake of comparison in table 2.5, but will focus on the random effects as my key estimation method. The values of R-squared (R^2) for all estimations are reported to show the overall fit of the model.

2.6.1. Omitted Variable Bias

Like most regression based analysis, the likelihood of omitted variable bias cannot be altogether written off, for example the variables included in X_{ij} will capture merely the time invariant cultural, lingual or geographic affects between the country pairs. Consequently, to control for time variant phenomenon equally affecting all the dyads μ_t was added to equation (2). According to Mátyás (1998) without properly controlling for these effects, the coefficients estimates can lead us to make incorrect inferences. Hence, I perceive that omitted variable shall not significantly bias the results, as potentially all static relationships involving the host and source countries are accounted for.

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114. Green (2008) chapter 9 "Models for Panel Data" page 180-251.
115. Or in other words the unit error component is uncorrelated to the regressors $\{H_0: E(U_{it} / X_{it} = 0)\}$(Winchell 2007).

2.6.2. Heteroskedasticity

I carried out The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity[116] which rejected the null hypothesis of constant variance or homoskedastic standard errors and indicated the presence of heteroskedastic standard errors, $chi^2(1) = 106.21$, Prob > chi^2 = 0.0000 The presence of heteroskedasticity was also confirmed by the Baum and Cox (1999) white test with the following statistics:

White's general test statistic = 221.6119,

Chi^2 (20) Probability Value = 0.0000.

Performing Breusch-Pagan / Cook-Weisberg test for heteroskedasticity with the assumption that the variance is a function of the explanatory variables instead of the fitted values of dependent variable also unequivocally rejects the null hypothesis of homoskedastic errors. The test statistics with the right hand side (rhs) option are chi^2 (5) = 142.5 and Prob > chi^2 = 0.0000. Similarly, the information matrix (imtest, white), Cameron and Trivedi (1990) test for the regression model and an orthogonal decomposition for heteroskedasticity, skewness and kurtosis also rejects the assumption of homskedasticity with the following statistics chi^2 (20) = 221.61 and Probability Value = 0.0000. Therefore, all the estimated results are reported with standard errors robust to heteroskedasticity.

2.6.3. Multicollinearity

To measure the extent of collinearity between the independent variables I have used variance inflation factor $\left(VIF = {1}/{1 - R^2} \right)$ as an indicative statistic. It shows the effect of linear associations between the explanatory variables upon the variances of the estimators as measured by the coefficient of determination R^2. In other words the *VIF's* of the respective

116. For theoretical purpose consult Griffiths (2007).

explanatory variables shows the increase in the variance of the model due to the fact that they are not orthogonal to one another[117].

The estimations from *VIF* do not suggest that I need to be concerned about the multicollinearity issues as none of *VIF's* are excessively high based on Asteriou and Hall (2007 page 90) and Hill and Adkins (2007 page 264) rule of *VIF > 10* for the existence of problematic multicollinearity. The correlation coefficients between the explanatory variables are also not alarmingly high ($\rho > 0.80$ *or* $\rho > 0.90$) except for the alternative proxies of the same variable, as can be seen from the correlation matrix presented in table 2.4.

2.6.4. Endogeneity

Endogeneity occurs when some of the explanatory variables are (wholly or) partly influenced by the same factors that influence the outcome under observation (Bound et al. 1995). This may cause problems not only in inference but also for estimations as the independent variable is potentially correlated with the variation in the dependent variable that is relegated to the error term.

By a simple accounting equation the potential endogeneity between *FDI* and *GDP or GDP* per capita is expected

$$FDI = \beta GDP + \xi \qquad (3)$$

But we know that

$$GDP = \gamma FDI + \varepsilon \qquad (4)$$

Since from above the current value of *GDP* depends on the contemporary value of *FDI*, therefore, it's natural to expect that *GDP* is influenced by variations in *FDI*.

117. For details see Asteriou and Hall (2007) chapter 6 "Multicollinearity" page 85-99, Hill and Adkins (2007) and Green (2008) page 59-61.

Table 2.4 Correlation Matrix

	Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*
1	*LnFDI*	*1.00*																			
2	*LnRGDP*	*0.38*	*1.00*																		
3	*LnPOP*	*0.21*	*0.84*	*1.00*																	
4	*LnRGDPPC (S-H)*	*0.19*	*0.38*	*0.36*	*1.00*																
5	*LnRGDPPC (H)*	*0.18*	*-0.17*	*-0.58*	*-0.26*	*1.00*															
6	*LnGFCFPW*	*0.18*	*0.29*	*0.24*	*0.69*	*-0.18*	*1.00*														
7	*LnBilateral Trade*	*0.54*	*0.68*	*0.45*	*0.29*	*0.12*	*0.25*	*1.00*													
8	*LnDistance*	*-0.13*	*0.38*	*0.41*	*0.10*	*-0.17*	*0.02*	*-0.11*	*1.00*												
9	*BITs*	*0.20*	*-0.06*	*-0.12*	*0.07*	*0.23*	*0.06*	*0.12*	*-0.30*	*1.00*											
10	*TAs*	*0.17*	*0.26*	*-0.41*	*-0.22*	*0.46*	*-0.12*	*0.11*	*-0.69*	*0.35*	*1.00*										
11	*IPR*	*0.31*	*0.10*	*-0.08*	*0.17*	*0.33*	*0.11*	*0.22*	*-0.34*	*0.33*	*0.40*	*1.00*									
12	*Taxation Treaty*	*0.30*	*0.24*	*0.13*	*0.17*	*0.13*	*0.18*	*0.33*	*-0.09*	*0.29*	*0.12*	*0.24*	*1.00*								
13	*Custom Union*	*0.15*	*-0.27*	*-0.41*	*-0.18*	*0.36*	*-0.15*	*0.08*	*-0.74*	*0.32*	*0.75*	*0.33*	*0.08*	*1.00*							
14	*Adjacency*	*0.12*	*0.01*	*-0.09*	*-0.01*	*0.15*	*0.01*	*0.26*	*-0.35*	*0.06*	*0.26*	*0.07*	*0.01*	*0.20*	*1.00*						
15	*Language*	*0.03*	*0.13*	*0.08*	*0.10*	*-0.10*	*-0.03*	*0.15*	*0.13*	*-0.08*	*-0.17*	*-0.08*	*0.03*	*-0.21*	*0.05*	*1.00*					
16	*Colony*	*0.03*	*-0.06*	*-0.06*	*0.01*	*-0.01*	*-0.04*	*0.15*	*-0.13*	*0.01*	*0.05*	*-0.02*	*-0.09*	*-0.01*	*0.30*	*0.56*	*1.00*				
17	*Sea Access*	*-0.04*	*0.23*	*0.41*	*0.38*	*-0.50*	*0.19*	*0.08*	*0.45*	*-0.23*	*-0.58*	*-0.29*	*-0.13*	*-0.52*	*-0.19*	*0.16*	*0.03*	*1.00*			
18	*WTO*	*0.22*	*0.10*	*-0.10*	*0.22*	*0.38*	*0.15*	*0.19*	*-0.03*	*0.24*	*0.20*	*0.39*	*0.24*	*0.04*	*0.01*	*0.02*	*0.02*	*-0.03*	*1.00*		
19	*CMEU*	*0.22*	*0.02*	*-0.07*	*-0.18*	*0.32*	*-0.13*	*0.13*	*-0.36*	*0.31*	*0.43*	*0.35*	*0.09*	*0.60*	*0.16*	*-0.25*	*-0.11*	*-0.45*	*-0.07*	*1.00*	
20	*Time Trend*	*-0.02*	*-0.24*	*-0.31*	*0.03*	*0.01*	*-0.02*	*-0.13*	*-0.14*	*0.14*	*0.13*	*-0.16*	*-0.08*	*0.19*	*-0.01*	*0.05*	*0.06*	*0.15*	*0.08*	*0.09*	*1.00*
For TAs and IPR it's the number of agreements or treaties in which the dyad members have mutual membership																					

Substituting value of *GDP* from (4) into (3) gives

$$FDI = \beta(\gamma FDI + \varepsilon) + \xi \qquad (5)$$

Which clearly shows that *GDP* and ε are correlated.

Similarly, like most policy variables I expect endogeneity between *BIT's, TA's, IPR* standards and *FDI,* arising from simultaneity and reverse causality, especially due to the dyad settings in my empirical gravity estimations. Although, more *BIT's, TA's,* and higher *IPR* standards positively effects the accretion of *FDI* inflows, the existing multinationals may push the host governments to sign *BIT* with the source nations in order to protect their investments, enhance *IPR* standards, and sign additional *TA's* to enable their products for free access or preferential treatment into the neighbouring or target markets (Daude and Stein 2007). This if true will sequentially cause correlation between the explanatory variables and the error term.

To separate out the genuinely exogenous variation in the independent variables I have tried to use alternative proxies for the endogenous variable that are orthogonal to the errors and have a strong correlation with the suspected ones[118], lagging the assumed ones[119], and using instrumental variables *(IV)* two stage least square *(TSLS)* estimation in the results and robustness test section.

Foreign investors usually take some time to respond to a commitment given by the host government of the safety of their assets under a *BIT*, the benefits of the preferential access through the trade agreements and the level of *IPR* protection, since these changes are not

118. See Angrist (1989) and Angrist (1990, a and b) using the draft lottery, random sequence number *(RSN)* as an instrument for an individual's chances of going to Vietnam War for an ideal application of the instrumental variable approach.
119. The natural logic is that although current values of *GDP* are endogenous, as, *FDI* inflows this year are part of present *GDP*. It seems implausible that it is part of last year *GDP*. Utilising lagged values of the suspected endogenous explanatory variables will also mitigate potential reverse causality between them (endogenous independent variables) and *FDI* (Sun et al. 2002).

instantaneous. Hence, using the lagged value, that is, *t-1* makes sense, at least, for these variables even if they don't cause endogeneity problem.

2.7. Result's Analysis and Robustness Checks

The first model (third column) in table 2.5 presents the results from a fixed effect model where as the second model (fourth column) shows the estimation results for pooled OLS, followed by random effects regressions for models 3-15. It appears from the initial three models that the coefficient for market size is significant and positive due to importance of scale economies enjoyed by multinationals in bigger markets. As expected an increase in the market size is associated with more *FDI* inflows.

The difference in source and host countries factor endowments is positive across the three estimation methods but significant only for pooled *OLS* and random effects models. Under these two models a one percent increase in the source minus host real per capita gross domestic product will lead to 156 % to 173% $\{[Exp(\beta) - 1] \times 100\}$[120] additional *FDI* inflow. This is in accordance with the conjecture that multinationals establish production facilities in countries with cheap labour[121].

Assuming the wage level to be positively correlated with per capita *RGDP,* I should have obtained a negative sign for the host country's *RGDPPC* added to model 2. It is highly positive and significant at one percent level. It shall be kept in mind that wage level reveal only part of the story, more important for the multinationals is unit cost exhibited by the labour productivity (Holland and Pain 1998), which also has a direct association with *RGDPPC*. As *RGDPPC* in addition to wage level also represent a country's degree of

120. The calculation is based on Rose (2004 page 104).
121. As mentioned earlier horizontal *FDI* occurs between countries with similar factor endowments, whereas divergence of factor abundance prompts vertical *FDI* (Yeaple 2003).

development and human capital accretion, therefore, it can positively affect investor's decision of an overseas affiliate location.

A country's aggregate trade, that is, the sum of its exports plus imports is typically used as an indicator for the degree of openness of an economy. Owing to the fact that my data contains both horizontal and vertical *FDI* the expected affect of openness, though significant, is theoretically ambiguous and cannot be clearly interpreted. On the one hand, under the tariff jump hypothesis market seeking *FDI* will be induced by high tariff protection, if it holds, then openness shall deter the market oriented multinationals. On the other hand, a higher degree of openness of an economy not only indicates a more open and liberalised economic and trade regime (Xing and Wan 2006) but also more economic linkages and increased financial activities with the rest of the world (Roberts and Almahmood 2009). Therefore, it is likely to attract vertical or export oriented *FDI*. Furthermore due to source and host country dyad settings my control variable is their bilateral trade, hence the increased openness--increased bilateral association hypothesis seems more plausible and is strongly supported by the related coefficient being positive and significant at 1% level across all the estimations. In terms of trade substitution/complementation the positive coefficient is in accordance with Markusen and Maskus (2001, page 16 and 22) that trade liberalisation leads to *FDI*-trade substitution in similar countries and their complementation in countries that differ in factor endowments. Hence, in the present case more liberalisation shall cause further accrual of *FDI*.

The strong negative distance effect implies that an increase in distance causes a reduction in direct investment form the source country. It entails that geographical proximity matters and overseas investment to some extent is a neighbourhood phenomenon. This also confirms my inference that incidence of *FDI* is intimately allied with level of transaction costs in terms of information gathering and familiarity with the host market conditions.

Table 2.5 Estimation Results

Estimation Method		Fixed Effects	Pooled OLS	Random Effects												
Variables	**Proxy**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Market Size	**RGDP S+H**	2.7689$^{\varphi}$ (1.5138)	1.4315* (0.2139)	1.2385$^{\alpha}$ (0.5271)	1.1941$^{\alpha}$ (0.5278)	1.1848 $^{\alpha}$ (0.5429)	0.9877$^{\varphi}$ (0.5370)	0.9464$^{\varphi}$ (0.5615)	1.2437$^{\alpha}$ (0.5273)	1.2435$^{\alpha}$ (0.5249)	1.1902$^{\alpha}$ (0.5401)	0.7234 (0.5531)	0.6131 (0.5354)	0.5788 (0.5316)	0.5678 (0.5303)	0.4119 (5263)
Factor Endow-ments	**RGDPPC S-H**	0.9318 (0.7182)	0.9430* (0.2465)	1.0042$^{\varphi}$ (0.5402)	0.6969 (0.4391)	0.6704 (0.4270)	0.5079 (0.3795)	0.5501 (0.4065)	0.9209$^{\varphi}$ (0.5094)	1.0236$^{\varphi}$ (0.5258)	0.7001$^{\varphi}$ (0.4233)	0.1968 (0.3119)	0.1674 (0.3029)	0.2164 (0.3139)	0.0541 (0.2547)	0.0998 (0.2623)
	RGDPPC Host		2.1418* (0.2041)	1.6778* (0.4134)	1.2927* (0.4223)	1.1676* (0.4381)	0.9269$^{\alpha}$ (0.4511)	0.8787$^{\varphi}$ (0.4782)	1.5053* (0.4379)	1.1974$^{\alpha}$ (0.5099)	0.8738 (0.5314)	0.1079 (0.5259)	0.0346 (0.5282)	-0.0533 (0.5327)	-0.4428 (0.5335)	-0.5068 (0.5345)
Openness	**Bilateral Trade**	1.9968* (0.6851)	1.7264* (0.1222)	1.8837* (0.3528)	1.8505* (0.3552)	1.8353* (0.3642)	1.8514* (0.3591)	1.8625* (0.3712)	1.8683* (0.3542)	1.8474* (0.3506)	1.8138* (0.3622)	1.8779* (0.3633)	1.8639* (0.3495)	1.8987* (0.3522)	1.8760* (0.3517)	1.9153* (0.3483)
Distance	**Weighted**	Omitted	-1.1835* (0.1598)	-1.1258* (0.3435)	-0.8877* (0.3421)	-0.8387$^{\alpha}$ (0.3587)	-0.8225$^{\alpha}$ (0.3647)	-0.6970$^{\varphi}$ (0.3920)	-0.9650* (0.3726)	-0.6087 (0.4508)	-0.5100 (0.4482)	-0.2108 (0.4396)	-0.1993 (0.4368)	0.1995 (0.4919)	0.1940 (0.4911)	0.1439 (0.4844)
Bilateral Investment Treaties (BIT)	**Signed**				1.5929* (0.4661)		0.7223* (0.1997)									
	Ratified					1.9439* (0.4479)		0.7315* (0.1945)			1.8478* (0.4519)	1.1679* (0.4349)	0.1700 (0.1798)	0.1619 (0.1800)	0.0429 (0.1828)	0.7921$^{\varphi}$ (0.4282)
Trade Agreements	**TAs**								0.7911$^{\varphi}$ (0.4291)	0.7709$^{\alpha}$ (0.3223)	0.5108 (0.3286)	0.2193 (0.3296)	0.2571 (0.3190)	0.1130 (0.3337)	0.0782 (0.3330)	0.0466 (0.3346)
IPR	**Treaties**											2.6742* (0.4230)	2.6673* (0.4285)	2.7109* (0.4293)	2.6442* (0.4311)	2.3962* (0.4425)
Taxation Treaties	**Bilateral**												1.0354$^{\varphi}$ (0.6131)	1.0576$^{\varphi}$ (0.6131)	0.9727 (0.6201)	0.8216 (0.5896)
Unions	**Customs**													1.4314$^{\alpha}$ (0.6983)	1.7670$^{\alpha}$ (0.7053)	0.5364 (0.8559)
***WTO* Membership**															0.9129$^{\alpha}$ (0.4258)	0.9750$^{\alpha}$ (0.4286)
China, Mexico, EU																1.4653$^{\alpha}$ (0.7054)
R-Squared		25.92%	32.72%	32.60%	33.05%	33.21%	31.46%	31.51%	32.78%	32.69%	33.25%	34.20%	34.30%	34.44%	34.50%	35.17%
No. of Observations		3456	3456	3456	3456	3456	3456	3456	3456	3456	3456	3456	3456	3456	3456	3456

Standard errors robust to heteroskedasticity are reported in parenthesis under the coefficient estimates.
*** represents significance at 1 %, α at 5 % and φ at 10 %.**

Though distance may increase the desirability of *FDI* to reduce trade costs of supplying the target market but here the increase in management cost of *FDI* seems to be taking precedence and distance is causing *FDI* decay with increasing spatial separation.

The initial three estimations have established that *FDI* inflows from the source *OECD* countries into their dyad member is a function of host country's market size, geographic proximity, difference in factor endowments, development level and market liberalisation. I will use random effect model 3 in table 2.5 as the base line model to investigate the role of increased association on *FDI* inflows. The explanatory power of my basic model with R-squared (R^2) of more than 32% using five independent variables seems reasonable. In model 4, I add a dummy for the existence of a bilateral investment treaty between the dyad members. The result shows that presence of a bilateral investment treaty increases *FDI* inflows. The *FDI* impeding effect of distance is also reduced by it, as evident from the change in the distance coefficient from -1.1258 to -0.8877. In model 5, I check for whether ratifying a *BIT* has any additional influence or simply concluding one is enough. I find that ratification adds to *FDI* inflows and it is more taxing on the spatial *FDI* deterrence effect. The distance coefficient is reduced further and is no more significant at 1% level. In remaining estimates I will utilise ratified *BITs* only because their estimated effect is always stronger than that of simply signing one. It will also control for possible endogeneity between them and *FDI* as most of the *BITs* are ratified a few years after being concluded as evident from the data provided in table 2.2 and appendix 2.2 respectively.

As I postulated in the premise that by signing a *BIT* the developing country commits to safeguard overseas investment, explicitly only from the signatory but implicitly it also signals its willingness to protect all investments from abroad and shall cause additional *FDI* inflows. In model 6 and 7, I test for this by using total number of *BITs* signed and ratified by the host and find that though they have a positive significant effect their *FDI* inducing power is

reduced. This may be caused by the fact that the dependent variable is the *FDI* from the source country alone and additional *BITs* suggest the presence of more multinationals and higher competition. However, in line with my expectations it also reduces the distance associated *FDI* decay which is significant at only 10 percent now with a smaller coefficient (model 7). These results are in line with Egger and Pfaffermayr (2004b) and Elkins et al. (2006). Sun et al. (2002) found similar results for increased competition in the Chinese provinces of Guangdong and Fujian and suggested that overseas investors needs to diversify in inland and western provinces that are not over swamped by existing multinationals[122].

In model 8, I add a dummy for the existence of a trade agreement *(TA)* between the dyad members which predicts a positive effect on foreign investment possibility. Moreover, the coefficient for factor differences becomes significant highlighting the increase in vertical *FDI* as a result of preferential access under the *TA*. The *FDI* inducing effects of host market size and development level/human capital also strengthens as a result of elimination or lowering of tariff between the dyad members.

I can infer from the significant negative distance coefficient that after controlling for other factors, on average a country receives less *FDI* inflows from its more distant *TA* partners. This finding also goes against the hypothesis that multinationals rely on *FDI* rather than trade to serve distant markets, although, clearly it does not constitute conclusive proof because I do not differentiate between the *TAs* with distant and immediate partners. The elasticity value for the coefficient in model 8 table 2.5 suggests that increasing the average distance with one's *TA* partners by one percent, lowers net *FDI* inflows by 62 percent $\{(e^{-0.9650} - 1) * 100\}$.

122. The estimations reported here are for *BIT* data from International Centre for Settlement of Investment Disputes *(ICSID)* only. However, as sensitivity check I also looked for the effects of *BITs* with data from United Nations Conference on Trade and Development *(UNCTAD)*. The results were fundamentally the same (despite some minor differences in ratification and signing dates) and can be provided on request.

It seems interesting to compare the trade agreements effect with geographic distance effect on *FDI*. For example, the coefficient for existence of a trade agreement in model 8 in Table 2.5 is roughly 0.79 and that of the distance between the two countries is -0.96. This means that when the host and source countries have a trade agreement between them *FDI* will increase by 120%, and when the distance between the two countries becomes zero *FDI* will increase by 162%. Therefore, existence of a *TA* is roughly equivalent to reducing the geographical distance by 74%; both will result in the same 120% increase in *FDI*. Hence, presence of a trade agreement between the dyad members contributes to the effective reduction of the geographical distance between a source country and a host country[123].

In model 9, I control for the effect of the number of mutual trade agreements *(TAs)* where other countries are also members and find that the results for model 8 holds and in addition the distance coefficient is no more significant signalling that once a host country has preferential access to foreign markets (specially nearby or regional) the *FDI* deterring effect of distance is immaterial.

The results reported in table 2.5 are for mutual trade agreements. As a robustness check I also controlled for whether the trade agreement is notified to *WTO* or not, the results favour the *WTO* notified mutual trade agreements. The coefficient for the non-notified *WTO TAs* was insignificant. Controlling for the existence of the host country's trade agreement with any country other than the source also gives a non significant coefficient. However, total trade agreements, including those where the source and host are mutually members' have the strongest effect. These results signify the increasing volume and importance of trade between the multinational's affiliates. All these empirical estimations are reported in Table 2.6.

123. For example according to Maskus (1998a, page 115) Poland's increasing commercial ties with *EU*, national privatisation and deregulation programs and rapid liberalisation of the economy led to forty fold increase in *FDI* inflows in early nineties.

Table 2.6 Robustness Checks for Various Types of Trade Agreements

Estimation Method		**Random Effects**					
Variables	**Proxy**	**1**	**2**	**3**	**4**	**5**	**6**
Market Size	***RGDP S+H***	1.1816$^{\alpha}$ (0.5144)	0.9054 (0.5696)	1.2437$^{\alpha}$ (0.5273)	1.2435$^{\alpha}$ (0.5249)	1.2422$^{\alpha}$ (0.5247)	1.2499$^{\alpha}$ (0.5287)
Factor Endow-ments	***RGDPPC S-H***	0.9754$^{\varphi}$ (0.5071)	0.7966$^{\varphi}$ (0.4521)	0.9209$^{\varphi}$ (0.5094)	1.0236$^{\varphi}$ (0.5258)	1.0204$^{\varphi}$ (0.5244)	1.0328$^{\varphi}$ (0.5347)
	***RGDPPC* Host**	1.2623$^{\alpha}$ (0.5548)	0.4320 (0.6852)	1.5053* (0.4379)	1.1974$^{\alpha}$ (0.5099)	1.1927$^{\alpha}$ (0.5063)	1.5541* (0.4622)
Openness	**Bilateral Trade**	1.8596* (0.3394)	0.9505* (0.3666)	1.8683* (0.3542)	1.8474* (0.3506)	1.8441* (0.3505)	1.8692* (0.3536)
Distance	**Weighted**	-0.9917* (0.3529)	-0.6635 (0.4123)	-0.9650* (0.3726)	-0.6087 (0.4508)	-0.6161 (0.4441)	-0.9992$^{\alpha}$ (0.3906)
TAs	**Dummy**	0.0453 (0.0277)					
	Total		1.1518* (0.3593)				
Joint/ Mutual *TAs*	**Dummy**			0.7911$^{\varphi}$ (0.4291)			
	Total				0.7709$^{\alpha}$ (0.3223)		
	***WTO* Notified**					0.8172$^{\alpha}$ (0.3311)	
	***WTO*-Non Notified**						0.4152 (0.5192)
R-Squared		32.99%	33.74%	32.78%	32.69%	32.68%	32.61%
No. of Observations		3456	3456	3456	3456	3456	3456
Standard errors robust to heteroskedasticity are reported in parenthesis under the coefficient estimates. * represents significance at 1 %, α at 5 % and φ at 10 %.							

The trade agreement coefficient was insignificant once a bilateral investment treaty was added in model 10, table 2.5, which itself was convincingly significant. This may be caused by the fact that the third generation deep integration trade agreements include investment protection clauses and thus both were capturing the same effect (Adams et al. 2003 and Medvedev 2006b). However, the distance coefficient remained insignificant, enforcing the trade agreements inverse relationship with factors hindering *FDI* inflow.

I gauge for the effect of *IPR* strength in model 11, table 2.5. An amelioration in the *IPR* standards make foreign investors to undertake additional *FDI* even after controlling for investment security through *BITs*, preferential market access under *TAs* and other control variables in the basic model.

The results presented in model 11 (table 2.5) are for number of intellectual property treaties and conventions in which both the source and host country are members.

Table 2.7 Robustness Checks for Intellectual Property Rights *(IPRs)* Through Utilising Different Proxy Measures

Estimation Method		**Random Effects**							
Variables	**Proxy**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Market Size	***RGDP S+H***	0.7234 (0.5531)	0.7635 (0.5709)	0.9581$^{\varphi}$ (0.5504)	0.8465 (0.5594)	0.9687$^{\varphi}$ (0.5380)	0.8785 (0.5481)	1.8641* (0.5984)	1.0419$^{\alpha}$ (0.5364)
Factor Endow-ments	***RGDPPC S-H***	0.1968 (0.3119)	0.2614 (0.3379)	0.6035 (0.4074)	0.6805 (0.4327)	0.6796 (0.4155)	0.6513 (0.4103)	0.7184$^{\varphi}$ (0.4329)	0.4467 (0.3359)
	***RGDPPC* Host**	0.1079 (0.5259)	0.1978 (0.5260)	0.6851 (0.5737)	0.8607 (0.5329)	0.5903 (0.5431)	0.5424 (0.5311)	1.1387$^{\alpha}$ (0.5193)	0.0373 (0.6529)
Openness	**Bilateral Trade**	1.8779* (0.3633)	1.9429* (0.3741)	1.8423* (0.3592)	1.8468* (0.3720)	1.7239* (0.3659)	1.8439* (0.3576)	1.6154* (0.3741)	1.7947* (0.3585)
Distance	**Weighted**	-0.2108 (0.4396)	-0.3077 (0.4514)	-0.4393 (0.4601)	-0.3384 (0.4599)	-0.5267 (0.4459)	-0.5315 (0.4511)	-1.0395$^{\alpha}$ (0.4916)	-0.6044 (0.4502)
Bilateral Investment Treaties *(BIT)*	**Ratified**	1.1679* (0.4349)	1.3060* (0.4336)	0.6653* (0.1949)	1.6418* (0.4511)	1.5736* (0.4548)	1.6960* (0.4489)	1.7214* (0.4552)	1.6497* (0.4579)
Trade Agreements	***TAs***	0.2193 (0.3296)	0.1519 (0.3371)	0.4424 (0.3279)	0.5280 (0.3295)	0.5975$^{\varphi}$ (0.3322)	0.4961 (0.3336)	0.3238 (0.3265)	0.3543 (0.3281)
***IPR* Treaties**	**Mutual**	2.6742* (0.4230)							
	Total		2.2749* (0.3971)						
Patents	**Total**			0.0359 (0.1938)					
	Resident				0.3762* (0.1121)				
	Non Resident					0.5282* (0.1349)			
Trade Marks	**Total**						0.3570* (0.1119)		
Industrial designs	**Total**							-0.2907* (0.0804)	
Ginarte & Park	**Index**								0.6126$^{\alpha}$ (0.3107)
R-Squared		34.20%	33.81%	31.80%	33.51%	33.89%	33.83%	33.26%	33.26%
No. of Observations		3456	3564	3456	3456	3456	3456	3456	3456
Standard errors robust to heteroskedasticity are reported in parenthesis under the coefficient estimates. * represents significance at 1 %, α at 5 % and φ at 10 %.									

The results were not different when alternative proxies like the number of registered trademarks; resident and non resident patents in the host country or *IPR* conventions/treaties where the host alone is a member were used. However, the coefficient for total patents was

insignificant. The total number of industrial designs strangely has a negative significant effect. The Ginarte and Park index was also significant at 5 % level. The coefficient for non-resident patents is stronger than for the patents registered by the residents of the host country. This implies that multinationals prefer countries that are more aligned with international *IPR* standards and value the commitments given to international bodies more as is evident from the strong effects of adherence to *IPR* treaties and number of (foreign) non resident patents. All these results are reported in Table 2.7.

To control for the effects of a taxation treaty I added the dummy for a bilateral double taxation treaty between the source and host in model 12 (table 2.5), with a coefficient of more than one it has a strong positive effect but significant only at ten percent level. This makes sense as multinationals will prefer that their products are taxed only once.

Expecting that similarity of administration shall certainly facilitate a multinational in its day to day operations; a dummy *"$Colony_{ij}$"* is used for the dyad where the host is a former colony of the source country. Similarly, as a supplementary control a *"$Language_{ij}$"* dummy was utilised to check for the possibility that both the host and source can speak the same language. Similar language in addition to facilitating personal interaction between local and foreign individuals also indicates the commonality of cultures. However, both weren't significantly different from zero in any specification like the dummies used to capture the effects of adjacency and sea access.

Realising the importance of frequent real time communications between the headquarters and their foreign affiliates for monitoring and day to day operations and assuming it to be positively associated with time zones in the host and source countries, I

controlled for the number of office/work time/hours overlap but it was found to be insignificantly different from zero contrary to the findings of Stein and Daude (2007)[124].

However, the dummy for the source and host countries being member of a custom union was significantly positive at 5 % level as reported in model 13 in table 2.5. The result confirms that the *OECD* countries are expected to invest more in a developing country that belongs to their custom union than otherwise. I also checked for the effect of world trade organisation *(WTO)* membership in model 14 (table 2.5) and found it to be positively affecting inward *FDI* into a developing country at 5% significance level.

Finally in the last model, that is, 15 (table 2.5), I checked for the incidence of *FDI* in China, Mexico and *EU* members of the sample and found it to be significant at 5 % level. This is probably due to excessive *US* investment in Mexico, rich *EU* members in new entrants from Eastern Europe and *FDI* from South Korea, Hong Kong, Taiwan and Japan in China[125]. These vertical (export oriented) investments are primarily for the forward processing or re-importing of finished goods. The basic inputs from the source economies undergo certain stages of processing or assembly in the host economy. This fractional outsourcing of the value addition process through low cost skilled labour (at a short distance) in these countries permit the parent multinationals to lower their manufacturing costs and enhances their ability to compete at the global market arena. However, these outsourcing activities are apparently creating three regional based production networks namely Asia-China, *US*-Mexico and *EU-EU* in the three continents. This may partly answer the low investment in other countries distant from these networks like South Africa, Morocco, Egypt and declining *FDI* in Malaysia and Indonesia.

124. The earlier usage of all the proxies being significant/insignificant and positive/negative is given in appendix 2.5.
125. The potential redistribution of *FDI* inflows in favour of certain partners at the cost of others is one of the most disturbing issue resulting from regional economic integration worldwide.

Table 2.8 Estimation Results with Lagged Values of the Endogenous Variables

Estimation Method		Random Effects												
Variables	**Proxy**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Market Size	**LRGDP S+H**	1.0770$^{\alpha}$ (0.5302)	1.0531$^{\alpha}$ (0.5429)	1.0445$^{\varphi}$ (0.5449)	0.9344$^{\varphi}$ (0.5524)	0.9283$^{\varphi}$ (0.5567)	1.0822$^{\alpha}$ (0.5289)	1.0796$^{\alpha}$ (5269)	1.0466$^{\varphi}$ (0.5422)	0.8435 (0.5443)	0.7941 (0.5179)	0.7435 (0.5139)	0.7272 (0.5133)	0.4748 (0.5133)
Factor Endow-ments	**LRGDPPC S-H**	0.9645$^{\alpha}$ (0.4375)	0.6245$^{\varphi}$ (0.3624)	0.6359$^{\varphi}$ (0.3625)	0.6129$^{\varphi}$ (0.3698)	0.6699$^{\varphi}$ (0.3895)	0.8878$^{\alpha}$ (0.4164)	0.9744$^{\alpha}$ (0.4281)	0.6548$^{\varphi}$ (0.3599)	0.3523 (0.3212)	0.2579 (0.3062)	0.3209 (0.3121)	0.1741 (0.2750)	0.3282 (0.2977)
	LRGDPPC Host	1.2217* (0.4017)	0.8349$^{\alpha}$ (0.4186)	0.7737$^{\varphi}$ (0.4327)	0.7509$^{\varphi}$ (0.4559)	0.7625$^{\varphi}$ (0.4611)	1.0648$^{\alpha}$ (0.4333)	0.8685$^{\varphi}$ (0.5019)	0.5798 (0.5242)	0.1527 (0.5261)	0.1567 (0.5193)	0.0278 (0.5239)	-0.2667 (0.5401)	-0.3563 (0.5335)
Openness	**Bilateral Trade**	1.8570* (0.3571)	1.8134* (0.3648)	1.8086* (0.3649)	1.8319* (0.3621)	1.8373* (0.3649)	1.8417* (0.3569)	1.8277* (0.3538)	1.7933* (0.3625)	1.8101* (0.3590)	1.7707* (0.3467)	1.8136* (0.3511)	1.7978* (0.3499)	1.8569* (0.3437)
Distance	**Weighted**	-1.2362* (0.3386)	-1.0099* (0.3470)	-0.9930* (0.3530)	-1.0521* (0.3654)	-1.0034* (0.3784)	-1.0932* (0.3696)	-0.8638$^{\alpha}$ (0.4364)	-0.7803$^{\varphi}$ (0.4363)	-0.6463 (0.4324)	-0.6366 (0.4209)	-0.1418 (0.4751)	-0.1357 (0.4748)	-0.1896 (0.4782)
Bilateral Investment Treaties (BIT)	**LSigned**		1.5521* (0.4727)		0.4401$^{\alpha}$ (0.1923)									
	LRatified			1.6666* (0.4305)		0.4074$^{\alpha}$ (0.1752)			1.6030* (0.4336)	1.2641* (0.4323)	1.0552$^{\alpha}$ (0.4198)	1.0425$^{\alpha}$ (0.4187)	0.9862$^{\alpha}$ (0.4184)	0.8584$^{\alpha}$ (0.4194)
Trade Agreements	**LTAs**						0.7114 (0.4366)	0.5669$^{\varphi}$ (0.3230)	0.3375 (0.3293)	0.1892 (0.3281)	0.1854 (0.3237)	-0.0010 (0.3382)	-0.1657 (0.3378)	0.0444 (0.3319)
IPR	**LTreaties**									1.3326* (0.3367)	1.2843* (0.3368)	1.3371* (0.3356)	1.2109* (0.3421)	1.1014* (0.3470)
Taxation Treaties	**LBilateral**										1.1465$^{\varphi}$ (0.6081)	1.1667$^{\varphi}$ (0.6065)	1.0783$^{\varphi}$ (0.6149)	1.0977$^{\varphi}$ (0.6122)
Custom Union												1.7739$^{\alpha}$ (0.7038)	1.9551* (0.7122)	0.4450 (0.8620)
***WTO* Membership**													0.6631$^{\varphi}$ (0.3945)	0.8159$^{\alpha}$ (0.4026)
China, Mexico, EU														1.8893* (0.6758)
R-Squared		31.63%	32.05%	32.13%	30.77%	30.94%	31.82%	31.77%	32.20%	32.55%	33.26%	33.42%	33.28%	34.00%
No. of Observations		3264	3264	3264	3264	3264	3264	3264	3264	3264	3264	3264	3264	3264

Standard errors robust to heteroskedasticity are reported in parenthesis under the coefficient estimates. * represents significance at 1 %, α at 5 % and φ at 10 %. L before the proxies used, signifies the use of lagged values for the suspected endogenous variables.

Table 2.9 Estimation Results -- Controlling for Endogeneity through Instrumental Variables (IV)
Two Stage Least Square (TSLS) Method

Estimation Method		Random Effects												
Variables	**Proxy**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Market Size	**LRGDPS+H**	0.9976$^{\varphi}$ (0.5681)	1.0027$^{\alpha}$ (0.4899)	1.0060$^{\varphi}$ (0.5412)	0.8936 (0.5587)	0.8695 (0.6002)	1.0186$^{\alpha}$ (0.4505)	0.9953$^{\varphi}$ (0.5597)	1.0038$^{\varphi}$ (0.5518)	0.7092 (0.5051)	0.6784 (0.5385)	0.6142 (0.4946)	0.6205 (0.4423)	0.3828 (0.4896)
Factor Endow-ments	**LRGDPPCS-H**	1.3145$^{\alpha}$ (0.6704)	0.8128 (0.7836)	0.8003 (0.5035)	0.9167 (0.6390)	0.9465 (0.6474)	1.1997$^{\varphi}$ (0.7149)	1.3377$^{\alpha}$ (0.6642)	0.8325 (0.5437)	0.2588 (0.5203)	0.1578 (0.5505)	0.2403 (0.6349)	0.0698 (0.4534)	0.2876 (0.4810)
	LRGDPPCHost	1.2364* (0.4173)	0.8175$^{\alpha}$ (0.3822)	0.7645 (0.4783)	0.8356 (0.5172)	0.8202$^{\varphi}$ (0.4675)	1.0849* (0.3565)	0.8529$^{\varphi}$ (0.4946)	0.5716 (0.5904)	0.0039 (0.5730)	0.0229 (0.5146)	-0.1073 (0.4665)	-0.3644 (0.5082)	-0.4396 (0.4452)
Openness	**Bilateral Trade**	1.8280* (0.3468)	1.8003* (0.3451)	1.7883* (0.3849)	1.8107* (0.3424)	1.8248* (0.3528)	1.8113* (0.2798)	1.8027* (0.3667)	1.7763* (0.3351)	1.8529* (0.3637)	1.8155* (0.3603)	1.8616* (0.3711)	1.8457* (0.3499)	1.8984* (0.3304)
Distance	**Weighted**	-1.2393* (0.3795)	-0.9712* (0.3267)	-0.9528$^{\alpha}$ (0.3440)	-1.0641* (0.3773)	-0.9930* (0.3853)	-1.0968* (0.3551)	-0.8259$^{\varphi}$ (0.4873)	-0.7372 (0.4845)	-0.4941 (0.4412)	-0.4982 (0.4528)	-0.0126 (0.4840)	-0.0241 (0.4725)	-0.0643 (0.4665)
Bilateral Investment Treaties	**LSigned**		1.8475$^{\alpha}$ (0.7312)		0.4408$^{\alpha}$ (0.2251)									
	LRatified			1.9399* (0.4958)		0.4114$^{\alpha}$ (0.1903)			1.8682* (0.5698)	1.3416* (0.5093)	1.1219$^{\alpha}$ (0.5125)	1.1029* (0.4176)	1.0587$^{\alpha}$ (0.5279)	0.9264$^{\alpha}$ (0.4576)
Trade Agreements	**LTAs**						0.7168$^{\varphi}$ (0.4250)	0.6009$^{\varphi}$ (0.3658)	0.3285 (0.3379)	0.1363 (0.3999)	0.1366 (0.4335)	-0.0481 (0.3696)	-0.0596 (0.3727)	0.0098 (0.3006)
IPR	**LTreaties**									1.9002* (0.4511)	1.8189* (0.4647)	1.8989* ((0.4772)	1.7273* (0.4079)	1.5959* (0.4558)
Taxation Treaties	**LBilateral**										1.0506$^{\alpha}$ (0.5296)	1.0720$^{\alpha}$ (0.5407)	1.0001$^{\varphi}$ (0.5912)	1.0296 (0.7156)
Custom Union												1.7292$^{\alpha}$ (0.6921)	1.8839$^{\alpha}$ (0.9185)	0.5410 (0.8126)
***WTO* Membership**													0.6208$^{\varphi}$ (0.3788)	0.7450$^{\alpha}$ (0.3407)
China, Mexico, EU														1.6978* (0.6348)
R-Squared		31.38%	31.62%	31.83%	30.69%	30.82%	31.64%	31.53%	31.90%	32.75%	33.44%	33.58%	33.47%	34.02%
No. of Observations		3264	3264	3264	3264	3264	3264	3264	3264	3264	3264	3264	3264	3264

Standard errors robust {vce(boot)} to heteroskedasticity are reported in parenthesis under the coefficient estimates. * represents significance at 1 %, α at 5 % and φ at 10 %. L before the proxies used, signifies the use of lagged values for the suspected endogenous variables.

However, if proximity is the only reason then why *MNCs* from United States, European Union, Canada or even other distant *FDI* sources such as some Latin American countries are investing in China and India? One possible explanation could be that the multinationals from these countries see their populations of two and half billion with low but rising personal income as source of prospective future sales. Hence investments in China or even for that purpose in India by the multinationals are part of their global strategy to secure their local markets in the long run; glaring examples are that of General Motors and Boeing's investments in China and service sector outsourcing in India (Palit and Nawani 2007).

The results reported for the spatial separation measure of the dyad members are only for the population weighted distance between their most populous cities from Centre d'Etudes Prospectives et d'Informations Internationales *(CEPII)*. Nonetheless, for sensitivity checks I utilised data from three different sources in kilometres, miles and nautical miles, under the great circle formula, direct distance between their capitals as well as a population weighted distance between their highly inhibited cities. As the results were essentially the same I report only the ones for the *CEPII* measure. I also checked for time trend but it was insignificant even when introduced just after the base line model[126].

In table 2.8 and 2.9, I tried different methods to correct for the endogeneity issue. To tone down the problem of potential reverse causality, I initially used population as an alternative proxy for market size; however, it doesn't cause much difference in the estimation results. The alternative proxies for *IPR* also produced the same results as discussed earlier. Though, not presented in the tables but in order to seek a robust result I also used gross fixed capital formation per worker as an instrument for difference in factor endowments or labour capital ratio and it primarily produced similar results.

126. This was done to mitigate the chances of a spurious significant relationship between two upward sloping variables. The incidence of *FDI* in developing countries as a whole increased during the time under study as well as major chunk of bilateral accords were inked in the same span of time.

Nevertheless, practically it's impossible to find suitable and valid instruments for all the endogenous explanatory variables. Therefore, I lagged all the suspected endogenous regressors by one period (year) as I was unable to find suitable substitutes for trade agreements and bilateral investment and taxation treaties. The lagged values of the endogenous variables shall also prevent any chances of simultaneity or reverse causality (Baltagi et al. 2009)[127]. In table 2.8, I made all the estimations in the same order as in table 2.5 (model 3-15) by random effects utilising lagged values of all the endogenous variables with the robust option to correct for heteroskedasticity.

Finally to tackle the problem of endogeneity more comprehensively I resorted to instrumental variable *(IV)* two stage least square *(TSLS)* regression. In table 2.9, I present the estimation results from *TSLS* random effects. As it does not allow the use of robust option with random effects, to control for heteroskedasticity, I followed Cameron (2007) and used the vce(boot) option instead[128].

It is visible from table 2.8 and 2.9 that the results are fundamentally parallel to those in table 2.5 except for model 6 in table 2.8 where the dummy for the presence of a trade agreement is no more significant (unlike table 2.5 & 2.9) but it is positive and significant for the total number of mutual trade agreements in model 7 as in the other two tables. All the other results do not vary and are similar in essence. Consequently, I can say that these estimations are robust to different proxies for the variables, alternative empirical methods and are relatively unaffected by the choice of estimation technique.

127. I acknowledge the fact that there are two possible problems with lagging for only one year firstly this does not address persistence in some variables or relationships and secondly there may be prior adaptation to some of the agreements being signed, for example knowing that a TA or BIT is to be inked in the near future.

128. I cannot carry out the test for validity of instruments because STATA 11 does not allow it with the Random Effects *(RE)* option.

2.8. Conclusion

In this chapter I, using a standard gravity model, attempted to look for the effect of bilateral and mutual associations between dyads of source *OECD* countries and host developing countries on the incidence of *FDI* in the host economy. I found support for the argument that developing countries that are bigger in size, have undertaken more preferential trade agreements, have a ratified bilateral investment treaty and are members of a custom union with their dyad member are expected to receive more *FDI*.

The spatial separation of countries causes an inward *FDI* decay due to higher monitoring and transaction costs that are positively associated with increasing distance. *FDI* seems to be somewhat a neighbourhood phenomenon and countries faraway from major investment centres may receive relatively less investment. However, once other controls are introduced it is no more significant probably due to increased benefits allied with mutual trade agreements, *BITs* and adherence to international *IPR* conventions and treaties.

WTO membership, overall development level, accumulation of human capital and relative factor endowments gap matters. Multinationals' prefers open economies with liberalised trade and investment regimes and are highly sensitive to protection of their investments and intellectual property standards in the host countries. The importance of bilateral associations on inward *FDI* is further strengthened by the significant effect of the existence of a double taxation treaty between them. Hence, I can conclude that increased bilateral/mutual linkages between the source *OECD* economies and a leading developing country are highly instrumental in removing the obstacles that impedes the incidence of overseas investment and results in increased *FDI* inflows.

Following from the high significant effect of *BITs* and *IPRs* on inward *FDI* in leading developing countries despite the presence of a large number of other control variables and recognising the fact that a country's system of intellectual property protection and investment safety is inextricably

bound with its entire legal and social system, I suggest the need for a thorough study of other host country characteristics such as political uncertainty, general progress in reforms, effectiveness of the legal system, corruption level, economic instability, business risk, regime characteristics, perceptions about life safety, property rights for *MNCs*, contract and bankruptcy laws and other factors depicting the overall quality of institutions in a developing country with micro data.

It is important to emphasize that my sample is not representative of all the developing countries, but only a few leading ones and relying on it to make any generalizations about all the developing countries is likely to be misleading. However, these findings can be a source of guidance for them in their quest for overseas direct investment.

Chapter 3 Corruption, Political and Economic Institutions and the Incidence of *FDI* in South Asia

Abstract

In this chapter I explore the effects of corruption and political and economic institutions on foreign direct investment inflows in five South Asian nations, that is, Bangladesh, India, Nepal, Pakistan and Sri Lanka. Owing to the long-term relationship with the host, strong institutions and absence of corruption and bureaucratic intervention are crucial location advantages of host countries, especially for those which lack abundant natural resources to attract foreign investors like the *SAARC* economies. For a thorough analysis I exploited not only the aggregate measures of institutional strength from Fraser Institute, Polity IV and Freedom House from 1970-2009 but also the disaggregated clearly focused set of institutional measures from the Political Risk Services, that are, the sub-components of the International Country Risk Guide one by one for 1984-2008. I found that changes in the institutional variables do not have an overall significant positive impact on *FDI* when aggregate measures of institutional efficiency are employed. However, when these collective measures are disaggregated to a more clearly focused set of factors, their increased effectiveness leads to additional *FDI* inflows at least for some indicators.

3.1. Introduction

The last twenty five years have witnessed an overall surge of foreign direct investment (*FDI*) in developing countries. This coupled with the end of the cold war in the 1990, ensuing rapid integration of the world economy and drying up of aid flows to the developing world (Quazi 2007), caused an intense competition among the developing countries to attract inward *FDI* (Aqeel and Nishat 2004). The results were mixed, varying by region and even between countries with in a region (Afza and Khan 2009). In this scenario, the present study addresses the question that how effective the availability of stable economic and political institutions and a corruption-free state apparatus are[129], in influencing the flow of *FDI* to the South Asian Association for Regional Cooperation (*SAARC*) countries or South Asia[130]?

The overseas investment decision of a multinational company (*MNC*) from a developed, industrialized nation to invest directly in a developing country as compared to the alternative investment possibilities at home or in other industrialized economies primarily emanates from a higher expected profitability in future (Campos and Kinoshita 2003)[131]. However, because of the long term commitment associated with *FDI* (Jensen 2008a), the expectation of these returns require stable and consistent positive economic and political institutional influences to enable the *MNCs* to optimally utilise their innate organisational core competencies and the tangible location advantages offered by the host country (Ramirez 2006). The vital argument is that a realistic firm will choose a country where institutions

129. For example the development aid to Sub-Saharan Africa came down from $17 billion in 1990 to $10 billion by 2003 (Haile and Assefa 2006, Asiedu 2002, 2004 and 2006). According to World Bank *WDI* 2010 for South Asia aid assistance was $4.2 billion in 1985 and $5.9 billion in 2001, however, thereafter it increased to $12.3 billion by end 2008. Moreover, a spate of recent corporate scandals and failures in the developed world has made the fiscal conditions very tight at home and strained their ability to help the developing world. This has led to the increased demands for enhanced transparency and stability in economic and political institutions that affects the governing behaviours of the multinational firms both in the developed and developing countries.

130. *SAARC* comprises of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. World Bank "World Developing Indicators" *(WB WDI)* groups them as South Asian countries.

131. Due to scarcity of capital in the developing countries, its marginal productivity is expected to be higher (Benassy-Quere et al. 2007).

contribute to lower production costs and increases return on investment, thus maximising profits (Sun et al. 2002).

Economic institutions favourable to foreign enterprises facilitate them in acquiring information required to accommodate a set of idiosyncratic market hazards and to improve product quality and production processes within their internal settings. Moreover, developed political and legal institutions eradicate corruption and make bureaucracy liable for their actions which facilitate multinationals to achieve a greater degree of operational independence to optimally utilise their resources.

The long term character of *FDI* fosters a high sensitivity of the foreign direct investors to risk perception. The capacity of a developing country to host *FDI* is likely to be at least partly determined by the effectiveness and transparency of its institutional framework, thanks to the effects this has on investors' expectations from the host domestic market and business environment (Janicki and Wunnava 2004). Corruption concerns an investor because it raises the costs of operation and heightens uncertainty about the economic environment that he/she has to tackle (Habib and Zurawicki 2002). Besides, corruption in the state apparatus and bureaucracy creates distortions in the market by providing some companies preferential access to profitable market segments and causing bottlenecks for others thus discouraging organisational performance (Kawai 2009). Therefore, restricting the pervasiveness of corruption is important for *FDI* and the belief that foreign investors abhor arbitrary bureaucratic interference in their operations and their desire to exercise corporate governance in a transparent and fair regulatory and legal environment at least in the developing world seems natural (Altomonte 2000).

Sustained conducive political climate attracts foreign investments because, although, present economic conditions may appear satisfactory and suggest good prospects for the future, the possibility that they will not materialize due to unfavourable political conditions

cannot be ruled out (Jensen 2008a). Political volatility may interrupt the economic process and affect in particular foreign investment. Internal political troubles may be projected towards foreigners and create additional difficulties for foreign owned firms. Foreign direct investors will expect this danger to be lower in the case of a government with more democratic orientation, especially if its rhetoric is for enhancing foreign investment and multinational presence (Addison and Heshmati 2003). *MNCs* are expected to favour such regimes as they expect that their assets are shielded from predatory banditry of dictators. Therefore, political and economic stability, as well as transparent legal regulations concerning foreign ownership are all important variables to potential investors and it is very critical for developing countries to warrant a risk free political and economic environment (Jensen 2008b).

Good institutions are expected to ensure the security of foreign investor's property, guarantee political stability, wane corruption, promote a good investment climate and improve business operating conditions leading to increased *FDI* inflows (Krifa-Schneider and Matei 2010). These themes are germane to countries at all levels of economic development, and regions of the world (Rodriguez et al. 2006), but are particularly important for the developing countries devoid of abundant natural resources, such as the *SAARC* nations, to lure overseas investors[132].

In this study I investigate the effects of corruption and economic and political institutions on foreign direct investment in a sample of five South Asian developing countries namely Bangladesh, India, Nepal, Pakistan and Sri Lanka for overall *FDI* inflows in the host economies from 1970 to 2009. The data availability for the aggregates measures of

132. Though congenial business conditions are expected to compensate for lack of natural resources (Morisset 2000), Nigeria and Angola, despite their unstable political and economic environments, are two of the most successful countries to host *FDI* in the Sub-Saharan Africa because of their comparative location advantage in oil reserves, which seems to outweigh/compensate for their institutional instability (Onyeiwu and Shrestha 2004). For Angola see also Asiedu (2002).

institutional strength from Fraser Institute, Polity IV and Freedom House permits to gauge their effects for the whole time period. However, to analyse the influence of the disaggregated clearly focused set of institutional measures from the Political Risk Services, that are, the sub-components of the International Country Risk Guide one by one on inward *FDI,* I can only gauge it for the years 1984-2008 due to data availability constraints[133]. I found that changes in the institutional variables do not have an overall significant positive impact on *FDI* in all the countries when aggregate measures of institutional efficiency are employed in the regressions. However, when these collective measures are disaggregated into more clearly focused set of factors, their increased effectiveness leads to additional *FDI* inflows at least for some variables (Kapuria-Foreman 2007). Probably it is due to the fact that observable institutional variables, such as economic system or political orientation, are excessively rudimentary to capture the intrigues that help to shape policies and institutions that affect the business market variables (Baltagi et al. 2007). This makes modelling *FDI* an arduous task, not only because so many variables intervene but also because quantifying variables such as quality of workforce, government institutions, bureaucratic interventions, prevalence of corruption and competitive economic climate is in general difficult. The analysis further complicates due to the fact that the optimal level of institutional specific variables varies from country to country.

The majority of studies dealing quantitatively with the factors affecting foreign direct investment inflows concentrate on a catch-all factor from which it is difficult or nearly impossible to deduce the individual influences (Schneider and Frey 1985). Therefore, this study adds to the existing literature by examining a much wider range of indicators for institutional strength such as government stability, socioeconomic conditions, investment

133. I am thankful to Mahyudin Ahmad for providing the data for the *ICRG* indicators. We have co-authored a paper on the same topic.

profile, internal conflicts, external conflicts, corruption, military in politics, religion in politics, law & order, ethnic tensions, democratic accountability and bureaucratic quality derived from the International Country Risk Guide *(ICRG)*. Majority of these variables are linked to the quality of political institutions. However, socioeconomic conditions and investment profile sheds light on the strength of economic institutions and corruption & bureaucratic quality deals with transparency and efficiency of the state apparatus.

I found that among them the following indicators are significantly and positively associated with *FDI* inflows in individual countries: Freedom House Index in Nepal, Polity IV in Bangladesh, India and Nepal, Fraser Institute area one index in Bangladesh, area two index in India, area three in Nepal, four in Sri Lanka and five in Pakistan. The summary index positively affects inward *FDI* in all the five countries. Among the *ICRG* indicators efficient bureaucracy, investment profile, government stability and law and order exert a positive influence. Better socioeconomic conditions, military and religion in politics and internal & external conflicts are not making any affect on inward *FDI*. Democratic accountability and absence of corruption seems to deter investors in Bangladesh, Pakistan and Sri Lanka and attracts them in India. Whereas, low ethnic tension appears to be important for overseas investors in Sri Lanka alone.

The remaining of the chapter continues as follows. Section two explores the existing literature. The relationship between economic and political institutions and corruption with *FDI* inflows are discussed in section three. Section four presents the findings along with the graphical analysis and their discussion. Section five summarises and concludes.

3.2. Literature Review

Busse (2003) studying the effect of democratic regimes, utilising Freedom House dataset, on overseas investments in 69 developing countries for the years 1972-1999 found

that *FDI* is significantly higher in democratic states. He extended his time period to 1972-2001 in Busse (2004) and found that for the 1970s and 1980s this relationship doesn't hold but is true for the 1990-2001 period. While, Adam and Filippaios (2007), analysing *FDI* inflows in 105 developed and developing countries from 1989-1997, reports that *MNCs* invest in states with high political rights but low civil liberties.

Addison and Heshmati (2003) using Vanhanen (Polyarch) democracy dataset for 72 countries from 1970-1999, claims that, it positively effects *FDI* inflow. Similarly, Li and Resnick (2003) using Polity IV democracy measure find for a panel of 53 states from 1982 to 1995 that democracy positively influences incidence of *FDI*. Biswas (2002) studying US *FDI* in 44 countries over 1983-1990 reports that government stability positively effects *FDI* inflows. Extending it further Drury et al. (2006) using Polity IV and Freedom House data for democracy and *ICRG* corruption index for 100 countries over 16 years finds that corruption significantly harms economic growth in autocratic regimes whereas, its effect is insignificant in democratic nations.

Easton and Walker (1997) investigating the effect of economic freedom on growth in 57 countries using the economic freedom of the world index from Fraser Institute finds that it exerts a positive significant influence. Bénassy-Quéré et al (2007) analysing dyadic *FDI* inflows from *OECD* into 123 countries for 1985-2000 found that institutional distance in terms of economic freedom between the source and host countries significantly affect inward *FDI* in the host nation. Likewise, Kapuria-Foreman (2007) exploring the effect of economic freedom on *FDI* inflows in 67 countries finds a positive relationsip.

Ali et al. (2010) using *ICRG* data, found for a panel of 69 countries during 1981-2005 that institutional quality matters for *FDI* in manufacturing and especially in services sector. Asiedu (2006) analysing *FDI* flows to 22 Sub-Saharan countries, found that good investment profile positively and political instability and corruption negatively affects inward *FDI*. She

claims that smaller states can improve their incoming *FDI* potential by ameliorating their institutional and policy environment and eradicating corruption from the society[134]. Afza and Khan (2009) analysing the survey responses of 140 *MNC's* executives in Pakistan, terms social, economic and legal bottlenecks negatively affecting inward *FDI*. Asiedu and Foreman (2009) analysing firm level data in 81 countries for the years 1996-1998 found that corruption significantly affect *FDI* in transition economies but fails to deter investors from Latin American & Caribbean and the Sub-Saharan Countries.

Busse and Hefeker (2005, 2007) exploring the effect of each of the 12 *ICRG* sub-components indexes on FDI inflows to 83 developing countries covering 1984-2003 identify that government stability, internal and external conflict, corruption, ethnic tensions, law and order, democratic accountability of government, and quality of bureaucracy have a significant influence on overseas investors. In contrast, Egger and Winner investigating inward *FDI* in 73 developing countries for 1995-1999 terms corruption a positive stimulus for *FDI* inflows.

Dutta and Roy (2011) investigating *FDI* inflows to 97 countries over 20 years period finds that they are significantly affected by government stability, socioeconomic conditions, democratic accountability, investment profile, military in politics, religion in politics, law and order and bureaucratic quality. Whereas, Campos and Kinoshita (2003) studying *FDI* inflows in 25 transition states for 1990-1998 found that among the *ICRG* measures only better law and order and bureaucratic quality exert a positive significant effect. Similarly, Daude and Stein (2007) analysing dyadic data for *FDI* flows from 34 source *OECD* countries to 151 host economies find that just government stability among the *ICRG* indicators attains conventional level of significance.

134. In her 2004 paper she states that Sub-Saharan countries failed to increase *FDI* inflows despite internal institutional improvement because they made absolute progress but were relatively far behind in comparison to other regions of the world.

My research differs from the ones mentioned above and many others in a number of ways. Firstly, I am utilising additional measures of institutional strength in the host economy from Freedom House, Polity IV, Fraser Institute and Political Risk Services for a much longer time period. Secondly, to my knowledge they have not considered the *SAARC* countries exclusively. Though, their samples mostly included India and in some cases Pakistan. Thirdly, I am exploring the relationship between the institutional variables and inward *FDI* through graphical analysis unlike the existing *OLS/GLS* regression based estimations. Fourthly, it will be the first attempt to analyse the effect of corruption and political and economic institutions on *FDI* inflows in Sri Lanka, Bangladesh and Nepal.

3.3. Institutions

Institutions are defined as the humanly devised prevailing regulations that govern economic, political and social interactions among several players striving for their own interests and benefits (North 1991). They provide the members of the society obeying these regulations with a predictable framework for dealing with one another (Ali et al. 2010). According to Rodriguez et al. (2006 page 734) "excluding the role of host institutions from *MNC's* overseas activity is like taking out the *'national'* out of *'inter-national'*". Therefore, based merely on its relative edge in conventional *FDI* location factors a country may not be able to sustain its earlier strength of attracting *FDI* (Rios-Morales and O'Donovan 2006), as improving efficiency in international production has become one of the major goals of *FDI* (Asiedu 2004). This requires a constant active positive role of the host government in the form of optimal economic policies, political stability and a corruption free bureaucracy.

In the following subsections I will individually discuss the importance of these three factors in effecting the *FDI* decision of overseas investors.

3.3.1. Economic Institutions

The quality of business, investment and general economic environment in the host country is expected to play a critical role in attracting *FDI* (Quazi 2007 and Ali et al. 2010). However, we need to remember that business climate is determined by a multitude of economic and non-economic factors (Jensen 2002), thus making it difficult to construct an indicator that can correctly predict the health of economic institutions governing the overall functioning of national and international firms.

The economic freedom of the world *(EFW)* index, published by The Fraser Institute for around 150 countries, starting in 1970, and the economic & investment related components of the international country risk guide *(ICRG)* by the political risk services *(PRS)* group, starting at 1984, can be viewed as reliable proxies for the host's investment climate.

The *EFW* index is designed to gauge the consistency of a nation's institutions and policies governing personal choice, voluntary exchange coordinated by free market, freedom to enter & compete in the host market and protection of persons and their property from aggression by others. The Fraser Institute's Index consider institutions and policies to be consistent with economic freedom only when they allow individuals to choose for themselves, make voluntary agreements with others, and be able to protect other people and their property from aggressors. To achieve a high *EFW* rating, a state needs to provide safety of privately owned property, equal enforcement of contracts, and a steady monetary environment. It shall keep taxes low and refrain from creating barriers to both domestic & international trade, and rely wholly on market rather than the political process to allocate goods and resources. The summary index hence largely echoes the level to which an economy is pursuing free market principles and is composed of five sub-area indexes, with

higher values standing for freer countries[135]. As it is an indicator of the host country market friendliness to investors, I expect a positive rapport with *FDI* inflows[136].

The two measures used from the *ICRG* index to assess the health of the host's economic institutions are investment profile and socioeconomic conditions. Investment profile is composed of three sub-components: contract viability and risk of expropriation, the ability to repatriate profits, and delays in payments. It gives an assessment of factors causing possible risks to investment in the host nation. The subcomponents for the socioeconomic conditions are: unemployment level, degree of consumer confidence and poverty prevalence in the population. This index exhibits an assessment of the socioeconomic pressures at work in society which may hamper government action or fuel social discontent particularly among the working class or the labour force. The risk rating assigned by both indexes varies from 0 to 12. Each subcomponent of them has a maximum score of four points and a minimum score of 0 points. A score of 4 points represents a very low risk and a score of 0 points to a very high risk. Since better score present less risk for investors I expect a positive effect on inward *FDI*.

3.3.2. Corruption

Corruption is broadly defined as the exercise of public power for personal gains (Wei 2000b), wherein a public employee, bureaucrat or elected, misuses his or her position in government in order to obtain private benefits (Cuervo-Cazurra 2006)[137]. By doing this he/she not only distorts efficient resource allocation but also sow the seeds of rewarding unproductive behaviour by granting unmerited contracts and rights to incompetent companies

135. These areas (components) are 1. Size of Government: Expenditures, Taxes, and Enterprises, 2. Legal Structure and Security of Property Rights, 3. Access to Sound Money, 4. Freedom to Trade Internationally and 5. Regulation of Credit, Labour, and Business. The details of the sub-components can be obtained from Gwartney et al. (2010 page 4).
136. We need to remember that it is different from the equally important economic freedom index of the Heritage Foundation where a smaller value signifies more freedom. For details on it see Brenton et al. (1999), Balasubramanyam et al. (2002), Quazi (2007) and Roberts and Almahmood (2009). I have not used it because it causes a loss of 10 years as it starts at 1995.
137. For a detailed discussion on definition and types of corruption please read Afriyie (2008).

in exchange for bribes, at the expense of capable and innovative firms, thus inhibiting the development of fair and efficient markets (Kwok and Tadesse 2006).

Paying-off government officials is a regular business practice in some countries, (Egger and Winner 2005) and there, firms have to offer bribes to acquire government contracts, import licences, export quotas and to obviate unexpected regulatory complications to which they otherwise will be subjected, to force them to grease the palms of the relevant authority[138]. These payments make the government officials seeking bribes to pay special attention to the "needs" of the foreign firms keeping them on "payrolls". This makes corruption look like making possible difficult transactions and speeding up procedures that otherwise would be very sluggish and cumbersome. However, we need to remember that toleration of dishonesty in some facets of public life may foster a downward spiral in which the malfeasance of a few will encourage others to engage in corruption over time, leading to pervasive corruption and undermining the legitimacy of the governing apparatus. Therefore, I consider corruption as "sand in the wheels of commerce"[139] as it increases the operation cost of a firm and can lead to the enactment of additional bylaws, by the corrupt officials, for the sole objective of extracting more bribes[140]. In this perspective corruption can be termed even as a "grabbing hand" as it promotes rent seeking behaviour, reducing multinational profits and productivity of local public inputs, therefore, lowering the host market attraction for overseas investors.

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138. Even the 1977 *US* Foreign Corrupt Practices Act *(FCPA)* allows Americans to make "grease" payments to low rank foreign clerical or ministerial officials to speed up their otherwise slow pace of work (Hines 1995). However, the same grease payments are forbidden to American officials back home. According to Egger and Winner (2005) corruption is a common characteristic of low income countries.

139. Kaufmann's Governance Post at: http://thekaufmannpost.net/does-grease-money-speed-up-the-wheels-of-commerce/, and also quoted in Cuervo-Cazurra (2008 page 13).

140. Firms face increased costs even if the contract is granted when compared to a competitive market. Additionally payments to corrupt officials have no market value and the investors don't have recourse to a court in case of non-fulfilment as bribery is illegitimate (Habib and Zurawicki 2002 and Cuervo-Cazurra 2008).

The prevalence of corruption in a society shows deficiency of respect for the rules and regulations that administer economic interactions in a community. Foreign direct investment inflows are expected to be negatively related to high level of corruption in the host country due to its adverse effect on operational efficiency of the multinational firm (Seyoum 2006). Corruption necessitates paying bribes or extra efforts to obtain the concerned government officials' permission to do business (Wei 2000a). This abuse of public power for private gain acts as an undeclared tax on business concerns, increasing their costs, and rotting incentives to invest (Johnson 2006). Therefore, corruption, by distorting the business environment creates, uncertainty regarding the costs of operation in the host country and leads to operational inefficiencies (Woo and Heo 2009). This may cause the overseas investors to withhold their investment and existing ones may even consider withdrawing theirs. The best example of the effect of rampant corruption and ill-functioning institutions on foreign investment is the post-communist Russia:

> "Bribery was the grease which kept the rusty Soviet state from jamming altogether" (Cuervo-Cazurra 2008, page 15) and "to invest in a Russian company, a foreigner must bribe every agency involved in foreign investment, including the foreign investment office, the relevant industrial ministry, the finance ministry, the executive branch of the local government, the legislative branch, the central bank, the state property bureau, and so on. The obvious result is that foreigners do not invest in Russia" (Drury et al. 2006, page 122-123).

Bearing in mind the secret nature of bribery, it is impossible to get real information on the extent of corruption level in a society. However, the indexes of transparency international *(TI)* and *ICRG* are considered reliable measures of corruption and widely used by the researchers in empirical studies[141]. In the present study I test for effects of perceived corruption level on *FDI* inflows by utilising data from *ICRG*. In addition I also check for the effects of excess bureaucratic mingling on inward *FDI* from *ICRG* because excessive red tape

141. I am not using *TI's* corruption perception index *(CPI)* because it starts at 1995 and even for that year it covers only Pakistan and India. For its earlier usage consult Wei (2000a), Habib and Zurawicki (2002), Javorcik(2004), Johnson (2006), Kwok and Tadesse (2006), Afriyie (2008), Cuervo-Cazurra (2008) and Ismail (2009).

increases costs of starting a business and may cause difficulties in enforcing contracts (Morrissey 2008). According to Wei (2000b), majority of investors from overseas use Hong Kong as a stepping stone to invest in mainland China because they loathe the high degree of corruption and bureaucratic red tape they have to face in the mainland Chinese provinces. The *ICRG* corruption measure is a six point index which gauge potential insidious corruption in the form of excessive patronage, nepotism, job reservations, 'favour-for favours', secret party funding, and suspiciously close ties between politics and business. The measure of bureaucratic quality is a four point index[142]. Both the indexes penalises high corruption or incompetent bureaucracy by granting them lower points. Therefore, I expect a positive influence of the two indexes on *FDI* inflows.

3.3.3. Political Institutions

Political consistency of democratic regimes generally ensures investors about government's commitment to credibly assist the functioning of economic entities (Dutta and Roy 2011). On the contrary, political volatility can ensue disorder which usually generates an adverse business climate, eroding the confidence of the risk averse overseas investors in the local investment climate and thereby driving them away (Quazi 2007). This makes regime steadiness in the recipient country a significant factor in the location choice of *MNCs* investment decision.

Recognizing that democracy facilitates social harmony and political stability (Drury et al. 2006), foreign direct investors shall expect democracies to be less capricious towards their operations (Jensen 2008b)[143]. I control for the host's level of democracy by the ratings from

142. The quality and institutional strength of the host country bureaucracy can minimize revisions of policy when governments change. High points are given to countries where the bureaucracy tends to be somewhat autonomous from political pressure.

143. Jensen (2008a) analysing 100 countries over the years 1970-1998, found that democratic countries attract 70 percent more *FDI*. Similarly, according to Li (2005) off the total 564 acts of expropriation around the globe committed between 1960-1986 only 59 took place in democratic countries and remaining 505 occurred under non-democratic regimes.

the Polity IV project. This measure is widely used in economics, political sciences and international relations research (Alcacer and Ingram 2008). The measure comprises of two 10 point indexes: a negative one for despotic characteristics, and a positive one for egalitarian qualities[144]. Combining the two will give an index ranging from -10 for highly autocratic to +10 strongly democratic; therefore, I recode it from 0 to 20, with democratic countries getting better scores. This makes interpretation of the results easier as higher values indicate more democratic regime.

Popular political involvement encourages participative mentality which as a consequence leads to elimination of the vested interests and privileges being granted to a few (Li 2005)[145]. Political pluralism grants the protection of civil liberties and the extension of basic freedoms for everyone. These are virtues that engender the belief of individual prosperity; necessary for inspiring the populace to work, save, and invest -- attitudes that are essential for successful, popular, effective and efficient governments. Overall, political freedom and civil liberties acts to liberate energies and cultivate entrepreneurial and economic conditions conducive for investors and producers. In order to gauge the extent of personal freedom I utilise the country ratings by Freedom House. The original rating consists of two categories: political rights and civil liberties each varying from 1 to 7, and their composite, with higher values indicating fewer rights. I rescaled them in the reverse order so that more liberties and free populace are represented by higher points on a scale of 10. The variable political rights exhibit the ability of people to participate freely in the political process, including freely exercising the right to vote and contend for public office and elect representatives. Civil liberties express the freedom to develop views, institutions, and

144. The polity IV ratings are utilised by Rose-Ackerman and Tobin (2005), Simmons and Hopkins (2005), Drury et al. (2006), Kwok and Tadesse (2006), Alcacer and Ingram (2008), Büthe and Milner (2008) and Woo and Heo (2009).
145. According to Jensen (2008b) firms in Singapore can respond to proposed legislative changes that may adversely affect their operations through the Singapore Economic Development Board *(SEDB)*. It serves as an excellent legal formal institution ensuring that feedback of the business community and their concerns are addressed before any new legislation.

personal autonomy without interference from the state. The ratings are available since 1972 and the 2010 Freedom House annual report covers 194 countries[146].

The two measures discussed above are considered reasonable and broadly comparable indicators of political freedom, civil liberties and electoral democracy but their aggregate nature requires the use of more precise and specific measures (Buthe and Milner 2008). Therefore, to further gauge the expected effect of the political stability on *FDI* inflows, in a comprehensive manner I also used government stability, internal conflicts, external conflicts, military & religion in politics, law & order, ethnic tensions and democratic accountability from the International Country Risk Guide *(ICRG)*. I expect that a host country is likely to receive more *FDI* the more democratic and liberal it is, theorizing that countries with high levels of political risk and autocratic regimes will attract less investment (Schneider and Frey 1985), as political instability renders economic and political context unpredictable and makes a country less attractive for *FDI* (Gemayel and Chan 2004)[147].

3.3.4. Summary

Economic and political instability and corruption do not work in isolation but breed on one other. Dictatorial and despotic political cultures lack transparency and the rulers are prone to undermine the rule of law at personal whims. This destroys economic institutions, cause public office abuse and increases bureaucratic corruption. On the contrary, a democratic political culture nurtures open societies with appropriate checks and balances in place for constraining actions of political actors whereby they are less prone to misuse of public office (Kwok and Tadesse 2006).

146. For details on the methodology, definition, rating etc visit: http://www.freedomhouse.org, and for their earlier usage read Harms and Ursprung (2001), Busse (2003), Drury et al. (2006), Adam and Filippaios(2007) and Büthe and Milner (2008).

147. Quazi (2007) on the contrary found that in democracies domestic firms by influencing politicians and bureaucrats make the business environment non-friendly for investors from abroad and China receives more *FDI* because it has a one party, iron fist, autocratic regime that though repressive of personal rights and individual liberties is very conducive for the interests and objectives of multinationals. According to Harms and Ursprung (2001 page 3) “In the Chinese Boeing branch workers were shot for their sloppy work”.

Politicians have to weigh the costs of an illicit act in the presence of a responsive liberal society, who can remove them (Jensen 2008a). Therefore, both the level of public office exploitation and corruption are lower under a democratic order and it's basically the lack of strong democratic institutions that corruption represents.

In a nut shell, I intend to stress that corruption is seldom virtuous and renders otherwise good government bad and bad government worse, dissipating resources and sufficiently adding to transaction costs for the investors to significantly deter them from investment. Consequently, I believe that absence of credible institutions, oppressive regimes and corruption are positively correlated and shall therefore, negatively affect *FDI* inflows (Habib and Zurawicki 2002).

3.4. Graphical Analysis, Findings and Discussion

Earlier research on *FDI* flows to the developing countries has generally overlooked institution's role in influencing investor's location decision (Kawai 2009) and the effect of institutions on *FDI* is surprisingly understudied (Li and Resnick 2003). However, the increased integration of the world economy and multinationals intensified production activities in the developing countries (Jensen 2008b) have led to a greater recognition of the significance of institutions in the changing global business environment (Ali et al. 2010), especially during the decades of 1990 and 2000 (Dunning and Lundan 2008). Therefore, the new found focus on institutions does not seem surprising (Gelbuda et al. 2008).

As aggregate *FDI* inflows to South Asia are mainly driven by Indian *FDI* flows I am unable to perform regression based empirical analysis. Therefore, I have utilised graphical presentation of the institutional variables along the *FDI* inflows in each economy to find any possible negative/positive relationship between them.

Table 3.1.1 Effect of Freedom House Index on *FDI* Inflows in Bangladesh

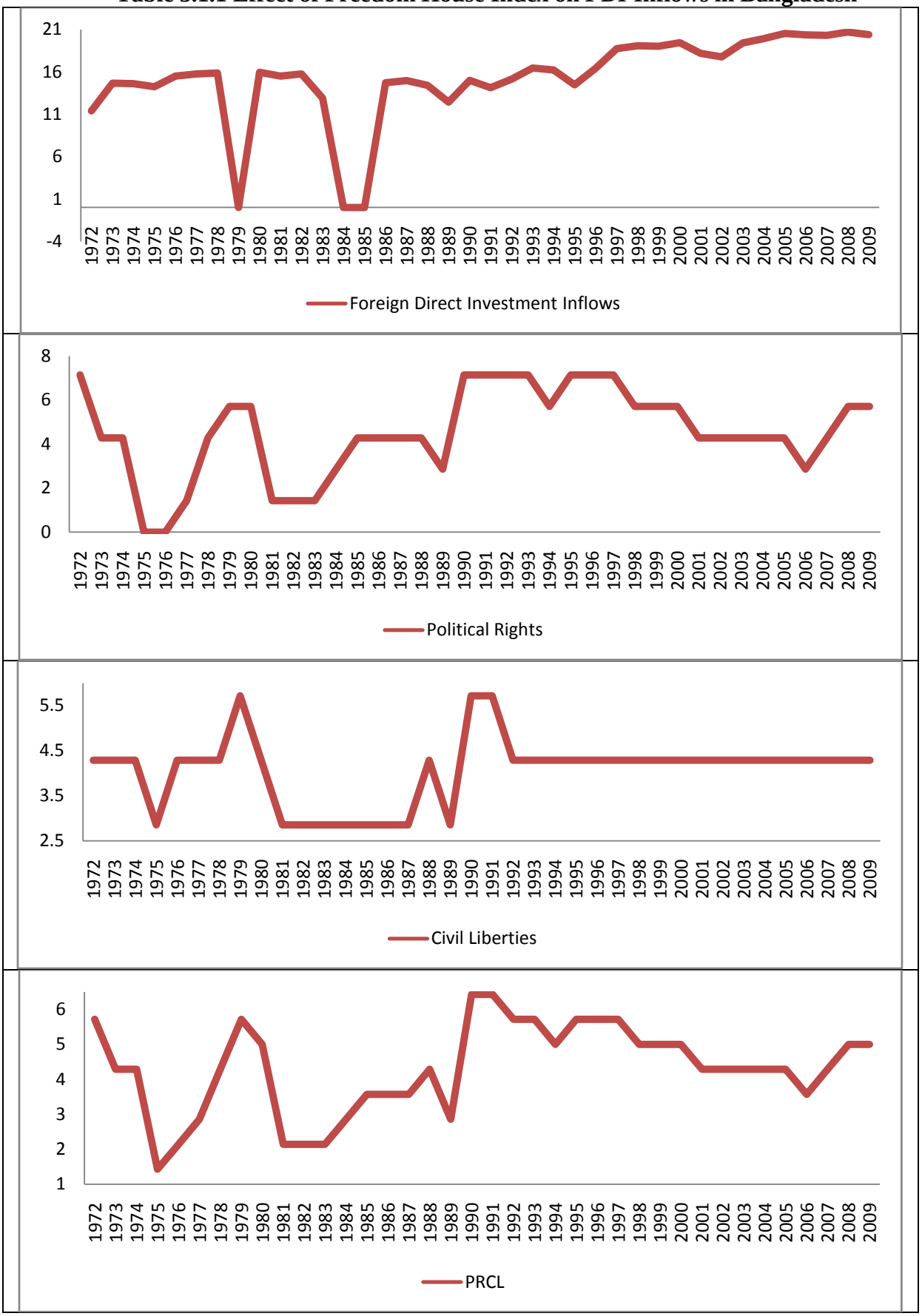


Table 3.1.2 Effect of Freedom House Index on *FDI* Inflows in India

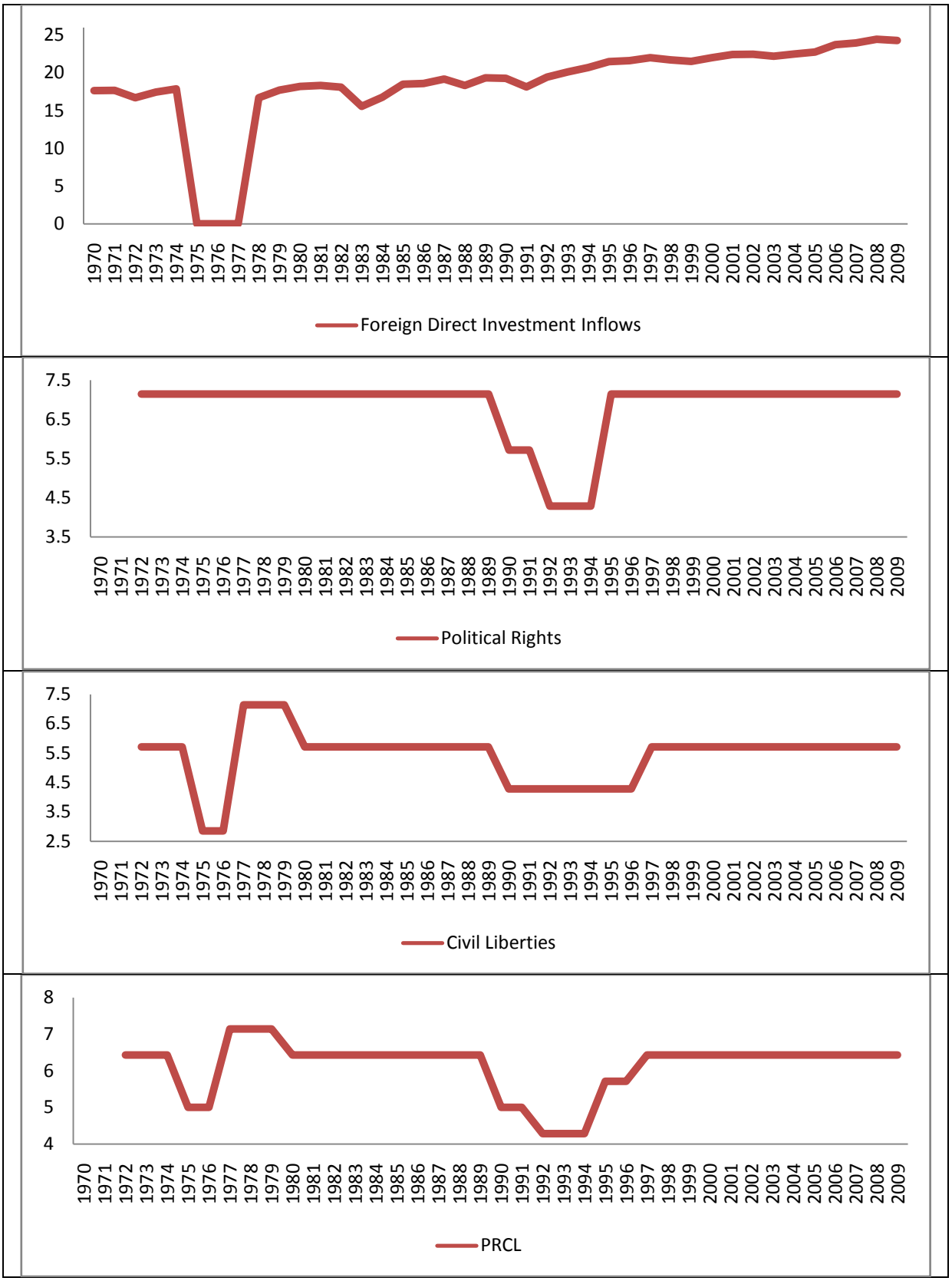


Table 3.1.3 Effect of Freedom House Index on *FDI* Inflows in Nepal

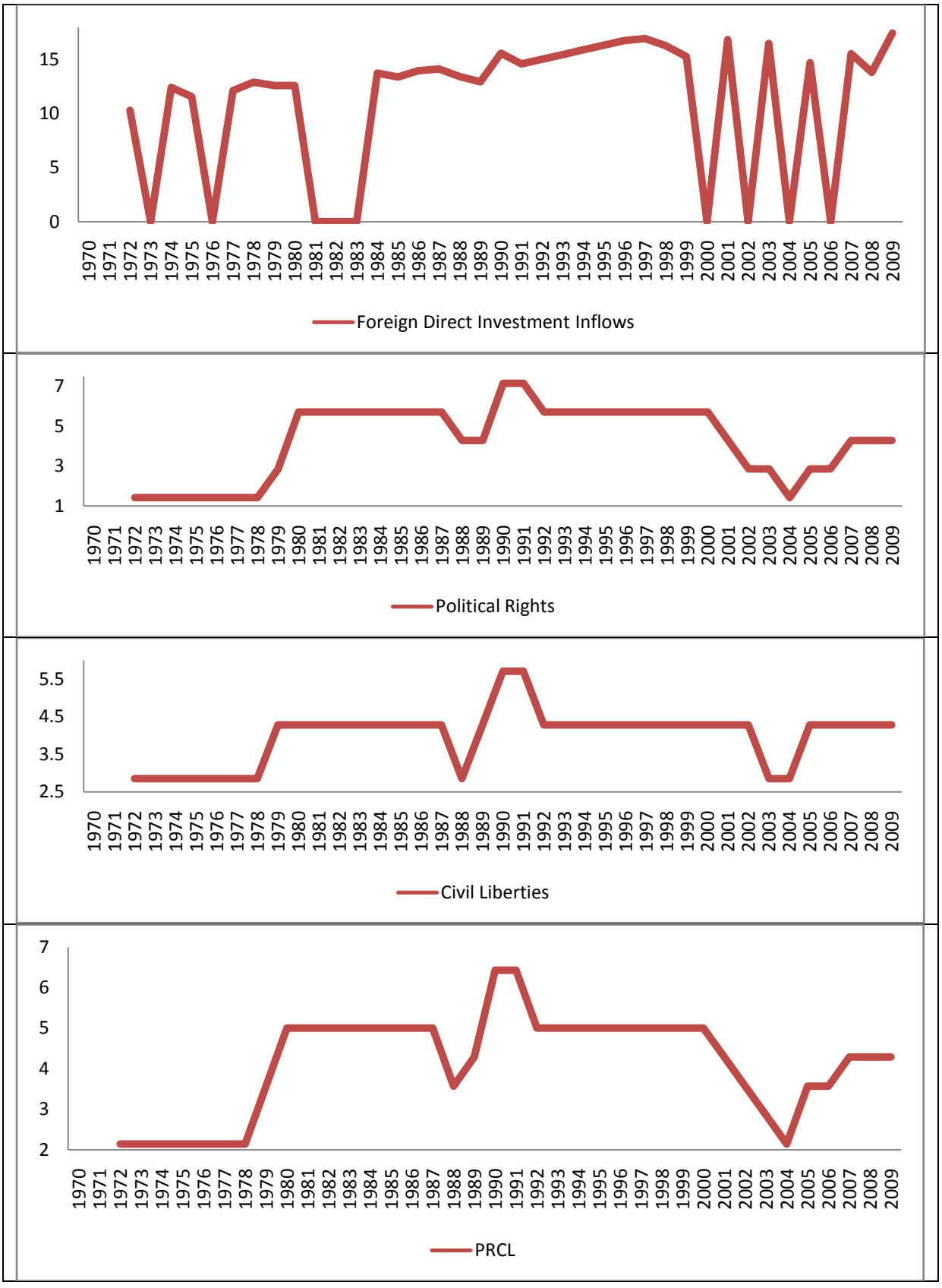


Table 3.1.4 Effect of Freedom House Index on *FDI* Inflows in Pakistan

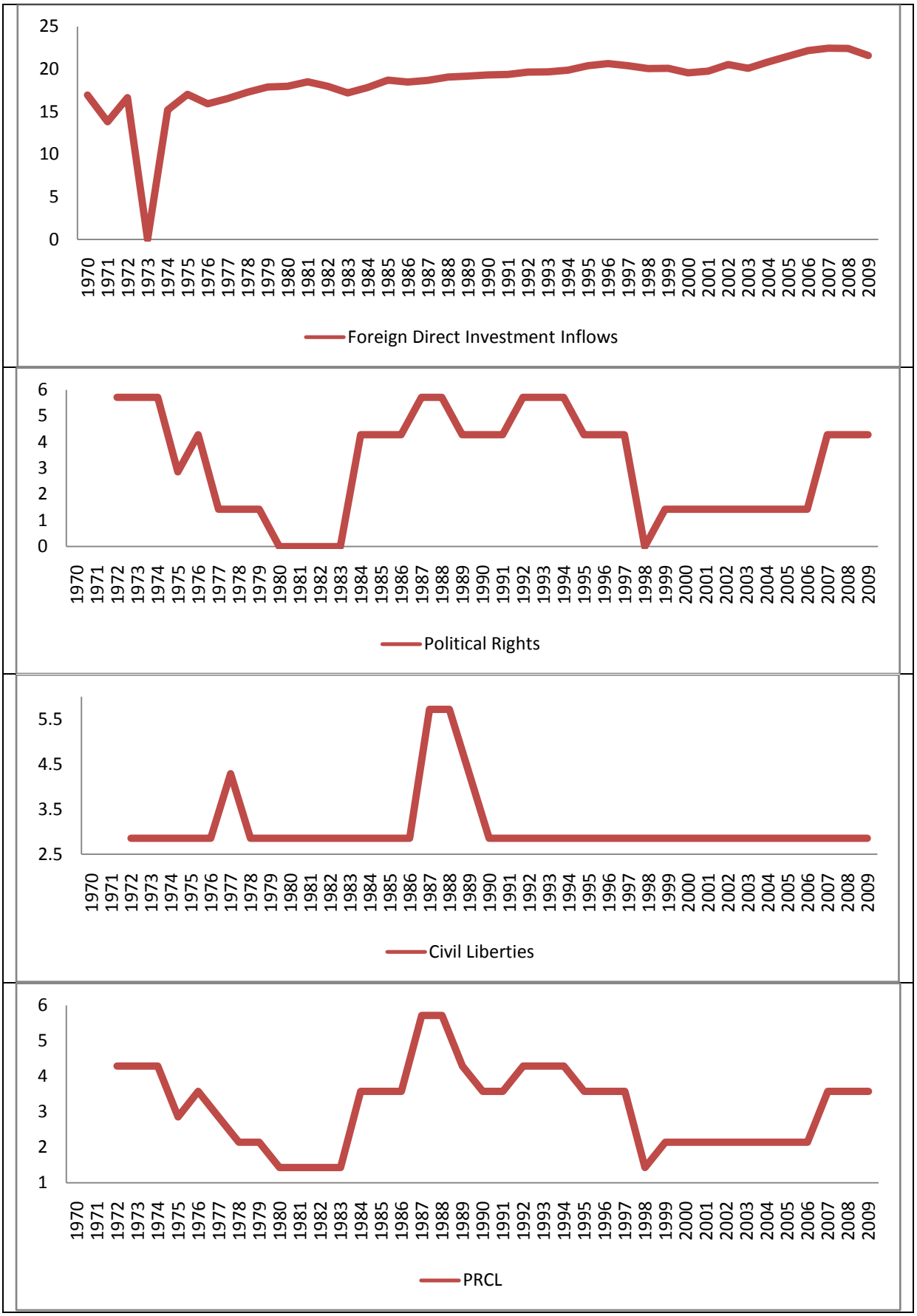
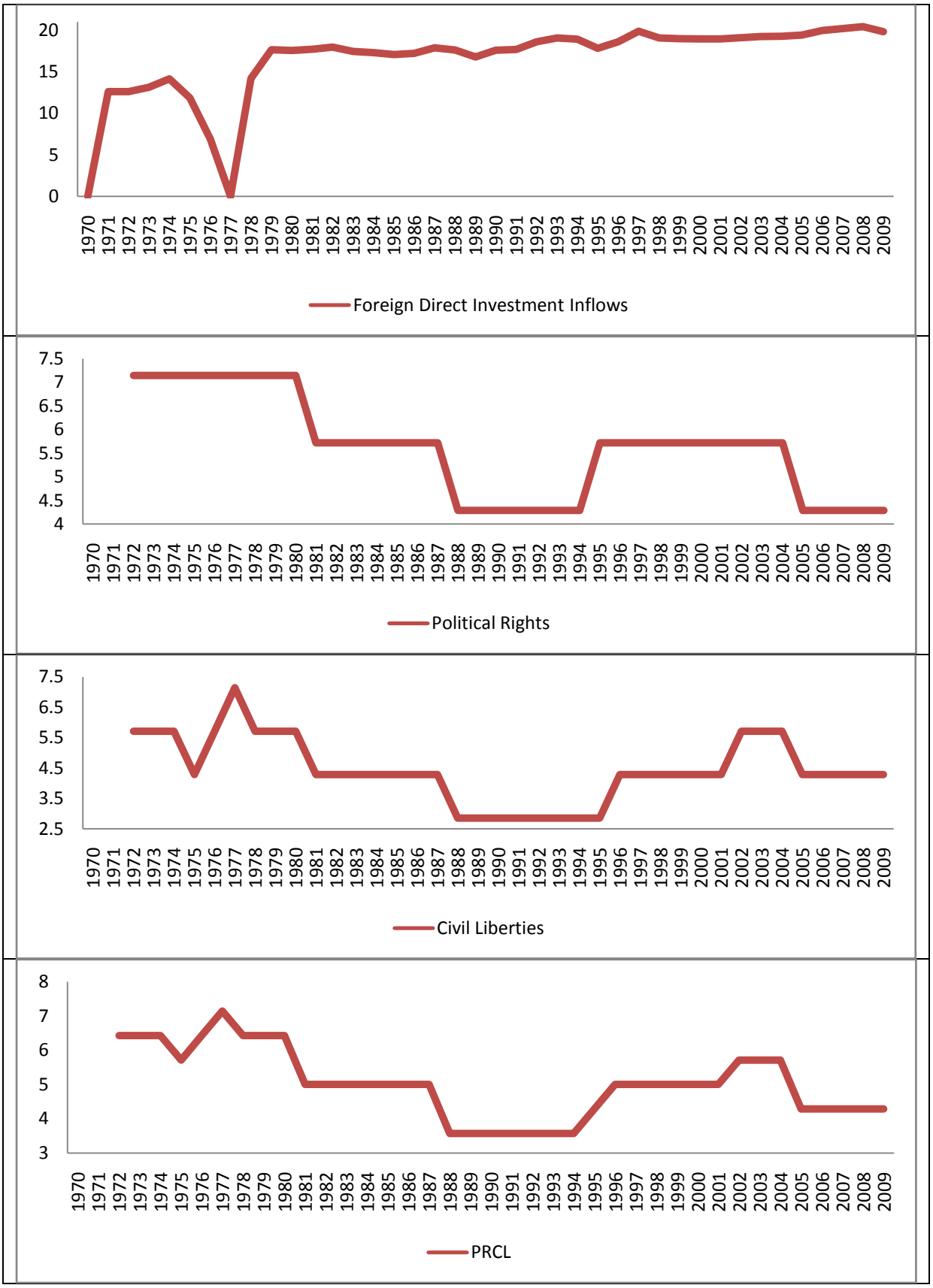


Table 3.1.5 Effect of Freedom House Index on *FDI* Inflows in Sri Lanka



In tables 3.1.1 to 3.1.5, I graphically present the distribution of *FDI* in the five host countries and the state of Political Rights *(PR)*, Civil Liberties *(CL)* and their composite *(PRCL)* from Freedom House. It is visible from the graphs that these indicators fail to exert any noticeable effect, except for Nepal (table 3.1.3) where the 2000 onwards fall in the three indexes clearly have an effect on the smooth inflow of foreign direct investment and high volatility is witnessed in inward *FDI*.

On the contrary, when I try to find the possible effect of the Polity *IV* indexes on overseas investors (table 3.2.1 to 3.2.5) I observe strong influences of democratic regimes on *FDI* inflows in Bangladesh, Nepal and most profoundly in India. Whereas, in case of Pakistan and Sri Lanka the graphs give the impression as if the investors are indifferent to increase in atrocities or absence of democracy.

Nevertheless, we need to remember that due to high sunk costs, *FDI* is especially vulnerable to any form of policy reversals (Benassy-Quere et al. 2007). Therefore, frequent regime changes between dictatorships and democracy usually leads to drastic shifts in governing principals, which limits multinationals' ability to accurately forecast budgetary needs in accordance with predictable tax schedules and solid future macroeconomic environment (Jensen 2008a). Consequently, the multinationals are unable to mitigate any possible adverse policy shifts.

The effect on FDI inflows seems to be primarily marked in India because it always has a democratically elected and mostly stable government, (excluding for a brief period of political insecurity in 1975), which is expected to positively affect overseas investors (Jensen 2008b).

Table 3.2.1 Effect of the Polity IV measures on *FDI* Inflows in Bangladesh

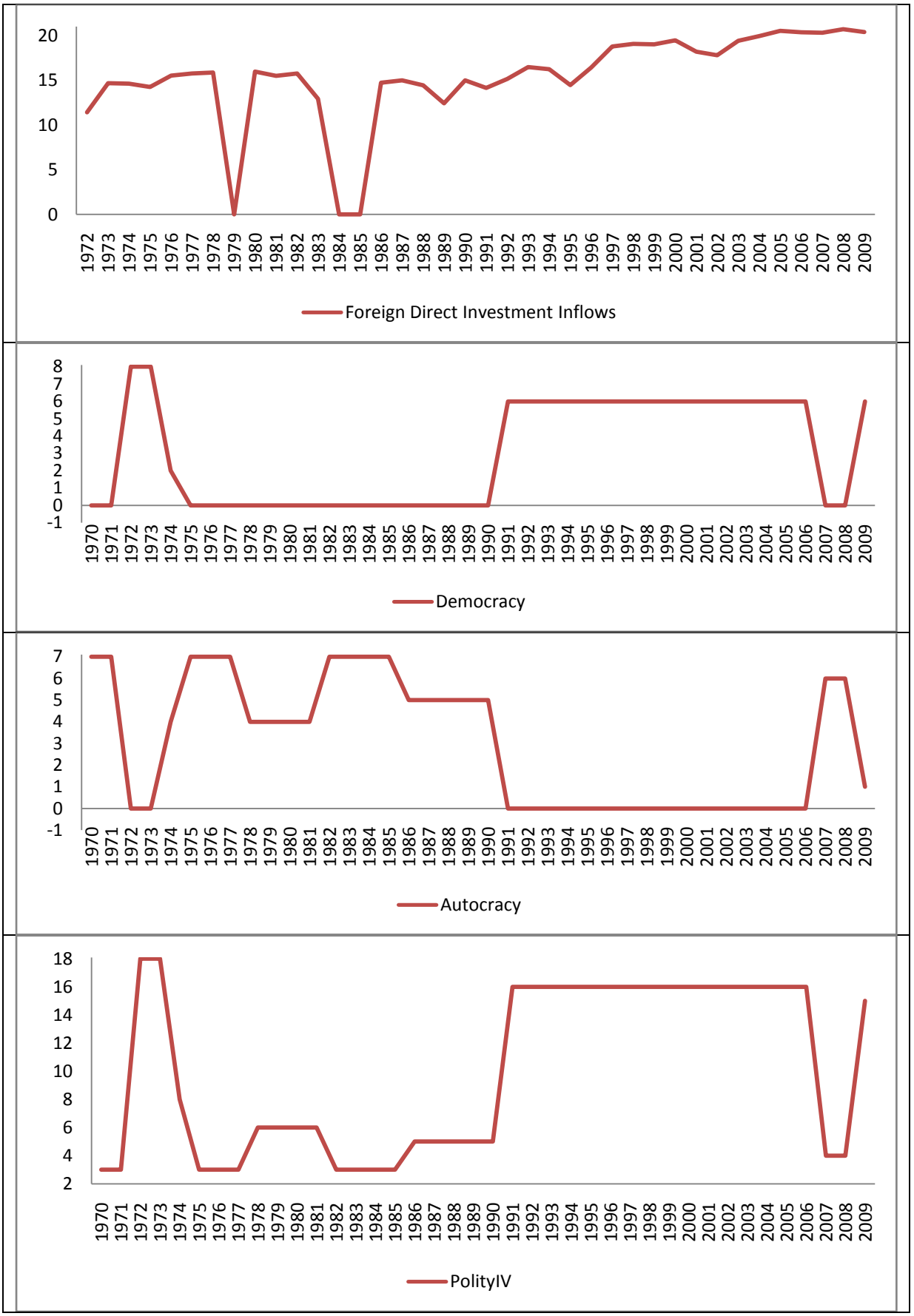


Table 3.2.2 Effect of the Polity IV measures on *FDI* Inflows in India

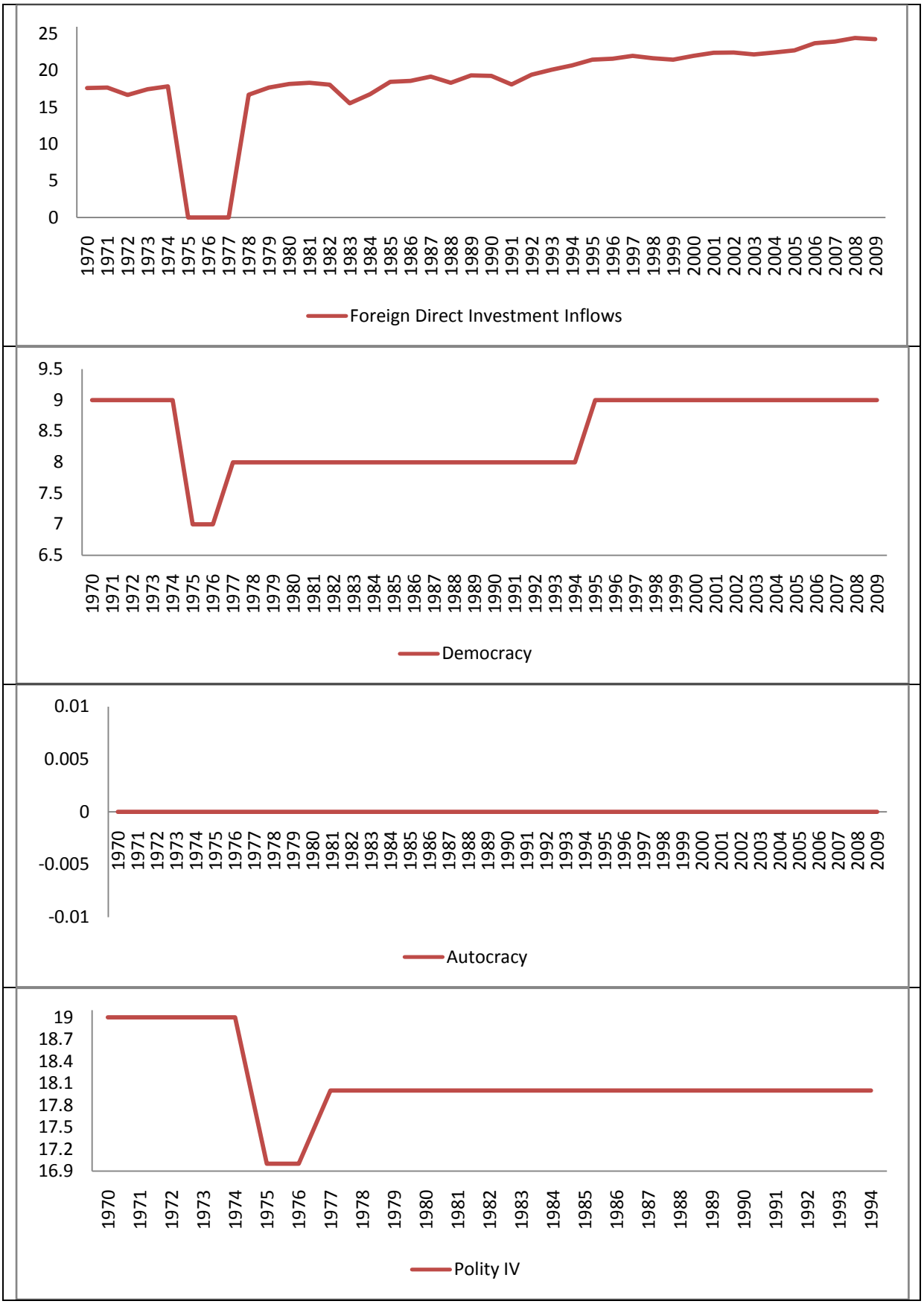


Table 3.2.3 Effect of the Polity IV measures on *FDI* Inflows in Nepal

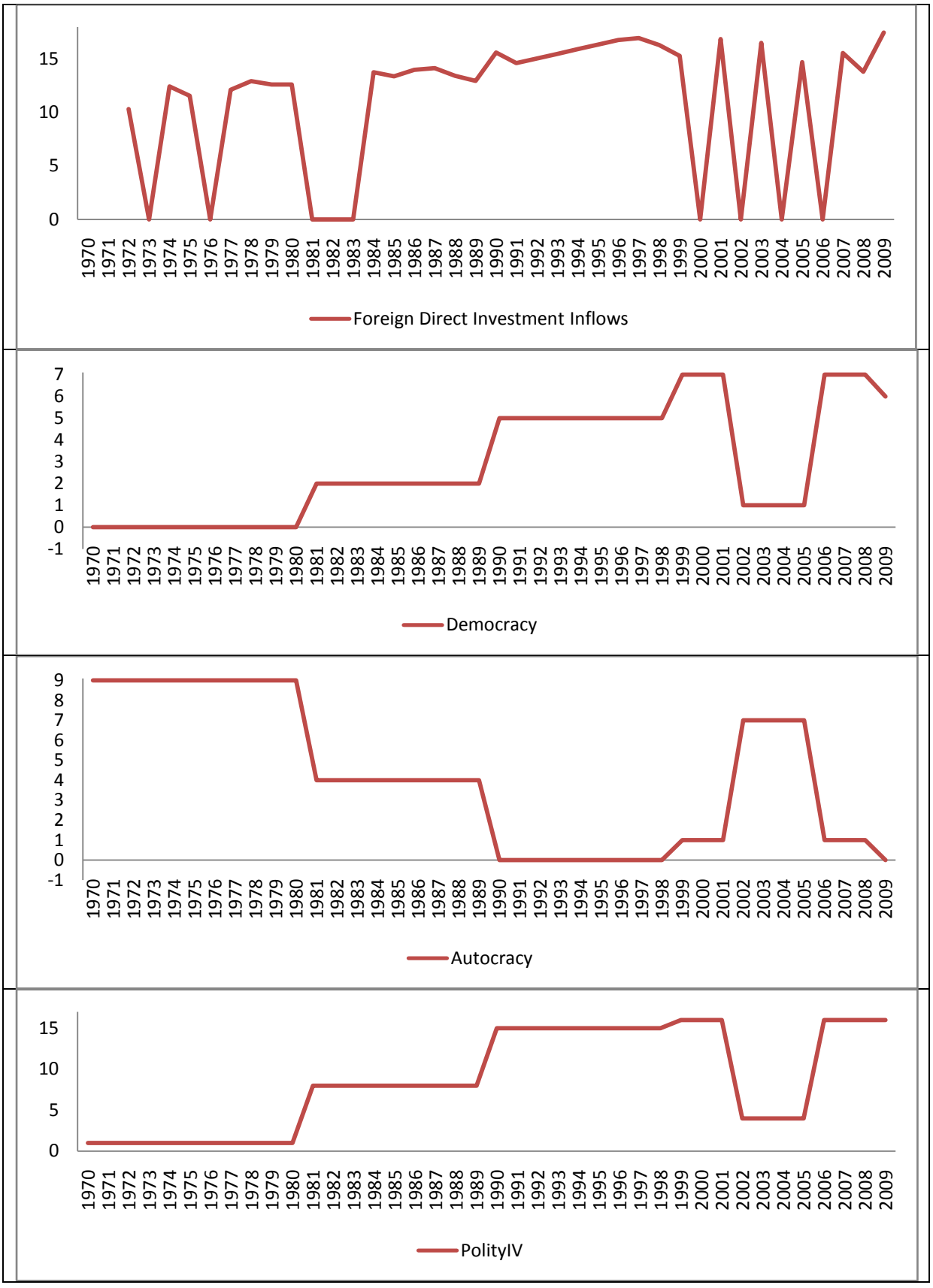


Table 3.2.4 Effect of the Polity IV measures on *FDI* Inflows in Pakistan

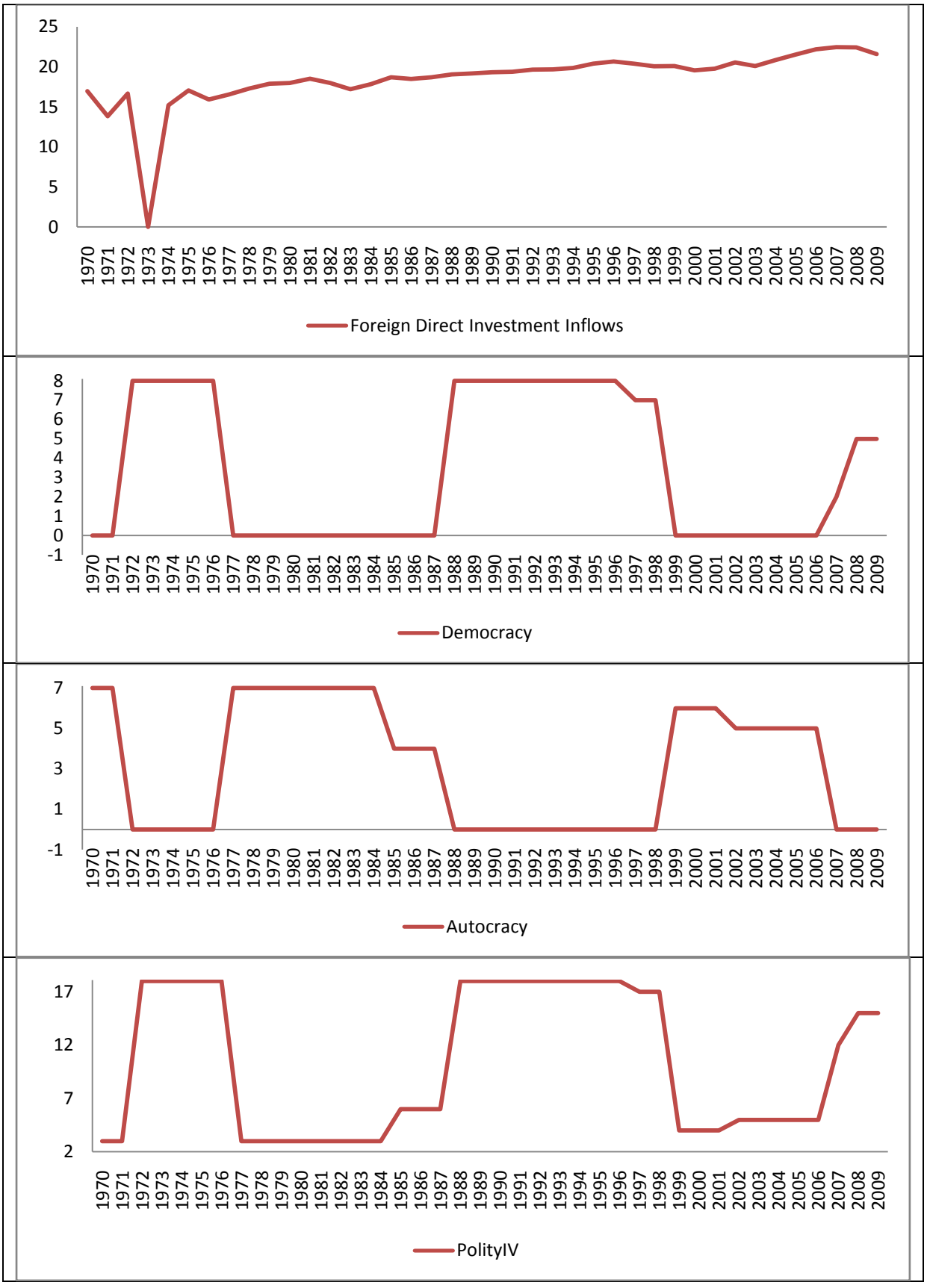
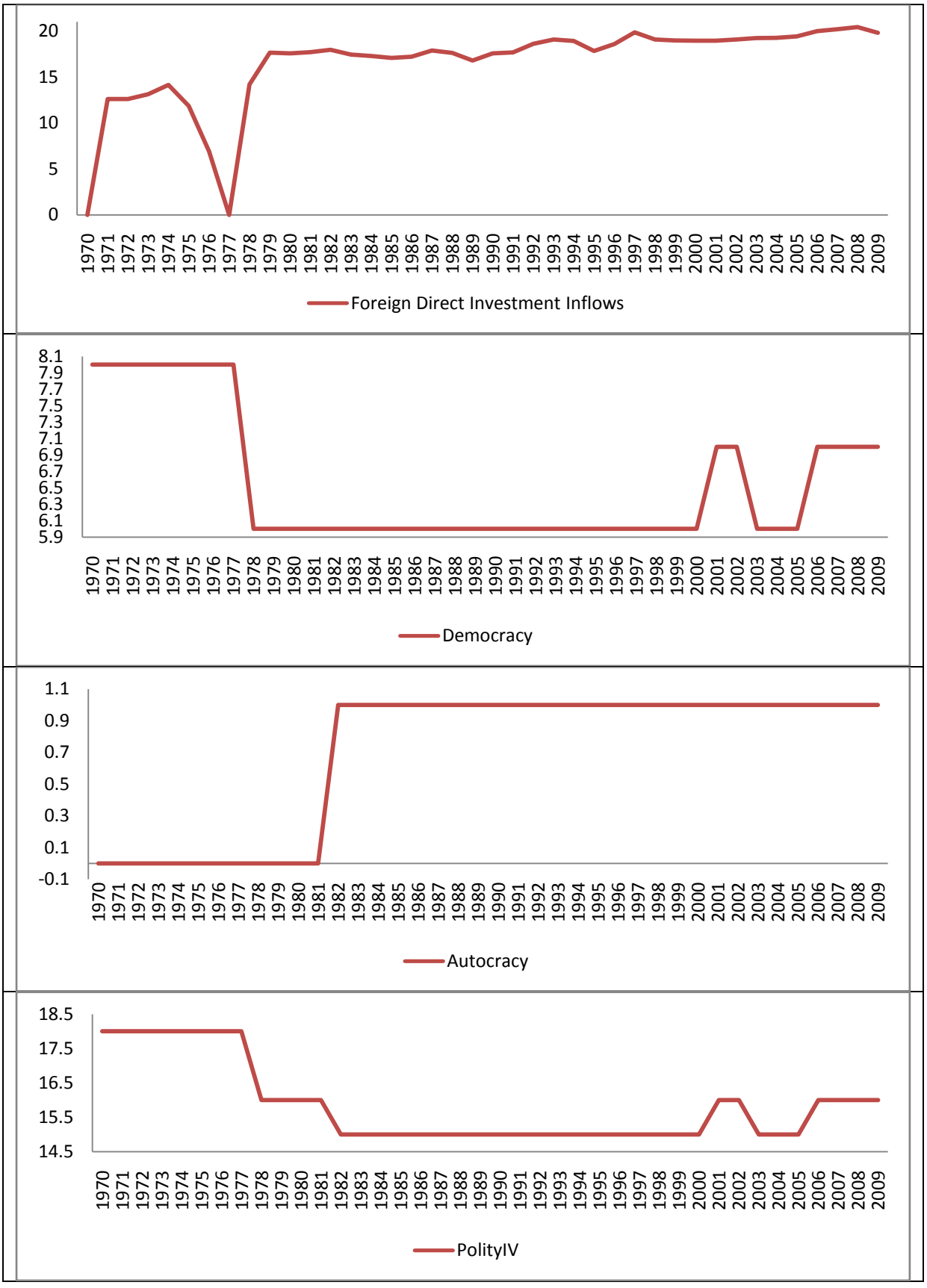


Table 3.2.5 Effect of the Polity IV measures on *FDI* Inflows in Sri Lanka



Following her removal by Justice Sinha on election frauds, which lead to mass protests and political instability, unprecedented in Indian history the Indian President Fakhruddin Ali Ahmed, on the legally binding advice of the Prime Minister Indira Gandhi, imposed a 21 month state of emergency, on the 25th of June 1975[148]. The negative effects of the political unrest are manifested through the exit of foreign (and local) capital from India in the years 1975, 1976 and 1977, evident from appendix 3.2, 3.3, 3.4 & 3.5 and are very much in accordance with the findings of Schneider and Frey (1985) and Gemayel and Chan (2004) that political instability significantly depresses and drive away foreign direct investors. On the contrary, Biswas (2002) found a significant negative effect of democratic regime duration on *FDI* inflows from *US* in 44 countries, terming it "demoscelarosis" where a small interest group influences the decisions of democratic regimes for short term benefits. Similarly, Argentine experienced a military takeover in 1976 and received more *FDI* afterwards (Busse 2004).

I search for any possible relationship between the Fraser Institute, economic freedom of the world index and *FDI* inflows in the *SAARC* countries in table 3.3.1 to table 3.3.5. The summary index seems to affect inward *FDI* more or less in all the countries. The rapport in Sri Lanka manifests itself in early 1990 and continues thereafter. It appears to be ineffective in 1970s and 80s in the Island nation. The five sub-indexes from Fraser institutes exert their influence in variable degrees in the five sample economies. Area one index strongly affects *FDI* inflows in Bangladesh, area two index in India, area three index in Nepal, area four index in Sri Lanka and area five index in Pakistan. However, except for the summary index, I am unable to deduce some substantial influence for any of the above indexes to regularly affect the *FDI* inflows in all the South Asian economies.

148. The state of emergency was imposed under article 352 of the Indian constitution and remained in force till 21st March 1977. This enabled her to rule through issuing decrees, despite being disqualified by the Allahabad High Court on election fraud, declaring her election success null and void.

Table 3.3.1 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in Bangladesh

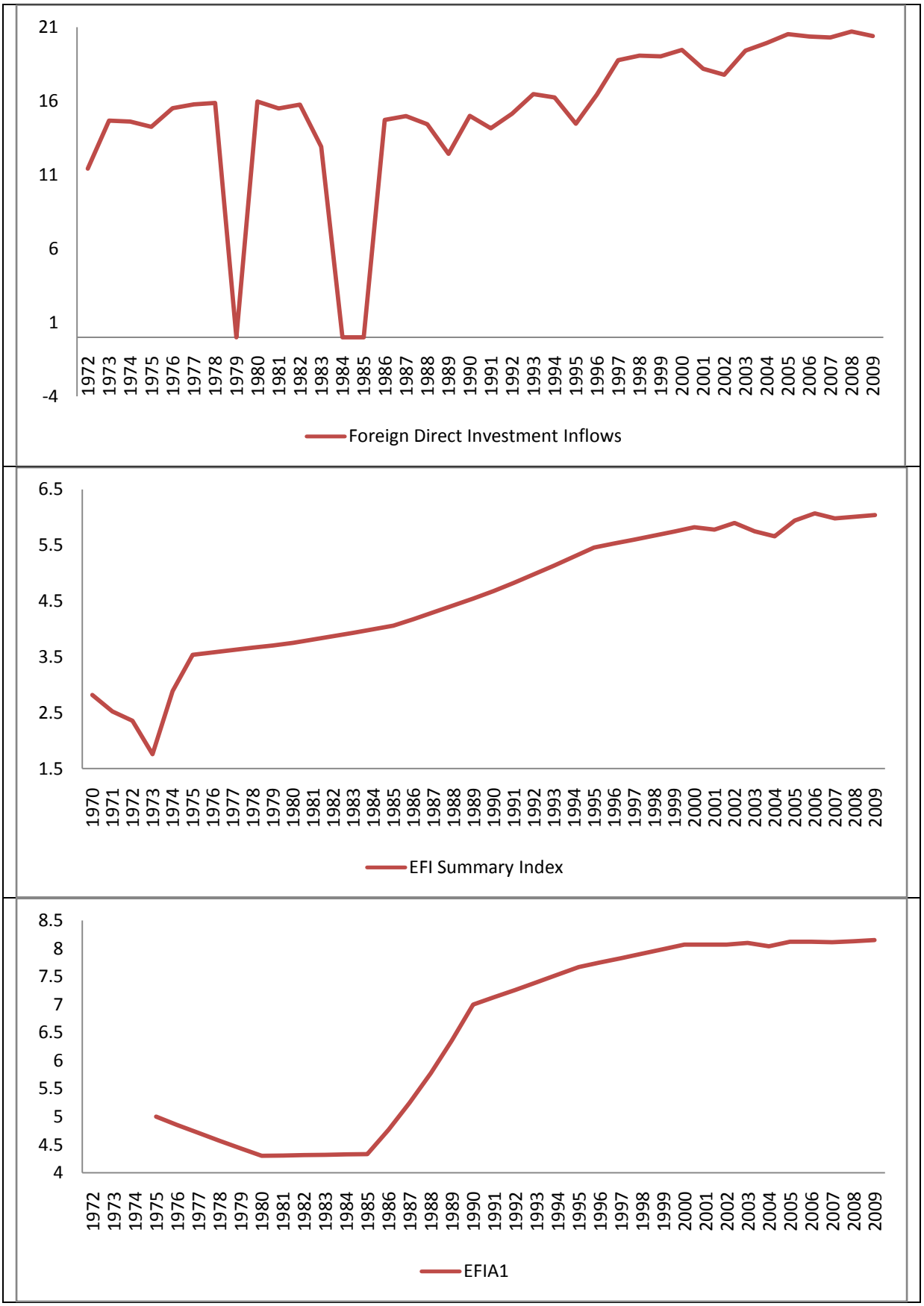


Table 3.3.1 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in Bangladesh (cont)

Table 3.3.2 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in India

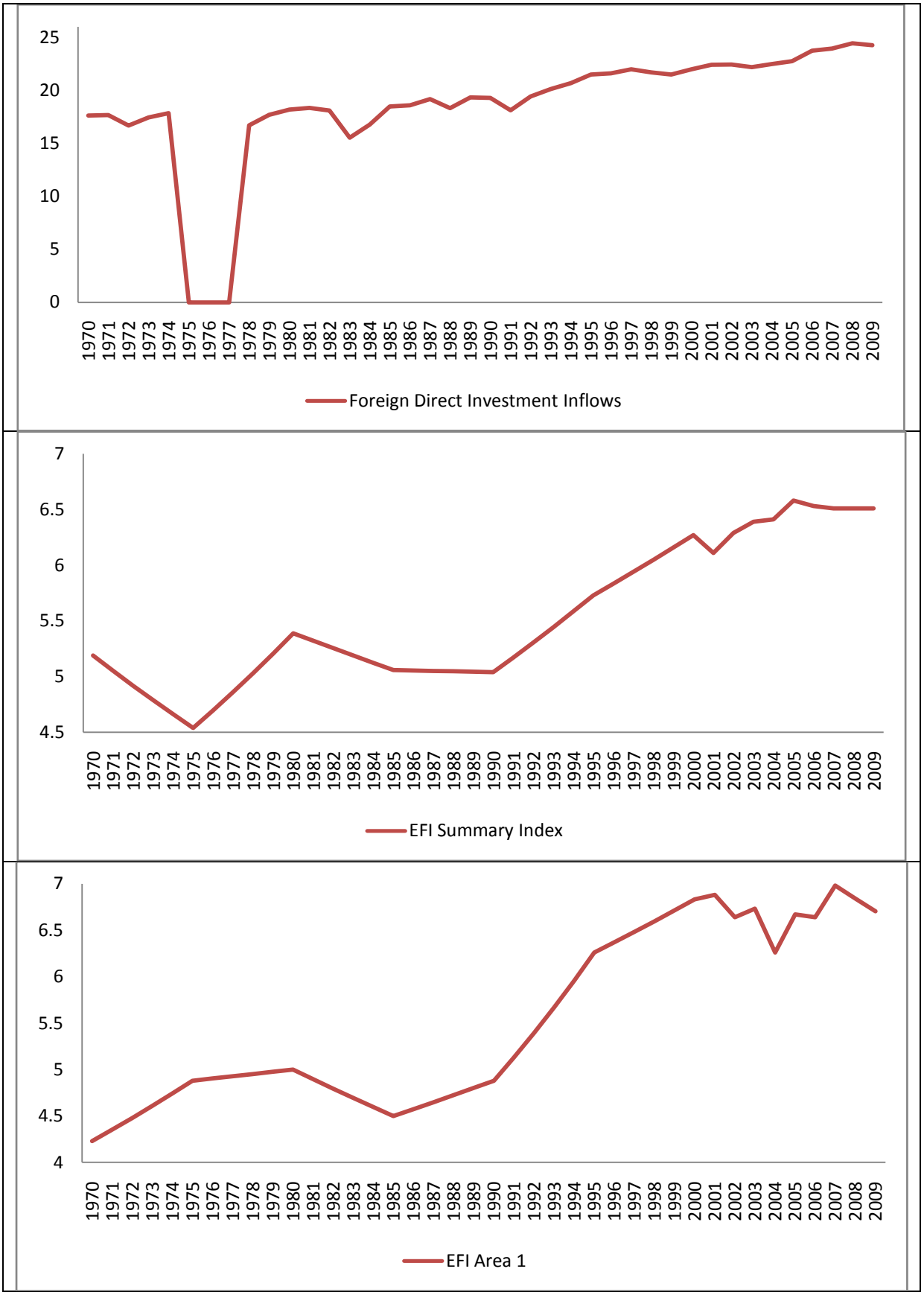


Table 3.3.2 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in India (cont).

Table 3.3.3 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in Nepal

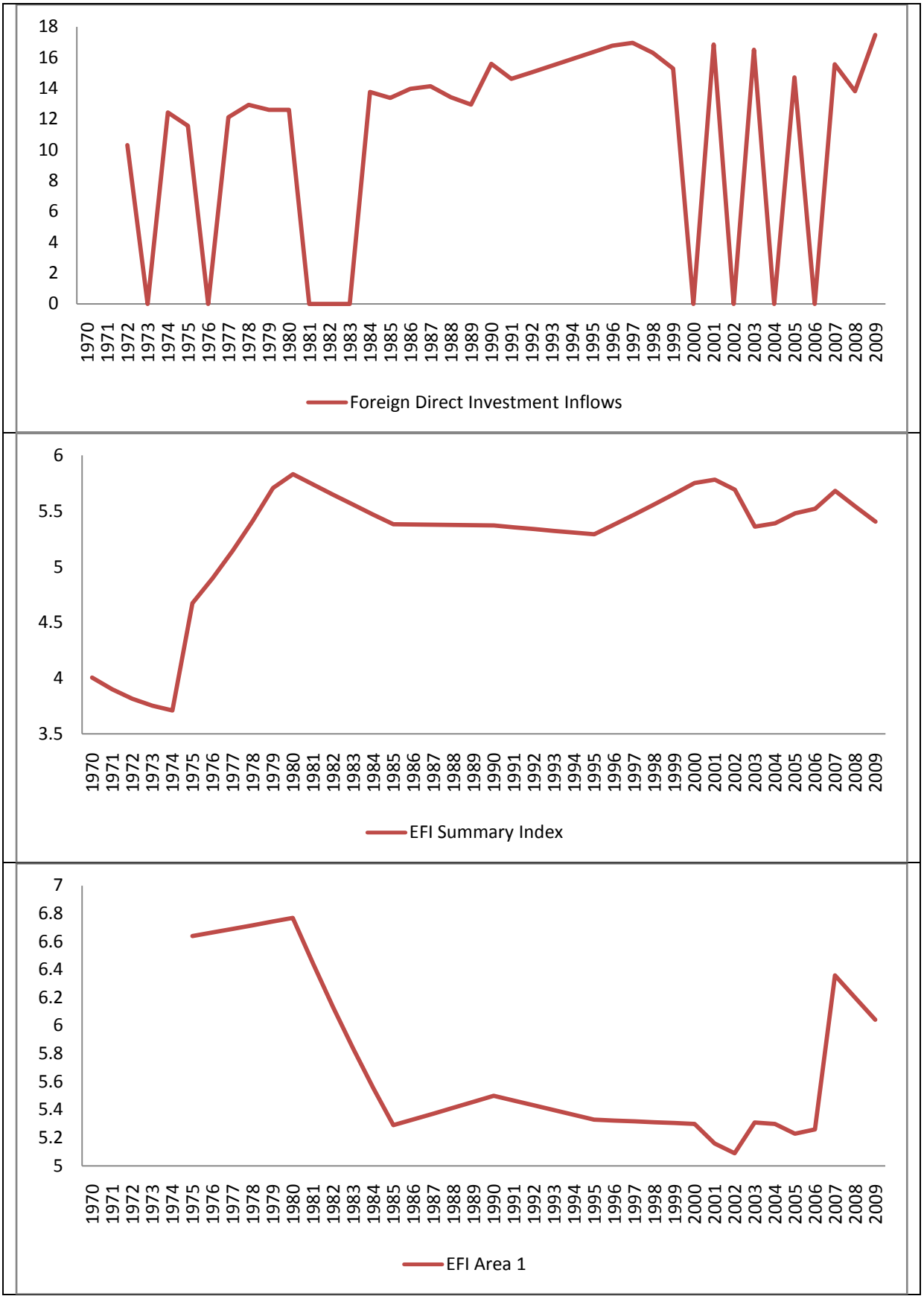


Table 3.3.3 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in Nepal (cont).

Table 3.3.4 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in Pakistan

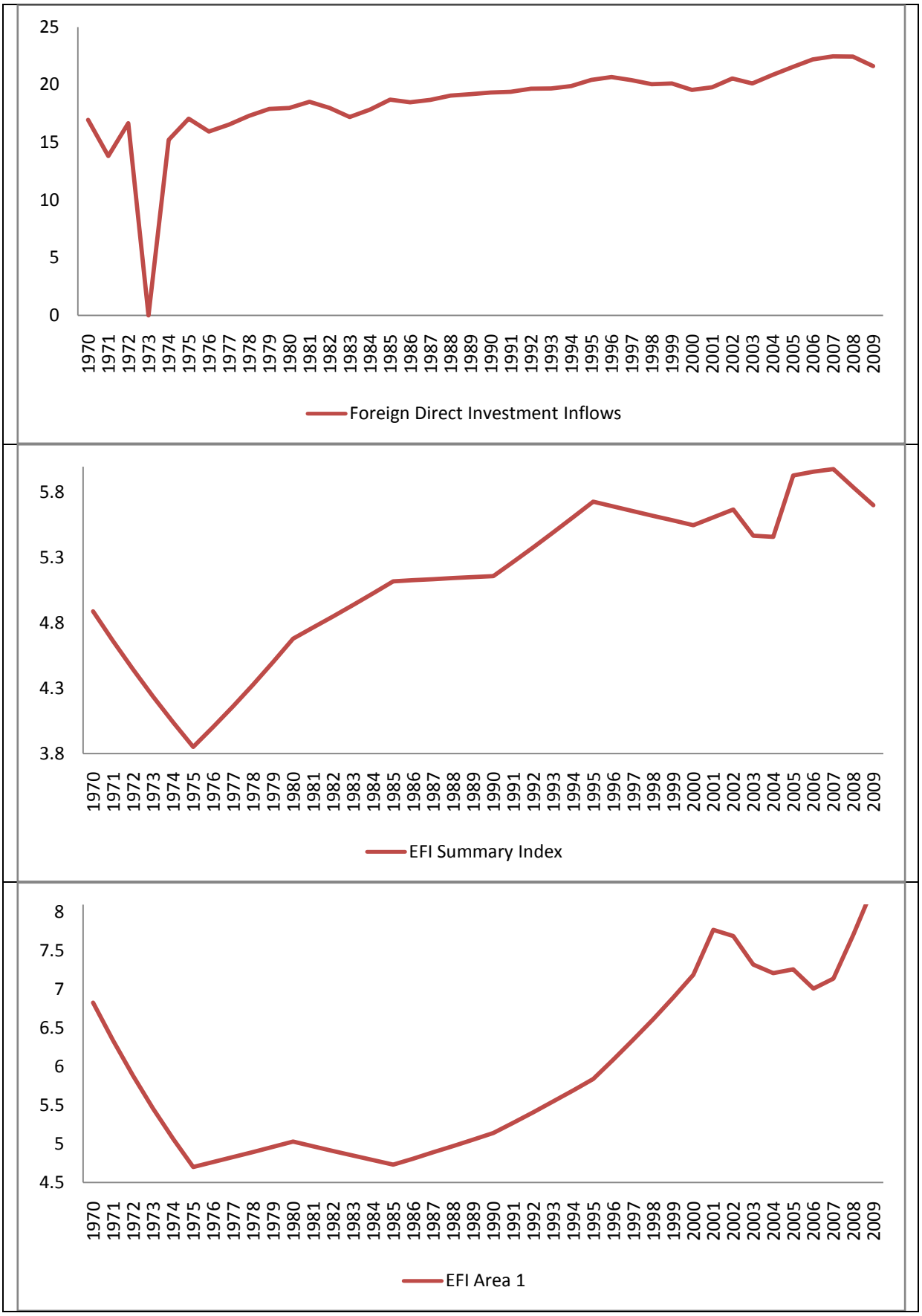


Table 3.3.4 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in Pakistan (cont).

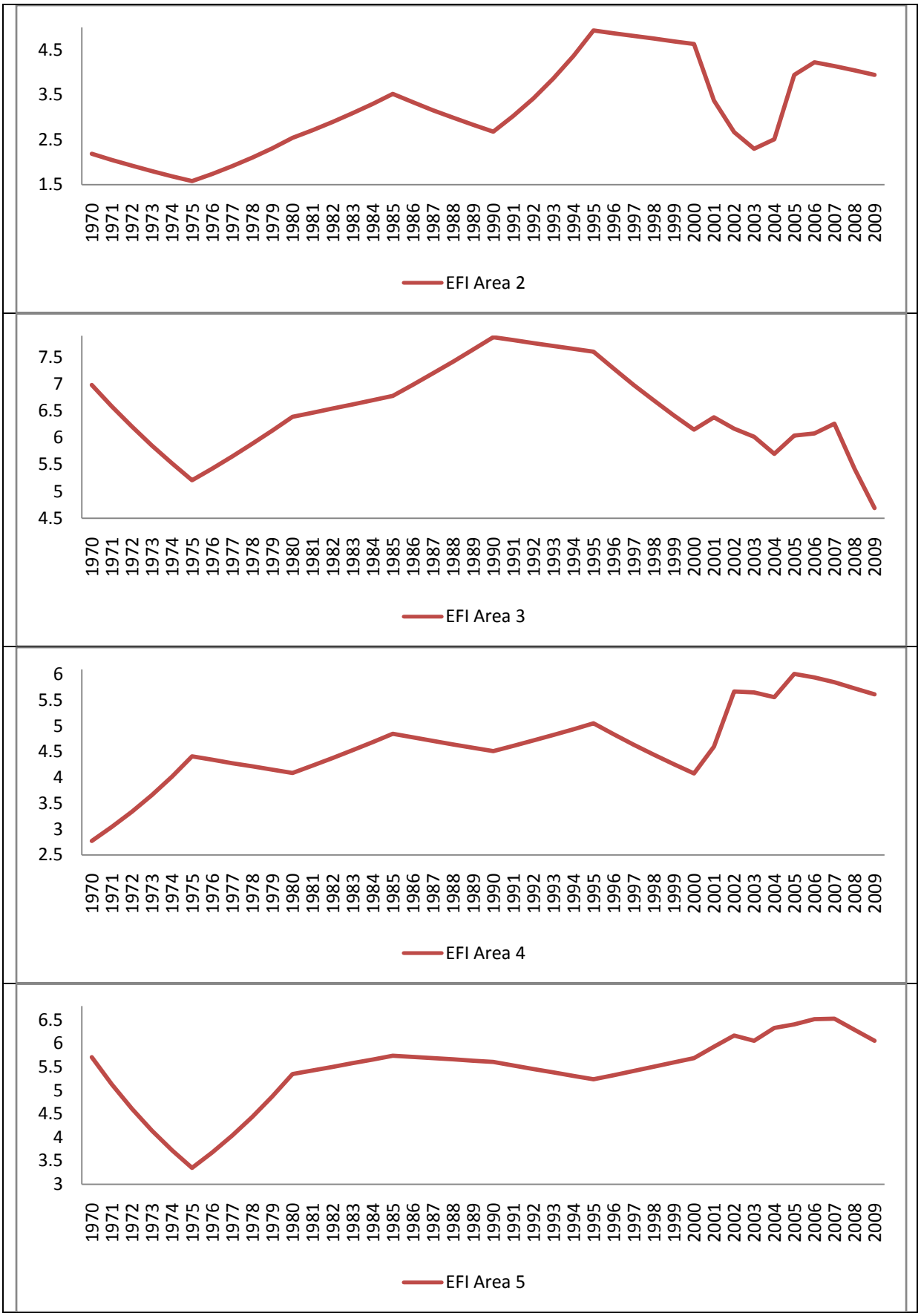


Table 3.3.5 Effect of Fraser Institute Economic Freedom Index (EFI) on *FDI* Inflows in Sri Lanka

Table 3.3.5 Effect of Fraser Institute Economic Freedom Index (EFI) on FDI Inflows in Sri Lanka (cont).

This failure of the proxies for institutional strength from Freedom House, Fraser Institute and Polity IV excluding Fraser Institute Summary Index to significantly affect the incidence of *FDI* may be due to the aggregate nature of these proxies which makes them exceedingly loosely related to the phenomenon's that affect the business market variables. Therefore, to further explore the effect of institutions on *FDI* inflows I graphed the individual ratings for the 12 indicators from *ICRG*, along with the aggregate inward *FDI* in tables 3.4.1 to 3.4.4[149].

Analysing the effect of corruption on *FDI* give the impression that it acts as a helping hand in Bangladesh[150] Pakistan[151] and Sri Lanka, whereas, in India alone it somehow is in accordance with my hypothesis that higher inflations deters *FDI* and it is in fact a grabbing hand[152].

The strong positive association between lower corruption and increased *FDI* inflows in India indicates that corruption free countries are preferred by multinational firms (Gastanaga et al. 1998) and this may be one of the reasons that India alone receives more inward *FDI* than the rest of the *SAARC* nations. This is in accordance with my intuition in the third section that rent-seeking attitude by state officials is abhorred by multinationals because it impose costs of unpredictable magnitude on them, undermining their ability to forecast and budget their expected outlays and perform optimaly. It could also be expected given that the major *FDI* exporters, that is, the *OECD* nations are signatories of the *OECD* Convention on

149 It shall be noted that the *PRS* group does not cover Nepal therefore I analysed the *ICRG* indicators effect for the other four countries only.

150. Drury et al. (2006) also considers Bangladesh as one of the most corrupt countries.

151. Regarding Pakistan corruption ratings visit: http://www.transparency.org/.

152. For empirical analysis where increased corruption promotes *FDI* see the findings of Egger and Winner (2005) for a set of 73 developed & developing countries and Adam and Filippaios (2007) for a sample of 105 developed and developing countries. Egger and Winner (2005) supporting their results terms corruption as the "helping hand" for a firm's operations and a stimulus for *FDI*. However, Wei (2000a), analysing the effect of corruption on *FDI* inflows in 45 host countries from 12 source *OECD* countries found it to be negatively influencing the investors choice of investment location. Asiedu and Freeman (2009), found that corruption negatively effects investments in transition countries and but not in Latin American-Caribbean and Sub-Saharan African ones. However, they do not control for difference in *FDI* sources.

Combating Bribery of Foreign Public Officials in International Business Transactions which came into force on 15 February 1999[153].

Bureaucracy quality appears to have a positive rapport with inward *FDI* in all the four economies. The political risk services *(PRS)* group awards better ratings to countries where bureaucracy is free of political pressure, have an established transparent mechanism of recruitment, training, postings, promotions and have the ability to act as a shock absorber in case of frequent government changes which habitually bring policy revisions. Knowing that all sample countries except India have seen unsystematic regime changes between dictatorships and democracies, leading to drastic shifts in governing principles, this role of bureaucracy is extremely important. For example, former regulations may still be on the books while the new ones are developed and gazetted. This creates new possibilities for the corrupt bureaucrats to fleece investors as it is not certain which set of rules/laws are applicable.

Socioeconomic conditions apparently do not carry great weight in the eyes of the overseas investors signalling that lesser poverty, unemployment and social harmony do not affect their investment decision. This implies that there isn't any noteworthy linkage between *FDI* and the strength of socioeconomic conditions of the host nations.

Investment Profile exerts a positive effect from 1990 onwards in all the countries. Put differently foreign direct investors appear to be paying more attention to it before carrying out a long-term investment in the host countries.

It is clearly apparent from the graphs that except India higher democratic accountability fails to induce additional inward *FDI*. This appears counter intuitive because it makes

153. Visit http://www.oecd.org/document/20/0,3343,en_2649_34859_2017813_1_1_1_1,00.html and read Cuervo-Cazurra (2006).

Table 3.4.1 Effect of Political Risk Services (PRS) International Country Risk Guide (ICRG) Indexes on *FDI* Inflows in Bangladesh

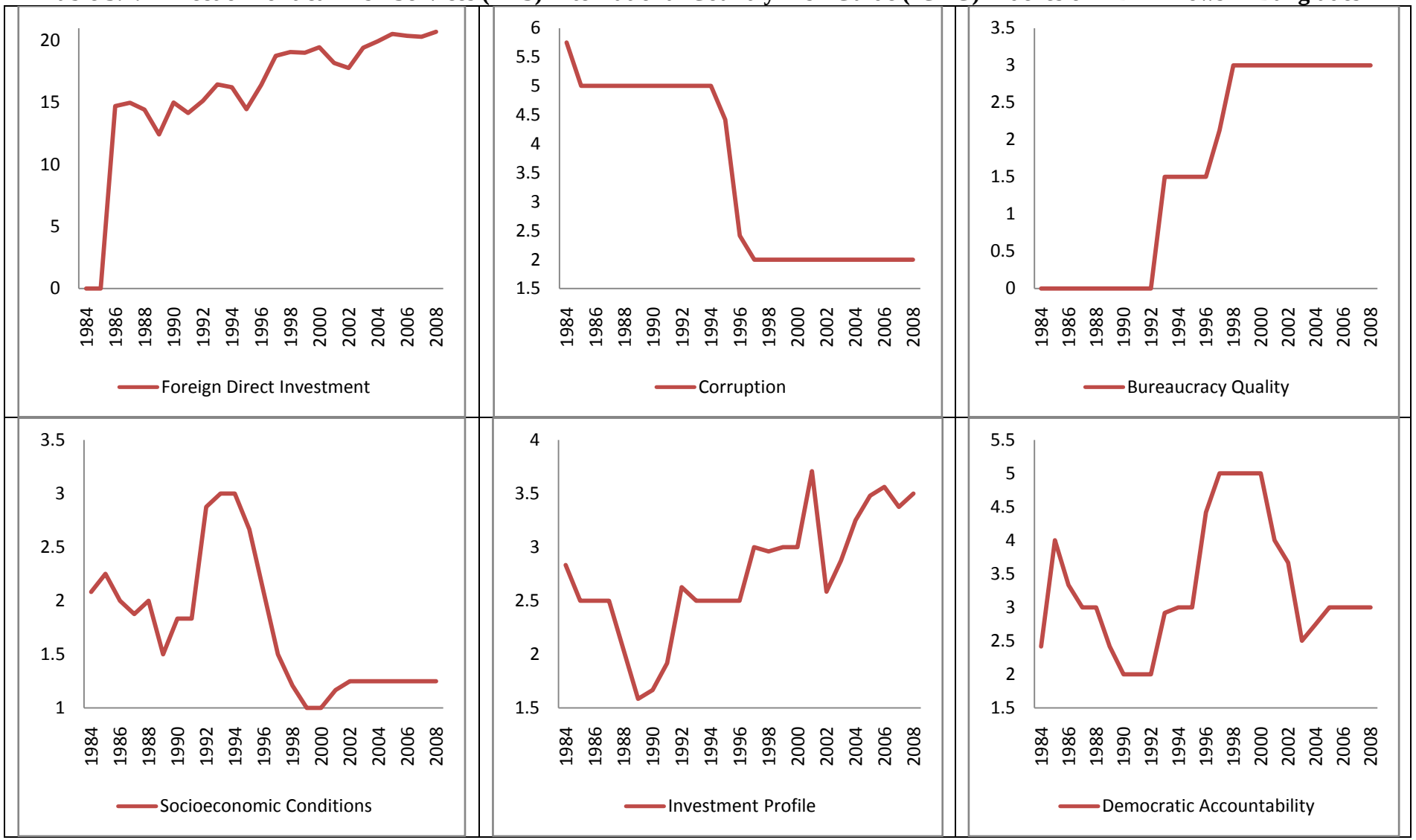


Table 3.4.1Effect of Political Risk Services (PRS) International Country Risk Guide (ICRG) Indexes on *FDI* Inflows in Bangladesh (Cont).

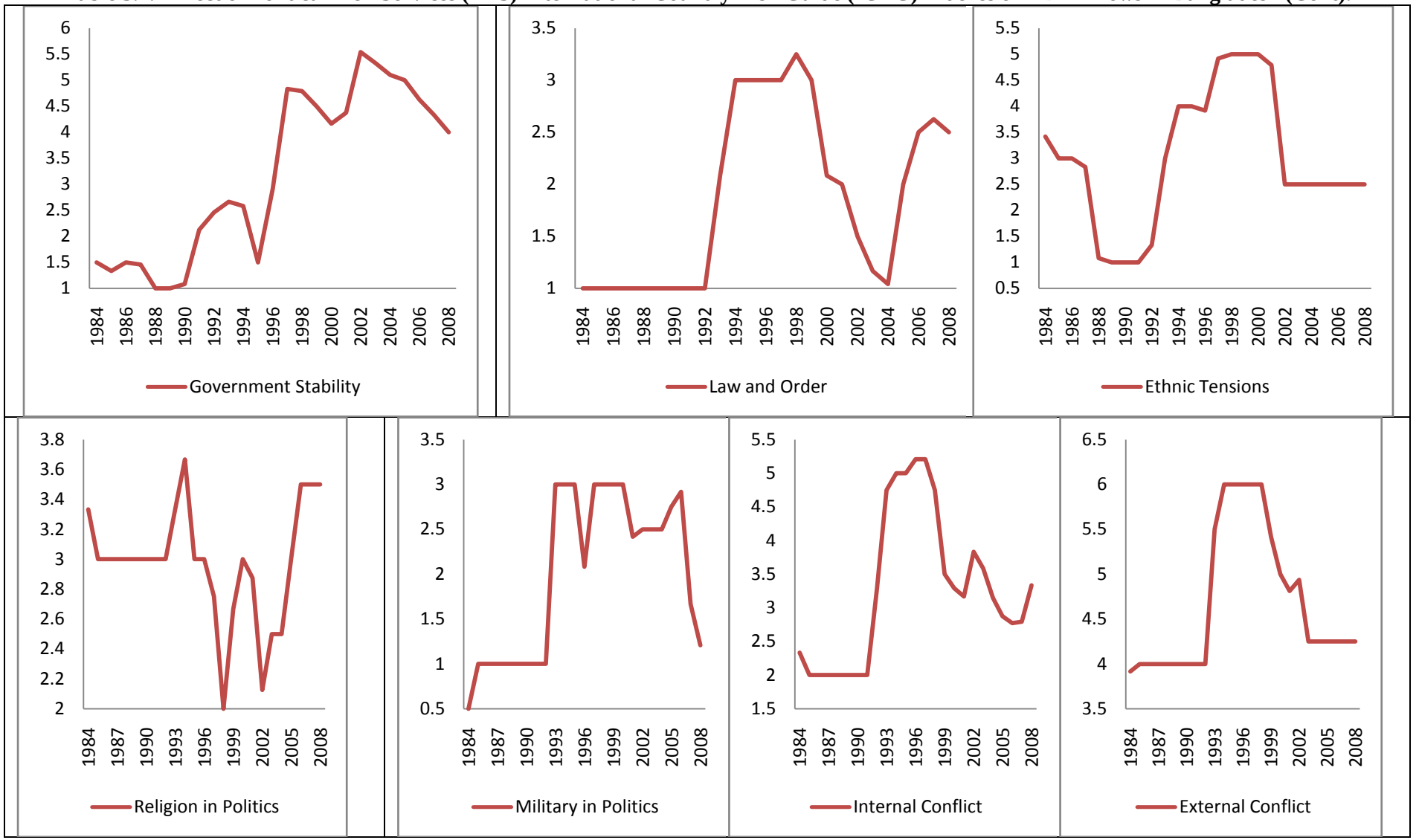


Table 3.4.2 Effect of Political Risk Services (PRS) International Country Risk Guide (ICRG) Indexes on *FDI* Inflows in India

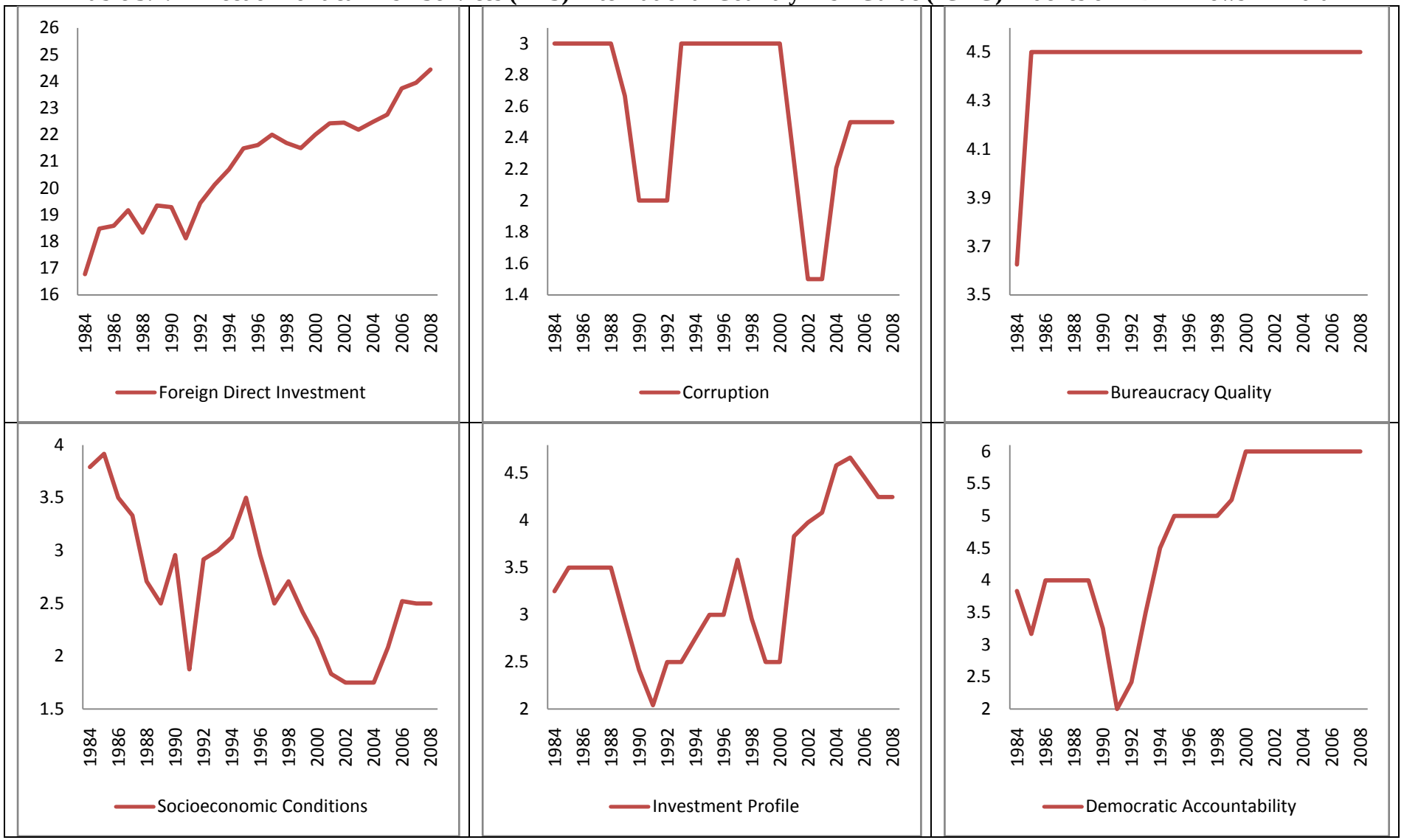


Table 3.4.2 Effect of Political Risk Services (PRS) International Country Risk Guide (ICRG) Indexes on *FDI* Inflows in India (Cont).

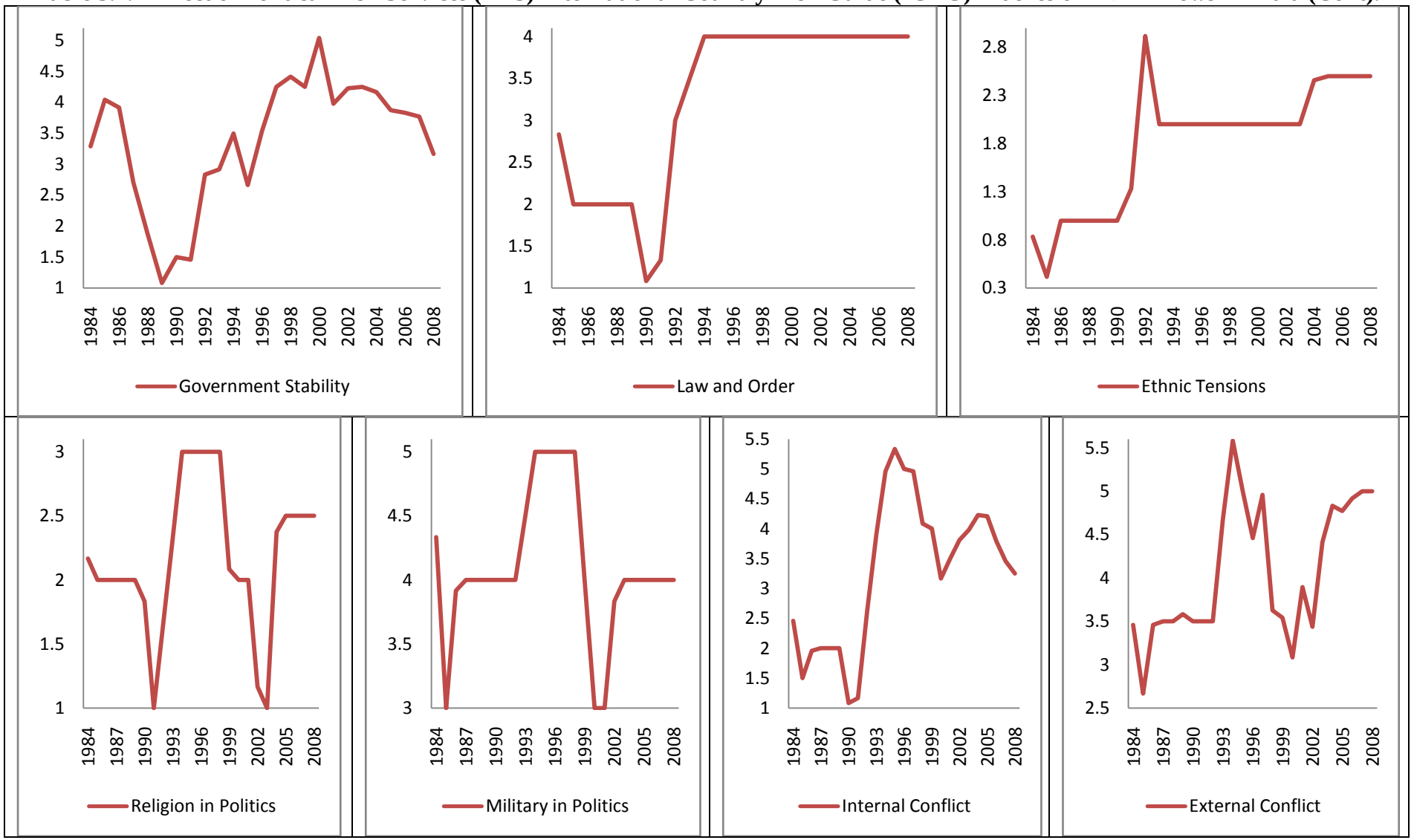


Table 3.4.3 Effect of Political Risk Services (PRS) International Country Risk Guide (ICRG) Indexes on *FDI* Inflows in Pakistan

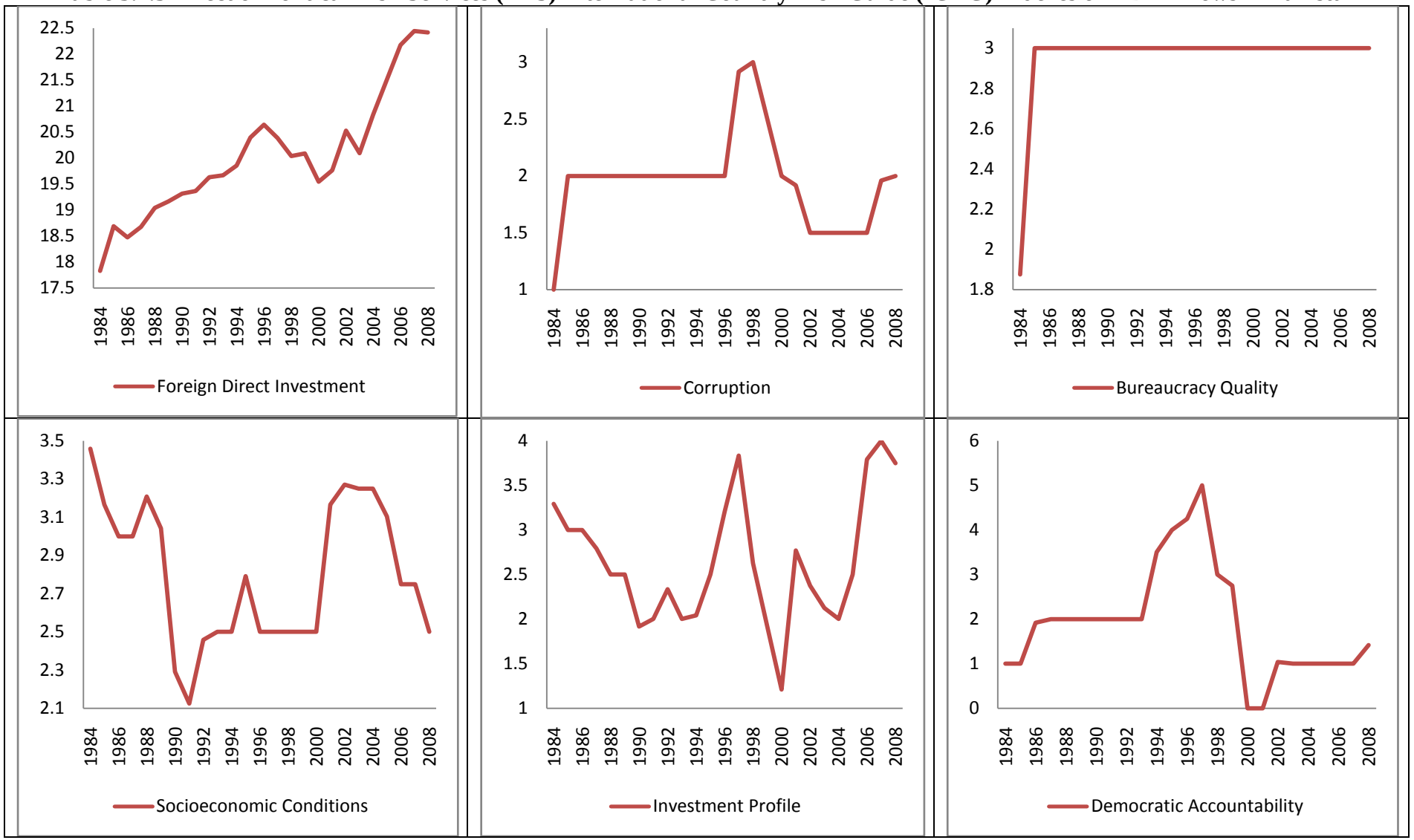


Table 3.4.3 Effect of Political Risk Services (PRS) International Country Risk Guide (ICRG) Indexes on *FDI* Inflows in Pakistan (Cont).

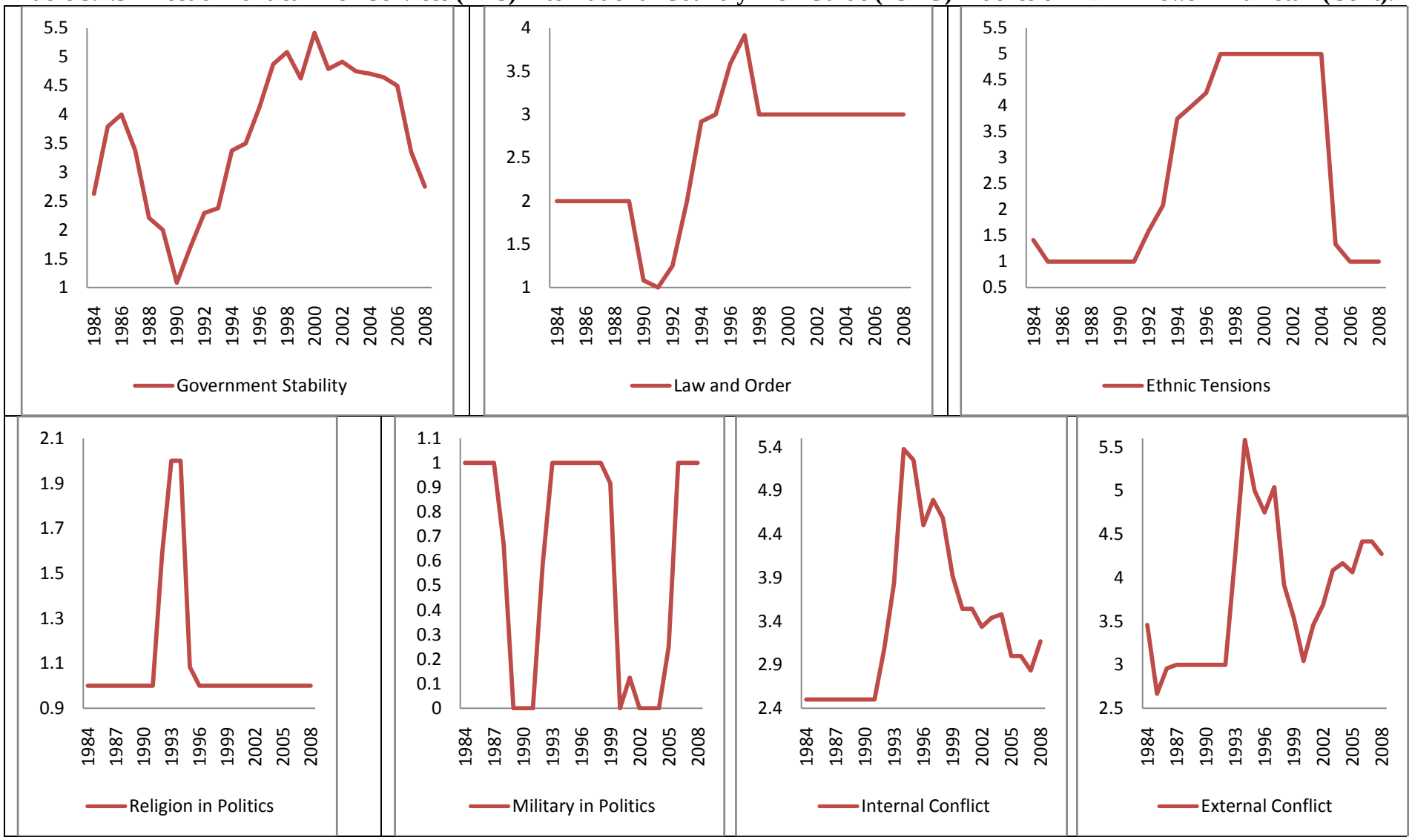


Table 3.4.4 Effect of Political Risk Services (PRS) International Country Risk Guide (ICRG) Indexes on *FDI* Inflows in Sri Lanka

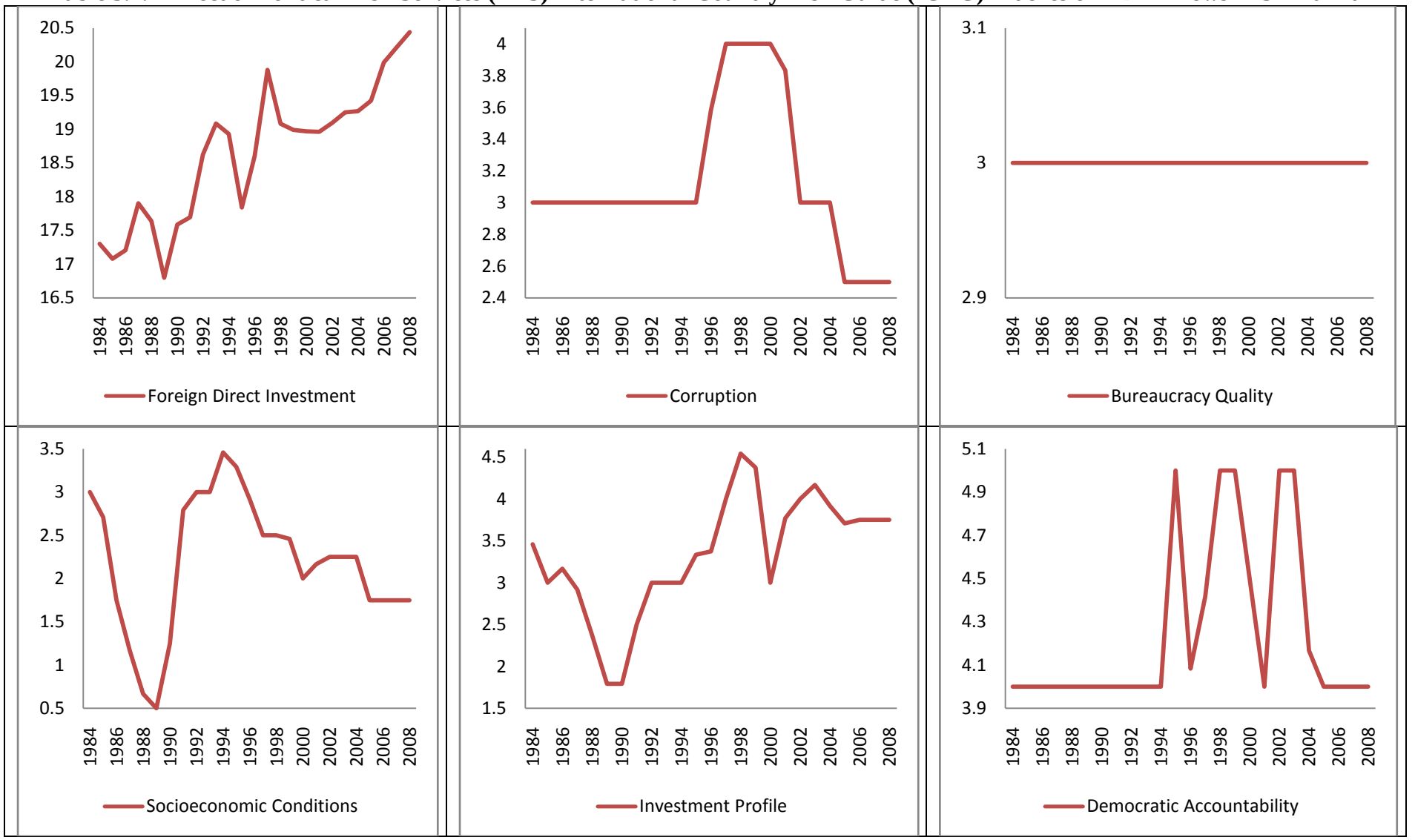
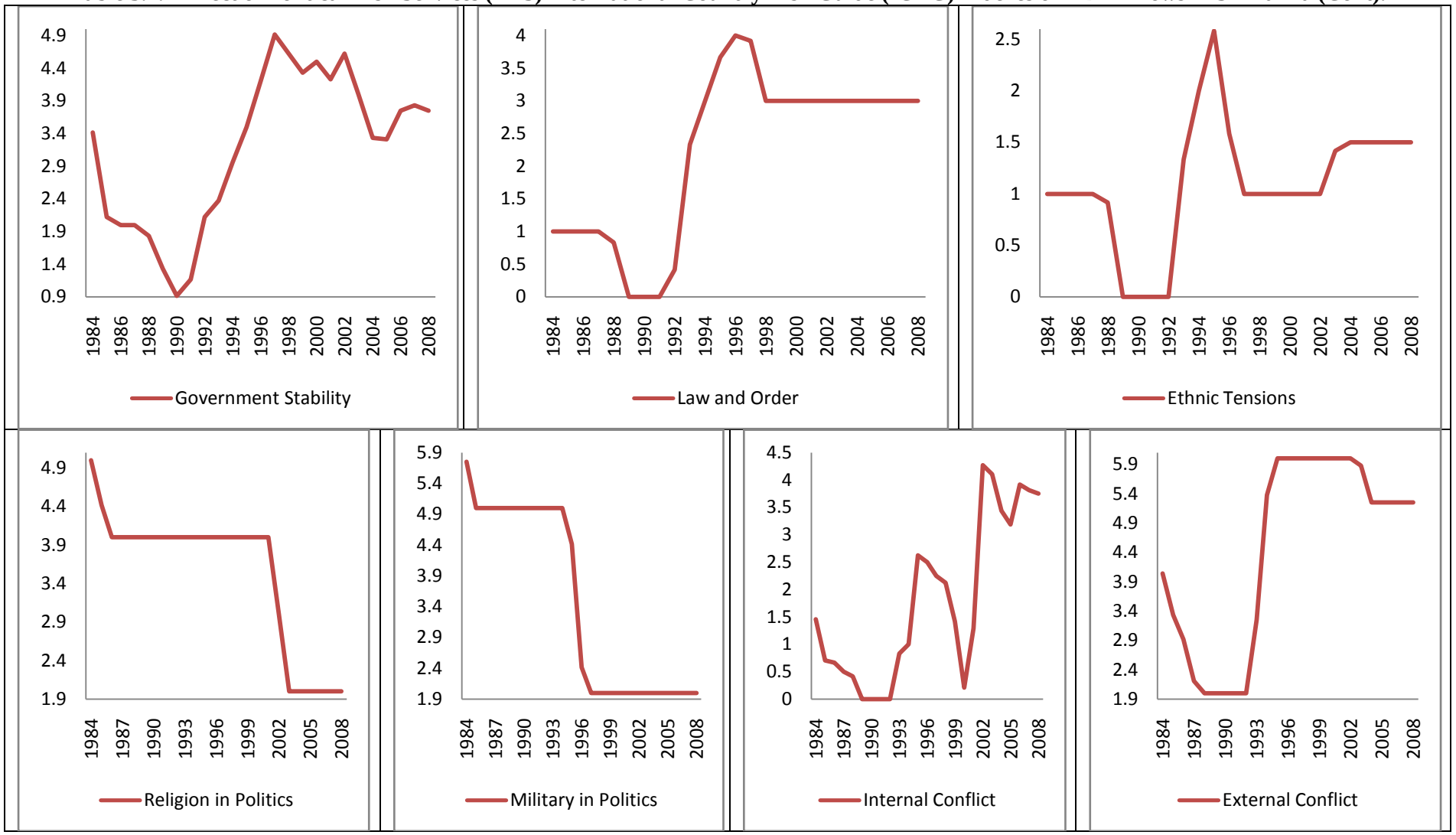


Table 3.4.4 Effect of Political Risk Services (PRS) International Country Risk Guide (ICRG) Indexes on *FDI* Inflows in Sri Lanka (Cont).



Politicians liable for their actions and enhances transparency in the state apparatus which is likely to foster a healthy economic environment that is not only ready to attract more *FDI* inflow, but also prepared to nurture the policy ingredients necessary for free market competition.

Also evident is the positive association between government stability and inward *FDI*. This is expected, because consistency of policies is important as recurrent regime changes can create regulatory vacuum in the interim and foreign as well as local firms have to face vacuity of legal structure governing their operations which is not very appealing for overseas investors. In addition it will exert an additional indirect positive effect for example via the accumulation of human capital (Daude and Stein 2007).

Except for Bangladesh post 2004, a healthy positive relationship exists between *FDI* inflows and the state of law and order in the host countries. Military and Religion in Politics do not have any reasonable correlation with inward *FDI*. The same is true for external and internal conflicts and ethnic tensions except for Sri Lanka, where external conflicts and ethnic tensions appear to strongly affect *FDI* inflows. Investors' sensitivity to ethnic tensions in Sri Lanka can be understood from the fact it overcame the Tamil liberation movement only last year.

Contrasting with the aggregate measures, on the whole, a number of the disaggregated institutional variables have close association with *FDI*. The results for the disaggregated measures of institutional quality also indicate that at least some of my hypothesized relationship of positive effect of institutions on *FDI* inflows does hold.

The observed relationships from the graphical analysis principally confirm and constitute quite persuasive evidence that in addition to structural variables the presence and health of governing institutions are also important factors influencing *FDI* possibility.

The analysis so far suggest that better business environment in the host country, boost *FDI* inflows, while institutional disfunctioning and non-credible bureaucracy causes the contrary[154].

These results also suggest that after accounting for the institutional and economic fundamentals, there still exists to some extent a bias for *FDI* inflows in favour of Pakistan, which perhaps can be explained by a combination of political and geographical factors.

Pakistan has a unique central location in South Asia between Afghanistan, China, India, Iran, and the Central Asian Republics *(CARs)*. The regional complexity of Pakistan, a country located at the crossroads of four distant cultures and civilisations, resembles the diversity of its many neighbours. It is the shortest route for Indian goods to reach *CARs*, Iran & Afghanistan and offers the nearest seaport for *CARs* and Northern China. As well as, to bring Iranian and *CARs* gas & petroleum products to India and China, the cheapest approach is a pipeline across Pakistan[155].

However, due to the exceptional performance of India in attracting *FDI*, the strange association of increasing corruption--higher *FDI* in Pakistan, needs further attention and investigation by the contemporary researches analysing *FDI* inflows in the developing countries because lack of transparency, poor domestic investment climate, political uncertainty and terrorism risk practically renders the general investment environment there anything but congenial to *FDI*[156].

This also highlights the need to explore the effect of institutions on investment inflows from the major *FDI* partners of the host *SAARC* countries, which may help to explain this.

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154. According to Walmsley et al. (2006) the 1997-1998 slow down of the Chinese economy and decrease in *FDI* inflows was partly due to the absence of rule based economy making it difficult for foreigners to operate effectively in China.
155. The significant positive effect of Pakistan's geography is even highlighted by Afza and Khan (2009).
156. Pakistan's poor corruption ratings are available at: http://www.transparency.org/ and for possibilities of risks to life over there see Maple Croft country ratings at: http://www.maplecroft.com/about/news/terrorism.html. According to the survey by Afza and Khan (2009) of *MNC's* executives in Pakistan political, social and legal aspects were the factors negatively affecting overseas investors.

Further, with the increase in *FDI* export, that is, outward *FDI* from the developing countries in the last few years, reaching over $ 100 billion by 2005 (Sumner 2008). It's plausible to expect that investors from *OECD* and developing countries are looking for different types of market characteristics and consequently, are paying attention to different set of policies and institutions in the host nation (Banga 2003, Woo and Heo 2009) [157].

Furthermore, according to Cuervo-Cazurra (2006) and Gelbuda et al. (2008) dismal institutions and endemic corruption prevents multinationals from making investment and even if they do so their preferable mode of entry is joint ventures in comparison to green field or wholly owned operations to reduce their risk. Accordingly, the low *FDI* in the smaller economies unlike India may be due to non-availability of sufficient joint venture possibilities.

3.5. Conclusion

The present study was an effort to analyse the affect of host nation institutions from South Asia on potential overseas direct investors from the world. The research on multinational direct overseas investment and the factors affecting it is not only intriguing but also extremely important for understanding the globalisation of the world economy. Though, researcher have considerably added to the *FDI* literature, the phenomenon is complicated enough, that in many ways we are still in the process of uncovering what we don't know, and this chapter may help in filling some remaining gaps and add to the existing literature.

I hypothesize that the presence of supporting institutions in the indigenous market are essential for profitability of *MNCs* and letting them optimally exploit their innate organisational competencies in their production units situated in the host market. Using data

157. Mathews (2006) puts outward *FDI* of developing countries at more than 10% of world total outward *FDI*. According to Gao (2005) even in China 70% of *FDI* inflows are from developing countries.

on aggregate *FDI* in five *SAARC* countries from 1970 to 2009, I found that multinationals seek stable government, promising investment profile and efficient reliable bureaucracy.

The relevance of the *ICRG* indicators in explaining the *FDI* inflows in South Asia was found to be relatively much more than the other measures of institutional strength.

It is true that it takes time for a country to modify its image, especially when the subsequent regimes have a long tradition of adopting new texts that are seldom translated into tangible state action. However, I believe that the *SAARC* countries by improving their state of governing institutions, erecting investor friendly policies, ensuring their continuation, curbing corruption, limiting the role of religion and military in the state apparatus and maintaining better socioeconomic conditions can gain investors trust and lure them to invest.

Simultaneously, penchant for democratization and subjecting government to greater scrutiny and accountability from a broader segment of the general public will limit the abuse of public office ensuing transparency and efficiency in bureaucracy and engender free market competition in the economy that is conducive for equal investment opportunities for all, and which in turn can attract more *FDI* inflows.

When compared with the other regions like *ASEAN*, Latin America, *CEEC* or even the *MENA* countries, the amount of research on *FDI* in *SAARC* countries is limited. This paper is the first attempt to analyse the inflow of *FDI* into *SAARC* and especially Pakistan, Nepal and Sri Lanka from the perspective of institutional characteristics of the host economies.

The divergence of results from the aggregate and the detailed *ICRG* data set indicates that some of the institutional determinants of inward *FDI* previously established for developed and developing countries as the target recipients of *FDI* do not necessarily hold for the *SAARC* countries.

I acknowledge the limitations of my study and expect that availability of micro level data over time shall certainly be of help to clear some of the muddy waters. Future research

can also investigate the possibility that the institutional variables can vary across industries. Similarly, disaggregation shall allow ascertaining if the optimal strength of institution for foreign direct investment in South Asia from different source countries and different types of *FDI*, and even different types of firms differs?

Thesis Conclusion

The research on multinational direct overseas investment and the factors affecting it is not only intriguing but also extremely important for understanding the globalisation of the world economy. Though, researchers have considerably added to the *FDI* literature, the phenomenon is complicated enough, that in many ways we are still in the process of uncovering what we don't know and this thesis may help in filling some remaining gaps and add to the existing literature.

Analysing the question: What multinationals seek in host countries? Or how developing countries can get more *FDI*? The three essays have utilised different techniques and investigated distinct ways that effect multinational's overseas investment decision.

In the first chapter utilising fixed effects, random effects and a dynamic panel model I have investigated the effect of *TRIMS*, *TRIPS*, *WTO* membership and trade and investment liberalisation on *FDI* inflows in a sample of 90 developing countries over the years 1980-2007, after controlling for the traditional location determinants of inward *FDI*.

The results confirm that dismantling and reducing *TRIMS* related market distortions, and strengthening and harmonising of intellectual property rights through *TRIPS* adds to a country's chances of hosting additional *FDI*. Liberalisation of the trade and investment environment positively affects the investors' choice of making *FDI*.

Geographic regional and lingual characteristics of the developing country affect the multinational firm's investment decision. The probability of firms investing in an economy with coastal access is found to be considerably greater than that of investing in a landlocked one. Latin American and Caribbean countries seems to be their preferred region and South Asia the least sought after. English being the lingua franca of global commerce exerts a positive effect on multinationals, whereas, French a negative one, probably due to large

number of Sub-Saharan and North African francophone countries. Spanish and Portuguese speaking nations have a positive but insignificant effect; the same is for East Asian and Pacific region. The Sub-Saharan countries make a negative insignificant influence.

The positive impact of *IPR* worldwide harmonisation under *TRIPS* highlights the importance of the rapport between strong *IPR* protection and investment inflows in the developing countries. However, as most of them are in the process of strengthening their *IPR* regimes, the strong positive effect calls for analysing their effect in a select group of leading developing countries with relatively better/stronger *IPR* laws, in order to explore whether enhanced harmonisation after a certain level leads to increased inflow or *FDI* decay.

Similarly, the close association of the *TRIMS* proxy, that is, trade agreements, with economic reforms and liberalisation, and the fact that a country's system of *IPR* protection is inextricably bound with its entire legal apparatus, requires the need of a thorough study of a developing country's economic and political institutions and their effect on inward *FDI*. The ideal candidates are the South Asian economies with a robust negative coefficient.

In the second chapter I have tried to address the importance of *IPR* in emerging developing countries. Using a standard gravity model, I attempted to look for the effect of bilateral and mutual associations between dyads of source *OECD* countries and host developing countries on the incidence of *FDI* in the host economy. I found support for the argument that developing countries that are bigger in size, have undertaken more preferential trade agreements, have a ratified bilateral investment treaty and are members of a custom union with their dyad member are expected to receive more *FDI*.

The analysis shows that spatial separation of countries causes an inward *FDI* decay due to higher monitoring and transaction costs that are positively associated with increasing distance. *FDI* seems to be somewhat a neighbourhood phenomenon and countries faraway from major investment centres may receive relatively less investment. However, once other

controls are introduced it is no more significant probably due to increased benefits allied with mutual trade agreements, *BITs* and adherence to international *IPR* conventions and treaties.

WTO membership, matters and multinationals' are highly sensitive to protection of their investments and intellectual property standards in the host countries. Furthermore, recognising the fact that a country's system of intellectual property protection and investment safety is inextricably bound with its entire legal and social system, requires a thorough study of other host country characteristics such as political uncertainty, general progress in reforms, effectiveness of the legal system, corruption level, economic instability, business risk, regime characteristics, perceptions about life safety, property rights for *MNCs*, contract and bankruptcy laws and other factors depicting the overall quality of institutions in a developing country with micro data. Given the negative sign for south Asian economies from the first chapter the *SAARC* countries seems to be the ideal choice.

Therefore, in the third chapter I investigated the affect of host nation institutions from South Asia on potential overseas direct investors from the entire world. Hypothesizing that the presence of supporting institutions in the indigenous market are essential for profitability of *MNCs* and letting them optimally exploit their innate organisational competencies in their production units situated in the host market, I found that multinationals seek government stability, better investment profile and efficient reliable bureaucracy. The relevance of the *ICRG* indicators in explaining the *FDI* inflows in South Asia was found to be relatively much more than the other measures of institutional strength. The divergence of results from the aggregate and the detailed *ICRG* data set indicates that some of the institutional determinants of inward *FDI* previously established for developed and developing countries as the target recipients of *FDI* do not necessarily hold for the *SAARC* countries.

I acknowledge the limitations of my study and expect that availability of micro level data over time shall certainly be of help to clear some of the muddy waters. Better proxies for

TRIMS and *TRIPS* can advance my attempt to quantify their accepted and acknowledged positive effects on *FDI* inflows. The choice of control variables proxying location *FDI* determinants shall be done through principal components analysis. Similarly, the issue of zero flows needs to be analysed through binary models. Future research can also investigate the extent of variability of the importance of *TRIMS, TRIPS* and the institutional variables across industries. Likewise, the threshold at which the importance of host *IPR* starts to diminish shall be ascertained. In the same way, disaggregation shall allow ascertaining if the optimal strength of institution for foreign direct investment in the host countries from different source countries and different types of *FDI,* and even different types of firms differs?

I can conclude that even now much of the *FDI* in developing countries is prompted by traditional location factors. Nevertheless, even there multinational firms, when they have a choice, value distortion free market conditions together with a liberal macroeconomic environment and investment framework and the strength of the institutions governing the host country's business and economic environment and *IPR* laws, tend to play a more decisive role than they once did.

The results from the three chapter's signals interesting patterns of multinational behaviour that national governments can refer to in their effort to attract foreign direct investment.

Appendices

Appendix 1.1. Data Sources for the Variables Used

Dependent Variable	**Proxy for / Source**
Stock Inward *FDI*	*LnFDIstock*$_{jt}$, Foreign Direct Investment stocks in the host developing country *j* at the end of the time period *t* from all the source countries. Source: UNCTAD *FDI*Stat database: http://www.unctad.org/Templates/Page.asp?intItemID=1923&lang=
Independent Variables	**Proxy for / Source**
Lag *FDI* Stock	*LnFDIstock*$_{jt-1}$, Lag of aggregate *FDI* stock is used as a proxy for agglomeration. Source: *UNCTAD FDI* Stat database: http://www.unctad.org/Templates/Page.asp?intItemID=1923&lang=
Gross domestic product & Population	*LnGDP* and *LnPOP*, Alternative proxies for market size. Host country *GDP* or population at time period *t*. Source: World Bank, World Development Indicators *(WB, WDI)*.
Gross domestic product per capita, *GDPPC* adjusted for purchasing power parity & gross fixed capital formation per capita.	Logs of these measures are used as alternative proxies for Economic development, income level, factor endowments and human capital accretion. Host country *LnGDPPC*, *LnGDPPC* adjusted for PPP and *LnGFCFPC*. Source: World Bank, World Development Indicators *(WB, WDI)*.
Aggregate trade as a percentage of *GDP*	*LnTrade*, Aggregate trade of the host country is used as a proxy for openness. Source: World Bank, World Development Indicators *(WB, WDI)*.
Exchange Rate *1US$* = host currency and inflation	Proxies for macroeconomic stability of the host country. Source: Exchange Rate. Pen world table version 6.3. Inflation. World Bank World Development Indicators *(WB, WDI)*.
Labour	*LnLabour*. Total labour force used as a proxy for labour availability. Source: International Labour Organization *ILO, WB WDI*.
Skill Level	1. Gross enrolment at the pre-primary *(GSEPP)*, primary *(GSEP)*, secondary *(GSES)* and tertiary *(GSET)* level used as proxy for skill level. 2. GDP per worker, *GFCF* per worker used for productivity and wage levels. Source: *WB WDI*. 3. Literacy rate and average years of schooling as proxy for skill level. Source: Barro & Lee education data set 2010: www.barrolee.com
Infrastructure	1. *LnTele-Density*, Number of mobile and fixed line subscribers as a proxy for infrastructure availability. Source: International Telecommunication Union, *WB WDI*. 2. *LnGFCF*, Gross fixed capital formation as alternative proxy for

	overall infrastructure development and availability. Source: *WB WDI.*
Financial development and liberalisation.	Domestic credit provided by the banking sector as a % of *GDP*, domestic credit to private sector as a % of *GDP*, liquid liabilities also known as broad money or *M3* as a % of *GDP*, market capitalization of listed domestic companies as a % of *GDP* , the total number of listed domestic companies and an equally weighted measure of the five proxies. Source: World Bank, World Development Indicators *(WB WDI).*
Trade Agreements	Total regional or preferential free trade agreements signed by the host country *j at time t* as a proxy for *TRIMS*. Source: *WTO* regional trade agreements information system: http://rtais.wto.org/ui/PublicMaintainRTAHome.aspx
Patents, Trademarks and Industrial Design	Number of total trademarks, total, resident and non resident patents, and total, resident and non resident industrial designs registered in the host developing country are used as a proxy for *TRIPS*. Source: World Intellectual Property Organization *(WIPO).* www.wipo.int/portal/index.html.en
Ginarte & Park Index	Revised Ginarte & Park Index used as alternative proxy for *TRIPS*. Source: Prof Walter G. Park website: http://www1.american.edu/cas/econ/faculty/park.htm
WTO membership	Dummy for *WTO* membership. Source: *WTO* website: http://www.wto.org/english/theWTO_e/whatis_e/tif_e/org6_e.htm
Language	Dummies for international languages e-g English, French, Spanish and Portuguese. Sources: 1. *CIA* world fact book: www.cia.gov/library/publications/the-world-factbook and 2. Centre d'Etudes Prospectives et d'Informations Internationales *(CEPII)* : www.cepii.fr/anglaisgraph/bdd/bdd.htm
Sea Access	Dummies for access to sea, landlocked, island etc. Sources: 1. Google map: http://maps.google.co.uk/maps?hl=en&tab=wl and 2. Centre d'Etudes Prospectives et d'Informations Internationales *(CEPII)* : www.cepii.fr/anglaisgraph/bdd/bdd.htm
Geographical and Income groups	Dummies for regional and income groups. Source: World Bank, World Development Indicators *(WB, WDI).*

Appendix 1.2. List of the Developing Countries and their Characteristics

Country	Income Group	Geographic Region	Sea Access	Language	*WTO* Membership
Algeria	LMINC	MENA	Yes	French	Observer
Angola	LMINC	SSA	Yes	Portuguese	23/11/1996
Argentina	UMINC	LAC	Yes	Spanish	01/01/1995
Barbados	UMINC	LAC	Yes	English	01/01/1995
Benin	LINC	SSA	Yes	French	22/02/1996
Bolivia	LMINC	LAC	No	Spanish	12/09/1995
Botswana	UMINC	SSA	No	English	31/05/1995
Brazil	LMINC	LAC	Yes	Portuguese	01/01/1995
Burkina Faso	LINC	SSA	No	English	03/06/1995
Burundi	LINC	SSA	No	French	23/07/1995
Cameroon	LMINC	SSA	Yes	English	13/12/1995
Central African Republic	LINC	SSA	No	French	31/05/1995
Chad	LINC	SSA	No	French	19/10/1996
Chile	UMINC	LAC	Yes	Spanish	01/01/1995
China	LMINC	EAP	Yes	Other	11/12/2001
Colombia	LMINC	LAC	Yes	Spanish	30/04/1995
Congo Democratic Republic	LINC	SSA	Yes	French	01/01/1997
Congo Republic	LMINC	SSA	Yes	French	27/03/1997
Costa Rica	UMINC	LAC	Yes	Spanish	01/01/1995
Cote d'Ivoire	LINC	SSA	Yes	French	01/01/1995
Dominican Republic	LMINC	LAC	Yes	Spanish	09/03/1995
Ecuador	LMINC	LAC	Yes	Spanish	21/01/1996
Egypt, Arab Republic	LMINC	MENA	Yes	English	30/06/1995
El Salvador	LMINC	LAC	Yes	Spanish	07/05/1995
Ethiopia	LINC	SSA	No	English	Observer
Fiji	LMINC	EAP	Yes	English	14/01/1996
Gabon	UMINC	SSA	Yes	French	01/01/1995
Gambia	LINC	SSA	Yes	English	23/10/1996
Ghana	LINC	SSA	Yes	English	01/01/1995
Guatemala	LMINC	LAC	Yes	Spanish	21/07/1995
Guinea	LINC	SSA	Yes	French	25/10/1995
Guyana	LMINC	LAC	Yes	English	01/01/1995
Honduras	LMINC	LAC	Yes	Spanish	01/01/1995
Hungary	UMINC	ECA	No	Other	01/01/1995
India	LINC	SA	Yes	English	01/01/1995
Indonesia	LMINC	EAP	Yes	English	01/01/1995
Iran, Islamic Republic	LMINC	MENA	Yes	Other	Observer

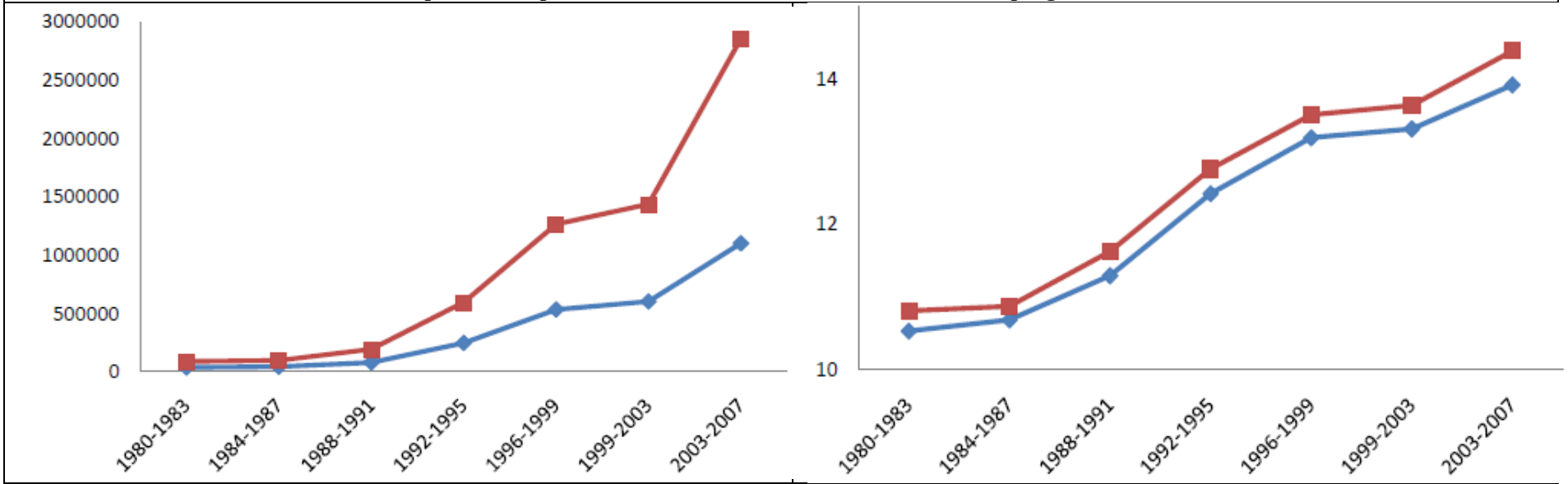
Jamaica	LMINC	LAC	Yes	English	09/03/1995
Jordan	LMINC	MENA	Yes	English	11/04/2004
Kenya	LINC	SSA	Yes	English	01/01/1995
Lebanon	UMINC	MENA	Yes	French	Observer
Lesotho	LMINC	SSA	No	English	31/05/1995
Libya	UMINC	MENA	Yes	English	Observer
Madagascar	LINC	SSA	Yes	English	17/11/1995
Malawi	LINC	SSA	No	Other	31/05/1995
Malaysia	UMINC	EAP	Yes	English	01/01/1995
Mali	LINC	SSA	No	French	31/05/1995
Mauritania	LINC	SSA	Yes	French	31/15/1995
Mauritius	UMINC	SSA	Yes	English	01/01/1995
Mexico	UMINC	LAC	Yes	Spanish	01/01/1995
Morocco	LMINC	MENA	Yes	French	01/01/1995
Mozambique	LINC	SSA	Yes	Portuguese	26/08/1995
Nepal	LINC	SA	No	English	23/04/2004
Nigeria	LINC	SSA	Yes	English	01/01/1995
Niger	LINC	SSA	No	French	13/12/1996
Oman	UMINC	MENA	Yes	English	09/11/2000
Pakistan	LINC	SA	Yes	English	01/01/2000
Panama	UMINC	LAC	Yes	Spanish	06/09/1997
Papua New Guinea	LINC	EAP	Yes	English	09/06/1996
Paraguay	LMINC	LAC	No	Spanish	01/01/1995
Peru	LMINC	LAC	Yes	Spanish	01/01/1995
Philippines	LMINC	EAP	Yes	English	01/01/1995
Poland	UMINC	ECA	Yes	Other	01/07/1995
Rwanda	LINC	SSA	No	French	22/05/1996
Samoa	LMINC	EAP	Yes	English	Observer
Senegal	LINC	SSA	Yes	French	01/01/1995
Seychelles	UMINC	SSA	Yes	English	Observer
Sierra Leone	LINC	SSA	Yes	English	23/07/1995
Solomon Islands	LINC	EAP	Yes	English	26/07/1996
South Africa	UMINC	SSA	Yes	English	01/01/1995
Sri Lanka	LMINC	SA	Yes	English	01/01/1995
Saint Kitts and Nevis	UMINC	LAC	Yes	English	21/02/1996
Saint Lucia	UMINC	LAC	Yes	English	01/01/1995
Saint Vincent and Grenadines	UMINC	LAC	Yes	English	01/01/1995
Sudan	LINC	SSA	Yes	English	Observer
Swaziland	LMINC	SSA	No	English	01/01/1995
Syrian, Arab Republic	LMINC	MENA	Yes	French	Observer
Tanzania	LINC	SSA	Yes	English	01/01/1995
Thailand	LMINC	EAP	Yes	English	01/01/1995
Togo	LINC	SSA	Yes	French	31/05/1995
Trinidad and	UMINC	LAC	Yes	English	01/03/1995

Tobago					
Tunisia	LMINC	MENA	Yes	French	29/03/1995
Turkey	UMINC	ECA	Yes	Other	26/03/1995
Uganda	LINC	SSA	No	English	01/01/1995
Uruguay	UMINC	LAC	Yes	Spanish	01/01/1995
Vanuatu	LMINC	EAP	Yes	English	Observer
Venezuela Republic	UMINC	LAC	Yes	Spanish	01/01/1995
Vietnam	LINC	EAP	Yes	English	11/01/20077
Zambia	LINC	SSA	No	English	01/01/1995
Zimbabwe	LINC	SSA	No	English	05/03/1995
Income Groups: Low income countries *(LINC)*, having 2005 Gross National Income per capita of $875 or less, Lower middle income economies *(LMINC)* having *GNIPC* between $876 and $3465 and Upper middle income countries *(UMINC)* having *GNIPC* between $3466 and $10725.					
Region Groups: East Asia and Pacific *(EAP)*, Europe and Central Asia *(ECA)*, Latin America and Caribbean *(LAC)*, Middle East and North Africa *(MENA)*, South Asia *(SA)*, Sub-Saharan Africa *(SSA)*.					

Appendix 1.3. Top Ten *FDI* Recipient Developing Countries

Top Ten *FDI* Recipient Developing Countries From 1980-2007 0n Four Years Cumulative Basis in Billion *US* $													
Country	1980-1983	Country	1984-1987	Country	1988-1991	Country	1992-1995	Country	1996-1999	Country	2000-2003	Country	2004-2007
Mexico	9.3	HongKong	9.2	China	14.4	China	109.8	China	233.9	China	302.9	China	456.3
Brazil	8.9	Mexico	8.6	Mexico	13.5	Mexico	29.3	Brazil	87.2	Mexico	88.1	Russia	113.1
HongKong	5.2	China	8.0	HongKong	11.3	HongKong	24.9	Mexico	48.4	Brazil	81.9	Hungary	103.5
Malaysia	4.9	Brazil	4.4	Malaysia	9.0	Malaysia	21.3	Argentina	47.4	Poland	23.9	Mexico	93.5
Egypt	2.1	Egypt	4.1	Thailand	7.6	Argentina	16.5	Chile	23.5	CzechRep	21.2	Brazil	86.6
Argentina	1.9	Colombia	2.6	Argentina	6.5	Indonesia	10.5	Poland	23.0	India	19.0	Poland	66.3
China	1.7	Malaysia	2.4	Brazil	6.0	Hungary	10.2	Malaysia	20.2	Thailand	17.1	India	58.7
Colombia	1.4	Argentina	1.7	Nigeria	4.4	Brazil	9.9	Thailand	19.8	Russia	16.9	Turkey	55.0
Tunisia	1.2	Nigeria	1.5	Indonesia	3.8	Poland	7.9	Venezuela	16.3	Argentina	16.4	Thailand	34.8
Chile	1.1	Chile	1.4	Chile	3.7	Chile	7.5	Hungary	14.1	Chile	15.9	Romania	34.2

Top Ten Recipients vis-à-vis Total *FDI* Inflows In Developing Countries



Actual Flows in Millions of *US* $ | **Log-linearised Flows**

Appendix 1.4. Earlier Empirical Usage of the Proxies

Variable	Proxy		Studied By	Sign
Agglomeration	FDI_{t-1}	S	Coughlin et al. (1991), Braunerhjelm and Svensson (1996), Gastanaga et al. (1998), Driffield (2002), Campos and Kinoshita (2003), Deichmann et al. (2003), Aqeel and Nishat (2004), Carstensen and Farid (2004), Blonigen et al. (2005), Busse and Hefeker (2005), Cieślik (2005b), Busse and Hefeker (2007), Elfakhani and Matar (2007), Quazi (2007), Ang (2008), Chidlow et al. (2009), Roberts and Almahmood (2009), Li et al. (2010)	Positive
		S	Sun et al. (2002),	Negative
	IVA	IS	Awokuse and Yin (2010)	Positive
Market Size	*GDP*	S	Rietveld and Janssen (1990), Braunerhjelm and Svensson (1996), Lee and Mansfield (1996), Balasubramanyam et al. (2002), Sun et al. (2002), Altomonte and Guagliano (2003), Banga (2003), Shah and Ahmed (2003), Yeaple (2003), Egger and Pfaffermayr (2004a), Okubo (2004), Sekkat and Veganzones (2004), Gao (2005), Ramirez (2006), Xing and Wan (2006), Ismail (2009), Kawai (2009), Awokuse and Yin (2010),	Positive
		IS	Palit and Nawani (2007)	
	Population	S	McCallum (1995), Balasubramanyam et al. (2002), Habib and Zurawicki (2002), Altomonte and Guagliano (2003), Egger and Pfaffermayr (2004a), Javorcik(2004), Rose-Ackerman and Tobin (2005), Johnson (2006), Seyoum (2006),	Positive
		S	Choi (2003), Neumayer and Spess (2005),	Negative
Economic Development	*GDPPC*	S	Coughlin et al. (1991), Nunnenkamp (2002), Deichmann et al. (2003), Aqeel and Nishat (2004), Egger and Pfaffermayr (2004a), Javorcik(2004), Sekkat and Veganzones (2004), Gao (2005), Neumayer and Spess (2005), Johnson (2006), Greenaway et al. (2007), Desbordes and Vicard (2009), Ismail (2009)	Positive
	GDPPCPPP	S	Wei (1995), Campos et al. (1999),	Positive
Openness	**Trade**	S	Rietveld and Janssen (1990), Sun et al. (2002), Campos and Kinoshita (2003), Pan (2003), Javorcik (2004), Onyeiwu and Shrestha (2004), Sekkat and Veganzones (2004), Seyoum (2006), Xing and Wan (2006), Elfakhani and Matar (2007), Greenaway et al. (2007), Palit and Nawani (2007), Ang (2008), Ismail (2009),	Positive

Macro-Economic Stability	**Inflation**	S	Schneider and Frey (1985), Harms and Ursprung (2001), Braga and Cardoso (2004), Onyeiwu and Shrestha (2004), Busse and Hefeker (2005), Neumayer and Spess (2005), Rose-Ackerman and Tobin (2005), Asiedu (2006), Haile and Assefa (2006), Busse and Hefeker (2007), Cuervo-Cazurra (2008), Ismail (2009), Krifa-Schneider and Matei (2010),	Negative
		IS	Addison and Heshmati (2003), Egger and Winner (2005), Aizenman and Spiegel (2006), Asiedu and Freeman (2009), Ali et al.(2010), Dutta and Roy (2011),	
		S	Awan et al. (2010)	Positive
		IS	Asiedu (2002), Campos and Kinoshita (2003),	
	Exchange Rate	S	Li and Resnick (2003), Aqeel and Nishat (2004), Sekkat and Veganzones (2004), Rose-Ackerman and Tobin (2005), Ramirez (2006), Xing and Wan (2006), Palit and Nawani (2007), Ang (2008), Dutta and Roy (2011),	Negative
		IS	Banga (2003), Pan (2003), Seyoum (2006), Krifa-Schneider and Matei (2010)	Negative
Labour Availability & Skills	**Unemployment**	S	Coughlin et al. (1991), Seyoum (2006),	Positive
		IS	Habib and Zurawicki (2002),	Positive
	Education	S	Barro (1991), Campos et al. (1999), Nunnenkamp (2002), Banga (2003), Yeaple (2003), Carstensen and Farid (2004), Egger and Pfaffermayr (2004a), Braga and Cardoso (2004), Sekkat and Veganzones (2004), Egger and Winner (2005), Kwok and Tadesse (2006), Moosa (2009), Dutta and Roy (2011)	Positive
			Addison and Heshmati (2003), Altomonte and Guagliano (2003),	Negative
		IS	Campos and Kinoshita (2003), Cieślik (2005b), Ismail (2009),	Positive
	Literacy	S	Wei (1995) , Harms and Ursprung (2001), Asiedu (2006), Adam and Filippaios (2007), Kapuria-Foreman (2007),	Positive
		IS	Morisset (2000), Haile and Assefa (2006)	Positive
Infrastructure	**Telephone**	S	Asiedu (2002), Biswas (2002), Campos and Kinoshita (2003), Sekkat and Veganzones (2004), Cieślik (2005b), Asiedu (2006), Palit and Nawani (2007), Ismail (2009), Dutta and Roy (2011),	Positive
			Addison and Heshmati (2003), Haile and Assefa (2006)	Negative
		IS	Morisset (2000), Onyeiwu and Shrestha (2004), Ali et al.(2010)	Positive
	GFCF	S	Awan et al. (2010)	Positive
		IS	Haile and Assefa (2006)	Negative

	Roads	S	Coughlin et al. (1991), Deichmann et al. (2003), Shah and Ahmed (2003), Cieślik (2005b), Ang (2008), Kawai (2009),	Positive
		IS	Adam and Filippaios(2007), Krifa-Schneider and Matei (2010),	Negative
Financial Development	***PCr%GDP***	S	Portes and Rey (2005), Ang (2008), Dutta and Roy (2011),	Positive
	CrBS%GDP	S	Deichmann et al. (2003), Dutta and Roy (2011),	Positive
	M3%GDP	S	Baltagi et al. (2007), Dutta and Roy (2011),	Positive
	M2%GDP	IS	Buch et al. (2001), Asiedu (2002),	Positive
TRIMS	***TA***	S	Banga (2003), Choi (2003), Rose (2003), Medvedev (2006a and b), Büthe and Milner (2008), Ismail (2009),	Positive
		IS	Gao (2005),	
TRIPS	***G&P*, Patents, Surveys**	S	Lee and Mansfield (1996), Javorcik (2004), Seyoum (2006), Kawai (2009), Awokuse (2010)	Positive
WTO	**Membership**	S	Sun et al. (2002), Neumayer and Spess (2005), Walmsley et al. (2006), Elfakhani and Matar (2007), Büthe and Milner (2008),	Positive
		IS	Rose (2003),	
Sea Access	**Dummy**	S	Aizenman and Spiegel (2006),	Negative
		S	Deichmann et al. (2003), Silva and Tenreyro (2005), Chidlow et al. (2009),	Positive
		IS	Cieślik (2005b), Cuervo-Cazurra (2006), Cuervo-Cazurra (2008),	Positive
Geographic Regions	**Dummy**	S	Holland and Pain (1998), Asiedu (2002), Addison and Heshmati (2003), Altomonte and Guagliano (2003), Busse (2004), Busse and Hefeker (2005), Aizenman and Spiegel (2006), Busse and Hefeker (2007), Chidlow et al. (2009), Dutta and Roy (2011)	Positive/ Negative
"S" stands for Significant and "I" for Insignificant results				

Appendix 2.1. General Information about the Source and Host Countries

List Of Countries					
Host Developing Countries	**Capital City**	**Geographic Region**	**Income Group**	**Latitudes**	**Longitudes**
Brazil	Brasilia	LAC	LMI	-15° 46' 59"	-47° 55' 0"
China	Beijing	EAP	LMI	39° 55' 44"	116° 23' 17"
Czech Republic	Prague	ECA (EU)	UMI	50° 4' 59"	14° 28' 0"
Egypt	Cairo	MENA	LMI	30° 3' 0"	31° 15' 0"
Hungary	Budapest	ECA (EU)	UMI	47° 30' 0"	19° 4' 59"
India	New Delhi	SA	LI	28° 36' 0"	77° 12' 0"
Malaysia	Kuala Lumpur	EAP	UMI	3° 10' 0"	101° 42' 0"
Mexico	Mexico City	LAC	UMI	19° 26' 3"	-99° 8' 18"
Morocco	Rabat	MENA	LMI	34° 1' 12"	-6° 49' 48"
Poland	Warsaw	ECA (EU)	UMI	52° 15' 0"	21° 0' 0"
South Africa	Pretoria	SSA	UMI	-25° 42' 24"	28° 13' 45"
Turkey	Ankara	ECA	UMI	39° 55' 37"	32° 51' 51"
Source *OECD* Countries	**Capital City**	**Geographic Region**	**Income Group**	**Latitudes**	**Longitudes**
Australia	Canberra	*OECD*	HI	-35° 16' 59"	149° 13' 0"
Austria	Vienna	*OECD* (EU)	HI	48° 12' 0"	16° 22' 0"
Denmark	Copenhagen	*OECD* (EU)	HI	55° 40' 0"	12° 34' 59"
Finland	Helsinki	*OECD* (EU)	HI	60° 10' 32"	24° 56' 3"
France	Paris	*OECD* (EU)	HI	48° 52' 0"	2° 19' 59"
Germany	Berlin	*OECD* (EU)	HI	52° 31' 0"	13° 24' 0"
Italy	Rome	*OECD* (EU)	HI	41° 54' 0"	12° 28' 59"
Japan	Tokyo	*OECD*	HI	35° 41' 6"	139° 45' 5"
Korea	Seoul	*OECD*	HI	37° 33' 59"	26° 59' 58"
Netherlands	Amsterdam	*OECD* (EU)	HI	52° 21' 0"	4° 55' 0"
Portugal	Lisbon	*OECD* (EU)	HI	38° 43' 0"	-9° 7' 59"
Spain	Madrid	*OECD* (EU)	HI	40° 24' 0"	-3° 40' 59"
Sweden	Stockholm	*OECD* (EU)	HI	59° 19' 59"	18° 3' 0"
Switzerland	Bern	*OECD*	HI	46° 55' 0"	7° 28' 0"
United Kingdom	London	*OECD* (EU)	HI	51° 31' 0"	-0° 6' 0"
United States	Washington DC	*OECD*	HI	38° 53' 30"	-77° 0' 29"
East Asia & Pacific (EAP), Europe & Central Asia (ECA), Latin America & Caribbean (LAC), Middle East & North Africa (MENA), South Asia (SA), Sub Saharan Africa (SSA).					

Appendix 2.2. List of all the Bilateral Investment Treaties Signed and Ratified by the host Developing Countries form the two Sources

Country/Partner	UNCTAD BIT Database		ICSID BIT Database	
	Signed	Ratified	Signed	Ratified
Brazil				
Belgium	06/01/1999	……	06/01/1999	……
Chile	22/03/1994	……	22/03/1994	……
Cuba	26/06/1997	……	26/06/1997	……
Denmark	04/05/1995	……	04/05/1995	……
Finland	28/03/1995	……	28/03/1995	……
France	21/03/1995	……	21/03/1995	……
Germany	21/09/1995	……	21/09/1995	……
Italy	03/04/1995	……	03/04/1995	……
Korea, Rep.	01/09/1995	……	01/09/1995	……
Luxembourg	06/01/1999	……	06/01/1999	……
Netherlands	25/11/1998	……	25/11/1998	……
Portugal	09/02/1994	……	09/02/1994	……
Switzerland	11/11/1994	……	11/11/1994	……
United Kingdom	19/07/1994	……	19/07/1994	……
Venezuela	04/07/1995	……	04/07/1995	……
China				
Albania	*13/02/1993*	*01/09/1995*	*13/02/1993*	……
Algeria	*17/10/1996*	……	*20/10/1996*	……
Argentina	*05/11/1992*	*01/08/1994*	*05/11/1992*	*17/06/1994*
Armenia	*04/07/1992*	*18/03/1995*	*04/07/1992*	*17/03/1995*
Australia	11/07/1988	11/07/1988	11/07/1988	11/07/1988
Austria	12/09/1985	11/10/1986	12/09/1985	11/10/1986
Azerbaijan	08/03/1994	01/04/1995	08/03/1994	01/04/1995
Bahrain	*17/06/1999*	*27/04/2000*	*17/06/1999*	*04/01/2000*
Bangladesh	12/09/1996	25/03/1997	12/09/1996	25/03/1997
Barbados	20/07/1998	01/10/1999	20/07/1998	01/10/1999
Belarus	11/01/1993	14/01/1995	11/01/1993	14/01/1995
Belgium	*06/06/2005*	……	*04/06/1984*	*05/10/1986*
Belize	*16/01/1999*	……	……	……
Benin	*18/02/2004*	……	……	……
Bolivia	*08/05/1992*	*01/09/1996*	*08/05/1992*	……
Bosnia	*26/06/2002*	*01/01/2005*	……	……
Botswana	12/06/2000	……	12/06/2000	……
Brunei	*17/11/2000*	……	……	……
Bulgaria	27/06/1989	21/08/1994	27/06/1989	21/08/1994
Cambodia	*19/07/1996*	*01/02/2000*	……	……
Cape Verde	*21/04/1998*	*01/01/2001*	……	……
Chile	*23/03/1994*	*01/08/1995*	*23/03/1994*	*14/10/1995*
Congo, DR	*18/12/1997*	……	……	……
Congo, Rep.	*20/03/2000*	……	……	……

Costa Rica	*24/10/2007*	…..…	*25/03/1999*	*08/10/2004*
Cote d'Ivoire	*23/09/2002*	…..…	…..…	…..…
Croatia	07/06/1993	01/07/1994	07/06/1993	01/07/1994
Cuba	*20/04/2007*	*01/12/2008*	*24/04/1995*	…..…
Cyprus	*17/01/2001*	*29/04/2002*	*15/01/2001*	…..…
Czech Republic	*08/12/2005*	*01/09/2006*	*04/12/1991*	*01/12/1992*
Denmark	29/04/1985	29/04/1985	29/04/1985	29/04/1985
Djibouti	*18/08/2003*	…..…	…..…	…..…
Ecuador	21/03/1994	01/07/1997	21/03/1994	01/07/1997
Egypt	*21/04/1994*	*01/04/1996*	*21/04/1994*	…..…
Equatorial Guinea	*20/10/2005*	…..…	…..…	…..…
Estonia	02/09/1993	01/06/1994	02/09/1993	01/06/1994
Ethiopia	*11/05/1998*	*01/05/2000*	…..…	…..…
Finland	*15/11/2004*	*15/11/2006*	*04/09/1984*	*26/01/1986*
France	…..…	…..…	30/05/1984	19/03/1985
Gabon	09/05/1997	……	09/05/1997	……
Georgia	03/06/1993	01/03/1995	03/06/1993	01/03/1995
Germany	01/12/2003	11/11/2005	01/12/2003	11/11/2005
Ghana	*12/10/1989*	*22/11/1991*	*12/10/1989*	…..…
Greece	25/06/1992	21/12/1993	25/06/1992	21/12/1993
Guinea	*18/11/2005*	…..…	…..…	…..…
Guyana	*27/03/2003*	*26/10/2004*	*27/03/2003*	…..…
Honduras	…..…	…..…	*26/06/1996*	…..…
Hungary	29/05/1991	01/04/1993	29/05/1991	01/04/1993
Iceland	*31/03/1994*	*01/03/1997*	*31/03/1994*	…..…
India	*21/11/2006*	*01/08/2007*	*21/11/2006*	…..…
Indonesia	18/11/1994	01/04/1995	18/11/1994	01/04/1995
Iran	*22/07/2000*	*01/07/2005*	*22/07/2000*	…….
Israel	*10/04/1995*	*13/01/2009*	*10/04/1995*	…..…
Italy	28/01/1985	28/08/1987	28/01/1985	28/08/1987
Jamaica	26/08/1994	01/04/1996	26/08/1994	01/04/1996
Japan	27/08/1988	14/05/1989	27/08/1988	14/05/1989
Jordan	15/11/2001	……	15/11/2001	……
Kazakhstan	10/08/1992	13/08/1994	10/08/1992	13/08/1994
Kenya	16/07/2001	……	16/07/2001	……
Korea, DPR	*25/03/2005*	…..…	…..…	…..…
Korea, Republic	*07/09/2007*	*01/12/2007*	*30/09/1992*	*04/12/1992*
Kuwait	*25/11/1985*	*24/12/1986*	*23/11/1985*	*24/12/1986*
Kyrgyzstan	14/05/1992	08/09/1995	14/05/1992	08/09/1995
Lao PDR	31/01/1993	01/06/1993	31/01/1993	01/06/1993
Latvia	15/04/2004	01/02/2006	15/04/2004	01/02/2006
Lebanon	13/06/1996	10/07/1997	13/06/1996	10/07/1997
Lithuania	08/11/1993	01/06/1994	08/11/1993	01/06/1994
Luxembourg	*06/06/2005*	…..…	*04/06/1984*	*05/10/1986*
Macedonia	*09/06/1997*	*01/11/1997*	…….	…..…
Madagascar	*21/11/2005*	*01/06/2007*	…….	…..…
Malaysia	21/11/1988	31/03/1990	21/11/1988	31/03/1990
Mauritius	*04/05/1996*	*08/16/1997*	…….	…..…

Moldova	*06/11/1992*	*01/03/1995*	*07/11/1992*	*01/03/1995*
Mongolia	25/08/1991	01/11/1993	25/08/1991	01/11/1993
Morocco	*27/03/1995*	*27/11/1999*	*27/03/1995*	……
Mozambique	*10/07/2001*	*26/02/2002*	……..	……
Myanmar	*12/12/2001*	*21/05/2002*	……..	……
Namibia	*17/11/2005*	……	……..	……
Netherlands	26/11/2001	01/08/2004	26/11/2001	01/08/2004
New Zealand	22/11/1988	25/03/1989	22/11/1988	25/03/1989
Nigeria	*27/08/2001*	……	……	……
Norway	21/11/1984	10/07/1985	21/11/1984	10/07/1985
Oman	*18/03/1995*	*01/08/1995*	*18/03/1995*	……
Pakistan	12/02/1989	30/09/1990	12/02/1989	30/09/1990
Papua New Guinea	12/04/1991	12/02/1993	12/04/1991	12/02/1993
Peru	09/06/1994	01/02/1995	09/06/1994	01/021995
Philippines	*20/07/1992*	*08/09/1995*	*20/07/1992*	……
Poland	07/06/1988	08/01/1989	07/06/1988	08/01/1989
Portugal	*09/12/2005*	*26/07/2008*	*03/02/1992*	*01/12/1992*
Qatar	*09/04/1999*	*01/04/2000*	……	……
Romania	*16/04/2007*	*01/09/2009*	*12/07/1994*	*01/09/1995*
Russian Federation	*09/11/2006*	……	*21/07/1990*	……
Saudi Arabia	*29/02/1996*	*01/05/1997*	*29/02/1996*	*07/05/1997*
Serbia	*18/12/1995*	*13/09/1996*	*18/12/1995*	*12/09/1996*
Seychelles	*10/02/2007*	……	……	……
Sierra Leone	*16/05/2001*	……	……	……
Singapore	21/11/1985	07/02/1986	21/11/1985	07/02/1986
Slovakia	*07/12/2005*	*25/05/2007*	*04/12/1991*	*01/12/1992*
Slovenia	13/09/1993	01/01/1995	13/09/1993	01/01/1995
South Africa	30/12/1997	01/04/1998	30/12/1997	01/04/1998
Spain	*14/11/2005*	*01/07/2008*	*06/02/1992*	*01/05/1993*
Sri Lanka	13/03/1986	25/03/1987	13/03/1986	25/03/1987
Sudan	*30/05/1997*	*01/07/1998*	……	……
Sweden	*27/09/2004*	……	*29/03/1982*	*29/03/1982*
Switzerland	*27/02/2009*	……	*12/11/1986*	*18/03/1987*
Syria	*09/12/1996*	*01/11/2001*	*09/12/1996*	……
Tajikistan	09/03/1993	20/01/1994	09/03/1993	20/01/1994
Thailand	12/03/1985	13/12/1985	12/03/1985	13/12/1985
Trinidad & Tobago	*22/07/2002*	*24/05/2004*	……	……
Tunisia	*21/06/2004*	……	……	……
Turkey	13/11/1990	19/08/1994	13/11/1990	19/08/1994
Turkmenistan	*21/11/1992*	*04/06/1994*	*21/11/1992*	*04/06/1995*
Uganda	*27/03/2004*	……	……	……
Ukraine	31/10/1992	29/05/1993	31/10/1992	29/05/1993
UAE	01/07/1993	28/09/1994	01/07/1993	28/09/1994
United Kingdom	15/05/1986	15/05/1986	15/05/1986	15/05/1986
Uruguay	02/12/1993	01/12/1997	02/12/1993	01/12/1997
Uzbekistan	*13/03/1992*	*12/04/1994*	*13/03/1992*	*14/04/1994*
Vanuatu	*07/04/2006*	……	……	……
Vietnam	02/12/1992	01/09/1993	02/12/1992	01/09/1993

Yemen, Rep.	*16/02/1998*	*10/04/2002*	….…	….…
Zambia	*21/06/1996*	….…	….…	….…
Zimbabwe	*21/05/1996*	*01/03/1998*	….…	….…
Czech Republic				
Albania	*08/02/2006*	….…	*27/06/1994*	*07/07/1995*
Algeria	22/09/2000	……	22/09/2000	……
Argentina	27/09/1996	23/07/1998	27/09/1996	23/07/1998
Australia	30/09/1993	29/06/1994	30/09/1993	29/06/1994
Austria	15/10/1990	01/10/1991	15/10/1990	01/10/1991
Belarus	14/10/1996	09/04/1998	14/10/1996	09/04/1998
Belgium	24/04/1989	13/02/1992	24/04/1989	13/02/1992
Bosnia	17/04/2002	30/05/2004	17/04/2002	30/05/2004
Bulgaria	17/03/1999	30/09/2000	17/03/1999	30/09/2000
Canada	….…	….…	*15/11/1990*	*09/03/1992*
Chile	*24/04/1995*	*05/10/1996*	*24/04/1995*	*02/12/1996*
China	*08/12/2005*	*09/01/2006*	*04/12/1991*	*01/12/1992*
Costa Rica	28/10/1998	05/03/2001	28/10/1998	05/03/2001
Croatia	….…	….…	*05/03/1996*	*15/05/1997*
Cyprus	15/06/2001	25/09/2002	15/06/2001	25/09/2002
Denmark	06/03/1991	19/09/1992	06/03/1991	19/09/1992
Egypt	29/05/1993	04/06/1994	29/05/1993	04/06/1994
El Salvador	29/11/1999	28/032001	29/11/1999	28/032001
Estonia	24/10/1994	18/07/1995	24/10/1994	18/07/1995
Finland	06/11/1990	23/10/1991	06/11/1990	23/10/1991
France	13/09/1990	27/09/1991	13/09/1990	27/09/1991
Germany	02/10/1990	02/08/1992	02/10/1990	02/08/1992
Greece	*03/06/1991*	*30/12/1992*	*03/06/1991*	*31/12/1992*
Guatemala	08/07/2003	29/04/2005	08/07/2003	29/04/2005
Hungary	14/01/1993	25/05/1995	14/01/1993	25/05/1995
India	11/10/1996	06/02/1998	11/10/1996	06/02/1998
Indonesia	17/09/1998	21/06/1999	17/09/1998	21/06/1999
Ireland	28/06/1996	01/08/1997	28/06/1996	01/08/1997
Israel	23/09/1997	16/03/1999	23/09/1997	16/03/1999
Italy	22/01/1996	01/11/1997	22/01/1996	01/11/1997
Jordan	20/09/1997	25/04/2001	20/09/1997	25/04/2001
Kazakhstan	08/10/1996	02/04/1998	08/10/1996	02/04/1998
Korea, DPR	27/02/1998	10/10/1999	27/02/1998	10/10/1999
Korea, Rep.	27/04/1992	16/03/1995	27/04/1992	16/03/1995
Kuwait	08/01/1996	21/01/1997	08/01/1996	21/01/1997
Latvia	25/10/1994	01/08/1995	25/10/1994	01/08/1995
Lebanon	19/09/1997	24/01/2000	19/09/1997	24/01/2000
Lithuania	27/10/1994	12/07/1995	27/10/1994	12/07/1995
Luxembourg	24/04/1989	13/02/1992	24/04/1989	13/02/1992
Macedonia, FYR	21/06/2001	20/09/2002	21/06/2001	20/09/2002
Malaysia	09/09/1996	03/12/1998	09/09/1996	03/12/1998
Malta	09/04/2002	09/07/2003	09/04/2002	09/07/2003
Mauritius	05/04/1999	27/04/2000	05/04/1999	27/04/2000
Mexico	04/04/2002	13/03/2004	04/04/2002	13/03/2004

Moldova	*02/09/2008*	*……*	*12/05/1999*	*21/06/2000*
Mongolia	*13/02/1998*	*05/07/1999*	*13/02/1998*	*07/05/1999*
Morocco	11/06/2001	30/01/2003	11/06/2001	30/01/2003
Netherlands	29/04/1991	01/10/1992	29/04/1991	01/10/1992
Nicaragua	02/04/2002	24/02/2004	02/04/2002	24/02/2004
Norway	21/05/1991	06/08/1992	21/05/1991	06/08/1992
Pakistan	07/05/1999	……	07/05/1999	……
Panama	27/08/1999	20/10/2000	27/08/1999	20/10/2000
Paraguay	21/10/1998	24/03/2000	21/10/1998	24/03/2000
Peru	16/03/1994	06/03/1995	16/03/1994	06/03/1995
Philippines	05/04/1995	04/04/1996	05/04/1995	04/04/1996
Poland	16/07/1993	29/06/1994	16/07/1993	29/06/1994
Portugal	12/11/1993	03/08/1994	12/11/1993	03/08/1994
Romania	*22/01/2008*	*……..*	*08/11/1993*	*28/07/1994*
Russian Federation	05/04/1994	06/06/1996	05/04/1994	06/06/1996
Serbia	13/10/1997	29/01/2001	13/10/1997	29/01/2001
Singapore	08/04/1995	08/10/1995	08/04/1995	08/10/1995
Slovakia	*26/03/2002*	*14/07/2003*	*23/11/1992*	*01/01/1993*
Slovenia	04/05/1993	21/05/1994	04/05/1993	21/05/1994
South Africa	14/12/1998	17/09/1999	14/12/1998	17/09/1999
Spain	12/12/1990	28/11/1991	12/12/1990	28/11/1991
Sweden	13/11/1990	23/09/1991	13/11/1990	23/09/1991
Switzerland	05/10/1990	07/08/1991	05/10/1990	07/08/1991
Tajikistan	*11/02/1994*	*05/12/1995*	*11/02/1994*	*02/06/1995*
Thailand	12/02/1994	04/05/1995	12/02/1994	04/05/1995
Tunisia	06/01/1997	08/07/1998	06/01/1997	08/07/1998
Turkey	30/04/1992	01/08/1997	30/04/1992	01/08/1997
Ukraine	*16/09/2008*	*……*	*17/03/1994*	*02/11/1995*
UAE	23/11/1994	25/12/1995	23/11/1994	25/12/1995
United Kingdom	10/07/1990	26/10/1992	10/07/1990	26/10/1992
United States	26/10/1991	19/12/1992	26/10/1991	19/12/1992
Uruguay	26/09/1996	29/12/2000	26/09/1996	29/12/2000
Uzbekistan	15/01/1997	06/04/1998	15/01/1997	06/04/1998
Venezuela	27/04/1995	23/07/1996	27/04/1995	23/07/1996
Vietnam	*21/03/2008*	……	*25/11/1997*	*09/07/1998*
Zimbabwe	13/09/1999	……	13/09/1999	……
Egypt				
Albania	22/05/1993	…….	22/05/1993	…….
Algeria	*29/03/1997*	*03/05/2000*	*29/03/1997*	*……*
Argentina	11/05/1992	03/12/1993	11/05/1992	03/12/1993
Armenia	*09/01/1995*	*01/03/2006*	*09/06/1996*	*05/08/1997*
Australia	03/05/2001	05/09/2002	03/05/2001	05/09/2002
Austria	12/04/2001	29/04/2002	12/04/2001	29/04/2002
Azerbaijan	*24/10/2002*	*……*	*……*	*……*
Bahrain	*04/10/1997*	*11/01/1999*	*07/09/1997*	*29/09/1997*
Belarus	*20/03/1997*	*18/01/1999*	*23/03/1997*	*18/01/1999*
Belgium	28/02/1999	24/05/2002	28/02/1999	24/05/2002
Bosnia	11/03/1998	29/10/2001	11/03/1998	29/10/2001

Botswana	*02/07/2003*	……	……	……
Bulgaria	*15/03/1998*	*08/06/2000*	*15/03/1998*	……
Cameroon	*24/10/2000*	……	*24/09/2000*	……
Canada	*13/11/1996*	*03/11/1997*	*13/11/1996*	*13/11/1997*
C African Rep	*07/02/2000*	……	……	……
Chad	*14/03/1998*	……	*12/03/1998*	……
Chile	05/08/1999	……	05/08/1999	……
China	*21/04/1994*	*01/04/1996*	*21/04/1994*	……
Comoros	*13/11/1994*	*27/02/2000*	……	……
Congo Dem Rep	*18/12/1998*	……	……	……
Croatia	27/10/1997	02/05/1999	27/10/1997	02/05/1999
Cyprus	*21/10/1998*	*11/05/1999*	*21/10/1998*	……
Czech Republic	*29/05/1993*	*04/06/1994*	*29/05/1993*	*04/01/1994*
Denmark	*24/06/1996*	*29/10/2000*	*24/06/1999*	……
Djibouti	21/07/1998	……	21/07/1998	……
Ethiopia	*27/07/2006*	……	……	……
Finland	*03/03/2004*	*05/02/2005*	*03/03/2004*	……
France	22/12/1974	01/10/1975	22/12/1974	01/10/1975
Gabon	22/12/1997	……	22/12/1997	……
Georgia	10/08/1999	……	10/08/1999	……
Germany	16/06/2005	……	16/06/2005	……
Ghana	11/03/1998	……	11/03/1998	……
Greece	16/07/1993	06/04/1995	16/07/1993	06/04/1995
Guinea	06/03/1998	……	06/03/1998	……
Hungary	23/05/1995	21/08/1997	23/05/1995	21/08/1997
India	09/04/1997	22/11/2000	09/04/1997	22/11/2000
Indonesia	*19/01/1994*	*29/11/1994*	*19/01/1994*	……
Iran	*25/05/1977*	……	……	……
Italy	02/03/1989	01/05/1994	02/03/1989	01/05/1994
Jamaica	10/02/1999	……	10/02/1999	……
Japan	28/01/1977	14/01/1978	28/01/1977	14/01/1978
Jordan	08/05/1996	11/04/1998	08/05/1996	11/04/1998
Kazakhstan	*14/02/1993*	*08/08/1996*	*14/02/1993*	*28/03/1997*
Korea, DPR	*19/08/1999*	*12/01/2000*	*19/08/1997*	……
Korea, Rep	18/03/1996	25/05/1997	18/03/1996	25/05/1997
Kuwait	*17/04/2001*	*26/04/2002*	*17/04/2001*	……
Latvia	24/04/1997	03/06/1998	24/04/1997	03/06/1998
Lebanon	16/03/1996	02/06/1997	16/03/1996	02/06/1997
Libya	*03/12/1990*	*04/07/1991*	……	……
Luxembourg	28/02/1999	24/05/2002	28/02/1999	24/05/2002
Macedonia, FYR	22/11/1999	……	22/11/1999	……
Malawi	*21/10/1997*	*07/09/1999*	*12/10/1997*	……
Malaysia	*14/04/1997*	*03/02/2000*	*14/04/1997*	……
Mali	*09/03/1998*	*07/07/2000*	*09/03/1998*	……
Malta	*20/02/1999*	*17/07/2000*	*20/02/1999*	……
Mongolia	*27/04/2004*	*25/01/2005*	……	……
Morocco	*14/05/1997*	*01/07/1998*	*14/05/1997*	……
Mozambique	*08/12/1998*	*25/07/2000*	*08/12/1998*	……

Netherlands	17/01/1996	01/03/1998	17/01/1996	01/03/1998
Nigeria	20/06/2000	……	20/06/2000	……
Niger	*04/03/1998*	*23/03/1998*	*04/03/1998*	……
Oman	*25/03/1998*	*03/03/2000*	*25/03/1998*	……
Pakistan	16/04/2000	……	16/04/2000	……
Palestine	*28/04/1998*	*19/06/1999*	……	……
Poland	01/07/1995	17/01/1998	01/07/1995	17/01/1998
Portugal	*29/04/1999*	*23/12/2000*	*28/04/1999*	*23/12/2000*
Qatar	12/02/1999	……	12/02/1999	……
Romania	*24/11/1994*	*03/04/1996*	*24/11/1994*	……
Russian Federation	*23/09/1997*	*12/06/2000*	*23/09/1997*	……
Saudi Arabia	*13/03/1990*	*15/09/1992*	……	……
Senegal	05/03/1998	……	05/03/1998	……
Serbia	*24/05/2005*	*29/10/2005*	……	……
Seychelles	22/01/2002	……	22/01/2002	……
Singapore	15/04/1997	01/03/1998	15/04/1997	01/03/1998
Slovakia	30/04/1997	01/01/2000	30/04/1997	01/01/2000
Slovenia	*28/10/1998*	*23/03/1999*	*28/10/1998*	*15/11/2000*
Somalia	*29/05/1982*	*16/04/1983*	……	……
South Africa	28/10/1998	……	28/10/1998	……
Spain	03/11/1992	26/04/1994	03/11/1992	26/04/1994
Sri Lanka	*11/03/1996*	*10/03/1998*	……	……
Sudan	*08/07/2001*	*01/04/2003*	*28/05/1977*	……
Swaziland	*18/07/2000*	……	……	……
Sweden	15/07/1978	29/01/1979	15/07/1978	29/01/1979
Switzerland	25/07/1973	04/06/1974	25/07/1973	04/06/1974
Syria	*28/04/1997*	*05/10/1998*	*28/04/1997*	……
Tanzania	*30/04/1997*	……	……	……
Thailand	18/02/2000	27/02/2002	18/02/2000	27/02/2002
Tunisia	*08/12/1989*	*02/01/1991*	*08/12/1990*	……
Turkey	04/10/1996	31/07/2002	04/10/1996	31/07/2002
Turkmenistan	23/05/1995	28/02/1996	23/05/1995	28/02/1996
Uganda	04/11/1995	……	04/11/1995	……
Ukraine	21/12/1992	10/10/1993	21/12/1992	10/10/1993
UAE	*11/05/1997*	*11/01/1999*	*11/05/1997*	……
United Kingdom	11/06/1975	24/02/1976	11/06/1975	24/02/1976
United States	*11/03/1986*	*27/06/1992*	*29/09/1982*	*27/06/1992*
Uzbekistan	*16/12/1992*	*08/02/1994*	*16/12/1992*	……
Vietnam	*06/09/1997*	*04/03/2002*	*06/09/1997*	……
Yemen, Rep.	*06/06/1996*	*10/04/1998*	……	……
Zambia	28/04/2000	……	28/04/2000	……
Zimbabwe	02/06/1999	……	27/05/1999	……
Hungary				
Albania	24/01/1996	01/04/1998	24/01/1996	01/04/1998
Argentina	05/02/1993	01/10/1997	05/02/1993	01/10/1997
Australia	15/08/1991	10/05/1992	15/08/1991	10/05/1992
Austria	26/05/1988	01/09/1989	26/05/1988	01/09/1989
Azerbaijan	*18/05/2007*	*26/02/2008*	……	……

Belgium	14/05/1986	23/09/1988	14/05/1986	23/09/1988
Bosnia	26/09/2002	31/08/2005	26/09/2002	31/08/2005
Bulgaria	08/06/1994	07/09/1995	08/06/1994	07/09/1995
Canada	03/10/1991	21/11/1993	03/10/1991	21/11/1993
Chile	10/03/1997	……	10/03/1997	……
China	29/05/1991	01/04/1993	29/05/1991	01/04/1993
Croatia	15/05/1996	01/03/2002	15/05/1996	01/03/2002
Cuba	22/10/1999	24/11/2003	22/10/1999	24/11/2003
Cyprus	24/05/1989	25/05/1990	24/05/1989	25/05/1990
Czech Republic	14/01/1993	25/05/1995	14/01/1993	25/05/1995
Denmark	*02/05/1988*	*18/10/1988*	*02/05/1988*	*01/10/1988*
Egypt	23/05/1995	21/08/1997	23/05/1995	21/08/1997
Finland	06/06/1988	12/05/1989	06/06/1988	12/05/1989
France	06/11/1986	30/09/1987	06/11/1986	30/09/1987
Germany	30/04/1986	07/11/1987	30/04/1986	07/11/1987
Greece	26/05/1989	01/02/1992	26/05/1989	01/02/1992
India	03/11/2003	02/01/2006	03/11/2003	02/01/2006
Indonesia	20/05/1992	13/02/1996	20/05/1992	13/02/1996
Israel	…..…	…..…	*14/05/1991*	*14/09/1992*
Italy	…..…	…..…	*17/02/1987*	*23/02/1990*
Jordan	*14/06/2007*	…..…	…..…	…..…
Kazakhstan	07/12/1994	03/03/1996	07/12/1994	03/03/1996
Korea, Rep.	*28/12/1989*	*01/01/1990*	*28/12/1988*	*01/01/1989*
Kuwait	08/11/1989	01/03/1994	08/11/1989	01/03/1994
Latvia	10/06/1999	25/08/2000	10/06/1999	25/08/2000
Lebanon	22/06/2001	23/07/2002	22/06/2001	23/07/2002
Lithuania	25/05/1999	20/05/2003	25/05/1999	20/05/2003
Luxembourg	14/05/1986	23/09/1988	14/05/1986	23/09/1988
Macedonia, FYR	13/04/2001	14/03/2002	13/04/2001	14/03/2002
Malaysia	19/02/1993	08/07/1995	19/02/1993	08/07/1995
Moldova	*19/04/1995*	*16/08/1996*	*19/04/1995*	*19/08/1996*
Mongolia	*13/09/1994*	*29/08/1995*	*13/09/1994*	*06/03/1996*
Morocco	12/12/1991	03/02/2000	12/12/1991	03/02/2000
Netherlands	02/09/1987	01/06/1988	02/09/1987	01/06/1988
Norway	08/04/1991	04/12/1992	08/04/1991	04/12/1992
Paraguay	11/08/1993	01/04/1995	11/08/1993	01/04/1995
Poland	23/09/1992	16/06/1995	23/09/1992	16/06/1995
Portugal	28/02/1992	08/10/1997	28/02/1992	08/10/1997
Romania	16/09/1993	06/05/1996	16/09/1993	06/05/1996
Russian Federation	06/03/1995	29/05/1996	06/03/1995	29/05/1996
Serbia	20/06/2001	30/03/2005	20/06/2001	30/03/2005
Singapore	17/04/1997	01/01/1999	17/04/1997	01/01/1999
Slovakia	15/01/1993	16/07/1996	15/01/1993	19/07/1996
Slovenia	15/10/1996	09/06/2000	15/10/1996	09/06/2000
Spain	09/11/1989	01/08/1992	09/11/1989	01/08/1992
Sweden	21/04/1987	21/04/1987	21/04/1987	21/04/1987
Switzerland	05/10/1988	16/05/1989	05/10/1988	16/05/1989
Thailand	18/10/1991	18/10/1991	18/10/1991	18/10/1991

Tunisia	13/05/2003	……	13/05/2003	……
Turkey	14/01/1992	01/11/1994	14/01/1992	01/11/1994
Ukraine	11/10/1994	03/12/1996	11/10/1994	03/12/1996
United Kingdom	09/03/1987	28/08/1987	09/03/1987	28/08/1987
Uruguay	25/08/1989	01/07/1992	25/08/1989	01/07/1992
Uzbekistan	28/10/1992	03/03/2003	28/10/1992	03/03/2003
Vietnam	26/08/1994	16/06/1995	26/08/1994	16/06/1995
Yemen, Rep.	18/01/2004	09/04/2006	18/01/2004	09/04/2006
India				
Argentina	*20/08/1999*	*12/08/2002*	…..…	*12/08/2002*
Armenia	23/05/2003	30/05/2006	23/05/2003	30/05/2006
Australia	26/02/1999	04/05/2000	26/02/1999	04/05/2000
Austria	08/11/1999	01/03/2001	08/11/1999	01/03/2001
Bahrain	*13/01/2004*	*05/12/2007*	*13/01/2004*	…..…
Belarus	*26/11/2002*	*23/11/2003*	*27/11/2002*	*23/11/2003*
Belgium	31/10/1997	08/01/2001	31/10/1997	08/01/2001
Bosnia	*12/09/2006*	*13/02/2008*	*12/09/2006*	…..…
Bulgaria	*29/10/1998*	*23/09/1999*	…..…	*23/09/1999*
China	*21/11/2006*	*01/08/2007*	*21/11/2006*	…..…
Croatia	04/05/2001	19/01/2002	04/05/2001	19/01/2002
Cyprus	09/04/2002	12/01/2004	09/04/2002	12/01/2004
Czech Republic	11/10/1996	06/02/1998	11/10/1996	06/02/1998
Denmark	06/09/1995	28/08/1996	06/09/1995	28/08/1996
Djibouti	19/05/2003	……	19/05/2003	……
Egypt	09/04/1997	22/11/2000	09/04/1997	22/11/2000
Ethiopia	*05/07/2007*	…..…	…..…	…..…
Finland	07/11/2002	09/04/2003	07/11/2002	09/04/2003
France	02/09/1997	17/05/2000	02/09/1997	17/05/2000
Germany	10/07/1995	13/07/1998	10/07/1995	13/07/1998
Ghana	18/08/2002	……	18/08/2002	……
Greece	26/04/2007	10/04/2008	26/04/2007	10/04/2008
Hungary	03/11/2003	02/01/2006	03/11/2003	02/01/2006
Iceland	29/06/2007	16/12/2009	29/06/2007	16/12/2009
Indonesia	*10/02/1999*	*22/01/2004*	*08/02/1999*	*22/01/2004*
Israel	29/01/1996	18/02/1997	29/01/1996	18/02/1997
Italy	23/11/1995	26/03/1998	23/11/1995	26/03/1998
Jordan	*30/11/2006*	*22/01/2009*	*01/12/2006*	…..…
Kazakhstan	09/12/1996	26/07/2001	09/12/1996	26/07/2001
Korea, Rep.	26/02/1996	07/05/1996	26/02/1996	07/05/1996
Kuwait	*27/11/2001*	*28/06/2003*	…..…	*28/06/2003*
Kyrgyzstan	*16/05/1997*	*10/04/1998*	*16/05/1997*	*12/05/2000*
Lao PDR	09/11/2000	05/01/2003	09/11/2000	05/01/2003
Libya	*26/05/2007*	…..…	…..…	…..…
Luxembourg	31/10/1997	08/01/2001	31/10/1997	08/01/2001
Malaysia	*01/08/1995*	*12/04/1997*	*03/08/1995*	*12/04/1997*
Mauritius	04/09/1998	20/06/2000	04/09/1998	20/06/2000
Mexico	*21/05/2007*	*23/02/2008*	…..…	…..…
Mongolia	*03/01/2001*	*29/04/2002*	…..…	*29/04/2002*

Morocco	*13/02/1999*	*22/02/2001*	*…..*	*22/02/2001*
Netherlands	06/11/1995	01/12/1996	06/11/1995	01/12/1996
Oman	02/04/1997	13/10/2000	02/04/1997	13/10/2000
Philippines	*28/01/2000*	*29/01/2001*	*…..*	*29/01/2001*
Poland	07/10/1996	31/12/1997	07/10/1996	31/12/1997
Portugal	28/06/2000	19/07/2002	28/06/2000	19/07/2002
Qatar	*07/04/1999*	*15/12/1999*	*…..*	*15/12/1999*
Romania	17/11/1997	09/12/1999	17/11/1997	09/12/1999
Russian Federation	23/12/1994	05/08/1996	23/12/1994	05/08/1996
Saudi Arabia	*25/01/2006*	*20/05/2008*	*25/01/2006*	*…..*
Serbia	*31/01/2003*	*24/02/2009*	*31/01/2003*	*…..*
Slovakia	*25/09/2006*	*27/09/2007*	*25/09/2006*	*…..*
Spain	30/09/1997	15/12/1998	30/09/1997	15/12/1998
Sri Lanka	22/01/1997	13/02/1998	22/01/1997	13/02/1998
Sudan	22/10/2003	……	22/10/2003	……
Sweden	04/07/2000	01/04/2001	04/07/2000	01/04/2001
Switzerland	04/04/1997	16/02/2000	04/04/1997	16/02/2000
Tajikistan	13/12/1995	14/11/2003	13/12/1995	14/11/2003
Thailand	10/07/2000	13/07/2001	10/07/2000	13/07/2001
Trinidad & Tobago	*12/03/2007*	*07/10/2007*	*12/03/2007*	*…..*
Turkey	17/09/1998	18/11/2007	17/09/1998	……
Turkmenistan	20/09/1995	27/02/2006	20/09/1995	27/02/2006
Ukraine	*01/12/2001*	*12/08/2003*	*01/12/2002*	*12/08/2003*
United Kingdom	14/03/1994	06/01/1995	14/03/1994	06/01/1995
Uzbekistan	*18/05/1999*	*28/07/2000*	*…..*	*28/07/2000*
Vietnam	08/03/1997	01/12/1999	08/03/1997	01/12/1999
Yemen, Rep.	*01/10/2002*	*10/02/2004*	*…..*	*10/02/2004*
Zimbabwe	10/02/1999	……	10/02/1999	……
Malaysia				
Albania	*24/01/1994*	*29/03/1994*	*24/01/1994*	*…..*
Algeria	27/01/2000	……	27/01/2000	……
Argentina	06/09/1994	20/03/1996	06/09/1994	20/03/1996
Austria	12/04/1985	01/01/1987	12/04/1985	01/01/1987
Bahrain	*15/06/1999*	*…..*	*14/06/1999*	*31/08/2000*
Bangladesh	*12/10/1994*	*20/08/1996*	*12/10/1994*	*01/08/2003*
Belgium	22/11/1979	08/02/1982	22/11/1979	08/02/1982
Bosnia	*16/12/1994*	*27/05/1995*	*16/12/1994*	*…..*
Botswana	31/07/1997	……	31/07/1997	……
Burkina Faso	*23/04/1998*	*18/08/2003*	*23/07/1998*	*…..*
Cambodia	17/08/1994	……	17/08/1994	……
Chile	11/11/1992	04/08/1995	11/11/1992	04/08/1995
China	21/11/1988	31/03/1990	21/11/1988	31/03/1990
Croatia	*16/12/1994*	*19/07/1996*	*16/12/1994*	*…..*
Cuba	*26/09/1997*	*27/10/1999*	*26/09/1997*	*…..*
Czech Republic	09/09/1996	03/12/1998	09/09/1996	03/12/1998
Denmark	06/01/1992	18/09/1992	06/01/1992	18/09/1992
Djibouti	03/08/1998	……	03/08/1998	……
Egypt	*14/04/1997*	*03/02/2000*	*14/04/1997*	*…..*

Ethiopia	*22/10/1998*	*04/06/1999*	*22/10/1998*	……
Finland	15/04/1985	03/01/1988	15/04/1985	03/01/1988
France	*24/04/1975*	*01/08/1976*	*24/04/1975*	*01/09/1976*
Germany	22/12/1960	06/07/1963	22/12/1960	06/07/1963
Ghana	*08/11/1996*	*18/04/1997*	*11/11/1996*	……
Guinea	*07/11/1996*	*24/02/1997*	*07/11/1996*	……
Hungary	19/02/1993	08/07/1995	19/02/1993	08/07/1995
India	*01/08/1995*	*12/04/1997*	*03/08/1995*	*12/04/1997*
Indonesia	*22/01/1994*	*15/06/1994*	*22/01/1994*	……
Iran	*22/07/2002*	*05/08/2006*	*22/07/2002*	……
Italy	04/01/1988	25/10/1990	04/01/1988	25/10/1990
Jordan	02/10/1994	03/03/1995	02/10/1994	03/03/1995
Kazakhstan	*27/05/1996*	……	*27/05/1996*	*03/08/1997*
Korea DPR	*04/02/1998*	*17/10/1998*	*11/04/1988*	*31/03/1989*
Korea Rep	*11/04/1988*	*31/03/1989*	*04/02/1998*	……
Kuwait	21/11/1987	……	21/11/1987	……
Kyrgyzstan	*20/07/1995*	……	*20/07/1995*	*16/12/1995*
Lao PDR	08/12/1992	……	08/12/1992	……
Lebanon	26/02/1998	20/01/2002	26/02/1998	20/01/2002
Luxembourg	22/11/1979	08/02/1982	22/11/1979	08/02/1982
Macedonia, FYR	*11/11/1997*	*17/03/1999*	*11/11/1997*	……
Malawi	05/09/1996	……	05/09/1996	……
Mongolia	27/07/1995	14/01/1996	27/07/1995	14/01/1996
Morocco	16/04/2002	……	16/04/2002	……
Namibia	12/08/1994	……	12/08/1994	……
Netherlands	15/06/1971	13/09/1972	15/06/1971	13/09/1972
Norway	……	……	*06/11/1984*	*07/01/1986*
Pakistan	*17/07/1995*	*30/11/1995*	*17/07/1995*	……
Papua New Guinea	27/10/1992	……	27/10/1992	……
Peru	*13/10/1995*	*25/12/1995*	*13/10/1995*	……
Poland	21/04/1993	23/03/1994	21/04/1993	23/03/1994
Romania	25/06/1996	08/05/1997	25/06/1996	08/05/1997
Saudi Arabia	*25/10/2000*	……	*25/10/2000*	*14/08/2001*
Senegal	11/02/1999	……	11/02/1999	……
Spain	04/04/1995	16/02/1996	04/04/1995	16/02/1996
Sri Lanka	*16/04/1982*	*31/10/1995*	*16/04/1982*	*31/10/1985*
Sudan	*02/08/1998*	……	*14/05/1998*	……
Sweden	03/03/1979	06/07/1979	03/03/1979	06/07/1979
Switzerland	01/03/1978	09/06/1978	01/03/1978	09/06/1978
Turkey	*26/02/1998*	*09/09/2000*	*25/02/1998*	*09/09/2000*
Turkmenistan	30/05/1994	……	30/05/1994	……
UAE	*11/10/1991*	*22/05/1992*	*11/10/1991*	……
United Kingdom	21/05/1981	21/10/1988	21/05/1981	21/10/1988
Uruguay	*09/08/1995*	……	*09/08/1995*	*13/04/2002*
Uzbekistan	……	……	*06/10/1997*	……
Vietnam	*21/01/1992*	*09/10/1992*	*21/01/1992*	……
Yemen, Rep.	11/02/1998	……	11/02/1998	……
Zimbabwe	28/04/1994	……	28/04/1994	……

Mexico				
Argentina	*13/11/1996*	*22/06/1998*	*13/11/1996*	*22/07/1998*
Australia	*23/08/2005*	……	*13/11/1994*	*03/04/1997*
Austria	29/06/1998	26/03/2001	29/06/1998	26/03/2001
Belgium	27/08/1998	14/03/2003	27/08/1998	14/03/2003
Cuba	30/05/2001	29/03/2002	30/05/2001	29/03/2002
Czech Republic	04/04/2002	13/03/2004	04/04/2002	13/03/2004
Denmark	13/04/2000	23/09/2000	13/04/2000	23/09/2000
Finland	22/02/1999	30/08/2000	22/02/1999	30/08/2000
France	12/11/1998	12/11/2000	12/11/1998	12/11/2000
Germany	25/08/1998	23/02/2001	25/08/1998	23/02/2001
Greece	*30/11/2000*	*26/09/2002*	*30/11/2000*	*17/09/2002*
Iceland	*24/06/2005*	*28/04/2006*	*24/06/2005*	*06/06/2006*
India	*21/05/2007*	*23/02/2008*	……	……
Italy	24/11/1999	05/12/2002	24/11/1999	05/12/2002
Korea, Rep.	*14/11/2000*	*27/06/2002*	*14/11/2000*	*14/12/2000*
Luxembourg	27/08/1998	14/03/2003	27/08/1998	14/03/2003
Netherlands	13/05/1998	01/10/1999	13/05/1998	01/10/1999
Panama	11/10/2005	14/12/2006	11/10/2005	14/12/2006
Portugal	11/11/1999	04/09/2000	11/11/1999	04/09/2000
Spain	*10/10/2006*	*04/04/2008*	*22/06/1995*	*18/12/1996*
Sweden	03/10/2000	01/07/2001	03/10/2000	01/07/2001
Switzerland	10/07/1995	14/03/1996	10/07/1995	14/03/1996
Trinidad &Tobago	*03/10/2006*	……	……	……
United Kingdom	*12/05/2006*	*25/07/2007*	*12/05/2006*	……
Uruguay	30/06/1999	01/07/2002	30/06/1999	01/07/2002
Morocco				
Argentina	*13/06/1996*	*19/02/2000*	……	……
Austria	02/11/1992	01/07/1995	02/11/1992	01/07/1995
Bahrain	*07/04/2000*	*09/04/2001*	*04/07/2000*	*04/09/2001*
Belgium	13/04/1999	29/05/2002	13/04/1999	29/05/2002
Benin	*15/06/2004*	……	……	……
Bulgaria	*22/05/1996*	*19/02/2000*	*22/05/1996*	……
Burkina Faso	*08/02/2007*	……	……	……
Cameroon	*24/01/2007*	……	……	……
C African Republic	*26/09/2006*	……	……	……
Chad	*04/12/1997*	……	……	……
China	*27/03/1995*	*27/11/1999*	*27/03/1995*	……
Croatia	29/09/2004	……	29/09/2004	……
Czech Republic	11/06/2001	30/01/2003	11/06/2001	30/01/2003
Denmark	*22/05/2003*	……	……	……
Dominican Republic	23/05/2002	……	23/05/2002	……
Egypt	*14/05/1997*	*01/07/1998*	*14/05/1997*	……
El Salvador	*21/04/1999*	*11/04/2002*	……	……
Equatorial Guinea	*05/07/2005*	……	……	……
Finland	01/10/2001	06/04/2003	01/10/2001	06/04/2003
France	13/01/1996	30/05/1999	13/01/1996	30/05/1999
Gabon	*21/06/2004*	……	*13/01/1979*	……

Gambia	*20/02/2006*	……	……	……
Germany	*06/08/2001*	*12/04/2008*	*06/08/2001*	……
Greece	*16/02/1994*	*28/06/2000*	*16/02/1994*	*17/06/2000*
Guinea	*02/05/2002*	……	……	……
Hungary	12/12/1991	03/02/2000	12/12/1991	03/02/2000
India	*13/02/1999*	*22/02/2001*	……	*22/02/2001*
Indonesia	*14/03/1997*	*21/03/2002*	……	……
Iran	21/01/2001	31/03/2003	21/01/2001	31/03/2003
Iraq	*18/07/1990*	……	……	……
Italy	*18/07/1990*	*26/04/2000*	*18/07/1990*	……
Jordan	16/06/1998	07/02/2000	16/06/1998	07/02/2000
Korea Rep	*27/01/1999*	*08/05/2001*	……	……
Kuwait	*16/02/1999*	*07/05/2001*	……	……
Lebanon	03/07/1997	04/03/2000	03/07/1997	04/03/2000
Libya	*02/11/2000*	*20/08/2001*	……	……
Luxembourg	13/04/1999	29/05/2002	13/04/1999	29/05/2002
Malaysia	16/04/2002	……	16/04/2002	……
Mauritania	*13/06/2000*	……	……	……
Netherlands	23/12/1971	27/07/1978	23/12/1971	27/07/1978
Oman	*08/05/2001*	*30/03/2003*	……	……
Pakistan	16/04/2001	……	16/04/2001	……
Poland	*24/10/1994*	*09/07/1999*	*24/10/1994*	*29/05/1999*
Portugal	*17/04/2007*	……	*18/10/1988*	*22/05/1995*
Qatar	*20/02/1999*	*21/05/2001*	……	……
Romania	*28/01/1994*	*03/02/2000*	*28/01/1994*	*01/08/1994*
Senegal	*15/11/2006*	……	*18/02/2001*	……
Slovakia	*14/06/2007*	……	……	……
Spain	*11/12/1997*	*13/04/2005*	*11/12/1997*	……
Sudan	*23/02/1999*	*04/07/2002*	……	……
Sweden	*26/09/1990*	*16/06/2008*	*26/09/1990*	……
Switzerland	17/12/1985	12/04/1991	17/12/1985	12/04/1991
Syria	*23/10/2001*	*29/03/2003*	……	……
Tunisia	*28/01/1994*	*01/04/1999*	*28/01/1994*	……
Turkey	*08/04/1997*	……	*08/04/1997*	*31/05/2004*
Ukraine	24/12/2001	……	24/12/2001	……
UAE	*09/02/1999*	*01/04/2002*	……	……
United Kingdom	*30/10/1990*	*14/02/2002*	*30/10/1990*	……
Yemen, Rep.	*24/02/2001*	……	……	……
United States of America	……	……	*22/07/1985*	*29/05/1991*
Poland				
Albania	*01/11/2006*	……	*07/03/1993*	*09/08/1993*
Argentina	31/07/1991	01/09/1992	31/07/1991	01/09/1992
Australia	07/05/1991	27/03/1992	07/05/1991	27/03/1992
Austria	24/11/1988	01/11/1989	24/11/1988	01/11/1989
Azerbaijan	26/08/1997	10/02/1999	26/08/1997	10/02/1999
Bangladesh	08/07/1997	19/11/1999	08/07/1997	19/11/1999
Belarus	24/04/1992	18/01/1993	24/04/1992	18/01/1993
Belgium	19/05/1987	02/08/1991	19/05/1987	02/08/1991

Bulgaria	11/04/1994	09/03/1995	11/04/1994	09/03/1995
Canada	*26/10/1990*	*22/11/1990*	*06/04/1990*	*22/11/1990*
Chile	*05/07/1995*	*17/01/2000*	*05/07/1995*	*22/09/2000*
China	07/06/1988	08/01/1989	07/06/1988	08/01/1989
Croatia	21/02/1995	04/10/1995	21/02/1995	04/10/1995
Cyprus	04/06/1992	06/07/1993	04/06/1992	06/07/1993
Czech Republic	16/07/1993	29/06/1994	16/07/1993	29/06/1994
Denmark	01/05/1990	13/10/1990	01/05/1990	13/10/1990
Egypt	01/07/1995	17/01/1998	01/07/1995	17/01/1998
Estonia	06/05/1993	06/08/1993	06/05/1993	06/08/1993
Finland	*25/11/1996*	*13/03/1998*	*25/11/1996*	*11/03/1998*
France	*13/02/1989*	*10/02/1990*	*14/02/1989*	*10/02/1990*
Germany	10/11/1989	24/02/1991	10/11/1989	24/02/1991
Greece	14/10/1992	20/02/1995	14/10/1992	20/02/1995
Hungary	23/09/1992	16/06/1995	23/09/1992	16/06/1995
India	07/10/1996	31/12/1997	07/10/1996	31/12/1997
Indonesia	06/10/1992	01/07/1993	06/10/1992	01/07/1993
Iran	*02/10/1998*	*30/01/2001*	*02/10/1998*	*26/10/2001*
Israel	22/05/1991	06/05/1992	22/05/1991	06/05/1992
Italy	*10/05/1989*	*09/01/1993*	*10/05/1989*	*10/01/1993*
Jordan	*04/10/1997*	*14/08/1999*	*04/10/1997*	*14/10/1999*
Kazakhstan	21/09/1994	25/05/1995	21/09/1994	25/05/1995
Korea Rep	01/11/1989	02/02/1990	01/11/1989	02/02/1990
Kuwait	05/03/1990	18/12/1993	05/03/1990	18/12/1993
Latvia	26/04/1993	16/07/1993	26/04/1993	16/07/1993
Lithuania	28/09/1992	06/08/1993	28/09/1992	06/08/1993
Luxembourg	19/05/1987	02/08/1991	19/05/1987	02/08/1991
Macedonia, FYR	28/11/1996	22/04/1997	28/11/1996	22/04/1997
Malaysia	21/04/1993	23/03/1994	21/04/1993	23/03/1994
Moldova	16/11/1994	27/07/1995	16/11/1994	27/07/1995
Mongolia	*08/11/1995*	*26/03/1996*	*08/11/1995*	*21/03/1996*
Montenegro	*25/10/1979*	….…	….…	….…
Morocco	*24/10/1994*	*09/07/1999*	*24/10/1994*	*29/05/1995*
Netherlands	07/09/1992	01/02/1994	07/09/1992	01/02/1994
Norway	05/06/1990	24/10/1990	05/06/1990	24/10/1990
Portugal	*11/03/1993*	*09/11/1993*	*11/03/1993*	*03/08/1994*
Romania	23/06/1994	30/12/1994	23/06/1994	30/12/1994
Russian Federation	02/10/1992	……	02/10/1992	……
Serbia	03/09/1996	23/01/1997	03/09/1996	23/01/1997
Singapore	03/06/1993	29/12/1993	03/06/1993	29/12/1993
Slovakia	18/08/1994	14/03/1996	18/08/1994	14/03/1996
Slovenia	28/06/1996	31/03/2000	28/06/1996	31/03/2000
Spain	30/07/1992	01/05/1993	30/07/1992	01/05/1993
Sweden	13/10/1989	04/01/1990	13/10/1989	04/01/1990
Switzerland	*08/11/1989*	*18/04/1990*	*08/11/1989*	*17/04/1990*
Thailand	18/12/1992	10/08/1993	18/12/1992	10/08/1993
Tunisia	29/03/1993	22/09/1993	29/03/1993	22/09/1993
Turkey	21/08/1991	19/08/1994	21/08/1991	19/08/1994

Ukraine	12/01/1993	14/09/1993	12/01/1993	14/09/1993
UAE	31/01/1993	09/04/1994	31/01/1993	09/04/1994
United Kingdom	08/12/1987	14/04/1988	08/12/1987	14/04/1988
United States	21/03/1990	06/08/1994	21/03/1990	06/08/1994
Uruguay	02/08/1991	21/10/1994	02/08/1991	21/10/1994
Uzbekistan	11/01/1995	29/04/1995	11/01/1995	29/04/1995
Vietnam	31/08/1994	24/11/1994	31/08/1994	24/11/1994
South Africa				
Algeria	24/09/2000	……	24/09/2000	……
Angola	17/02/2005	……	17/02/2005	……
Argentina	23/07/1998	01/01/2001	23/07/1998	01/01/2001
Austria	28/11/1996	01/01/1998	28/11/1996	01/01/1998
Belgium	14/08/1998	14/03/2003	14/08/1998	14/03/2003
Brunei Darussalam	14/11/2000	……	14/11/2000	……
Canada	27/11/1995	……	27/11/1995	……
Chile	12/11/1998	……	12/11/1998	……
China	30/12/1997	01/04/1998	30/12/1997	01/04/1998
Congo Dem Rep	31/08/2004	……	31/08/2004	……
Congo Rep	*01/12/2005*	……	……	……
Cuba	08/12/1995	07/04/1997	08/12/1995	07/04/1997
Czech Republic	14/12/1998	17/09/1999	14/12/1998	17/09/1999
Denmark	22/02/1996	23/04/1997	22/02/1996	23/04/1997
Egypt	28/10/1998	……	28/10/1998	……
Equatorial Guinea	17/02/2004	……	17/02/2004	……
Finland	14/09/1998	03/10/1999	14/09/1998	03/10/1999
France	11/10/1995	22/06/1997	11/10/1995	22/06/1997
Germany	11/09/1995	10/04/1998	11/09/1995	10/04/1998
Ghana	09/07/1998	……	09/07/1998	……
Greece	19/11/1998	05/09/2001	19/11/1998	05/09/2001
Iran	03/11/1997	05/03/2002	03/11/1997	05/03/2002
Israel	*21/10/2004*	……	*20/10/2004*	……
Italy	*09/06/1997*	*16/03/1999*	*09/06/1997*	*18/03/1999*
Korea Rep	*07/07/1995*	*06/06/1997*	*07/07/1995*	*28/06/1997*
Libya	14/06/2002	……	14/06/2002	……
Luxembourg	14/08/1998	14/03/2003	14/08/1998	14/03/2003
Madagascar	*13/12/2006*	……	……	……
Mauritius	*17/02/1998*	*07/10/1998*	*17/02/1998*	*17/02/1998*
Mozambique	06/05/1997	28/07/1998	06/05/1997	28/07/1998
Netherlands	09/05/1995	01/05/1999	09/05/1995	01/05/1999
Paraguay	*03/04/1974*	*16/06/1974*	……	……
Qatar	20/10/2003	……	20/10/2003	……
Russian Federation	*23/11/1998*	*12/04/2000*	*23/11/1998*	……
Rwanda	19/10/2000	……	19/10/2000	……
Senegal	05/06/1998	……	05/06/1998	……
Spain	30/09/1998	23/12/1999	30/09/1998	23/12/1999
Sweden	25/05/1998	01/01/1999	25/05/1998	01/01/1999
Switzerland	27/06/1995	29/11/1997	27/06/1995	29/11/1997
Tanzania	22/09/2005	……	22/09/2005	……

Tunisia	28/02/2002	……	28/02/2002	……
Turkey	23/06/2000	……	23/06/2000	……
Uganda	08/05/2000	……	08/05/2000	……
United Kingdom	20/09/1994	27/05/1998	20/09/1994	27/05/1998
Yemen Rep	*01/08/2002*	……	*28/01/2003*	……
Turkey				
Afghanistan	*10/07/2004*	*19/07/2005*	……	*19/07/2005*
Albania	01/06/1992	26/12/1996	01/06/1992	26/12/1996
Algeria	03/06/1998	……	03/06/1998	……
Argentina	08/05/1992	01/05/1995	08/05/1992	01/05/1995
Australia	*16/06/1995*	……	……	……
Austria	16/09/1988	01/01/1992	16/09/1988	01/01/1992
Azerbaijan	09/02/1994	08/09/1997	09/02/1994	08/09/1997
Bahrain	15/02/2006	……	15/02/2006	……
Bangladesh	12/11/1987	21/06/1990	12/11/1987	21/06/1990
Belarus	*08/08/1995*	*20/02/1997*	*08/08/1995*	*28/02/1997*
Belgium	27/08/1986	04/05/1990	27/08/1986	04/05/1990
Bosnia	*21/01/1998*	*10/02/2009*	*21/01/1998*	*29/01/2002*
Bulgaria	*06/07/1994*	*19/09/1997*	*06/07/1994*	*22/09/1997*
Chile	21/08/1998	……	21/08/1998	……
China	13/11/1990	19/08/1994	13/11/1990	19/08/1994
Croatia	……	……	*12/02/1996*	*21/04/1998*
Cuba	22/12/1997	23/10/1999	22/12/1997	23/10/1999
Czech Republic	30/04/1992	01/08/1997	30/04/1992	01/08/1997
Denmark	07/02/1990	01/08/1992	07/02/1990	01/08/1992
Egypt	04/10/1996	31/07/2002	04/10/1996	31/07/2002
Estonia	03/06/1997	29/04/1999	03/06/1997	29/04/1999
Ethiopia	16/11/2000	10/03/2005	16/11/2000	……
Finland	*13/05/1993*	*12/04/1995*	*13/05/1993*	*23/04/1995*
France	*15/06/2006*	……	……	……
Georgia	*30/07/1992*	*28/07/1995*	*31/07/1992*	*06/06/1995*
Germany	20/06/1962	16/12/1965	20/06/1962	16/12/1965
Greece	20/01/2000	24/11/2001	20/01/2000	24/11/2001
Hungary	14/01/1992	01/11/1994	14/01/1992	01/11/1994
India	*17/09/1998*	*18/11/2007*	*17/09/1998*	……
Indonesia	25/02/1997	28/09/1998	25/02/1997	28/09/1998
Iran	21/12/1996	13/04/2005	21/12/1996	13/04/2005
Israel	14/03/1996	27/08/1998	14/03/1996	27/08/1998
Italy	22/03/1995	02/03/2004	22/03/1995	02/03/2004
Japan	12/02/1992	12/03/1993	12/02/1992	12/03/1993
Jordan	02/08/1993	23/01/2006	02/08/1993	23/01/2006
Kazakhstan	01/05/1992	10/08/1995	01/05/1992	10/08/1995
Korea Rep	14/05/1991	04/06/1994	14/05/1991	04/06/1994
Kuwait	27/10/1988	25/04/1992	27/10/1988	25/04/1992
Kyrgyzstan	*28/04/1992*	*31/10/1996*	*28/04/1992*	*28/09/1995*
Latvia	18/02/1997	03/03/1999	18/02/1997	03/03/1999
Lebanon	12/05/2004	04/01/2006	12/05/2004	04/01/2006
Lithuania	11/07/1994	07/07/1997	11/07/1994	07/07/1997

Luxembourg	27/08/1986	04/05/1990	27/08/1986	04/05/1990
Macedonia, FYR	*09/09/1995*	*27/10/1997*	*14/07/1995*	*27/10/1997*
Malaysia	*26/02/1998*	*09/09/2000*	*25/02/1998*	*09/09/2000*
Malta	*10/10/2003*	*04/04/2004*	*10/10/2003*	*14/07/2004*
Moldova	14/02/1994	16/05/1997	14/02/1994	16/05/1997
Mongolia	16/03/1998	22/05/2000	16/03/1998	22/05/2000
Morocco	*08/04/1997*	…..…	*08/04/1997*	*31/05/2004*
Netherlands	27/03/1986	01/11/1989	27/03/1986	01/11/1989
Nigeria	08/10/1996	……	08/10/1996	……
Oman	*04/02/2007*	…..…	…..…	…..…
Pakistan	16/03/1995	03/09/1997	16/03/1995	03/09/1997
Philippines	22/02/1999	……	22/02/1999	……
Poland	21/08/1991	19/08/1994	21/08/1991	19/08/1994
Portugal	*19/02/2001*	*19/01/2004*	*19/02/2001*	*30/01/2004*
Qatar	25/12/2001	……	25/12/2001	……
Romania	……	……	*24/01/1991*	*07/04/1996*
Russian Federation	15/12/1997	17/05/2000	15/12/1997	17/05/2000
Saudi Arabia	08/08/2006	……	08/08/2006	……
Serbia	*02/03/2001*	*04/07/2001*	*02/03/2001*	*10/11/2003*
Slovakia	09/10/2000	23/12/2003	09/10/2000	23/12/2003
Slovenia	23/03/2004	19/06/2006	23/03/2004	19/06/2006
South Africa	23/06/2000	……	23/06/2000	……
Spain	15/02/1995	03/03/1998	15/02/1995	03/03/1998
Sudan	19/12/1999	……	19/12/1999	……
Sweden	11/04/1997	08/10/1998	11/04/1997	08/10/1998
Switzerland	03/03/1988	21/02/1990	03/03/1988	21/02/1990
Syria	06/01/2004	03/01/2006	06/01/2004	03/01/2006
Tajikistan	06/05/1996	24/07/1998	06/05/1996	24/07/1998
Thailand	24/06/2005	……	24/06/2005	……
Tunisia	29/05/1991	07/02/1993	29/05/1991	07/02/1993
Turkmenistan	02/05/1992	13/03/1997	02/05/1992	13/03/1997
Ukraine	*27/11/1996*	*21/05/1998*	*27/11/1996*	*21/03/1998*
UAE	*28/09/2005*	…..…	…..…	…..…
United Kingdom	15/03/1991	22/10/1996	15/03/1991	22/10/1996
United States	03/12/1985	18/05/1990	03/12/1985	18/05/1990
Uzbekistan	28/04/1992	18/05/1995	28/04/1992	18/05/1995
Yemen, Rep.	*07/09/2000*	…..…	…..…	…..…
The name of the country for which the singing or ratification date varies between the two sources is given in *"Italics"*.				

Appendix 2.3. Characteristics and types of Trade Agreements Signed by the Developing Host Countries

Trade Agreement Name	Coverage	Type of Agreement	*WTO* Notify	B/M	Enforced
ASEAN - China (G)	Goods	PTA	Yes	M	01-07-2003
ASEAN - China (S)	Services	EIA	Yes	M	01-07-2007
ASEAN Free Trade Area (AFTA)	Goods	FTA	Yes	M	28-01-1992
Asia Pacific Trade Agreement (APTA)	Goods	PTA	Yes	M	17-06-1976
APTA - Accession of China	Goods	PTA	Yes	M	01-01-2002
Chile - China	Goods	FTA	Yes	B	01-10-2006
Chile - India	Goods	PTA	Yes	B	17-08-2007
Chile - Mexico	G&S	FTA & EIA	Yes	B	01-08-1999
China - Hong Kong, China	G&S	FTA & EIA	Yes	B	01-01-2004
China - Macao, China	G&S	FTA & EIA	Yes	B	01-01-2004
China - Pakistan	Goods	FTA	Yes	B	01-07-2007
Costa Rica - Mexico	G&S	FTA & EIA	Yes	B	01-01-1995
EC - Albania	Goods	FTA & EIA	Yes	M	01-12-2006
EC - Algeria	Goods	FTA	Yes	M	01-09-2005
EC - Andorra	Goods	CU	Yes	M	01-07-1991
EC - Chile	Goods	FTA & EIA	Yes	M	01-02-2003
EC - Chile	Services	FTA & EIA	Yes	M	01-03-2005
EC - Croatia	Goods	FTA & EIA	Yes	M	01-03-2002
EC - Croatia	Services	FTA & EIA	Yes	M	01-02-2005
EC - Egypt	Goods	FTA	Yes	M	01-06-2004
EC - Faroe Islands	Goods	FTA	Yes	M	01-01-1997
EC - Former Yugoslav Republic of Macedonia	Goods	FTA & EIA	Yes	M	01-01-2001
EC - Former Yugoslav Republic of Macedonia	Services	FTA & EIA	Yes	M	01-04-2004
EC - Iceland	Goods	FTA	Yes	M	01-04-1973
EC - Israel	Goods	FTA	Yes	M	01-06-2000
EC - Jordan	Goods	FTA	Yes	M	01-05-2002
EC – Kazakhstan	Goods	FTA	No	M	01-07-1999
EC - Lebanon	Goods	FTA	Yes	M	01-03-2003
EC - Mexico	G&S	FTA & EIA	Yes	M	01-10-2000
EC - Morocco	Goods	FTA	Yes	M	01-03-2000
EC - Norway	Goods	FTA	Yes	M	01-07-1973
EC – Overseas Countries and Territories (OCT)	Goods	FTA	Yes	M	01-01-1971
EC - Palestinian Authority	Goods	FTA	Yes	M	01-07-1997
EC - Russia	Goods	FTA	No	M	01-12-1997
EC - South Africa	Goods	FTA	Yes	M	01-01-2000
EC - Switzerland - Liechtenstein	Goods	FTA	Yes	M	01-01-1973

EC - Syria	Goods	FTA	Yes	M	01-07-1977
EC - Tunisia	Goods	FTA	Yes	M	01-03-1998
EC - Turkey	Goods	CU	Yes	M	01-01-1996
EC (25) Enlargement	G&S	CU & EIA	Yes	M	01-05-2004
EC (27) Enlargement	G&S	CU & EIA	Yes	M	01-01-2007
Economic Cooperation Organization (ECO)	Goods	PTA	Yes	M	17-02-1992
EC Treaty	G&S	CU & EIA	Yes	M	01-01-1958
European Economic Area (EEA)	Services	EIA	Yes	M	01-01-1994
European Economic Area (EEA-EFTA)	G&S	EIA	No	M	01-01-2004
EFTA - Egypt	Goods	FTA	Yes	M	01-08-2007
EFTA - Mexico	G&S	FTA & EIA	Yes	M	01-07-2001
EFTA - Morocco	Goods	FTA	Yes	M	01-12-1999
EFTA - Turkey	Goods	FTA	Yes	M	01-04-1992
Egypt - Turkey	Goods	FTA	Yes	B	01-03-2007
EU - San Marino	Goods	CU	Yes	M	01-04-2002
EU - Switzerland Insurance Agreement	Services	PTA	No	M	10-10-1989
EU–Switzerland (Bilateral Agreement I)	G&S	EIA	No	M	01-06-2002
EU–Switzerland (Bilateral Agreement II)	G&S	EIA	No	M	01-07-2007
Global System of Trade Preferences among Developing Countries (GSTP)	Goods	PTA	Yes	M	19-04-1989
India - Afghanistan	Goods	PTA	Yes	B	13-05-2003
India - Bangladesh	Goods	PTA	No	B	04-10-1980
India - Bhutan	Goods	FTA	Yes	B	29-07-2006
India - Nepal	Goods	FTA	No	B	06-12-1991
India - Singapore	G&S	FTA & EIA	Yes	B	01-08-2005
India - Sri Lanka	Goods	FTA	Yes	B	15-12-2001
Japan - Malaysia	G&S	FTA & EIA	Yes	B	13-07-2006
Japan - Mexico	G&S	FTA & EIA	Yes	B	01-04-2005
Latin American Integration Association (LAIA)	Goods	PTA	Yes	M	18-03-1981
MERCOSUR (G)	Goods	CU	Yes	M	29-11-1991
MERCOSUR (S)	Services	EIA	Yes	M	07-12-2005
MERCOSUR - Bolivia	Goods	FTA & EIA	No	M	28-02-1997
MERCOSUR - SACU	Goods	PTA	No	M	16-16-2002
Mexico - Bolivia	Goods	FTA	No	B	01-01-1995
Mexico – Colombia - Venezuela	Goods	FTA	No	M	01-01-1995
Mexico - El Salvador (Mexico - Northern Triangle)	G&S	FTA & EIA	Yes	B	15-03-2001
Mexico - Guatemala (Mexico - Northern Triangle)	G&S	FTA & EIA	Yes	B	15-03-2001
Mexico - Honduras (Mexico - Northern Triangle)	G&S	FTA & EIA	Yes	B	01-06-2001

Mexico - Israel	Goods	FTA	Yes	B	01-07-2000
Mexico - Nicaragua	G&S	FTA & EIA	Yes	B	01-07-1998
Mexico - Uruguay	Goods	FTA	No	B	15-07-2004
North American Free Trade Agreement (*NAFTA*)	G&S	FTA & EIA	Yes	M	01-01-1994
Pan-Arab Free Trade Area (PAFTA)	Goods	FTA	Yes	M	01-01-1998
Protocol on Trade Negotiations (PTN)	Goods	PTA	Yes	M	11-02-1973
Southern African Customs Union (SACU)	Goods	CU	Yes	M	15-07-2004
Southern African Development Community (SADC)	Goods	FTA	Yes	M	01-09-2000
South Asian Free Trade Agreement (*SAFTA*)	Goods	FTA	Yes	M	01-01-2006
South Asian Preferential Trade Arrangement (SAPTA)	Goods	PTA	Yes	M	07-12-1995
Turkey - Bosnia and Herzegovina	Goods	FTA	Yes	B	01-07-2003
Turkey - Croatia	Goods	FTA	Yes	B	01-07-2003
Turkey - Former Yugoslav Republic of Macedonia	Goods	FTA	Yes	B	01-09-2000
Turkey - Israel	Goods	FTA	Yes	B	01-05-1997
Turkey - Morocco	Goods	FTA	Yes	B	01-01-2006
Turkey - Palestinian Authority	Goods	FTA	Yes	B	01-01-2005
Turkey - Syria	Goods	FTA	Yes	B	01-01-2007
Turkey - Tunisia	Goods	FTA	Yes	B	01-07-2005
US - Morocco	G&S	FTA & EIA	Yes	B	01-01-2006
CU = Custom Union, *EIA* = Economic Integration Agreement, *FTA* = Free Trade Agreement, *PTA* = Preferential Trade Agreement.					
The table was compiled from the *WTO RTA* and McGill *PTA* data bases. Where there was a difference between the dates of enforcement I choose the *WTO* information. I do not include the Lomé Conventions or the follow-on Cotonou Agreement between the *EU* and 77 countries from Africa, the Caribbean, and the Pacific *(ACP)* since South Africa was member only for a few months in 1995.					

Appendix 2.4. Data Sources for the Variables Used

Dependent Variable	**Proxy for / Source**
FDI inflows	*Foreign Direct Investment* of the source developed *OECD* country *i* in the host developing country *j* at the end of the time period *t*. Source: *OECD* data base: http://stats.oecd.org/index.aspx
Independent Variables	**Proxy for / Source**
Real gross domestic product	Proxy for market size. Sum of source and host country *RGDP*. Source: Pen world table version 6.3.
Population	Alternative measures of market size. Sum of source and host country population. Source: Pen world table version 6.3.
Bilateral trade	Proxy for openness. It is bilateral trade between the source and the host country, including services. Source: *OECD* data base: http://stats.oecd.org/index.aspx
Difference in real gross domestic product per capita	Proxy for relative factor endowments. Difference between the source and host country *RGDPPC*. Source: Pen world table version 6.3.
Difference in gross fixed capital formation per worker.	Labour capital ratio, the absolute difference between the source and host *GFCFPW* is used as an alternative proxy for factor endowments. Source: World Bank, World Development Indicators 2009.
Geographical Distance	It is the direct distance (as the Crow flies) between the capitals of the two countries in kilometres. Source: Free map tools. http://www.freemaptools.com/how-far-is-it-between.html
Great Circle Distance	Alternative measure of distance between the national capitals based on the great circle formula, which uses latitudes and longitudes, in kilometres as well as miles and nautical miles. Source: Info please. http://www.infoplease.com/atlas/calculate-distance.html and weighted distance of the main cities in kilometres of the dyad Source : Centre d'Etudes Prospectives et d'Informations Internationales *(CEPII)* : www.cepii.fr/anglaisgraph/bdd/bdd.htm
Working time overlap	Number of the working/office hours overlap between the source and host countries. Source: http://www.timeanddate.com/worldclock/converter.html
Bilateral Investment Treaties	BIT_{ijt} is the dummy for a bilateral investment treaty between the source and host country. $TBIT_{it}$, are the total bilateral investment treaties signed by the host developing country *j*. Sources: 1. International Centre for Settlement of Investment Disputes *(ICSID)*:http://icsid.worldbank.org/ICSID/FrontServlet?requestType=ICSIDPublicationsRH&actionVal=ViewBilateral&reqFrom=Main and 2. United Nations Conference on Trade and Development *(UNCTAD)* websites: http://www.unctad.org/Templates/Page.asp?intItemID=2344&lang=1

Trade Agreements	TA_{ijt} , is the dummy for trade agreement between the source and host country. JTA_{ijt} , is the number of regional or preferential free trade agreements in which the host and source country are jointly members. TTA_{it} , are the total regional or preferential free trade agreements signed by the host developing country *j*. Sources: 1.*WTO* regional trade agreements information system: http://rtais.wto.org/ui/PublicMaintainRTAHome.aspx and 2. McGill preferential trade agreements database: http://ptas.mcgill.ca/
IPR Treaties	Intellectual Property Rights Treaties and conventions signed by a country. Source: World Intellectual Property Organization: http://www.wipo.int/treaties/en/statistics/ http://www.wipo.int/treaties/en/summary.jsp
Patents, Trademarks and Industrial Design	Number of trademarks, industrial designs and patents registered in the host developing country. Including resident and non-resident patents. Source: World Intellectual Property Organization *(WIPO)*: www.wipo.int/portal/index.html.en
Ginarte & Park Index	Revised Ginarte & Park Index. Source: Prof Walter G. Park website: http://www1.american.edu/cas/econ/faculty/park.htm
Double Taxation Treaties *(DTT)*	A dummy for a *DTT* between the dyad and the total number of *DTT's* signed by the host developing country. Source: United Nations Conference on Trade and Development website: http://www.unctad.org/Templates/Page.asp?intItemID=4505&lang=1
Colonial Ties, Adjacency and Common Language	Dummies for colonial ties, common border and common language. Sources: 1. *CIA* world fact book www.cia.gov/library/publications/the-world-factbook and 2. Centre d'Etudes Prospectives et d'Informations Internationales *(CEPII)* : www.cepii.fr/anglaisgraph/bdd/bdd.htm
Customs Union	Dummies for common membership in a Custom union. Sources: 1.*WTO* regional trade agreements information system: http://rtais.wto.org/ui/PublicMaintainRTAHome.aspx and 2. McGill preferential trade agreements database: http://ptas.mcgill.ca/
Geographical Characteristics	Dummies for Landlocked, island etc. Sources : 1. Google map : http://maps.google.co.uk/maps?hl=en&tab=wl 2. Centre d'Etudes Prospectives et d'Informations Internationales *(CEPII)* : www.cepii.fr/anglaisgraph/bdd/bdd.htm
WTO	Dummy for *WTO* membership. Source: *WTO* website: http://www.wto.org/english/theWTO_e/whatis_e/tif_e/org6_e.htm

Appendix 2.5. Earlier Usage of the Proxies/Variables in Empirical *FDI* Research

Earlier Usage of the Variables in Empirical research				
Variable	**Proxy**	**Studied By**		**Sign**
Market size	***GDP (H+S)***	**S**	Carr et al. (2001), Blonigen and Wang (2004), Egger and Pfaffermayr (2004a,b), Daude and Stein (2007), Stein and Daude (2007),	**Positive**
	GDP (H)	**S**	Rietveld and Janssen (1990), McCallum (1995), Lee and Mansfield (1996), Balasubramanyam et al. (2002), Okubo (2004), Cuervo-Cazurra (2006), Hejazi (2009), Ismail (2009), Awokuse and Yin (2010),	**Positive**
	Population (H)	**S**	McCallum (1995), Resmini (2000), Balasubramanyam et al. (2002), Loungani et al. (2002), Egger and Pfaffermayr (2004a), Javorcik (2004), Rose-Ackerman and Tobin (2005) Cuervo-Cazurra (2006), Li et al. (2010)	**Positive**
		S	Choi (2003), Neumayer and Spess (2005)	**Negative**
Economic Development	***GDPPC (H)***	**S**	Coughlin et al. (1991), Resmini (2000), Loungani et al. (2002), Deichmann et al. (2003), Egger and Pfaffermayr (2004a), Javorcik (2004), Gao (2005), Neumayer and Spess (2005), Rose-Ackerman and Tobin (2005), Desbordes and Vicard (2009), Ismail (2009), Li et al. (2010)	**Positive**
		IS	Haile and Assefa (2006)	
Factor Endowment	***GDPPC (S-H)***	**S**	Stein and Daude (2007), Ismail (2009),	**Positive**
	GFCFPC(S-H)	**S**	Habib and Zurawicki (2002),	**Positive**
Openness	**Trade (I+E)**	**S**	Holland and Pain (1998), Pan (2003), Javorcik (2004), Büthe and Milner (2008), Elfakhani and Matar (2007), Hejazi (2009), Ismail (2009)	**Positive**
		IS	Resmini (2000),	
Bilateral Investment Treaties *(BITs)*		**S**	Banga (2003), Egger and Pfaffermayr (2004b), Neumayer and Spess (2005), Stein and Daude (2007),	**Positive**
		IS	Rose-Ackerman and Tobin (2005), Li et al. (2010)	
Intellectual Property Rights *(IPRs)*		**S**	Lee and Mansfield (1996), Javorcik (2004), Awokuse and Yin (2010)	**Positive**

Trade Agreements *(TAs)*	**S**	Choi (2003), Rose (2003), Medvedev (2006a and b), Büthe and Milner (2008), Ismail (2009),	**Positive**
	IS	Gao (2005),	
Language	**S**	Wei (2000a,b), Loungani et al. (2002), Choi (2003), Rose (2003), Gao (2005), Portes and Rey (2005), Silva and Tenreyro (2005), Cuervo-Cazurra (2006), Bénassy-Quéré et al. (2007), Stein and Daude (2007), Cuervo-Cazurra (2008), Desbordes and Vicard (2009), Ismail (2009)	**Positive**
Colonial Ties	**S**	Rietveld and Janssen (1990), Rose (2003), Silva and Tenreyro (2005), Cuervo-Cazurra (2006), Stein and Daude (2007), Cuervo-Cazurra (2008), Desbordes and Vicard (2009),	**Positive**
	IS	Gao (2005),	
Border / Contiguity	**S**	McCallum (1995), Altomonte (2000), Helliwell (2002), Chen (2004), Portes and Rey (2005), Desbordes and Vicard (2009), Ismail (2009),	**Negative**
	S	Holland and Pain (1998), Rose (2003), Bevan et al. (2004), Cuervo-Cazurra (2006), Bénassy-Quéré et al. (2007),	**Positive**
	IS	Gao (2005), Cuervo-Cazurra (2008),	
Distance	**S**	Rietveld and Janssen (1990), McCallum (1995), Wei (1995), Braunerhjelm and Svensson (1996), Resmini (2000), Buch et al. (2001), Carr et al. (2001), Balasubramanyam et al. (2002), Helliwell (2002), Loungani et al. (2002), Choi (2003), Blonigen and Wang (2004), Chen (2004), Egger and Pfaffermayr (2004a), Okubo (2004), Gao (2005), Portes and Rey (2005), Cuervo-Cazurra (2006), Johnson (2006), Stein and Daude (2007), Hejazi (2009), Ismail (2009), Roberts and Almahmood (2009), Li et al. (2010)	**Negative**
	IS	Habib and Zurawicki (2002), Pan (2003),	**Negative**
	S	Awokuse and Yin (2010)	**Positive**
Time Overlap	**S**	Portes and Rey (2005), Stein and Daude (2007),	**Positive**
***WTO* Membership**	**S**	Walmsley et al. (2006), Elfakhani and Matar (2007), Büthe and Milner (2008),	**Positive**
	IS	Rose (2003),	
"S" signifies Significant and "I" Insignificant results			

Appendix 3.1. Data Sources for the Variables Used

Data Sources for the Variables Used	
Dependent Variable	**Proxy for / Source**
FDI	$LnFDI_{jt}$, Foreign Direct Investment in the host developing country *j* at the end of the time period *t* from all the source countries. Source: World Bank World Development Indicators (WB WDI).
Independent Variables	**Proxy for / Source**
Political Rights & Civil Liberties	PR_{jt}, CL_{jt} *and* $PRCL_{jt}$ used as a measure of degree of political rights and civil liberties in the host countries. Source: Freedom House (Freedom Of The World)
Economic Freedom	The five sub areas and the summary index used as a proxy for economic freedom and institutional strength. Source: Fraser Institute (Economic Freedom Index)
Polity IV	$Democ_{jt}$ and $Autoc_{jt}$ used as measures for democracy level in the host country. Source: Polity IV project from Centre for Systemic Peace and Centre for Global Policy, George Mason University.
International Country Risk Guide *(ICRG)*	Government stability, socioeconomic conditions, investment profile, internal conflicts, external conflicts, corruption, military in politics, religion in politics, law & order, ethnic tensions, democratic accountability and bureaucratic quality used as alternative proxies for democracy and institutional strength of the host country. Source: International Country Risk Guide *(ICRG)*, The *PRS* Group 2009

Appendix 3.2. World *FDI* inflows 1970-2009

Billions of *US* Dollars							
Year	**World**	**Developed Countries**	**Developing Countries**	**South Asia**	**Developing Countries as % of World**	**South Asia as % of World**	**South Asia as % of Developing**
1970	9.9404	7.0076	2.9328	0.0682	29.50%	0.69%	2.32%
1971	11.8840	8.6697	3.2143	0.0490	27.05%	0.41%	1.52%
1972	11.9239	9.7174	2.2065	0.0351	18.50%	0.29%	1.59%
1973	17.3094	12.3989	4.9105	0.0342	28.37%	0.20%	0.70%
1974	18.7925	13.8361	4.9564	0.0631	26.37%	0.34%	1.27%
1975	25.7470	19.0547	6.6923	0.0148	25.99%	0.06%	0.22%
1976	19.8508	15.4903	4.3605	0.0005	21.97%	0.002%	0.011%
1977	26.7434	21.6137	5.1297	-0.0221	19.18%	-0.08%	-0.43%
1978	33.5326	26.6033	6.9294	0.0522	20.66%	0.16%	0.75%
1979	41.9491	33.8748	8.0743	0.1540	19.25%	0.37%	1.91%
1980	53.7058	44.6702	9.0357	0.1861	16.82%	0.35%	2.06%
1981	68.4912	54.5767	13.9145	0.2490	20.32%	0.36%	1.79%
1982	55.1420	43.7547	11.3874	0.1995	20.65%	0.36%	1.75%
1983	48.9469	38.9783	9.9685	0.0727	20.37%	0.15%	0.73%
1984	57.2144	47.7069	9.5075	0.1078	16.62%	0.19%	1.13%
1985	56.8513	44.2936	12.5577	0.2643	22.09%	0.46%	2.10%
1986	85.5317	75.4194	10.1123	0.2622	11.82%	0.31%	2.59%
1987	129.7237	119.4150	10.3087	0.4109	7.95%	0.32%	3.99%
1988	158.3247	139.2675	19.0572	0.3272	12.04%	0.21%	1.72%
1989	194.7252	171.9790	22.7462	0.4875	11.68%	0.25%	2.14%
1990	204.3454	180.7151	23.6304	0.5417	11.56%	0.27%	2.29%
1991	157.2927	124.0429	33.2499	0.3910	21.14%	0.25%	1.18%
1992	167.8351	119.3270	48.5081	0.7459	28.90%	0.44%	1.54%
1993	220.2581	156.2718	63.9863	1.1144	29.05%	0.51%	1.74%
1994	248.3901	161.9663	86.4238	1.5806	34.79%	0.64%	1.83%
1995	328.4965	229.6572	98.8393	2.9314	30.09%	0.89%	2.97%
1996	374.0928	251.0654	123.0274	3.5113	32.89%	0.94%	2.85%
1997	468.3874	305.0922	163.2953	4.8968	34.86%	1.05%	2.99%
1998	696.6928	533.0509	163.6419	3.5477	23.49%	0.51%	2.17%
1999	1095.2286	923.6361	171.5925	3.0823	15.67%	0.28%	1.80%
2000	1519.3705	1359.6835	159.6871	4.3580	10.51%	0.29%	2.73%
2001	794.9463	629.8461	165.1003	6.1382	20.77%	0.77%	3.72%
2002	736.8126	584.5435	152.2691	6.7047	20.67%	0.91%	4.40%
2003	643.1200	488.5734	154.5465	5.3831	24.03%	0.84%	3.48%
2004	752.2315	535.7595	216.4720	7.5887	28.78%	1.01%	3.51%
2005	1137.2716	853.8741	283.3975	10.9141	24.92%	0.96%	3.85%
2006	1498.6860	1132.4633	366.2227	26.0408	24.44%	1.74%	7.11%
2007	2322.8822	1787.0038	535.8784	32.3150	23.07%	1.39%	6.03%
2008	1823.2816	1225.2747	598.0069	48.6783	32.80%	2.67%	8.14%
2009	1114.1893	565.8920	548.2973	41.4058	49.21%	3.72%	7.55%

Appendix 3.3. *FDI* inflows in South Asia 1970-2009

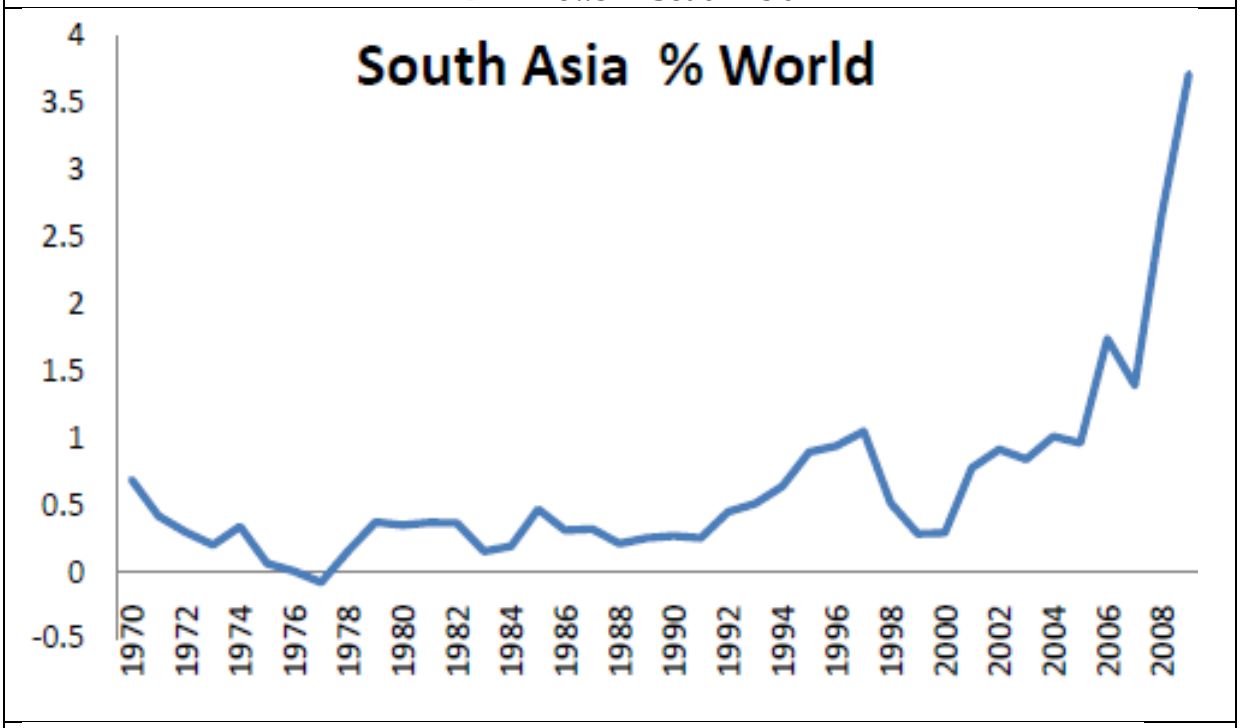
Millions of *US* dollars						
Year	**South Asia**	**Bangladesh**	**India**	**Nepal**	**Pakistan**	**Sri Lanka**
1970	68.1600	..	45.4600	..	23.0000	-0.3000
1971	48.9600	..	47.6600	..	1.0000	0.3000
1972	35.1200	0.0900	17.7900	0.0300	17.0000	0.3000
1973	34.2000	2.3400	37.9100	-0.0100	-4.0000	0.5000
1974	63.1100	2.2000	56.9700	0.2500	4.0000	1.4000
1975	14.8165	1.5433	-10.3262	0.1050	25.0000	0.1427
1976	0.4751	5.4200	-7.7064	-0.0400	8.2205	0.0010
1977	-22.0554	6.9800	-36.0600	0.1850	15.2232	-1.2186
1978	52.2476	7.7000	18.0900	0.4100	32.2732	1.4744
1979	154.0359	-8.0100	48.5700	0.3000	58.2541	46.9117
1980	186.1035	8.5100	79.1600	0.3000	63.6330	43.0105
1981	249.0393	5.3600	91.9200	-0.2300	108.0847	49.2646
1982	199.4507	6.9600	72.0800	-0.0300	63.8331	63.5676
1983	72.6799	0.4040	5.6400	-0.6000	29.4570	37.7789
1984	107.7593	-0.5533	19.2400	0.9500	55.5102	32.6124
1985	264.2913	-6.6600	106.0900	0.6500	131.3893	26.1621
1986	262.1900	2.4365	117.7300	1.1700	105.7303	29.7231
1987	410.8969	3.2051	212.3200	1.3900	129.3776	59.5042
1988	327.1823	1.8382	91.2500	0.6800	186.4916	45.7225
1989	487.5091	0.2479	252.1000	0.4200	210.5999	19.7413
1990	541.6869	3.2388	236.6900	5.9400	245.2630	43.3551
1991	391.0117	1.3904	73.5376	2.2200	258.4145	48.3492
1992	745.9400	3.7219	276.5124	3.4163	336.4799	122.6258
1993	1114.3559	14.0499	550.3700	5.2574	348.5570	194.4791
1994	1580.5997	11.1478	973.2715	8.0906	421.0246	166.4129
1995	2931.4323	1.8964	2143.6281	12.4505	722.6316	55.9956
1996	3511.3128	13.5298	2426.0570	19.1602	921.9762	119.8743
1997	4896.7808	139.3762	3577.3300	23.0565	716.2531	430.0562
1998	3547.6777	190.0594	2634.6517	12.0247	506.0000	193.4240
1999	3082.3364	179.6630	2168.5911	4.3500	532.0000	176.4102
2000	4358.0261	280.3846	3584.2173	-0.4848	308.0000	172.9414
2001	6138.1572	78.5270	5471.9472	20.8500	383.0000	171.7901
2002	6704.6742	52.3395	5626.0395	-5.9525	823.0000	196.5004
2003	5383.0964	268.2852	4322.7477	14.7781	534.0000	228.7200
2004	7588.7437	448.9054	5771.2972	-0.4173	1118.0000	232.8000
2005	10914.0913	813.3220	7606.4252	2.4518	2201.0000	272.4000
2006	26040.8208	697.2063	20335.9474	-6.6480	4273.0000	479.7000
2007	32315.0063	652.8187	25127.1559	5.7417	5590.0000	603.0000
2008	48678.3355	973.1081	41168.6052	0.9951	5438.0000	752.2000
2009	41405.7590	716.0000	34613.1519	38.5594	2387.0000	404.0000

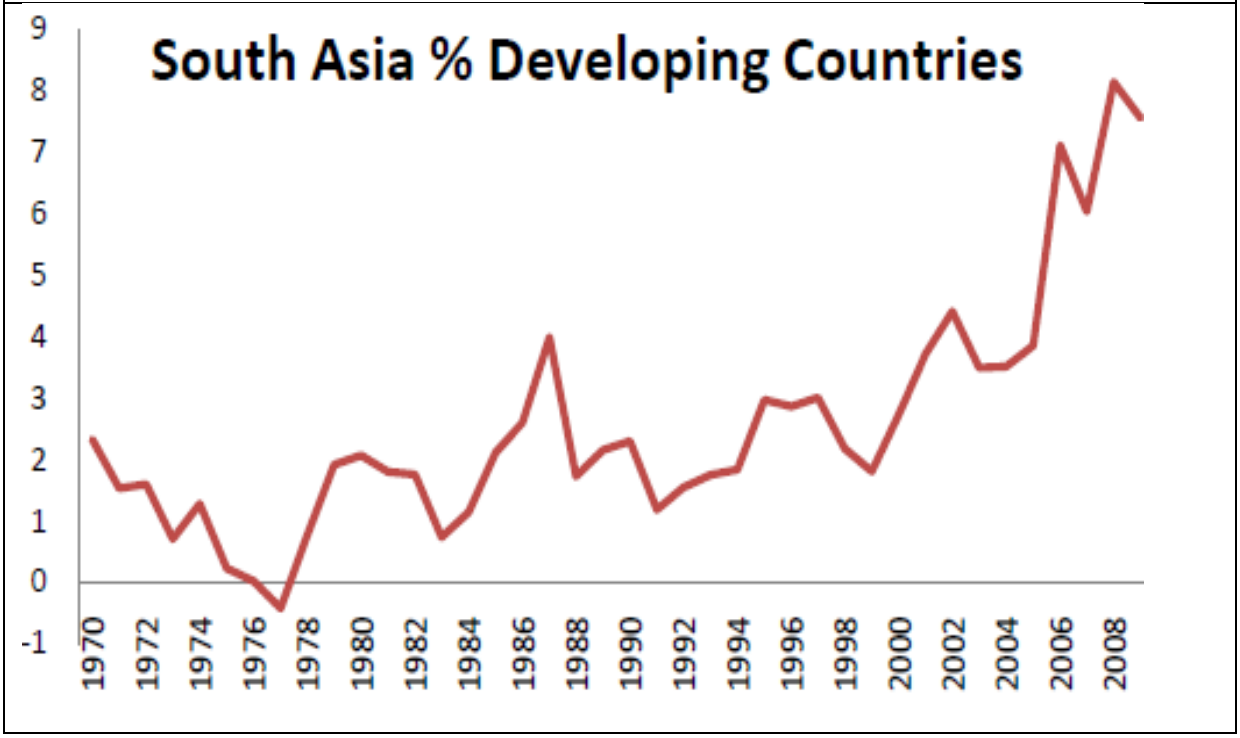
Appendix 3.4. *FDI* inflows in *SAARC* Countries 1970-2009 as Percentage of South Asia

Percentage of South Asia						
Year	**South Asia**	**Bangladesh as % of South Asia**	**India as % of South Asia**	**Nepal as % of South Asia**	**Pakistan as % of South Asia**	**Sri Lanka as % of South Asia**
1970	68160000	..	66.70%	..	33.74%	-0.44%
1971	48960000	..	97.34%	..	2.04%	0.61%
1972	35120000	0.26%	50.65%	0.09%	48.41%	0.85%
1973	34200000	6.84%	110.85%	-0.03%	-11.70%	1.46%
1974	63110000	3.49%	90.27%	0.39%	6.34%	2.22%
1975	14816464	10.42%	-69.69%	0.71%	168.73%	0.96%
1976	475099	1140.81%	-1622.07%	-8.42%	1730.28%	0.21%
1977	-22055363	-31.65%	163.49%	-0.84%	-69.02%	5.53%
1978	52247585	14.74%	34.62%	0.78%	61.77%	2.82%
1979	154035869	-5.20%	31.53%	0.19%	37.82%	30.46%
1980	186103500	4.57%	42.54%	0.16%	34.19%	23.11%
1981	249039303	2.15%	36.91%	-0.09%	43.40%	19.78%
1982	199450701	3.49%	36.14%	-0.02%	32.00%	31.87%
1983	72679903	0.56%	7.76%	-0.83%	40.53%	51.98%
1984	107759291	-0.51%	17.85%	0.88%	51.51%	30.26%
1985	264291332	-2.52%	40.14%	0.25%	49.71%	9.89%
1986	262189951	0.93%	44.90%	0.45%	40.33%	11.34%
1987	410896932	0.78%	51.67%	0.34%	31.49%	14.48%
1988	327182328	0.56%	27.89%	0.21%	56.99%	13.97%
1989	487509138	0.05%	51.71%	0.09%	43.19%	4.05%
1990	541686864	0.59%	43.69%	1.10%	45.28%	8.0%
1991	391011744	0.36%	18.81%	0.57%	66.09%	12.37%
1992	745939993	0.49%	37.07%	0.46%	45.11%	16.44%
1993	1114355940	1.26%	49.39%	0.47%	31.28%	17.45%
1994	1580599702	0.71%	61.58%	0.51%	26.64%	10.53%
1995	2931432341	0.06%	73.13%	0.42%	24.65%	1.91%
1996	3511312809	0.39%	69.09%	0.55%	26.26%	3.41%
1997	4896780824	2.85%	73.05%	0.47%	14.63%	8.78%
1998	3547677680	5.36%	74.26%	0.34%	14.26%	5.45%
1999	3082336446	5.83%	70.36%	0.14%	17.26%	5.72%
2000	4358026129	6.43%	82.24%	-0.01%	7.07%	3.97%
2001	6138157157	1.28%	89.15%	0.34%	6.24%	2.79%
2002	6704674249	0.78%	83.91%	-0.09%	12.28%	2.93%
2003	5383096440	4.98%	80.30%	0.27%	9.92%	4.25%
2004	7588743658	5.92%	76.05%	-0.005%	14.73%	3.07%
2005	10914091277	7.45%	69.69%	0.02%	20.17%	2.49%
2006	26040820813	2.68%	78.09%	-0.03%	16.41%	1.84%
2007	32315006346	2.02%	77.76%	0.018%	17.29%	1.87%
2008	48678335487	1.99%	84.57%	0.002%	11.17%	1.55%
2009	41405758979	1.73%	83.59%	0.09%	5.76%	0.98%

Appendix 3.5. Graphical Presentation Of *FDI* Inflows In South Asia As a Percentage Of World and Developing Countries

***FDI* Inflows in South Asia**





Appendix 3.6. Variables and Proxies Utilised in the Earlier Empirical Research

Empirical Usage of the Variables				
Variable	**Proxy**		**Studied By**	**Sign**
Market Size	***GDP***	**S**	Rietveld and Janssen (1990), Braunerhjelm and Svensson (1996), Lee and Mansfield (1996), Campos et al. (1999), Morisset (2000), Wei (2000a,b), Balasubramanyam et al. (2002), Addison and Heshmati (2003), Li and Resnick (2003), Bevan et al. (2004), Egger and Pfaffermayr (2004a), Janicki and Wunnava (2004), Okubo (2004), Sekkat and Veganzones (2004), Egger and Winner (2005), Gao (2005), Asiedu (2006), Cuervo-Cazurra (2006), Xing and Wan (2006), Bénassy-Quéré et al. (2007), Cuervo-Cazurra (2008), Ismail (2009), Kawai (2009), Awan et al. (2010), Awokuse and Yin (2010),	**Positive**
		IS	Asiedu and Freeman (2009),	
		S	Aizenman and Spiegel (2006),	**Negative**
	Population	**S**	McCallum (1995), Altomonte (2000), Wei (2000a), Balasubramanyam et al. (2002), Habib and Zurawicki (2002), Egger and Pfaffermayr (2004a), Javorcik(2004), Rose-Ackerman and Tobin (2005), Cuervo-Cazurra (2006), Seyoum (2006),	**Positive**
		IS	Cuervo-Cazurra (2008), Dutta and Roy (2011),	**Positive**
		S	Choi (2003), Neumayer and Spess (2005),	**Negative**
Economic Development	***GDPPC***	**S**	Coughlin et al. (1991), Altomonte (2000), Habib and Zurawicki (2002), Jensen (2002), Deichmann et al. (2003), Egger and Pfaffermayr (2004a), Javorcik(2004), Sekkat and Veganzones (2004), Gao (2005), Neumayer and Spess (2005), Adam and Filippaios(2007), Bénassy-Quéré et al. (2007), Greenaway et al. (2007), Quazi (2007), Cuervo-Cazurra (2008), Desbordes and Vicard (2009), Ismail (2009), Woo and Heo (2009),	**Positive**
Openness	**Trade**	**S**	Rietveld and Janssen (1990), Morisset (2000), Harms and Ursprung (2001), Asiedu (2002), Habib and Zurawicki (2002), Addison and Heshmati (2003), Busse (2003), Busse (2004), Javorcik (2004), Sekkat and Veganzones (2004), Busse and Hefeker (2005), Egger and Winner (2005), Asiedu (2006), Drury et al. (2006), Seyoum (2006), Xing and Wan (2006), Adam and Filippaios(2007), Busse and Hefeker (2007), Greenaway et al. (2007), Ang (2008), Asiedu and Freeman (2009), Ismail (2009), Woo and Heo (2009), Ali et al.(2010),	**Positive**

			Awan et al. (2010), Krifa-Schneider and Matei (2010), Dutta and Roy (2011),	
Distance		**S**	Rietveld and Janssen (1990), McCallum (1995), Wei (1995), Braunerhjelm and Svensson (1996), Wei (2000a,b), Carr et al. (2001), Balasubramanyam et al. (2002), Helliwell (2002), Loungani et al. (2002), Campos and Kinoshita (2003), Choi (2003), Bevan et al. (2004), Blonigen and Wang (2004), Chen (2004), Egger and Pfaffermayr (2004a), Okubo (2004), Gao (2005), Portes and Rey (2005), Aizenman and Spiegel (2006), Cuervo-Cazurra (2006), Bénassy-Quéré et al. (2007), Daude and Stein (2007), Stein and Daude (2007), Cuervo-Cazurra (2008), Hejazi (2009), Ismail (2009)	**Negative**
		IS	Habib and Zurawicki (2002), Pan (2003),	
		S	Awokuse and Yin (2010)	**Positive**
		IS	Altomonte (2000),	
Institutions	***IRIS***	**S**	Biswas (2002),	**Positive**
	EBRD	**S**	Jensen (2002),	
	ORI (BERI)	**S**	Gastanaga et al. (1998), Altomonte (2000), Resmini (2000), Altomonte and Guagliano (2003),	
	POLITY IV	**IS**	Li and Resnick (2003), Rose-Ackerman and Tobin (2005), Simmons and Hopkins (2005), Drury et al. (2006), Kwok and Tadesse (2006), Alcacer and Ingram (2008), Woo and Heo (2009),	
	PRCL	**S**	Harms and Ursprung (2001), Busse (2003), Li and Resnick (2003), Busse (2004), Drury et al. (2006), Adam and Filippaios(2007),	**Negative**
		IS	Onyeiwu and Shrestha (2004),	
	EFI (FI)	**S**	Easton and Walker (1997), Egger and Winner (2005), Bénassy-Quéré et al. (2007), Kapuria-Foreman (2007),	**Positive**
	EFI (HF)	**S**	Brenton et al. (1999), Quazi (2007), Cuervo-Cazurra (2008),	**Negative**
		IS	Balasubramanyam et al. (2002), Kapuria-Foreman (2007), Ismail (2009), Roberts and Almahmood (2009)	**Negative**
Rule Of Law	***ICRG***	**S**	Asiedu (2004), Asiedu (2006), Kwok and Tadesse (2006),	**Positive**
Legal Formalism	***ICRG***	**S**	Kwok and Tadesse (2006),	**Positive**

Corruption	**Survey**	**S**	Campos et al. (1999), Afza and Khan (2009)	**Negative**
	CPI (TI)	**S**	Wei (2000a,b), Habib and Zurawicki (2002), Javorcik (2004), Johnson (2006), Kwok and Tadesse (2006), Afriyie (2008), Cuervo-Cazurra (2008), Asiedu and Freeman (2009), Ismail (2009),	**Negative**
			Egger and Winner (2005),	**Positive**
	IRIS	**S**	Adam and Filippaios(2007),	**Positive**
	WDI (Gov In)	**S**	Cuervo-Cazurra (2006),	**Negative**
			Egger and Winner (2005),	**Positive**
	Dummy	**S**	Hines (1995), Wei (2000a,b)	**Negative**
Political Stability	**Dummy**	**S**	Shah and Ahmed (2003), Ramirez (2006), Quazi (2007),	**Positive**
	WDI (GI)	**S**	Daude and Stein (2007), Krifa-Schneider and Matei (2010),	**Positive**
	ICRG	**S**	Harms and Ursprung (2001), Biswas (2002), Habib and Zurawicki (2002), Sun et al. (2002), Gemayel and Chan (2004), Ali et al.(2010), Dutta and Roy (2011),	**Positive**
		IS	Morisset (2000), Asiedu (2002),	**Positive**
ICRG (PRS)	**Government Stability**	**S**	Busse and Hefeker (2005), Busse and Hefeker (2007), Daude and Stein (2007), Dutta and Roy (2011),	**Positive**
	Socioeconomic Conditions	**S**	Dutta and Roy (2011),	**Positive**
			Busse and Hefeker (2005),	**Negative**
		IS	Busse and Hefeker (2007),	**Positive**
	Democratic Accountability	**S**	Busse and Hefeker (2005), Busse and Hefeker (2007), Dutta and Roy (2011),	**Positive**
		IS	Egger and Winner (2005), Daude and Stein (2007),	
	Investment Profile	**S**	Asiedu (2004), Busse and Hefeker (2005), Busse and Hefeker (2007), Dutta and Roy (2011),	**Positive**
		IS	Daude and Stein (2007),	
	Internal Conflict	**S**	Busse and Hefeker (2005), Busse and Hefeker (2007),	**Positive**
		IS	Egger and Winner (2005),	**Negative**
	External Conflict	**S**	Busse and Hefeker (2005), Busse and Hefeker (2007),	**Positive**
		IS	Egger and Winner (2005),	**Negative**
	Corruption	**S**	Wei (2000a), Asiedu (2004), Asiedu (2006), Drury et al. (2006), Seyoum (2006), Asiedu and Freeman (2009), Woo and Heo (2009),	**Positive**

		IS	Harms and Ursprung (2001), Busse and Hefeker (2005), Busse and Hefeker (2007), Daude and Stein (2007),	
		S	Egger and Winner (2005),	**Negative**
	Military in Politics	**S**	Dutta and Roy (2011),	**Positive**
		IS	Busse and Hefeker (2005), Busse and Hefeker (2007),	
	Religion in Politics	**S**	Dutta and Roy (2011),	**Positive**
		IS	Busse and Hefeker (2005), Busse and Hefeker (2007),	
	Law & Order	**S**	Campos and Kinoshita (2003), Busse and Hefeker (2005), Busse and Hefeker (2007), Dutta and Roy (2011),	**Positive**
		IS	Daude and Stein (2007), Harms and Ursprung (2001),	
	Ethnic Tensions	**S**	Busse and Hefeker (2005),	**Positive**
		IS	Busse and Hefeker (2007),	
	Bureaucratic Quality	**S**	Campos and Kinoshita (2003), Asiedu (2004), Busse and Hefeker (2005), Busse and Hefeker (2007), Dutta and Roy (2011),	**Positive**
		IS	Harms and Ursprung (2001), Egger and Winner (2005),	
"S" stands for Significant and "I" for Insignificant results				

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