Foreign Direct Investment
in Sri Lanka: Determinants and Impact

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Abstract

Sri Lanka is a relatively small sized island economy possessing significant resource and location advantages and demonstrating impressive human capital indicators, which only few countries are fortunate to have. At the same time, the country is recovering from nearly three decades of civil war, which ended in 2009. However, Sri Lanka has performed poorly in terms of attracting FDI.

Research in FDI in the context of Sri Lanka is limited. Only a handful of studies (Wijeweera & Mounter, 2008; Athukorala & Jayasuriya, 2004; Athukorala, 2003; Athukorala, 1995) have looked at FDI in the context of Sri Lanka. To fill the research gap, this thesis attempts to formulate systematic and in-depth studies of FDI in Sri Lanka, investigating the determinants, impact and policy issues. First, efforts are made to provide an analytical piece that set out the environmental context of Sri Lanka before providing details focusing on FDI. This is followed by three empirical chapters on the determinants and impact of FDI in Sri Lanka. With regard to determinants of FDI, special attention is given to civil war, human capital and stock market price level. For the impact, the focus is on the impact of FDI on productivity.

Civil war is a major source of political instability and is likely to discourage FDI. Based on the nearly three decades of civil war in Sri Lanka during the period of 1983-2009, the first empirical study demonstrates that presence of war can have a negative effect on incoming FDI. Though this is unsurprising, this study demonstrates different levels of impact of war on FDI in manufacturing and services. The negative effects are much higher in manufacturing than in services. Investigating the impact of war by market-orientation of manufacturing FDI, this study further finds that there is a higher negative impact on FDI in export intensive manufacturing than in market-seeking manufacturing.

Human capital is often considered to be a determining factor for FDI. Recent studies also emphasise the importance of stock market in attracting FDI. Given Sri Lanka's impressive human capital indicators and recent development of stock market, the second research study explores these two determinants by conducting a panel study based on annual FDI inflows to a sample of countries in Asia. It shows that the relationship between human capital and FDI flows was significantly negative for Sri Lanka while, in

general, human capital has been a positive determinant of FDI flows to the rest of the countries in the sample. Further analysis shows that Sri Lanka is constrained to capitalise on its human capital due to linguistic limitations of human capital and qualitative weaknesses in the education system. Although the importance of human capital in attracting FDI is widely recognised in the theoretical consideration, empirical evidence is inconclusive, particularly for developing countries. In this context, findings of this study highlight the importance of recognising country specific limitations in human capital in understanding the relationship between human capital and FDI. This study also revealed a significant negative relationship between host country stock market valuations and FDI in the context of Sri Lanka and other countries with under-developed stock markets. These results indicate that cheap assets hypothesis (and expensive assets hypothesis) is likely to be applicable in the context of countries with under-developed stock markets, and therefore, in the context of Sri Lanka.

Based on the firm level data for Sri Lanka, the third empirical study revealed that foreign firms are quite distinctive from local firms. Compared to domestic firms, foreign firms are larger, more productive and more profitable. Foreign firms also tend to hire high proportion of skilled workers, pay higher wages and undertake more in-house training programmes. They are more active in R&D and more innovative. They are more export oriented but rely more on inputs of foreign origin. A cross sectional econometric study estimating direct and indirect effects of FDI on firm level labour productivity indicated a positive own firm effects of FDI and negative spillover effects of foreign firms on local firms and other foreign firms in the same sector.

In summary, Sri Lanka's economy is characterised by a lower level of industrialisation and is narrowly concentrated in a few sectors with little participation in technical intensive sectors. Foreign firms, through their distinctive characteristics identified in this thesis, are likely to bring in much needed expertise and skills that could help to overcome these structural deficiencies. However, Sri Lanka's mediocre performance in attracting FDI, poor performance in attracting FDI into technology intensive sectors, and absence of positive spillovers from foreign firms to local firms may all have resulted in poor performance of local firms in terms of upgrading their firm specific capabilities. The goal of the national FDI policies are twofold. First a country should attract the right type of FDI. Second, the country should devise appropriate policies to extract benefits from it. It

appears that Sri Lanka has performed poorly in both of these aspects, and this has in turn, deprived the country the much needed skills and technologies, and decelerated the development of the country. End of the civil war has given renewed hopes for Sri Lanka. Sri Lanka's impressive human capital indicators appear as a key strength. However, due to issues with quality of education and linguistic limitations of human capital, the extent to which Sri Lanka can exploit its impressive human capital indicators to lure FDI is rather limited. Weak institutional environment, poorly managed exchange rate policy and poor infrastructure appear to be major issues in terms of boosting future FDI inflows to Sri Lanka.

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Author's Declaration

I hereby declare that all the work presented in this thesis represents my own work except where specified in the thesis by referencing.

Chapter 1 : Introduction

1.1 Introduction

When Sri Lanka gained political independence from Britain in 1948, the country had the third highest per capita income in Asia, after Japan and Malaysia (Rajapatirana, 1988). Post-independent Sri Lanka was widely considered as a country with excellent prospects for economic development and was regarded as one of Asia's most promising new nations (Snodgrass, 1998; Kelegama, 2000). Until 1965, Sri Lanka's economic performance was still well above that of today's dynamic economies of East Asia, including South Korea, China and Thailand (UNCTAD, 2004). However, since then the country has lagged behind. It has encountered severe economic and political complications and ended up with a reputation for weak economic growth indicators but strong human development indicators (Snodgrass, 1998). One of the noticeable political events is the nearly three-decades of civil war which ended in 2009. This has brought new hope to the country's development.

Sri Lanka has great potential to become an international business hub. It possesses rich natural resources and offers an abundant supply of highly trainable workers (Pradhan, 2001). As it will be shown in details in chapters 3 and 4, Sri Lanka's adult literacy rate of 92 per cent is the highest in South Asia, higher than Malaysia's and comparable to that in Vietnam[1] (UNCTAD, 2004). Sri Lanka's geographical location in the Indian Ocean, intersecting with the major shipping routes connecting South Asia, Far East and the Pacific with Europe and the Americas, provides the country a strategic advantage in terms of facilitating international logistics. Furthermore, the rapid growth of neighbouring countries including India and China could create ample opportunities for Sri Lanka. It is worthy of note that International Finance Corporation has categorised Sri Lanka as a frontier market - a country that is less developed but has immense untapped potential for growth (Religare Enterprise Limited, 2011).

Despite these conditions, Sri Lanka has not performed well in attracting foreign direct investment (FDI). It is generally recognised that FDI provides host developing countries with much needed technologies and management skills in additional to financial capital, therefore is an important source of economic growth and development (Moran, 2005;

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[1] Both Malaysia and Vietnam are popular destinations of foreign investors.

United Nations, 1992). For example, FDI has played a key role in the growth of most of the East Asian economies (Hsiao & Hsiao, 2006; Zhang, 2001; Akyuz & Chang, 1998; The World Bank, 1993). Not being able to attract FDI could deprive a country the much needed skills and technologies, and decelerated the development of the country. As will be shown in chapter 4, Sri Lanka's FDI inflow record has been patchy and biased. Even though in some years FDI in Sri Lanka has increased sharply (see Figure 1-1), these increases were the results of one-off privatisations (UNCTAD, 2004). Moreover, most of the FDI in Sri Lanka is narrowly concentrated in few sectors; for example, the communications industry has absorbed over 50 per cent of services FDI, and textiles and garments related sector has absorbed about one third of manufacturing FDI.

Figure 1-1: FDI inflows to Sri Lanka (from 1990 to 2011)

(US$ millions at current prices)
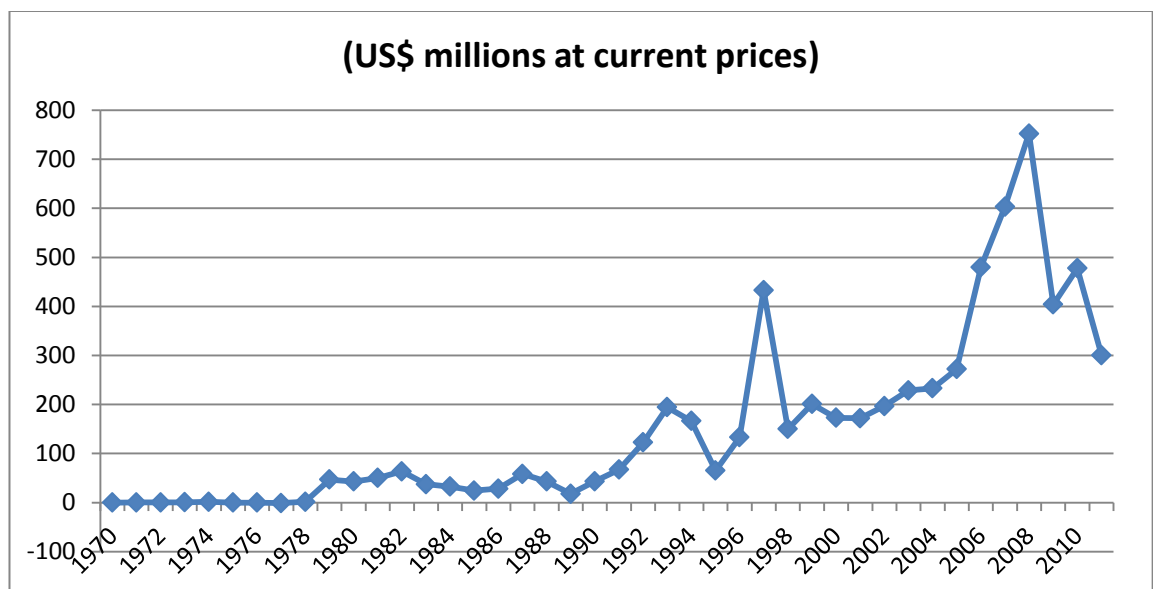
Source: (UNCTAD, 2012)

The main purpose of this thesis is to provide systematic and rigorous research in to FDI in Sri Lanka, more specifically, to identify the determinants and impact of FDI. This is an interesting and valuable exercise as to date, there are only a handful of studies, i.e. Wijeweera and Mounter (2008), Athukorala and Jayasuriya (2004) and Athukorala (2003) and Athukorala (1995) that have looked at FDI in Sri Lanka. More research in this area is needed to aid a better understanding of the important issues of FDI in Sri Lanka and inform policy making. The inadequate policy framework may be one reason for Sri Lanka failing to attract much FDI.

1.2 Motivation for the Study

Sri Lanka possesses significant resource and location advantages and impressive human capital indicators, which only few countries are fortunate to have. Despite having these, Sri Lanka has performed poorly in terms of attracting FDI. This puzzle motivated me to study FDI in the context of Sri Lanka. What are the determinants of FDI in Sri Lanka? What is the impact of FDI in Sri Lanka?

Since independence, Sri Lanka has suffered from a long drawn out internecine conflict between the two main ethnic communities in Sri Lanka, Tamils and the Singhalese. It has long speculated that this is the main variable responsible for the country's weak performance as FDI recipient. However, to date there is little systematic econometric work being conducted on the link between war and FDI. Sri Lanka as a case study provides an excellent opportunity to analyse the implications of war on FDI inflows because Sri Lanka has undergone varying degrees of conflict intensity over time, consisting of periods with war, without war, and with ceasefire arrangements. War is likely to not only be a major impediment to FDI inflows, but also the conflagration could have resulted in the divestment of their investment by a number of firms. For instance, as per the list of current FDI projects in 2011 (Board of Investment Sri Lanka, 2011), it was noted that out of the top 20 FDIs in 2002 (UNCTAD, 2004), seven have subsequently been divested during the period from 2002 to 2010. This rate of divestments is very alarming. It is said that war devastated countries bounce back to high levels of growth and development rapidly, often referred in the literature as the Phoenix effect (Murdoch & Sandler, 2002). This is supposed to have occurred in Germany soon after the Second World War and in Vietnam in recent years. Is this likely to happen in Sri Lanka that has recently emerged from a long drawn out internal conflict? If so, what role can FDI play in the process? Answering these questions could not only help Sri Lanka in proper policy making but also benefit the broad literature on the effects of war on FDI.

Another important FDI determinant is human capital. This is widely recognised in the literature, however existing empirical evidence is inconclusive, particularly for developing countries. Many studies have found little or no effect of human capital on FDI flows (Hanson, 1996; Root & Ahmed, 1979; Schneider & Frey, 1985; Kinoshita & Campos, 2004; Nunnenkamp & Spatz, 2002; Cheng & Kwan, 2000; Jinyoung & Jungsoo,

2012). Given this context, Sri Lanka with impressive human capital indicators but poor performance in attracting FDI provides a valuable context to analyse the country specific limitations that can affect the relationship between human capital and FDI. Sri Lanka is widely known for its high rating in human capital index in terms of literacy rate and schooling rates (The World Bank, 2011). Available evidence shows that the Sri Lanka's Gini coefficient of education is low while its population enjoys relatively long years of education (Thomas et al., 2000). However, Sri Lankan economic performance, and performance in FDI inflows in particular, are far behind that of East Asian countries, which have similar educational achievements (Ganegodage & Rambaldi, 2011; UNCTAD, 2004). This raises questions about the quality of education in Sri Lanka. It can be the case that whilst the country enjoys widespread literacy it does not possess a pocket of skilled labour or a rich endowment of human capital. This fact could also have implications for the utilisation of FDI in the development process. Is it likely that a low GINI on education, though most admirable from a social and politico economic point of view, might not be attractive to MNCs. They may seek highly educated skilled labour as Sri Lanka is a largely service based economy. Whilst FDI may promote growth, it may not promote development because low GINI on education without a segment of highly skilled labour would not necessarily assist in promoting technology and know-how and activities associated with technology. Therefore, it will be informative to understand how this widespread literacy and secondary education levels affect the attractiveness of the country to MNCs and the impact of FDI.

After the end of three decades of civil conflict in 2009, CSE went through a tremendous growth. While the market was going through a growth of over 200% in the share price index and almost fivefold increase in the market PER, net foreign inflows to the stock market was negative and FDI inflows were unusually low. A possible explanation for these strange observations in net foreign inflows (portfolio and FDI) is that the foreign investors could be reluctant to invest and/or could be selling their stocks because the stocks are overpriced. Although the theoretical considerations suspect an inverse relationship between asset prices and FDI inflows, available empirical evidence does not support this supposition. However, previous empirical evidence is based on US based FDI data, which can limit the generalisability of these findings to other countries, in particular, to developing countries. Given this context, Sri Lanka's recent experience in stock market

and FDI inflows provides a window of opportunity to analyse the relationship between asset prices and FDI inflows.

A relatively small sized island economy such as Sri Lanka, however, is compelled to be an export economy. The role of FDI in export economies has always been controversial; the issue is whether FDI would relegate these small economies to the role of peripheries supplying raw materials and plantation crops to the home countries with little interlinkages with the domestic economy. This view, however, may be out-dated as most small-island economies are diversifying to the extent possible and seeking FDI to aid such diversification. Singapore, Hong Kong and to a lesser extent Mauritius provide examples of small economies that have successfully utilized FDI in the development process. Therefore, it is necessary to understand what benefits FDI can bring in to Sri Lanka. Extant literature on the impact of FDI remains inconclusive, particularly for the case of FDI spillovers and it is widely believed that different methodologies and different country contexts contribute to these inconsistencies in empirical findings. Due to these reasons, it would be informative to investigate the impact of FDI in the context of Sri Lanka.

It is widely recognised that FDI determinants relevant for developing countries are considerably different from that relevant to developed countries. Also, factors that encourage and discourage FDI can vary with different country settings, and therefore, country specific studies are warranted for each country to identify its own FDI determinants. Furthermore, Sri Lanka differs considerably from the norm by having high development indicators, particularly in human development, while having low growth indicators. This fact, along with other distinguishing features discussed in this chapter, has given Sri Lanka a character of its own, which would further merit a separate study.

1.3 Chapter Framework

This thesis comprises eight chapters. The first chapter introduces the reader to the theme and context of the research study and gives an overview of the main research topic. Chapter starts with an initial introduction to the research topic, then details what motivated the writer to embark on this research study and concludes with providing a concise chapter framework for the thesis.

Chapter two presents the literature review relevant to this study. It starts with a review of theories and hypotheses in FDI and proceeds with literature review on determinants of FDI. Chapter then continues with a literature review on impact of FDI, while focusing on the impact of FDI on firm level productivity.

Chapter three provides a context analysis of the economy and the internal environment of Sri Lanka while giving special attention to recognise salient features of Sri Lanka and its internal environment that are relevant for FDI.

Chapter four provide a context analysis of FDI and related aspects of FDI in the context of Sri Lanka. Chapter starts with an overview of current status of FDI and then explore the dimensions of FDI in terms of distribution by sector and origin. Thereafter, opportunities that Sri Lanka can offer to potential foreign investors are investigated. Chapter ends with a preliminary overview of factors that can influence FDI flows to Sri Lanka.

Chapter five presents two econometric studies conducted to determine the effect of the civil war on FDI inflows to Sri Lanka, by employing time series and panel data econometric analysis. These econometric studies investigate the degrees of impact of war on FDI, as a whole, FDI in manufacturing and FDI in services, and manufacturing FDI by market-orientation.

Chapter six presents an empirical study conducted to examine the determinants of FDI. Study employs a panel study based on annual FDI inflows to a selected group of countries, one of which is Sri Lanka. This chapter focus on the role of human capital and stock market price level in the host country as determinants of FDI inflows.

Chapter seven presents an empirical study conducted to examine the impact of FDI on firm level productivity in the context of Sri Lanka. This study examines the direct effects (own firm effects of foreign owned firms) and spillover effects (effects of foreign owned firms on other firms) of FDI on firm level labour productivity.

Final chapter provides a conclusion for this thesis by summarising key empirical findings and highlighting key contributions of this research study. This chapter also emphasise policy implications of the research findings and discuss the limitations of this study and finally suggest potential research topics that could extend this study further.

Chapter 2 : Literature Review

2.1. Introduction

Foreign Direct Investment (FDI) is one of the main forms of international equity flows, in addition to foreign portfolio investment (FPI). FDI can be defined as cross border investment made by a company with the intention of exerting a considerable degree of influence on the operations of the enterprise outside of the home country (Benito, 1997). One important feature of FDI therefore is to exercise management control; while on the contrary, investors of FPI gain equity but without management control (Dunning & Lundan, 2008). FDI involves a transfer of package of resources including knowledge, information, know-how and other intangible assets. On the other hand, FPI involves only a transfer of finance capital. FDI therefore is considered more efficient and less volatile relative to FPI (Mata & Portugal, 1999; Goldstein & Razin, 2006). For classification purposes, foreign investments made by a firm with a stake of 10% or more in a foreign firm are often considered as FDI (World Trade Organisation, 1996; The World Bank, 2011).

FDI is one of the three common alternatives for exploiting long term profit opportunities in a foreign market. The other two are exporting and licensing. Exporting involves producing goods at home and then shipping them to foreign markets. Licensing involves granting a firm (the licensee) the right to produce and sell the firm's products in return for a royalty fee (Hill, 2011). Compared to exporting and licensing entry modes, FDI is considered more expensive[2] and risky[3] (Hill, 2011).

Various FDI theories have been developed to differentiate FDI and FPI and answer the question why firms favour FDI over the alternative entry mode of exporting and licensing. Books by Caves (2007), Dunning and Lundan (2008) and Forsgren (2008) have all provided comprehensive synthesis and evaluation of the existing theories on FDI and its agent, multinational enterprises (MNEs). Literature on FDI in general and FDI in developing countries in particular poses several issues of relevance to the analysis of FDI in an economy such as Sri Lanka. It is not the intention of this thesis to cover all grounds.

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[2] Firm undertaking FDI must bear the costs of establishing or acquiring foreign ventures.
[3] Firms undertaking FDI face additional risk because of problems associated with conducting business in foreign territories.

The objective here is to focus on the review of theoretical and empirical studies related to the empirical research in chapters 4-7. Section 2.2 presents a synopsis of mainstream theories and hypotheses on FDI that are relevant to this thesis. To organise ideas, I first provide the typology of FDI. This account helps place the ensuing discussion in context. FDI is not a homogenous phenomenon. Different types of FDI are attracted by different locational advantages of the host country (Mottaleb & Kalirajan, 2010; Athukorala, 2009), as a result, have different impact on the host country (Deborah, 2013). In chapter 4, I will investigate Sri Lanka's potential in attracting different types of FDI and in chapter 5, I will examine the effects of civil war on different types of FDI. It is therefore important to show in this literature review chapter the categorisation of FDI. This will be followed by a description of a few main theoretical strands: Differential Rate of Return Hypothesis, Portfolio Hypothesis, Output and Market Size Hypotheses, International Division of Labour Theory, Eclectic Paradigm and Investment Development Path Theory. These theories provide enlightening ideas for the study of the determinants and impact of FDI in Sri Lanka. The first four theories largely focus on one or a few individual factors of the host country, therefore, are complementary to each other. The Eclectic Paradigm, then, offers an envelope of these theories. It is the most commonly adopted analytical framework in the analysis of FDI issues. Before making concluding remarks, I will also discuss the Investment Development Path theory which helps with the understanding of the dynamic relationship between FDI and economic development of a country, a key issue for understanding the developmental implications of FDI in Sri Lanka. After establishing the context of typology and general theories, the following two sections focus on the review of empirical studies. Section 2.3 provides a literature review on various determinants of FDI and section 2.4 provides a literature review on various impact of FDI.

2.2. Theories and Hypotheses on FDI

2.2.1 Typology of FDI

Behrman typology of FDI identifies four objectives of FDI: Resource- Seeking, Market-Seeking, Efficiency-Seeking, and Strategic Asset-Seeking (Dunning & Lundan, 2008). This typology is very useful for understanding the kinds of investments that MNCs undertake.

The resource seekers invest abroad to acquire particular resources at a lower real cost than they are in their home country. These resources could either be physical resources; human resources; or tacit resources such as technological capabilities, management or marketing expertise, and organisational skills (Dunning & Lundan, 2008).

Market seekers invest abroad to exploit or promote new markets or to sustain or protect existing markets. Main drivers that encourage firms to engage in market-seeking investments are market share and market growth of the target market (Dunning & Lundan, 2008). Generally, market seekers invest in a particular location in the intention of supplying goods or services to the host country or to adjacent countries/regions. Apart from market share and market growth of the target market, Dunning & Lundan (2008) identified four additional motivations for market seeking activities. First, if the main suppliers or customers of a firm set up foreign facilities, then the firm might have to follow them overseas. Second, firms might have to establish their operations close to markets in order to adapt their products and services to local tastes or needs, to cultural attitudes and to indigenous resources and capabilities. Third motivation for locating operations close to markets is to minimise production and transaction costs; if products are relatively costly to transport and can be produced economically in small quantities then such products are more likely to be produced close to the market than products that are otherwise. Firms tend to undertake market-seeking investments in order to bypass transaction costs resulting from import restrictions such as, tariffs and import controls imposed by host governments. Finally, MNCs might undertake market-seeking investment to have a physical presence in the leading markets served by its competitors. This type of strategic market seeking investment might be undertaken for both defensive and aggressive reasons (Dunning & Lundan, 2008).

The motivation of efficiency seekers is to rationalize the structure of established resource-based or market seeking FDI in order to achieve efficiencies through economies of scale and scope and economies of risk diversification (Dunning & Lundan, 2008). Efficiency seekers also attempt to gain access to more efficient labour or technology in order to improve their efficiency (Blonigen, 2005).

Strategic asset seekers undertake FDI to acquire or link into valuable assets, such as, physical assets, human competencies, and technological and organisational capabilities, in order to sustain or advance their international competitiveness (Dunning & Lundan, 2008).

2.2.2 Differential Rate of Return Hypothesis

The differential rate of return hypothesis is one of the earliest attempts to explain international capital flows, which is based on neoclassical theories of economics (Agarwal, 1980). This hypothesis attempts to explain international flows of capital in terms of the relative scarcity of capital in different countries and differences in rates of return among these countries. It assumes that investors will try to maximise their profits by investing where returns are highest, and therefore, capital would flow from countries that have low rates of return to countries that have high rates of return, equalising these rates of return. According to this hypothesis, FDI will occur as a result of MNCs trying to maximise their returns by exploiting differentials in marginal productivities of capital (MPK) in home and host countries; MNCs would arbitrage capital by using capital obtained from its home country to invest in other host countries.

Differential rate of return hypothesis can be illustrated using the MacDougall diagram (Figure 2.1). Capital stocks of first and second country are represented by O_1K_1 and O_2K_1 respectively. Prevailing interest rates, without any capital flows between the two countries, are r_1 for the first country and r_2 for the second country. When capital flows are allowed between the two countries, capital will move from the first country to the second country (because r_2 is higher than r_1). Therefore, line k would shift to the left until each country's respective marginal productivities of capital become equal; two rates of return (r_1 and r_2) will equate (to r^*). This leads to improved efficiency, higher output (increase in total output represented by the area ABC), and therefore, greater global economic

welfare. MacDougall diagram is criticised for its underlying assumptions[4] but it is very helpful in illustrating differential rate of return hypothesis and benefits of international capital flows.

The main weakness of this hypothesis is that it fails to accommodate risk factors as it assumes risk neutrality between domestic and foreign investments. It also neglects the barriers to capital movements (Hymer, 1960). This hypothesis on its own is not sufficient to explain why MNCs choose FDI over portfolio investment. Moreover, this hypothesis fails to explain FDI cross-flows between industrialised economies and FDI flows from developing countries to industrialised countries.

Figure 2.1: Differential Rate of Return Diagram (MacDougall Diagram)
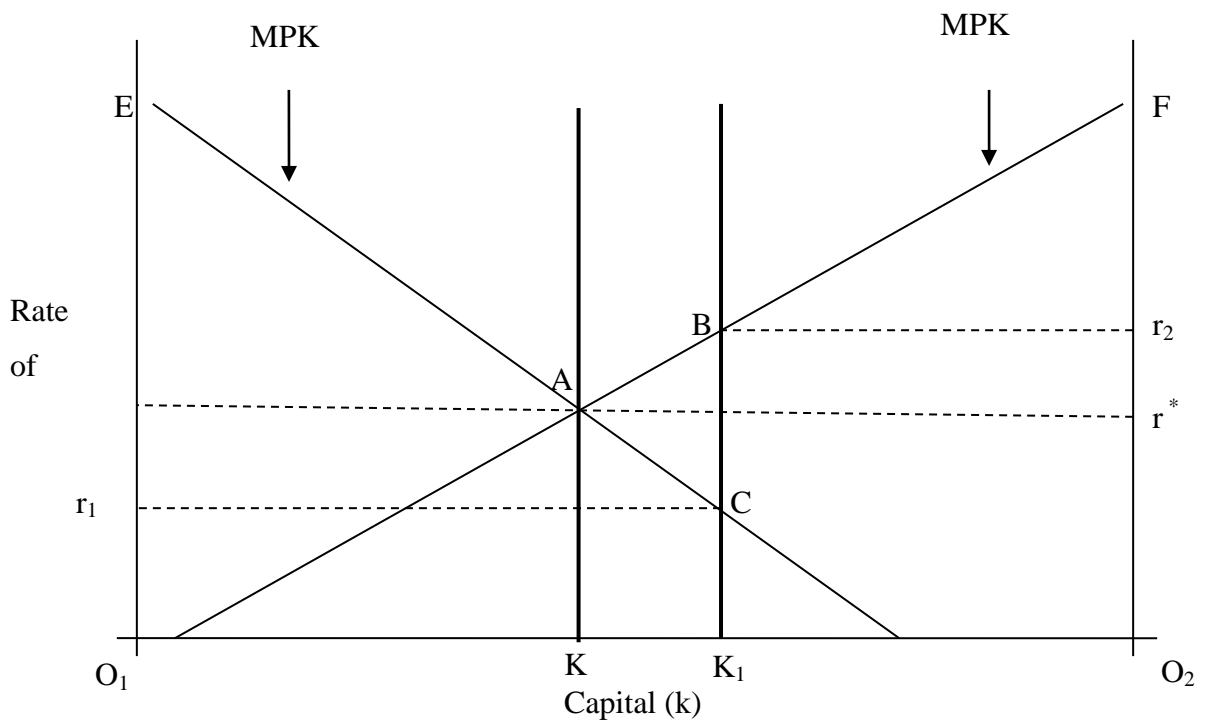
Source: Visser (2004)

2.2.3 Portfolio Hypothesis

Portfolio hypothesis assumes that FDI is guided not only by expected rates of return, but also by risk, and MNCs seek to reduce risk via diversification of their investments across different countries (Dunning & Lundan, 2008). Although this hypothesis is useful in explaining foreign portfolio investments, this theory on its own is not sufficient to explain

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[4] This model assumes identical firms and industries, capital to be homogeneous and efficient markets

why MNCs prefer FDI over portfolio investment. Hymer (1960) argues that capital movements are not only induced by differences in return rates but also due to differences in risk preferences of the investors. He also elaborates the roles of barriers to movement of capital and imperfections in the capital markets on portfolio diversification, which would affect capital flows among countries. These barriers and imperfections can arise due to reasons such as government controls on capital flows, future exchange rate uncertainties, information asymmetries and imperfect information, and taxation and controls on profit repatriation.

2.2.4 Output and Market Size Hypotheses

Output hypothesis assumes that the volume of FDI of a firm in a host country depends on that firm's sales (output) in that host country. Market size hypothesis assumes that the volume of FDI in a host country depends on the market size of the host country. Both hypotheses are similar except that the first hypothesis relates to micro level aspects of output and the second hypothesis relates to the macro level aspects of output (Agarwal, 1980).

2.2.5 International Division of Labour

International division of labour plays a major role in the choice of location of FDI and understanding its role in FDI is useful to understand MNCs locational choice of FDI. International division of labour refers to the spatial division of various productive activities around the globe according to the comparative advantage of labour. Multinationals can capitalise on these comparative advantages by locating their activities in different locations. Developments in transportation and communications technology have enhanced MNCs ability of locating their activities in different locations (Frobel, Heinrichs, & Kreye, 1980). International division of labour have enabled different countries to specialise in different activities - both sectoral specialisation and functional (different stages of production) specialisation - according to their respective endowments.

International division of labour is practically evident in international activities of MNCs. MNCs need highly skilled and educated workers for research and development activities, and therefore, MNCS locate such activities in countries that have a very high quality human capital, for example, most of the research and development activities in the

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electronic industries are located in countries such as Japan and USA. Capital-intensive processes require semi-skilled labour, and therefore, such activities are located in countries that has relatively skilled and moderately cost labour, for example, manufacturing of standard electronic components in the electronic industry is located in countries such as Taiwan, Malaysia, and South Korea. Labour intensive processes are located in countries that have low skilled and low cost labour, and therefore MNCs prefer countries such as China and Mexico for such activities (Hill, 2011).

2.2.6 Dunning's Eclectic Paradigm

The OLI framework, which is also referred as eclectic theory was developed by John Dunning as an approach to explain FDI. According to this framework, firms engage in international operations to realize three types of advantages: ownership advantages, location advantages, and internalisation advantages (Dunning & Lundan, 2008).

<u>Ownership advantages</u>

Ownership advantages include tangible and intangible sources of advantage which arises from firm-specific capabilities, competencies, or resources that give a foreign firm a competitive edge over domestic rivals. These advantages are largely derived from a possession of or having access to unique assets such as patents, trademarks, brands, and management skills (Dunning & Lundan, 2008; Brakman et al., 2007).

Early attempts to explain FDI using neoclassical theories were later criticised by several authors and they introduced the concept of ownership advantage to explain FDI. Among them, Hymer and Kindleberger were the forerunners of identifying limitations of neoclassical theories in explaining FDI. They used market imperfections and monopolistic advantages of firms to understand FDI flows. Hymer recognised that when a firm moves into a foreign territory, it faces several disadvantages in competing with indigenous firms in the host country. For example, foreign firms may have limited knowledge of local business practices, limited access to information, and will have to deal with physical and psychic distance. Therefore, foreign firms must possess ownership advantages - such as innovatory, cost, financial or marketing advantages - which should be sufficient to outweigh these disadvantages. Without such advantages, overseas firms will not be able to successfully compete with domestic counterparts because of the inconveniences that foreign firms face when doing business abroad such as

communication and transport problems, cultural and language barriers, limited knowledge about the domestic market and local business acumen and other barriers including host country government interventions (Hymer, 1960). FDI occur when it is difficult for firms to sell or lease these ownership advantages due to market failures (Dunning & Lundan, 2008). Kindleberger (1969) also had a similar view and suggested that firms need firm specific advantages that are powerful enough to overcome the disadvantages of locating business overseas. Related arguments were put forwarded by Caves (1971). He observed that horizontal FDI takes place in oligopoly industries where product differentiation normally prevail, and indicate the importance of product differentiation as a monopolistic advantage for undertaking horizontal FDI.

Location advantages

Location advantages originate from specific host country characteristics which provide an incentive for MNCs to locate operations in a foreign country. These location advantages, such as proximity to large markets, availability of skilled labour and natural resources, low factor prices, quality infrastructure, and trade and non-trade barriers favouring FDI, make foreign production profitable than exporting from home (Dunning & Lundan, 2008; Brakman et al., 2007).

Internalisation advantages

Transaction cost theory highlights that, due to market imperfections, firms incur transaction costs when undertaking arm's length transactions. When firms make economic exchanges they face issues such as bounded rationality/information asymmetry, asset specificity and opportunism, and therefore, incur transaction costs such as search and negotiation costs, contracting costs and policing costs (Williamson, 1979; Williamson, 1981; Govindan, 1997). In order to minimise these transaction costs, firms may opt to internalise these transaction rather than carrying out market base transactions.

Along similar lines, firms can face significant transaction costs when undertaking operations across borders. For example, foreign firms may face larger degree of bounded rationality due to unfamiliarity with local cultural/business contexts. FDI can be associated with higher degree of assets specificity due to MNCs' unique assets/capabilities. Foreign firms can also be exposed to high risk of opportunism due to difficulty in monitoring distant operations. Moreover, MNCs could face serious costs and

risks when contracting and transferring its ownership advantages in foreign territories. Therefore, when MNCs engage in international business in order to exploit their firm specific advantages and location advantages, the extent of transactions costs determines whether MNCs externalise (by contracting or licensing) or internalise (by FDI) its international operations (Teece, 1986).

Internalisation advantages make it more profitable for a firm to internalise its capital, technology, and management skills to produce goods/services rather than externalizing their use by engaging in portfolio investment, licensing, and management contracts (Dunning & Lundan, 2008). These advantages arise due to market imperfections; market imperfections make the cost of carrying out arm's length transactions excessive and therefore firms are better off carrying out activities within the firm. Internalisation advantages explain why firms prefer FDI over importing, exporting, and licensing or franchising (Dunning & Lundan, 2008).

2.2.7 Investment Development Path

The concept of Investment development path (IDP) was first put forwarded by Dunning (1981, 1986). Thereafter, this concept has been refined and extended further in several instances (Dunning & Narula, 1996). This model attempts to explain the progression of a country's direct investment position as the country advances through different stages of economic development. IDP theory advocates for a strong association between a country's direct investment position and its level of development. As per the IDP theory, a country's direct investment position is systematically related to its level and structure of economic development (United Nations, 2006).

According to Dunning, a country's direct investment position is determined by three sets of factors; (1) extent of ownership specific advantages of the indigenous firms relative to firms in other countries, (2) indigenous firms' tendency to internalise (rather than externalise) these ownership specific advantages across borders, and (3) country's relative location advantages against other countries (Dunning, 1981).

The IDP theory recognises five stages of development and each stage is classified according to the country's propensity to import/export direct investment capital (Dunning & Narula, 1996). During the first stage of the development (least developed), a country is

unlikely to attract much inward FDI (IFDI) because of poor location specific advantages, mainly due to issues such as smaller domestic markets, poor infrastructure, weaker institutions, and lack of human capital (Dunning, 1981). In this stage, outward FDI (OFDI) will be very low due to lack of ownership specific advantages among indigenous firms. In stage two, FDI inflows will start to increase due to growth in income levels and improvements in location specific advantages. Later on when the domestic firms start to gain their own ownership advantages, OFDI will start to increase, but will remain low. Stage three is characterised by gradual decrease in the growth rate of IFDI and an increase in the growth rate of OFDI, therefore, resulting in an increasing net outward FDI (NFDI) position. As the domestic firms compete with foreign firms and gain their own ownership advantages, ownership advantages of foreign firms will become less significant. Also, as domestic wages surge, the country will start losing some of the initial location advantages, particularly relevant to attracting labour intensive operations. These will in turn result in an increase in NFDI position. Although the country will lose comparative advantage in labour intensive operations, the country will gain different set of location advantages, for example, enlarged domestic market and improved domestic innovatory capacity, and these changes are likely to shift the motive of IFDI towards efficiency seeking production. A country reaches stage four when OFDI stocks surpass (or equal) the IFDI stock, while the growth rates of OFDI remains higher than growth rates of IFDI. Most of the domestic firms are now capable of competing with foreign firms in both local and international markets (United Nations, 2006). In the fifth stage, OFDI and IFDI flows get equally significant, and NFDI position tend to fluctuate around zero.

IDP theory has recently been used in conjunction with Trade Development Path (TDP) to explain how the structure of trade, industry and FDI of a country evolves with the development of the country (Dunning, Kim, & Lin, 2001; Dunning, 2003). Countries in stage 1 have low resources and capability base with underdeveloped domestic markets and engage in trade in low and medium created asset-intensive sectors. Their exports are mainly in resource and/or labour intensive sectors and imports are mainly in medium technology intensive and consumer goods sectors. In this stage, countries will only be able to attract low to modest FDI, mainly in labour or resource intensive sectors with very limited OFDI. Intra-industry FDI will be negligible.

When they progress into stage two, with improving resource and capability base and rising domestic markets, their exports, although still mainly in resource and/or labour intensive sectors, will expand to medium technology sectors and services. Imports will remain as stage one but with some participation in more advanced technology sectors. In this stage, countries will witness increasing IFDI flows mainly into medium technology and consumer goods sectors and into some services and OFDI flows kicking off, mainly taking place in labour or resource intensive sectors. Intra-industry FDI will remain insignificant.

When the countries move into stage three with further growth in domestic markets and increasing significance of human capital and indigenous innovatory base, their resource intensive exports will diminish in significance and exports will largely consist of medium technology goods and services. Imports in this stage will mainly consist of higher income consumer goods and technology intensive intermediate products. IFDI flows will largely take place in more skill intensive goods and services and OFDI flows will increasingly take place in medium technology and some asset-seeking investments and technology intensive sectors. Intra-industry trade will now start to become significant while increasing intra-industry FDI flows.

In the fourth stage, when countries approach mature industrialisation with relatively rich and sophisticated markets, exports will largely consist of higher income and medium to high technology goods and services. Composition of imports will now become mixed with increasing import in more sophisticated consumer goods. IFDI flows will be increasingly drawn to more technological intensive goods sectors and information intensive service sectors. OFDI flows will grow at a faster rate, sometimes exceeding IFDI flows. OFDI flows become increasingly concentrated in medium and high technology goods and services while asset-seeking OFDI continuing to grow. Both intra-industry trade and intra-industry FDI flows will become increasingly significant in this stage.

2.2.8 Concluding Remarks

Theories of FDI attempt to answer a range of questions such as what kind of firms undertake FDI, why such firms undertake FDI, what kind of investments do they undertake, and how do they enter (entry mode), when do they undertake FDI (timing) and

where do they invest. Theories that attempt to answer the last two questions are of particular relevance to the context of this study. First, it is important to understand different types of FDI; different types of FDI are attracted by different locational advantages of the host country, as a result, have different impact on the host country. Behrman typology of FDI is very useful in this respect. These theories provide enlightening ideas to understand the determinants of FDI in the context of Sri Lanka. To this end, differential rate of return theory and portfolio hypothesis are useful for understanding financial determinants and output & market hypothesis, concept of international division of labour and Investment development path theory are useful for understanding economic determinants of FDI. Dunning's Eclectic paradigm is a relatively comprehensive model. Eclectic model answers several important questions related to FDI concerning 'who', 'why', 'where' and 'how'. Dunning's OLI paradigm provides a comprehensive model to analyse FDI determinants by looking from the host country's perspective as well as the foreign investor's perspective. Although this thesis primarily looks at the FDI determinants from the host country's perspective, it is difficult to disentangle MNCs motives/actions from the location determinants because a location's attractiveness for a certain type of FDI will be, ultimately, determined by MNCs actions. IDP theory advocates for a strong association between a country's direct investment position and its level of development. Therefore, this theory is not only useful in explaining the FDI flows but also useful for understanding the potential impact that inward FDI could bring in to a host country.

It is important to understand that most of the conventional FDI theories were developed in an era that is very different from the current context of international business. The majority of the theories were developed in a time where bulk of the FDI was flowing among the developed countries and developing countries started receiving considerable amounts of FDI. Contrastingly, current context is characterised by increasing FDI flows to developing countries as well as increasing FDI flows from developing countries. Also, in the past, most of the MNCs were either from U.S.A or from a small number of countries and in the current context there is a wider participation of countries both as recipients and suppliers of FDI. Furthermore, in the past, most of the FDI was fresh FDI, but in the current context, a significant proportion of FDI is substitute/replacement to existing investments (FDI relocations and FDI diversions) rather than supplement to existing ones. Therefore, the dynamics of FDI in the present context can be different from

that of the past. With this changing context, some of the conventional FDI theories may have limitations in explaining present FDI flows. Furthermore, there is rising concerns that conventional FDI theories are not capable of capturing all dynamics of the behaviour of multinational firms. Another salient shortcoming of these theories is that they have failed to incorporate the implications of risks and risk preferences of MNCs. Hymer (1960) emphasised the importance of risks and risk preferences but subsequent theories/models have not given adequate attention to the importance of risk and risk preferences.

These theories are useful in providing a foundation for analysing FDI when used in the right context while understanding their limitations. Each FDI theory and hypothesis concentrates on a particular set of variables, and therefore, each theory/hypothesis has its own limitations. For example, Although Hymer's theory is useful in explaining why firms go abroad it fails to explain why a firm prefer one country over another. Therefore, it is sensible to use the concepts of these theories and hypotheses holistically rather than considering each theory in isolation. Thus, this study will take a holistic approach. Having looked at theoretical literature that is relevant to this study, next two sections will looked at the literature on FDI determinants and impact of FDI in an empirical point of view.

2.3. Determinants of FDI

2.3.1. Introduction

The literature on FDI suggests that the reasons for FDI are numerous. Many theories have been put forwarded to explain the actions of multinationals and their locational preferences. These theories have been tested by large number of empirical studies using different country settings. These studies have progressed in two different streams. Some researchers have concentrated on the micro-level factors by looking deeply into MNCs to identify the reasons behind their actions. Others have concentrated on macro-level factors to identify which factors attract MNCs to specific countries or regions. Factors such as size and growth of host market, quality of human capital and wages, political stability, institutional environment, degree of trade openness, quality of infrastructure, and exchange rate valuations have repeatedly appear as determinants of FDI in previous studies (Wheeler & Moody, 1992; Root & Ahmed, 1979; Quazi & Mahmud, 2004; Chakrabarti, 2001). Proceeding section provides a review of these FDI determinants.

2.3.2 Size and Growth of Host Country's Economy

Market size and market growth are major sources of location advantage, particularly for market seeking FDI that target local or regional markets. Market seekers invest in a particular location in the intention of supplying goods or services to the host country or to adjacent countries/regions. Such FDI, which is also referred as horizontal FDI, replicates production in the host country in order to serve the host country market, and therefore, market size and market growth of the host country play a crucial role (Kinoshita & Campos, 2004; Brada, Kutan, & Yigit, 2006). Host market can be a magnet to FDI for several reasons. Foreign firms that want to cater to the local market by directly supplying goods and services may want to locate operation close to the market in order to minimize production and transaction costs; to bypass trade barriers; and to adapt their products and services to local tastes or needs, cultural attitudes and indigenous resources and capabilities (Dunning & Lundan 2008). Also, firms may have to follow its suppliers and customers who set up facilities in the host country (Dunning & Lundan 2008). Market size can also have a positive effect on export oriented FDI, to the extent that export

performance can benefit from economies of scale of a large host market[5] (Kravis & Lipsey, 1982).

Many empirical studies have found that market size (GDP, GNP) have a positive effect on inward FDI (Nonnemberg & Mendonça, 2004; Root & Ahmed, 1979; Schneider & Frey, 1985; Wheeler & Mody, 1992; Billington, 1999; Nigh, 1985; Suliman & Mollick, 2009). As per Chakrabarti (2001)'s synopsis, almost all studies have found a consistent positive effect of market size on FDI inflows.

The prospect of growth has a positive impact on FDI inflows and countries with high and sustained growth rates receive more FDI flows than volatile or low growth economies (Hoang, 2006). Past rate of economic growth is considered as a predictor of future market size (The World Bank, 1998). Also, it has been found that the recent growth rates of a host country are much more significant for FDI inflows than the growth rates for past periods (The World Bank, 1998). Economic growth can be a powerful stimulant for FDI inflows, and at the same time, an increase in foreign investment could also stimulate economic growth (Nonnemberg & Mendonça, 2004; Agrawal, 2000). Therefore, the direction of causality, whether FDI causes growth in GDP or growth in GDP creates more FDI, is a much debated issue, and may depend on various factors such as factor endowment, geographical location, level of infrastructure, quality of human capital, market size and trade regime of the country (Faeth, 2005).

Majority of empirical studies have found that market growth rate (GDP growth, GNP growth) have a positive effect on inward FDI (Schneider & Frey, 1985; Billington, 1999; Suliman & Mollick, 2009; Noorbakhsh, Paloni, & Youssef, 1999) while handful of studies have found the growth rate to be insignificant as a FDI determinant (Nigh, 1985). Empirical studies have produced mix results on the direction of causality, equally supporting both premises, and therefore, supports the existence of the endogeneity problem.

Using time series data from 1959 to 2002 and employing an econometric framework of co-integration and error correction mechanism, Athukorala (2003) examined the two-way

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[5] Large host country market can contribute to economies of scale which can be conductive to export production. Kravis & Lipsey (1982) show that U.S. majority owned affiliates tend to export from countries with large internal markets.

relationship between FDI and GDP in the context of Sri Lanka. His econometric results indicate that GDP growth rate and FDI is positively related. He shows that GDP growth rate influence FDI directly but the direct influence of FDI inflows on GDP growth is weak. Using Engle-Granger method to see the direction of causality, he shows that the direction of causation is from GDP growth to FDI but not from FDI to GDP growth.

2.3.3. Trade Openness

Countries can increase their trade openness through liberalising their trade policies through reducing tariff and other barriers to trade. Trade openness, the degree to which a host country is open to trade, can have implications on FDI inflows, mainly in two opposing directions. High trade barriers can create significant transaction costs to firms exporting to host country. Therefore, on one hand, with low degree of trade openness, more horizontal FDI (import substituting) can be expected due to MNCs trying to avoid trade barriers. On the other hand, high degree of trade barriers can increase transaction costs to multinationals engaged in vertical FDI (Busse & Hefeker, 2007). Therefore, lower trade barriers can augment more vertical FDI or export oriented FDI, especially if such FDI is associated with high proportion of imports of intermediate and capital goods (Walsh & Yu, 2010). In the former case, FDI is generated as a substitute for trade, and therefore, would imply a negative correlation between trade and FDI. In the latter case, FDI is complementary with trade, and therefore, would imply a positive correlation between trade and FDI. Trade restrictions are likely to be linked with other forms of policy imperfections such as exchange rate controls and restrictions on foreign investments, particularly in developing countries. These policy restrictions can also discourage FDI inflows (Busse & Hefeker, 2007).

Import substituting FDI will be limited by the size of the host-country (Balasubramanyam, Salisu, & Sapsford, 1996), and therefore, for countries with smaller internal markets, potential of generating FDI would be larger with pursuing Export Promotion (EP) induced FDI than pursuing Import Substituting (IS) induced FDI.

Many studies on FDI determinants use trade openness as an explanatory variable, usually represented by the trade intensity, i.e. total trade as a proportion of GDP. Majority of these empirical studies have found a positive relationship between trade openness and FDI, see, for example (Erdal & Tatoglu, 2002; Suliman & Mollick, 2009; Noorbakhsh,

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Paloni, & Youssef, 1999; Abbott, Cushman, & De Vita, 2012; Asiedu, 2002), while a handful of studies have found a negative (Wheeler & Mody, 1992) or insignificant (Nunnenkamp & Spatz, 2002) relationship between them.

2.3.4. Political Instability

FDI is subject to host country risk factors, which can be classified into economic and political risk factors (Moosa, 2002). Political risk stems from various political factors in the host country that can affect entry and performance of foreign owned firms. These factors can include various forms of violence such as wars, riots, disorders, and labour unrests; stability of the host government; attitude of the host government; and changes in the rules and regulations governing FDI (Moosa, 2002). There are different types of classifications of political risk factors. For example, political risk insurance industry categorizes political risk into three broad categories: (1) war and political violence (includes civil war, uprisings and terrorist attacks), (2) expropriation and breach of contracts, and (3) transfer risk encompassing government restrictions on capital flows (Jensen, 2008). Political instability, i.e. high degree of political risks, of a host country is considered as one of the key concerns of potential foreign investors (Walsh & Yu, 2010), and therefore, is likely to discourage inflows of FDI.

Although it is widely believed that political instability of country will impede FDI inflows, not many empirical studies have looked at the relationship between political instability and incoming FDI. Moreover, relatively few studies have empirically investigated the relationship between war/conflict and FDI (Czinkota, Knight, Liesch, & Steen, 2010). These empirical studies, both surveys and cross-country studies, have produced mix results (Walsh & Yu, 2010; Agarwal, 1980).

Several researchers have empirically established the negative relationship between political instability and FDI inflows (Root & Ahmed, 1979; Schneider & Frey, 1985; Suliman & Mollick, 2009; Brada, Kutan, & Yigit, 2006). Nevertheless, some studies have found that there is little or no relationship between political instability and FDI inflows (The World Bank, 1998; Wheeler & Mody, 1992; Bennett & Green, 1972; Kobrin, 1976; Asiedu, 2002). Bennett & Green (1972) investigating the effect of political instability on direct investments by US firms in marketing activities in forty-six countries, found that political instability do not discourage such FDI flows. They

use a 7-point scale, which was constructed by Feierabend & Feierabend (1966) by assigning weights (from 0 to 6) to 30 types of politically destabilizing events. Kobrin (1976), investigating the effect of economic, social, and political aspects of the host country environment on investments of 187 major US manufacturing firms, found a strong relationship between market related variables and FDI but failed to find any relationship between FDI and variables based on political event data.

2.3.5. Human Capital

Human capital is widely considered as a key determinant of FDI inflows whilst both FDI and human capital are recognised as key drivers of economic growth (Noorbakhsh, Paloni & Youseff, 2001; United Nations, 1992; Abbas, 2001). However, high quality human capital and FDI are complementary, in the sense, that high quality human capital tend to attract FDI, and on the other hand, presence of MNCs is likely to improve the quality of human capital in the host country since MNCs provide education and training to local staff (Miyamoto, 2003).

Although the importance of human capital in attracting FDI is widely recognised in the literature, existing empirical evidence is not consistent, particularly for developing countries. Based on different sets of developing countries, some have shown that there is a significant positive relationship between human capital and FDI inflows (Noorbakhsh, Paloni & Youseff, 2001; Nonnemberg & Mendonca, 2004; Suliman & Mollick, 2009; Suliman & Mollick, 2009), while others have found little or no relationship between these two (Hanson, 1996; Root & Ahmed, 1979; Schneider & Frey, 1985; Kinoshita & Campos, 2004; Nunnenkamp & Spatz, 2002; Cheng & Kwan, 2000).

There can be numerous reasons for these incongruities. It is important to understand whether these incongruities arise due to a deficiency in the methodology of the previous research studies rather than due to lack of causality. Miyamoto (2003) observes that most of the studies that have found little or no relationship between FDI and human capital have been conducted for the periods prior to 1980. He argues that prior to 1980 most of the FDI in the developing countries were concentrated in market and resource seeking and/or lower-end manufacturing types, and therefore, cheap labour and/or abundant natural resources were more important than high level of human capital, and for this reason studies conducted prior to 1980 have produced weak relationship between FDI and

human capital. Despite the fact that human capital can be less crucial for natural resources and/or market-seeking FDI than efficiency seeking and/or higher-end manufacturing type FDI, it should be comprehended that human capital can still be important for any type of FDI because increased human capital contributes to civil liberties, political stability, good health and reduced crime/corruption, all of which that positively influence the investment climate of a country (Miyamoto, 2003).

Another possible reason for the deviations in the research outputs is that the proxies that have been selected by researchers may not correctly relate to the quality of human capital. The difficulty in finding suitable explanatory variables as an indicator of human capital and also the difficulty in gathering consistent cross-country variables are frequently recognised in the literature (Miyamoto, 2003). Most widely used measures are adult literacy rate and secondary/primary school enrolment ratios. All these variables have serious limitations when used as a proxy for the level of human capital. Adult literacy rate is widely used because it's availability in most countries and it can be easily compared across different countries and regions. However, it is a very crude measure. Literacy rate does not encompass the quality of the education of a country, does not reflect any educational attainments on top of the acquisition of basic literacy and fails to capture many intricate features implied in worker skills and productivity (Miyamoto, 2003, WoBmaan, 2003). Secondary and primary school enrolment ratios may not relate to the quality of education, and therefore, these quantitative measures neglect the quality of human capital (Bhaumik & Dimova, 2012). Also, current school enrolment rate, which is a flow variable[6], may not necessarily represent the current stock of human capital employed in a country (WoBmaan, 2003). On the other hand, mix results may have resulted because different researchers have employed different proxies to gauge the level of human capital of their selected countries. Furthermore, different educational parameters can have different impact on FDI inflows as well as on other macroeconomic variables that can affect FDI inflows. For example, in his study examining the effects of educational performance on the economic growth of Sri Lanka and Pakistan during the period 1970–1994, Abbas (2001) has found that education at the primary level has a negative relationship, secondary level has a significant positive relationship and higher

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[6] Moreover, enrolment rate is a poor proxy for current flows itself since enrolment rates represent entry of students into education system rather than entry of graduates into the labour force.

education has a positive but insignificant relationship to the economic growth of Sri Lanka and Pakistan.

2.3.6. Institutional Environment

North (1991) defined institutions as the humanly devised formal rules (eg, constitutions, laws, regulations, and property rights) and informal constraints (eg, norms and values, conventions/customs and codes of conduct) that structure political, economic and social interactions. Institutional environment is considered as a crucial factor determining FDI inflows, particularly important for developing countries than developed-countries (The World Bank, 1998). Institutional environment can not only create numerous pressures on firms (Francis, Zheng, & Mukherji, 2009), but also shape the risks and uncertainties faced by the firms. Countries associated with good governance usually perform well in terms of economic growth and also in attracting FDI, and countries with weak institutional environment have generally performed poor in terms of both economic growth and attracting FDI.

MNCs might prefer countries with better institutional environment due to several reasons. Poor institutions that enable corruption, bureaucratic hurdles and red tape are likely to reduce the efficiencies of the business operations and increase the cost of business operations, and thereby, reduce multination's profits (Walsh & Yu, 2010). MNCs will have to set aside large resources for unproductive rent seeking activities in highly corrupted countries, for example, paying bribes to government officials to obtain permits, licenses, loans, or other government services necessary to conduct business (Wei, 2000). Strong institutional environments increase the predictability of the environment and also give little room for state agents to behave in an unpredictable manner. Contrastingly, weak institutional environments can increase the arbitrariness of state agents, thereby, creating extra uncertainties to MNCs. Even when MNCs expend resources on politicians to compete for the economic rents that are granted by the government, the payback from these political connections are uncertain (Chen, Ding, & Kimand, 2010). The impact of uncertainties created by arbitrariness of state agents on FDI inflows can be high, and research has found that MNCs prefer joint ventures to minimise risk when ethical uncertainties and arbitrariness are high (Demirbag, McGuinness, & Altay, 2010). There are many aspects of institutional environment and detail investigation of all these aspects are beyond the scope of this study. Therefore, my focus is on formal institutions that have

been repeatedly highlighted in the extant literature; following sections focus on how corruption, rule of law, regulatory quality and democracy can influence FDI inflows.

Existing studies recognise corruption as a major obstruction for attracting FDI inflows (Zhou, 2007). Since state and politicians can influence the entry and the economic performance of firms through various means, such as, tax and subsidy policies, regulation of entry and operations of firms, controls on products and pricing, equity ownership restrictions, performance requirements, and nationalisation (Chen, Ding, & Kimand, 2010), MNCs entry and operations can become much difficult and risky with a corrupt regime (Dhanaraj and Beamish, 2009). Also, when corruption is present, productive firms could be discriminated because political connectedness becomes much more important determinant of business success than business fundamentals such as productiveness (Chen, Ding, & Kimand, 2010).

However, there is a point of view that corruption can benefit MNC operations in some situations (Zhou, 2007). Some writers have shown a better side of corruption arguing that corruption is the much needed grease for the squeaking wheel of a rigid administration (Bardhan, 1997; Jensen, Li & Rahman, 2010). Also, corruption leads to market imperfections, and therefore, in some cases corruption can provide incentives for MNCs to internalise their operations. Moreover, in some cases, the corrupt governments might favour MNCs over domestic firms in order to receive more private benefits through secret arrangements with international firms. Furthermore, in some cases, corrupt MNCs might use political connections to promote their unethical practices and private agendas in the host countries.

MNCs can react to corruption with different strategies. They might avoid investing in highly corrupt countries, and consequently, host country will lose potential FDI inflows. Alternatively, they might partner with domestic firms in order to guard against corrupt politicians (Jensen, Li & Rahman, 2010). Exceptionally, some MNCs might accept the risk and venture into the country hoping that they could manage the politicians and the corruption.

On the empirical side, many empirical studies have found a negative relationship between corruption and FDI inflows (Busse & Hefeker, 2007; Zhou, 2007; Wei, 2000). Some

studies, for example, Egger & Winner (2005) and Adam & Filippaios (2007) have found a positive relationship between corruption and FDI, thus they pose corruption as a stimulus for FDI inflow.

Lack of transparency and imperfect regulatory and legal systems can increase the risks and uncertainties of operating businesses. The more complex and less explicit the regulatory requirements are, the more difficult it will be for a foreign firm to adjust to these requirements (Demirbag, McGuinness, & Altay, 2010). MNCs might prefer a more independent judiciary in order to receive fair treatment. Credibility of the host country government is likely to be augmented with an independent judiciary. Poor enforcement of contract and law can increase the costs and risks to foreign firms; contracting parties may neglect contractual obligations towards foreign firms and, in extreme situations, government may even expropriate assets of foreign firms either partially or completely (Kinoshita & Campos, 2004). Therefore, MNCs may prefer to invest in countries where political rights and civil liberties are protected[7]. Since democracy is likely to improve the rule of law, property right protection and other aspects of institutional environment which can have a favourable effect on attracting FDI, some researchers have suggested that democratic regimes are better than autocratic regimes in terms of attracting FDI (Busse & Hefeker, 2007; Demirbag, McGuinness, & Altay, 2010). The premise that democratic regimes are better for attracting FDI has been contested by some researchers, and also the fact that some countries, such as China and Singapore, which are not considered as democratic, being highly successful in attracting large volumes of FDI have made this premise highly controversial.

The greater the institutional distance between home and host countries, the greater the level of complexity faced by the MNC (Demirbag, McGuinness, & Altay, 2010). MNCs from countries associated with good governance might not know how to approach and survive in a country that has a set of values and practices different from their home countries'. Moreover, MNCs may be accountable to their home country governments if they or their joint venture partners undertake any unethical or corrupt practises in order to survive in the host country (Demirbag, McGuinness, & Altay, 2010). Also, available evidence shows that when there is a large degree of institutional distance between host

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[7] Interestingly, Adam & Filippaios (2007) show that while repression of political liberties can deter FDI, slight repression of civil liberties may entice certain types of direct investments.

and home countries, MNCs prefer lower level of equity investments (Xu & Shenkar, 2002).

In his empirical studies, Wei has statistically proved that corruption has a significant negative relationship with FDI inflows and ascertains that the significance of corruption on FDI inflows is even higher than the significance of increases in tax rates on FDI inflows (Wei, 2000; Wei, 1997). Busse & Hefeker (2007), exploring the linkages among political risk, institutions, and FDI using a sample of 83 developing countries, find that government stability, internal and external conflict, corruption, law and order, ethnic tensions, democratic accountability of government, and quality of bureaucracy are highly significant determinants of FDI inflows. Additionally, many studies have provided evidence that there is a strong relationship between host country's institutional environment and inward FDI (The World Bank, 1998). Contrastingly, Wheeler & Mody (1992) found that corruption, bureaucracy and red tape, and quality of legal system are insignificant as determinants for FDI inflows.

The difficulty in measuring institutional factors is widely recognised in the literature, and probably for that reason, empirical studies have produced mix results (Walsh & Yu, 2010). Also, different studies have employed different types of institutional factors and different types of scores/measures published by various organisations. However, countries with strong institutional environments tend to have better scores in almost all of the institutional variables and vice versa. This is because, institutional factors are interconnected and dependent on each other, and therefore, weaknesses in one institutional factor can lead into deterioration in other institutional variables: for example, economic, political and social structures that are poorly differentiated and lack independency can facilitate and propagate corruption.

2.3.7. Domestic Stock Market Development

There is considerable attention given to explore the link between local financial markets and capital flows, however, the link between the local stock market and FDI has not been adequately researched. Moreover, local stock market is generally associated with foreign portfolio investment rather than with FDI. However, for several reasons, the domestic stock market is likely to play an important role in determining FDI inflows. Foreign investors may want to finance part of their investments through external capital and the

stock market plays an important role in providing avenues to find equity and credit in the host country (Claessens, Klingebiel & Schmukler, 2001). Also, a much developed stock market provides an exit route to FDI investors, and provides a relatively easy means of finding a potential buyer. Therefore, potential FDI investors might be reluctant to make large investments in countries with less developed stock markets.

Majority of FDI take place as acquisitions rather than Greenfield investments. Stock markets provide a mechanism for foreign investors to acquire local businesses (Claessens, Klingebiel & Schmukler, 2001), and therefore, the breadth of the stock market is likely to be crucial for FDI. Some MNCs would want to test the ground before committing the full amount of capital funds (Noorbakhsh, Paloni & Youssef, 1999), and therefore, would prefer to acquire a small stake before totally committing to an investment. A well-developed stock market can facilitate these requirements conveniently.

The above points suggest that FDI and stock market developments are complementary, however, there are arguments favouring the opposite premise: the premise of FDI being a substitute for stock market development. The main argument supporting this premise is that FDI takes place to overcome the difficulties of investing through capital markets, and therefore, the countries that are riskier, financially underdeveloped, and institutionally weak are supposed to attract more FDI as a proportion of portfolio investment than countries that are otherwise (Claessens, Klingebiel & Schmukler, 2001). However, high political risks may encourage foreign investors to prefer assets with high liquidity, and therefore, to prefer portfolio investment over direct investment (Liljeblom & Löflund, 2005). Also, investors' preference between FDI and FPI may vary according to their risk apatite, capital availability and liquidity constraints, and therefore, FDI and FPI would act as alternative investment opportunities (or substitutes).

FDI is made by a company with the intention of exerting a considerable degree of influence on the operations of the enterprise (Benito, 1997). In contrast, investors of FPI gain ownership without control, and therefore, mainly due to the agency problem between managers and owners, FPI is considered less efficient and more volatile relative to FDI (Mata & Portugal, 1999; Goldstein & Razin, 2006). However, high transparency in developed economies makes portfolio investment in these countries more efficient than in developing countries, and therefore, larger ratio of FDI to FPI inflows is expected for

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developing countries relative to developed countries (Goldstein & Razin, 2006). Thus, the extent to which FDI can be substituted by FPI is rather limited in the context of developing countries.

Having looked at these contentions, it appears that complementary effect between stock market development and FDI inflows is predominant over their substitute effect, and therefore, stock market development is likely to be positively related to FDI inflows.

2.3.8. Exchange Rate

FDI inflows to a particular country can be influenced by its level of exchange rate, expected changes in the level of the exchange rate, volatility of exchange rate, and the exchange rate regime (Blonigen, 2005). Both theory and empirical studies mostly favour a negative relationship between a country's exchange rate level and inward FDI; depreciation of host country's currency can augment FDI inflows and appreciation of host country's currency can deter FDI inflows (Abbott, Cushman, & De Vita, 2012). Froot & Stein (1991) forwards the imperfect capital market theory to explain why a depreciation of host country's currency can lead to increased investments by foreign firms. According to this theory, a relative appreciation of the home country's currency will increase the relative wealth of the home country firms. In an imperfect capital market, the internal cost of capital is lower than the cost of capital of external borrowing, and therefore, as a result of relative appreciation of the home country's currency, home country firms will be provided with large low-cost funds to invest in the host country (Froot & Stein, 1991; Blonigen, 2005). Froot & Stein (1991) have provided empirical support to their theoretical reasoning with the use of US based data.

Blonigen (1997) explains the negative relationship between host country's exchange rate level and inward FDI with the use of cheap asset (fire sale) hypothesis. Under cheap asset hypothesis, it is assumed that FDI flows reflect undervalued host country assets (Baker, Foley, & Wurgler, 2009). A relative depreciation of the host country's currency can make host country assets cheap. However, the main opposition against this premise comes from the fact that the relative depreciation of the host country's currency will also lower the expected nominal returns of the purchased assets in terms of home currency (Blonigen, 2005; Blonigen, 1997). Blonigen (1997) counters this opposition by proposing that if the acquired assets are firm specific assets that are transferrable across many

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markets (in addition to host country's market) to generate benefits in these markets, then the effect of host country's currency depreciation on the nominal returns will be proportionately less than its effect on the asset price. Blonigen (1997) have provided empirical support to his theoretical reasoning using data on Japanese acquisitions in the United States from 1975 to1992.

Currency depreciation in a particular country can also lower its relative production costs in terms of foreign currency. When the local currency depreciates, the cost of production inputs that are sourced locally such as labour, material, land, and machines will become cheaper relative to the export price of the final product. Therefore, a currency depreciation in a country could encourage export oriented FDI inflows to that country (Cushman, 1985; Kohlhagen, 1977; Xing & Wan, 2006). Contrastingly, currency appreciation in a particular country can increase production costs relative to export prices, and therefore, could bring down the competitiveness of export-oriented industries.

Many studies (Bénassy-Quéré, Fontagné, & LahrÈche-Révil, 2001; Blonigen, 1997; Froot & Stein, 1991) have empirically established the negative relationship between host country's exchange rate level and inward FDI. However, the effect of exchange rate on FDI is likely to depend on firm characteristics, type of FDI, motive of investing firms and characteristics of the industry in which FDI takes place (Blonigen, 2005; Chen, Rau, & Lin, 2006). Chen, Rau & Lin (2006) propose that depreciation of a host country's currency tends to stimulate cost-oriented FDI and to deter market-oriented FDI and has found evidence for this premise by conducting a panel study using data on Taiwan's outward FDI into China over the period 1991–2002.

2.3.9. Infrastructure

The presence of physical infrastructure is considered as a key determinant of FDI (Loree & Guisinger, 1995). Infrastructure helps to increase the productivity of both domestic and foreign investments, and therefore, can stimulate FDI inflows. Some studies have highlighted that infrastructure is much more crucial for developing countries than developed countries for attracting FDI (Wheeler & Mody, 1992; Kumar, 2001). Importance of infrastructure is increasingly recognised by developing countries, and therefore, infrastructure development has become a main agenda in developing countries.

Although not many empirical studies have given considerable attention to the effect of infrastructure on FDI flows, it has been a common practice to include variable(s) representing the level of infrastructure as an explanatory variable in studies investigating determinants of FDI. Empirical studies that have included infrastructure as an explanatory variable have relied on an array of measures to represent the level of infrastructure in a country. Most frequently used measure is the telephone lines per capita (see, for example, Loree & Guisinger, 1995; Kinoshita & Campos, 2004; Asiedu, 2002; Suliman & Mollick, 2009). Alternatively, some studies have relied on transportation infrastructure measures such as road density or railway density (see for example, Cheng & Kwan, 2000; Loree & Guisinger, 1995) while others have used the share of transportation, energy and communication expenditures in GDP (Erdal & Tatoglu, 2002). The level of infrastructure in the host country has been a significant determinant of FDI inflows in majority of these studies (Loree & Guisinger, 1995; Erdal & Tatoglu, 2002; Asiedu, 2002; Suliman & Mollick, 2009; Wheeler & Mody, 1992) while it has been insignificant in some of the studies (Kinoshita & Campos, 2004).

It is important to understand the dynamics of infrastructure-FDI relationship in order to reconcile these conflicting empirical results. To this end, it is important to understand, under what conditions, infrastructure is important and not important to FDI. Investors' sensitivity to infrastructure will depend on the type of industry; some industries depend more on infrastructure than others (Loree & Guisinger, 1995). There are many categories of infrastructure (The World Bank, 1994), out of which four categories are fundamental when it comes to FDI. They are transport infrastructure, telecommunication infrastructure, information infrastructure, and energy availability. Importance of each category will vary among different industries/sectors. For example, transport infrastructure is likely to be more crucial for manufacturing industries than services sector and information and telecommunication infrastructure is likely to be more crucial for services sector than manufacturing industries.

2.3.10. Regional Integration

Regional integration has become a global trend and many countries have resorted to regional integration as a means of achieving their economic objectives. As a result of proliferation of regional trade agreements (RTAs), more than 50 per cent of global trade is now conducted through RTAs (Aggarwal, 2008). In the past, the main intention of

RTAs was to augment trade through liberalisation of trade barriers, though the objective of attracting FDI was also in mind. However, in recent years regional agreements have been extended beyond reducing trade barriers, giving more emphasise to the investment aspect. This has given birth to a new generation of RTAs, often referred as comprehensive preferential trade and investment agreements (Aggarwal, 2008).

RTAs can affect both quantity and productivity of FDI in numerous ways, and as a result it is often difficult to determine the impact of RTAs on FDI due to their complex interrelationships (Aggarwal, 2008). Also, the effects of RTA on FDI are determined by the type of FDI, the nature of a particular RTA, and the characteristics of regional countries. Aggarwal (2008) identifies that the impact of RTA on FDI is moderated by factors such as the degree of integration, the nature of capital flows, the patterns of trade and FDI, and the structural composition and the level of development of partner countries. These intricate relationships and channels through which RTAs affect FDI are discussed in the following sections.

Effects of RTAs on FDI would largely depend on whether FDI is horizontal or vertical type, and whether FDI has originated from inside the trading block or outside the trading block. Horizontal FDI refers to a MNC establishing a foreign firm in order to serve the foreign market, mostly taking place due to exports being too costly as a means of serving the foreign market due to trade barriers and transportation costs (Protsenko, 2003). Vertical FDI refers to a MNC establishing a foreign firm in order to source lower cost inputs. Vertical FDI take place as a result of MNCs fragmenting production process vertically and geographically dispersing them according to relative factor advantages of different geographical locations (Protsenko, 2003).

Internalisation opportunities primarily arise from market imperfections. After a firm seizes such an opportunity through undertaking FDI, any subsequent improvements in these imperfections might weaken the initial internalisation advantages, and thereafter, a MNC might consider shifting away from FDI. High trade barriers create market imperfections which encourages firms to establish foreign affiliates in order to bypass these imperfections. A formation of an RTA that eliminate or reduce trade barriers among members would weaken or eliminate the market imperfections created by trade barriers, and therefore, some of the tariff-jumping FDI originating from member countries might

become no longer necessary, and might be replaced by exports. Also, with the lowered trade barriers, companies with high fixed costs will have the opportunity to concentrate their activities in one country within the regional trading block and to serve partner markets through exports (Aggarwal, 2008). Therefore, trade liberalisation within the regional block would have a negative effect on market-seeking and tariff-jumping FDI that originate from member countries as a result of FDI being substituted by trade.

However, a formation of an RTA would have different implications on market seeking/ horizontal FDI originating from firms outside the regional trading block. Without an RTA, a firm external to the regional block might prefer to supply individual countries through trade rather than establishing firms in each country. But after the trade liberalisation within the region, it would be more worthwhile for such an external firm to jump the common external tariff rather than supplying each individual country through trade. Also, firms external to the regional trading block may undertake defensive investments inside the region in order to bypass the external trade barriers to compete with firms within the region which have the tariff advantage over such external firms (Feils & Rahman, 2011). Moreover, external firms would want to become insiders due to the fear of future protection measure that might be undertaken by the region against external investors (Blomström & Kokko, 1997). Therefore, more market seeking FDI can be expected from firms external to the regional block due to the extended market effect (Yeyati, Stein, & Daude, 2002).

On the other hand, trade liberalisation within the regional block would have completely different implications on efficiency seeking/ vertical FDI. Elimination or reduction of trade barriers within the region would encourage efficiency seeking FDI inside the region because freer trade of goods and services will allow MNCs, from both inside and outside the region, to locate its operations in most efficient/beneficial location; thus trade and investments would complement each other (Aggarwal, 2008). Additionally, harmonised regional trade policies could lower transaction costs, which could help both MNCs from inside and outside the region to develop and exploit scale economies (Banalieva, Gregg, & Sarathy, 2010).

RTA could also have dynamic effects on regional firms as well as on member countries. RTA could stimulate competition among member countries; each member country trying

to improve their investment climate to the best available in the region would result in improvements in individual host country environments. Also, creation of a larger regional market can provide opportunities to regional firms to develop into larger and more competitive global players (Aggarwal, 2008).

New generation of RTAs, with their investment related provisions, can have further effects on FDI. These investment provisions liberalise rules and regulations governing FDI flows and foreign ownership, and therefore, enhance the investment climate of member countries (Aggarwal, 2008). In addition, these investment provisions might provide protection for FDI (including protection from expropriation), establish dispute settlement mechanisms, and include common rules on how foreign investors are treated (Aggarwal, 2008). Such provisions would boost investor perception and confidence, and in turn would positively affect FDI flows.

Regional integration leads to market enhancement, and it is believed that such a market enhancement will attract more FDI; several studies have supported this proposition (Feils & Rahman, 2011; Velde and Bezemer, 2004). Although market enhancement can have added positive influence on FDI inflows, market enhancement itself is not a sufficient condition to generate more FDI. In order to attract additional FDI, the region as a whole should be capable of generating effective demand for goods and services and the host countries in the region should possess considerable location advantages (Balasubramanyam, Sapsford, & Griffiths, 2002). As illustrated before, low trade barriers decrease regional firms' cost of serving regional members through trade, and therefore, RTAs discourage horizontal FDI originating from within the region. Contrastingly, low trade barriers will allow the firms to locate their operations in most suitable locations, and therefore, RTAs encourage vertical FDI (Yeyati, Stein & Daude, 2002). Therefore, an RTA would change the composition of vertical and horizontal FDI in member countries, possibly vertical FDI being increased at the expense of horizontal FDI (Aggarwal, 2008). Therefore, even if the region as a whole generate more FDI subsequent to an RTA, some countries may gain and some countries may lose depending on each member's location advantages, such as its position within the region, its strength of human capital and labour costs, its cultural/geographical distance with home country and its institutional efficiency relative to other members (Feils & Rahman, 2011; Velde and Bezemer, 2004). Also, an introduction of RTA will change the dynamics of FDI within the region, some locational

factors becoming more important and others becoming less important, and therefore, some countries can benefit more while others may even loose from the RTA (Feils & Rahman, 2011; Velde & Bezemer, 2004; Yeyati, Stein & Daude, 2002). Due to these complexities it is difficult to ascertain the net impact of an RTA on FDI inflows to the region as well as its impact on FDI inflows to individual countries.

2.3.11. Labour Costs

Not only the quality and availability of labour (human capital), but cost of labour is also considered as an important determinant of FDI. Particularly, labour costs are crucial for attracting vertical FDI, which is stimulated mainly by low factor costs. Some studies have advocated for a negative relationship between wage level and FDI inflows (Schneider & Frey, 1985; Saunders, 1982). However, labour costs per se cannot be considered as a determinant of FDI because what matters is cost of labour adjusted for skill level of labour. Usually lower wages are associated with lower skills and lower productivity and vice versa. This is why some countries with very low wages have failed to attract FDI due to their deficiencies in skills and productivities of labour.

Empirical studies have produced mixed results on the effect of labour costs on FDI location choice. Cushman (1987), in a study using FDI flows between USA and five other industrialized   countries, has shown that lower host country wages and higher productivity are positively related to FDI inflows. Woodward & Rolfe (1993), analysing location decisions of export-oriented manufacturing FDI in the Caribbean Basin, found a negative relationship between wage rate and plant location. Schneider & Frey (1985) also found that higher wages discourage FDI. In contrast, Agodo (1978) investigating the determinants of US manufacturing FDI in Africa, find that low relative overseas wages have a non-significant influence on FDI location choice. Kravis & Lipsey (1982), did not find labour cost to have a major influence on U.S. firms' decision on their location of export production.

2.4. Impact of FDI on the Host Country

2.4.1 Introduction

FDI plays an important role in facilitating international transfer of resources, technology, management know-how, products and services from a home country to a host country (Bang Nam & Se Young, 2004). Through facilitating these international transfers, FDI can bring an array of benefits to the host country. Literature on economic growth identifies the importance of expanding the quantity of the basic factors of production (United Nations, 1992). FDI contributes additional resources, such as capital and technology to the host country. These additional inputs can have an incremental effect on host country's output and growth.

Literature on economic growth also recognises the importance of improving the efficiency within an economy and therefore the advancement of technical knowledge in a country and the qualitative improvements in the labour force are also recognised as important contributory factors for economic growth (United Nations, 1992). Foreign investors can bring in new/advance product and process technologies; and managerial knowledge and skills, all of which can help in improving the efficiency of existing operations or enabling completely new operations within the host country (Moran, 2005). These new/advance technologies and techniques can facilitate creation of new products/services and making existing products/services better or cheaper (Lipsey & Sjöholm, 2004c). When FDI take place in the form of take-overs (M&As), contribution to the output/capital stock may be less pronounced as compared to a Greenfield investment; however, FDI in the form of M&As can indirectly contribute by facilitating more efficient utilisation of existing resources (Moosa, 2002). FDI is likely to promote economic growth of the host country by way of generating employment, exports, and tax revenue; and by improving host country productivity (Blomström & Kokko, 2003a).

FDI can facilitate products/processes/services that are either new or with better value proposition in terms of cost and quality. Depending on whether such products/processes/services are final or intermediate, they can improve consumer welfare or improve value proposition of other downstream operations. This can also improve the competitiveness of products and services of the host country in export markets.

It is a well-known fact that MNCs, through their active role in R&D, produce, own and control majority of world's advanced technology (Blomström & Kokko, 2003b). Therefore, FDI is considered as the major channel in which technology transfer from advance countries to developing countries takes place. FDI is also considered as the fastest and most efficient way of gaining access to the cutting-edge technology (Moosa, 2002). There is no doubt that FDI is the best vehicle for channelling tacit forms of technology from home to host country. Also, FDI can bring in explicit forms of technology more efficiently, for example, MNCs are capable of importing new capital goods at lower cost. However, MNCs superior negotiating powers and information asymmetry between MNC and host country in terms of underlying technology may allow MNCs to extort higher rents, particularly in the case of weaker host countries (Moosa, 2002).

Effects of FDI can materialise as direct effects (own firm effects) or spillover effects (effects on other firms and on host country environment). Direct effects of FDI can take place through foreign owned firms' own operations (own firm effects). Foreign owned firms are likely to contribute through employing and training employees, achieving higher factor productivity; undertaking R&D; and introducing new products/processes, organisational innovations and superior management practices (United Nations, 1992). Indirect effects can take place when foreign firms affect local firms' performance, for example, through technology transfer of foreign firms to local firms and competition effect of foreign firms on local firms (United Nations, 1992).

FDI carries certain advantages over other forms of financial flows. Since FDI represent a long term commitment than other forms of financial flows, such as portfolio equity flows and debt flows, FDI is considered relatively stable (Moosa, 2002). In the past, FDI has proven to be resilient during periods of financial calamities whereas portfolio equity flows and debt flows were subject to large reversals during such periods (Loungani & Razin, 2001). Also, due to profits of FDI being pro-cyclical to the performance of the host country, FDI is easy to be serviced than debt capital (Moosa, 2002).

Whether FDI benefits a host country is a much debated argument because there are concerns about negative effects that MNCs may cause the host country (Bang Nam & Se Young, 2004). These concerns have created negative sentiments about MNC's

participation in the host country's economy. MNCs presence in the host country could affect competition negatively. Powerful MNCs can sometimes hinder the growth of indigenous firms and could also lead to monopolisation of the markets (Mencinger, 2008). MNCs undertaking import substituting FDI, which take place due to tariff and non-tariff barriers, may increase their lobbying efforts to maintain such barriers for their own advantage/survival (Loungani & Razin, 2001).

Although initial effects of FDI on host country's balance of payment is likely to be positive, host country's balance of payment can be adversely affected in the long run through subsequent outflow of earnings and divestments and also due to increased imports of intermediate goods and services. To counter this, some countries restrict/limit profit repatriation by imposing sanctions or through taxation. The net effect of FDI inflows and subsequent profit repatriations is difficult to comprehend because of their timing differences and particularly because of the transfer pricing. Net capital inflows can be lower than the reported statistics because MNCs could use transfer pricing to artificially inflate inward investment and deflate subsequent profit repatriations. Another criticism comes from the fact that a significant proportion of capital contribution of FDI comes in the form of imported machinery or capitalised intangibles rather than cash (Lall & Streeten, 1997). Although FDI can contribute to the tax revenue of the host country, this can sometimes be limited due to tax benefits offered by host country government to FDI projects in order to attract FDI (Loungani & Razin, 2001).

Empirical evidence shows that foreign affiliates tend to source their inputs from foreign suppliers, particularly higher value added intermediate products (Faeth, 2005). This can have a negative effect on the development of the local producers and may restrict them to low value adding activities (Faeth, 2005) and can also have a negative effect on the import bill of the host country.

Benefits of FDI may also be reduced by the extent of foreign-owned firms' borrowing from the domestic market (Lall & Streeten, 1997; Loungani & Razin, 2001). Borrowing from the domestic credit market can not only crowd out local domestic investments (due to increase in interest rates) but also increase the risk of funds borrowed in the domestic market being repatriated (Loungani & Razin, 2001). Also, excessive local borrowing can not only make the venture more risky but also end up host country, rather than MNC,

bearing the risk of the venture. Excessive local borrowing can also make the exit of MNC easy in difficult times, therefore making FDI more footloose. Some critics consider resources, assets and practices that FDI bring in to host country are inappropriate to the host country. MNCs are frequently associated with industrial relations issues, and therefore, presence of MNCs could affect host country industrial relations adversely (Moosa, 2002). Host countries also worry that MNC's participation in the host countries' economy would undermine the sovereignty of the host country.

Although FDI can create both positive and negative effects on the host country, current literature favours the proposition that FDI, in general, benefits host countries. Believing on this proposition of potential positive effects of FDI, many host countries have encouraged inward FDI by providing array of special incentives (Vahter, 2004). Given the focus of the study, the following section discuss the effects of FDI on productivity and, in order to comprehend other related research issues, the next section discuss other potential effects that FDI can bring into the host country.

2.4.2 FDI and Productivity

The presence of foreign firms in host economies as producers of goods and services is likely to have an impact upon the efficiency of investment within the host country (United Nations, 1992). If foreign ownership leads to increase in productivity in the firm (own firm effects), then such an increase is beneficial to the host country. Presence of foreign firms can also affect the productivity of local firms (spillover effects). Local firms can improve their productivity by observing and adopting/imitating advance technologies, and managerial and organizational skills that foreign firms possess. Employees trained in foreign firms may move to local firms or start their own firms, and such employees are likely to contribute to local firms' productivity. Local firms may be forced to improve their efficiencies in order to compete with foreign owned firms. Alternatively, foreign firms can adversely affect local firms' productivities by grabbing market share from local firms and compelling local firms to operate in less-efficient scales of production. Also, new product and process technologies brought in by MNCs can change the industries' cost structures; such changes can alter the market structure and competition within industries, which would affect efficiency of investments (United Nations, 1992). Spillovers of FDI are typically categorised into two types: horizontal and vertical spillovers. Externalities of a foreign firm on the domestic firms in its own industry are

categorized as horizontal spillovers and externalities of a foreign firm on the firms in upstream industries (backward spillovers) and downstream industries (forward spillovers) are categorised as vertical spillovers (Hanousek, Kočenda, & Maurel, 2011; Havranek & Irsova, 2012).

Empirical evidence, except handful of exceptions (for example, Blomström, 1988; Aitken & Harrison, 1999; Globerman, Ries, & Vertinsky, 1994), provide strong evidence for positive own firm effects of foreign ownership (Vahter, 2004; Lipsey, 2004). There is large number of studies that have examined the productivity spillover of FDI on domestic firms, and these studies have produced mixed results (Lipsey, 2004). Several researchers have found positive spillovers from foreign firms on productivity of local firms (for example, Blomström & Persson, 1983; Kokko, 1994; Chuang & Lin, 1999). Some have found either negetive or insignificant spillovers (for example, Aitken & Harrison, 1999; Smarzynska, 2002; Javorcik, 2004). Conducting a meta-analysis of 32 empirical studies on technology spillovers from FDI in developing countries, Wooster & Diebel (2010) shows that past empirical evidence, collectively, provide weak support for the presence of horizontal spillovers in developing countries.

Recent empirical studies on productivity spillovers recognise supply side and demand side factors that can moderate productivity spillovers of foreign firms. They emphasise that the extent of spillovers will not only depend on the degree to which foeign affiliates are technologically active in the host country and the extent to which they expose these technologies (technology leakage) but also on the level of absorptive capacity of the domestic firms (Marin & Bell, 2006). Also, different types of FDI, for example, whether FDI is export oriented or market oriented or whether FDI takes place as M&A or Greenfield projects can have different implications for spillovers (Vahter, 2004; Javorcik, 2004). Many empirical studies have investigated the importance of these moderating factors, particularly the demand side factors, i,e. the absorptive capacity of domestic firms. Based on Indonesian manufacturing data from 1988 to 1996, Blalock & Gertler (2009) demonstrate that firms with investments in research and development and firms with highly educated employees benefit more than other firms. Interestingly, Kokko, Zejan, & Tansini (2001), based on data from Uruguay, find evidence of positive spillovers associated with foreign firms established during inward-oriented trade regimes but do not find evidence of spillovers associated with foreign firms established during more outward

oriented trade regimes. They explain this observation by suggesting that foreign firms focusing on local market (established during inward-oriented trade regimes) are more likely to import technology in order to compete with domestic firms, which provide opportunities for spillovers. In contrast, foreign firms established during outward oriented trade regimes rely more on their skills in international marketing and distribution than new production technologies, and therefore, provides less opportunities for productivity spillovers. Takii (2005) provide evidence for positive productivity spillovers in his study exploring the extent of productivity spillovers in manufacturing firms in Indonesia for the period 1990-1995. He also investigated the characteristics of foreign owned firms and locally owned plants that influence the extent of spillovers and found that spillovers were generally smaller in industries where greater presence of majority or wholly owned foreign firms was observed. He reckons this is plausible because majority owned foreign plants can control/limit the diffusion of their proprietary technologies more than other foreign owned plant.

Among the moderating factors of technology spillovers, technology gap is the most controversial factor, some arguing it as a positive moderator of spillovers and some arguing it as an obstacle for spillovers. Takii (2005) found relatively smaller or negative spillovers associated with industries where technological gap between foreign plants and locally owned plants were relatively large implying that domestic firms in these industries were not technically proficient to absorb spillovers. In contrast, Blalock & Gertler (2009), also based on Indonesian manufacturing data, finds that firms with lower prior technical competency, i.e. firms with higher technical gap with foreign firms benefit more from productivity spillovers. Furthermore, there are many other studies that probed the relationship between the extent of productivity spillovers and the size of the technology gap and some have found it positive and others negative (Kokko, 1994; Lipsey & Sjöholm, 2004c). When the technology gap is large, there is more room for domestic firm to catch up, and therefore, such firms can benefit more than firms that have less technology gap with foreign firms (Blalock & Gertler, 2009). These contradictory results can also be attributed to a possible non-linear relationship between technology gap and spillovers; it is likely that while some level of a technology gap is required for spillovers to take place, a larger technology cap can make foreign firms' technology incompatible for domestic firms' use (Lipsey & Sjöholm, 2004c). Using firm level data from Lithuania for the period 1996-2000, Smarzynska (2002) shows that spillovers through backward

linkages occur only when the technological gap between local and foreign firm is moderate but not when the technology gap is large or negligible.

In their meta-analysis of the empirical literature on spillovers, (Meyer & Sinani, 2009) find a curvilinear relationship between spillovers of FDI and the host country's level of development in terms of income, institutional framework and human capital. They find that spillovers are related in a U shaped form to the host country's per capita income, level of human capital, and level of institutional development.

2.4.3 Other Potential Effects of FDI

<u>FDI and host country capital formation</u>

Total capital formation, which comprises domestic capital formation and foreign capital formation, is considered as a key determinant of economic growth of a country (United Nations, 1992; Moosa, 2002). Inward FDI can directly contribute to the host country capital formation, and thereby, increase the output level (Lipsey & Sjöholm, 2004c). Contribution of FDI to capital formation is higher when it takes the form of Greenfield investment compared to mergers and acquisitions (M&A), where existing assets are simply transferred from domestic to foreign owners. Contribution of an M&A to capital formation will be limited to the extent that the proceeds of the sale of the assets are not consumed (Herzer, 2012).

FDI can also affect domestic capital formation either positively or negatively (United Nations, 1992). FDI can compliment domestic investment through encouraging and facilitating investment in upstream and downstream industries, particularly due to increased demand for MNCs inputs and price/quality benefits of MNCs outputs (Faeth, 2005). FDI can negatively affect domestic capital formation when MNCs drives out domestic firm through competition, undertake projects that would otherwise be undertaken by domestic firms or compete with local firms for scarce resources such as skilled labour and local finance (Herzer, 2012; Faeth, 2005).

Since FDI can either compliment or substitute domestic investment, the net effect of FDI on overall capital formation of a host country is difficult to comprehend. Many empirical studies have dedicated their effort to answer this inquiry, and most studies have found

FDI to have a crowding in effect on domestic investment (Agosin & Mayer, 2000; Bosworth, Collins, & Reinhart, 1999; Konings, 2000; Borensztein, De Gregorio, & Lee, 1998) while some have found FDI to have a crowding out effect on domestic capital formation.

Bosworth, Collins, & Reinhart (1999), investigating the effects of capital inflows on domestic investment in developing countries, conclude that FDI have a highly positive effect (nearly a one to one effect) on domestic capital formation, superior to the effects of portfolio capital and bank loans on domestic capital formation. With a sample of 64 developing countries, Razin (2002) arrived at a similar conclusion by finding that FDI contributes to domestic investment positively and the effect of FDI is much larger than that of portfolio equity and international loans inflows. Agosin & Mayer (2000), by conducting econometric tests on panel data for countries in Africa, Asia and Latin America for 1970-1996, shows that there has been a strong crowding in effect of FDI on domestic investment in Asia and to a lesser extent in Africa but a strong crowding out effect of FDI on domestic investment in Latin America. Authors conclude that the positive effects of FDI on domestic investment are not certain and therefore a complete open policy towards incoming FDI can be sub-optimal.

FDI and host country employment

FDI can affect employment in host country, quantitatively, through direct provision of employment within foreign firms and indirect effects on employment level of local firms, and qualitatively, through improving the skill level of human capital in the host country and influencing employment policies and practices in the host country (United Nations, 1992). FDI in labour intensive operations, which are less advanced in technology, can have a larger contribution to the host country's employment while their contribution to the capability development in human capital would be marginal. In contrast, FDI in capital intensive operations, which use advance technologies, can have a positive impact on the skill level of human capital while having a marginal effect on the quantity of employment (United Nations, 1992).

Most of the empirical studies indicate that the effects of FDI on the level of employment in the host country is small or insignificant for most of the host countries largely due to

high capital intensity and import dependency of foreign firms (Moosa, 2002). In contrast, MNCs' potential contribution in improving the skill level of human capital in the host country is widely recognized in the literature. A number of studies have observed that foreign firms undertake more on-the-job training than domestic firms (see Aitken & Harrison, 1999 and Blomström & Kokko, 1998 for an outline of these studies). However, the number of local workers who are likely to undergo training might not be very large because of the capital intensive nature of most FDI (Moosa, 2002).

FDI and wages

Foreign firms are generally expected to pay higher wages than domestic firms due to several reasons. First, due to superior technology of foreign firms, they are inclined to hire skilled workers, and therefore, they need to pay higher wages to attract better workers. Also, due to higher productivity of foreign firms, not only foreign firms are expected to pay higher wages but they could also afford to pay higher wages. But there can be many other reasons why a foreign firm may be inclined to pay a higher wage even above that should be paid for a given skill level. MNCs may be encouraged to pay higher wages because of host and home country pressures or for better public relations (Lipsey, 2004). Furthermore, local workers may prefer local firms, thus foreign firms will have to pay a wage premium to overcome this preference (Lipsey, 2004). Most importantly, foreign firms may want to pay a wage premium to reduce worker turnover in order to slow down the phase of leakage of their superior technology to local firms (Urban, 2010). It may be the case that since local firms are more knowledgeable in terms of identifying and attracting better workers they can source workers at the optimum wage, but foreign firms may have to pay a extra premium because of their imperfect knowledge about local firms (Lipsey, 2004). Higher wages can also be associated with foreign firms because of their inclination to take over high-wage domestic firms or highly productive domestic firms or because foreign firms tend to invest in relatively high-wage sectors (Lipsey & Sjöholm, 2004b; Lipsey & Sjöholm, 2004c).

In addition to the direct effects on wage level of foreign owned firms (own firm effects), FDI can also have a spillover effect on wage level of domestic firms. Foreign firms could have both positive and negative effects on wage level of domestic firms, and therefore, the net effect of foreign firms' effect on wage level of domestic firms is unclear. Wage

spillovers can be negative if foreign firms cream-skim high-waged workers from domestic firms or MNCs acquire higher paying domestic plants (Lipsey, 2004). In contrast, local firms wage level can be positively affected if competition in the labour market compels local firms to increase their wage levels to match foreign firms' wage level (Lipsey, 2004).

Overall effect of foreign firms on host country wages depend on the net effect of direct and indirect effects. If foreign firm poach high wage workers or MNCs acquire firms with high wage levels, then foreign firms' wage premium will be at the expense of wage level of local firms, and therefore, average industry wage level will be largely unaffected. If foreign firms pay higher wages without poaching skilled workers from domestic firms or if foreign firms pay higher wages while influencing domestic firms to pay higher wages (wage spillovers), then average industry wage level is likely to be raised.

Empirical studies provide strong consistent evidence for a wage premium in foreign firms (Lipsey, 2004; Moller, Markusen, & Schjerning, 2007) and this wage premium persists in both developed and developing countries and in different industries (Lipsey & Sjöholm, 2004b; Lipsey & Sjöholm, 2004c; Lipsey, 2004). Some of these studies have attributed this wage premium to one or many of foreign firms' superior characteristics such as their larger size, higher capital intensiveness, higher productivity and higher skill intensity of labour (Globerman, Ries, & Vertinsky, 1994; Conyon et al., 1999) while some have found a wage premium in foreign firms even after controlling for some of these variables (Moller, Markusen, & Schjerning, 2007; Lipsey & Sjöholm, 2004b; Haddad & Harrison, 1993; Feliciano & Lipsey, 1999).

Compared to empirical studies on foreign firms' own firm wage effects, only a handful of studies have looked into the foreign firms' spillover effect on domestic firms' wages (Görg & Greenaway, 2001). These studies have produced mix results, some observing positive wage spillovers (Lipsey & Sjoholm, 2001) and others observing negative or insignificant wage spillovers (Feliciano & Lipsey, 1999). Moreover, Aitken, Harrison, & Lipsey (1996), exploring the relationship between wages and foreign investment in United States, Mexico and Venezuela, find wage spillovers in United States but not in Mexico and Venezuela. However, their estimates show that the effect of foreign

investment on aggregate wages (for foreign and domestic combined) is positive for all three countries.

FDI and host country economic growth

Economic growth is an outcome of the interrelationship between many economic, political and social factors (United Nations, 1992). Literature on economic growth identifies the importance of expanding the quantity of the basic factors of production, expanding markets and improving the efficiency within an economy (United Nations, 1992). Advancement of technical knowledge in a country and the qualitative improvements in the labour force are also recognised as important contributory factors for economic growth (United Nations, 1992). Factors those contribute to growth are themselves interdependent; therefore, progress in one can facilitate advancement in another and poor performance in one can hinder progress in another (United Nations, 1992). FDI can affect these growth determinants. For example, FDI can affect host country's capital stock, technology infrastructure, productivity, human capital and trade. Therefore, FDI is likely to have an impact on host country's economic growth.

Technological progress of a country is now considered as the most important determinant of growth (Moosa, 2002; Blomström & Kokko, 2003b). Moreover, it is recognised in recent growth literature that growth rate of a developing country is largely dependent on its ability to adopt and implement new technologies from more advance countries (Moosa, 2002). Also, it is more cost effective for a developing country to use existing technology rather than to generate new technology through investment in R&D (Blomström & Kokko, 2003b). Developing countries can potentially be exposed to foreign technology through different channels, such as through imports of high technology products, licensing arrangements with MNCs, FDI projects and employing human capital that were foreign educated/experienced. Technology advancement can not only promote host country's growth through the production of new/advance products but also enables the host country to obtain a greater output from any given combination of input through increase in factor productivity (United Nations, 1992). Also, for small countries that rely heavily on their export performance, technology is critical in order to improve their export composition; strength of export performance will largely depend on the technology content of the exports (United Nations, 1992).

Although FDI is considered as a positive moderator for most of the determinants of growth such as capital stock, technology infrastructure, and productivity; as it was highlighted before, these positive effects are not assured. Also, its effects on some areas are vague. For example, its effect on trade and balance of payment is not clear due to higher import propensity of foreign firms and remittances of foreign firms.

An increase in foreign investment could stimulate economic growth, and at the same time, economic growth can also be a powerful stimulant for FDI inflows (Nonnemberg & Mendonca, 2004; Agrawal, 2000). Therefore, the direction of causality, whether FDI causes growth in GDP or growth in GDP creates more FDI, is a much debated issue, and may depend on various factors such as factor endowment, geographical location, level of infrastructure, quality of human capital, market size and trade regime of the country (Faeth, 2005). Furthermore, empirical studies have produced mix results on the direction of causality, equally supporting both premises, and therefore, proved the existence of the endogeneity problem in empirical investigations.

Many studies have being conducted to empirically investigate the effect of FDI on economic growth and their results are not unanimous. Studies concentrating on developed countries generally show positive effects but studies concentrating on developing countries present inconsistent results, finding positive effects, negative effects or no effects (Beugelsdijk, Smeets, & Zwinkels, 2008).

Complicating this further, there is expanding literature that indicates the impact of FDI on the host country's growth is moderated by various host country factors such as level of human capital, trade policy and trade openness, level of financial development, level of economic development, the level of institutional quality, and the technology gap between host country and home (Solomon, 2011).

Using a sample of 46 developing countries and considering the period 1970-1985, Balasubramanyam, Salisu, & Sapsford (1996) shows that growth enhancing effects of FDI is stronger in countries that pursue an outward oriented trade policy (EP policy) than countries pursue an inward oriented trade policy (IS policy).

Host country's capacity to absorb advance technology and other skills that MNCs bring in depend on the quality of human capital in the host country (United Nations, 1992; Moosa,

2002). Based on FDI flows from industrial countries to 69 developing countries during 1970-1989 and proxing human capital by level of schooling, Borensztein, De Gregorio, & Lee (1998) show that FDI contributes to economic growth only when the host country has a minimum threshold level of human capital.

Using time series data from 1959 to 2002 and employing an econometric framework of co-integration and error correction mechanism, Athukorala (2003) has examined the two-way relationship between FDI and GDP in the context of Sri Lanka. His econometric results indicate that GDP growth rate and FDI is positively related. However, his results shows that GDP growth rate influence FDI directly but the direct influence of FDI inflows on GDP growth is weak. Further, using Engle-Granger method to see the direction of causality, he shows that the direction of causation is from GDP growth to FDI but not from FDI to GDP growth. In sum, he finds no evidence of a direct growth impact of FDI on the Sri Lankan economy.

FDI and host country trade

Foreign firms present in a host country can affect both exports and imports of that country through their own trade performance (direct effects) and by influencing the trade performance of the local firms (indirect effects). FDI can affect the terms of trade of the host country positively if FDI increases exports more than imports. On the other hand, FDI can affect the terms of trade of the host country negatively if FDI increase imports more than exports. The effect of FDI on trade largely depends on whether FDI and trade are complements or substitutes, and this largely depends on whether FDI is horizontal or vertical.

Due to MNCs' knowledge of the markets, consumer preferences, and business practices in their home countries and their wider international reach, MNCs are better able to compete in export markets. Exporting involves international marketing, distribution, and servicing of products, all of which are associated with high fixed costs, and therefore, due to their larger size and greater resources, MNCs are better equipped to meet these requirements than resource constraint local firms, particularly those in developing countries (Blomström & Kokko, 1998; Kokko, Zejan, & Tansini, 2001). Also, through their marketing skills and ability to specialize across international borders, MNCs could aid the

host country to capitalize on its comparative advantages (Blomström & Kokko, 1998). It is a well established fact that foreign firms are more export oriented than domestic firms (Faeth, 2005). Contribution of FDI to the host country's exports will depend on whether FDI is export oriented or market oriented. Many countries have relied on export oriented FDI to improve their export performance.

Foreign firms can also affect export performance of local firms (export spillovers) through various channels. Local firms can benefit from technology/knowledge spillovers from foreign firms to improve the value propositions of their exports. Local firms could gain valuable knowledge about foreign markets, international marketing and distribution networks through foreign firms (Kokko, Zejan, & Tansini, 2001). Moreover, through their vertical linkages, foreign firms can affect export performance of local firms in upstream and downstream industries (Anwar & Nguyen, 2011).

Foreign firms can affect host country imports through their own import activities. Foreign firms are notoriously popular for relying more on inputs of foreign origin, and therefore, foreign firms are likely to import more than their domestic counterparts. On the other hand, import substituting FDI is likely to bring down hosts imports. Foreign firms could also affect imports of downstream sectors; local firms could source from foreign firms in upstream sectors instead of importing.

Several studies have provided evidence for export spillovers by showing that local firms' exports can benefit from the presence of foreign firms. Buckley, Clegg, & Wang (2002), based on Chinese manufacturing industries in 1995, show that both local firms' export intensities and local firms' propensity to develop new and high-tech products is positively related to the degree of foreign presence in the industry. Kokko, Zejan, & Tansini (2001) show that export propensity of local firms in Uruguay is positively related to the presence of outward oriented foreign firms but not related to the presence of import substituting foreign firms. Based on firm level data from Vietnam's manufacturing sector, Anwar & Nguyen (2011) investigated spillovers taking place through local firms' horizontal and vertical linkages with foreign firms. They found that the presence of foreign firms has a significantly positive effect on both the decision of domestic firms to export and on the export share of domestic firms, but only through horizontal and forward linkages. In contrast, they found that presence of foreign firms has a negative effect on export

activities of local firms in upstream industries. Except few country studies that have compared firm level import intensities of foreign firms and local firms, empirical studies on the effect of FDI on host country imports are scarce.

FDI and balance of payment of the host country

Through its associated foreign exchange flows, FDI can affect balance of payment (BOP) of the host country both directly and indirectly. Since foreign exchange is considered as a scarce resource in most of the developing countries, the BOP effect of FDI is much more crucial for developing countries (Moosa, 2002).

FDI can have both direct and indirect effects on host country's balance of payment account. Direct effects results from inflows and outflows of foreign exchange associated with the foreign investment. Inflows results from equity capital and loans inflows associated with FDI and export income generated from activities of foreign firms. Outflows result from profit repatriation, loan repatriation, interest payments paid to service foreign loans, divestments, royalties and technical fees paid abroad and payment for imports of capital goods, raw material and intermediary goods.

The net effect of FDI on balance of payment is difficult to comprehend, mainly due to difficulty in observing the indirect effects and because it is difficult to assess the opportunity cost of FDI, i.e. to answer the counterfactual question: what would have been the situation if the foreign investment had not occurred (Dunning & Lundan, 2008; Moosa, 2002). Indirect effects can have many forms. Flows associated with FDI can affect the exchange rate and the changes in the exchange rate can affect host country's export and import competitiveness. Foreign firms can replace some of the imports via its domestic sales and use of local content. FDI can also affect domestic firms' exports and imports. Complicating further, foreign firms can affect BOP by affecting and influencing income and consumption patterns of the residents of the host country (Moosa, 2002).

Another complication in assessing the effect of FDI on BOP is the timing differences of associated flows. The initial investment (net of any imported machinery) is likely to improve the capital account. Continuing effects from subsequent flows can either improve or weaken the capital account and current account, depending on the extent of subsequent equity and loan flows, repatriation of profits and other payments to parent companies,

divestments and imports. The continuing effect of FDI on the current account will depend on the type of FDI. Resource based and export processing investments as well as Import substituting FDI are likely to affect the current account positively (Dunning & Lundan, 2008; Moosa, 2002). Market seeking investment can either replace or increase host country's imports, and therefore, the effect on the current account can either be positive or negative.

Empirical evidence on the BOP effects of FDI is scarce, particularly for developing countries. Available evidence indicate that although developing countries benefit from FDI in extraction, they do not benefit from FDI in manufacturing, largely due to high import content of foreign firms' output and transfer pricing mechanisms of MNCs (Moosa, 2002). In his empirical study using a sample of 159 firms distributed in Jamaica, Kenya, India, Iran, Colombia and Malaysia, Lall & Streeten (1997) concluded that overall direct effects of these firms on the balance of payment of the respective countries are negative, except for Kenya. Studying the relationship between FDI and the current account balance in EU new member states, Mencinger (2008) conclude that FDI improves the current account balance through the trade account but deteriorates current account balance through the investment account.

2.4.4 Concluding remarks

Technological progress of a country is now considered as the most important determinant of growth (Moosa, 2002; Blomström & Kokko, 2003b). It is more cost effective for a developing country, such as Sri Lanka, to use existing technology in the developed world rather than to generate new technology through its own R&D investment (Blomström & Kokko, 2003b). Developing countries can potentially be exposed to foreign technology through different channels, such as through imports of high technology products, licensing arrangements with MNCs, FDI projects and employing human capital that were foreign educated/experienced. Out of these channels, FDI is considered the most effective channel in which technology transfer from advance countries to developing countries takes place. Technology advancement can not only promote host country's growth through the production of new/advance products but also enables the host country to obtain a greater output from any given combination of input through increase in factor productivity (United Nations, 1992). Also, for a small country such as Sri Lanka that rely heavily on its export performance, technology is critical in order to improve their export

composition since the strength of export performance will largely depend on the technology content of the exports (United Nations, 1992). As per the IDP theory, inward FDI plays a major role in upgrading local firms' competencies, which will enable the indigenous firms to later on undertake outward FDI (Dunning, 1981; United Nations, 2006; Dunning, Kim, & Lin, 2001; Dunning, 2003). IDP theory advocates for a strong association between a country's direct investment position and its level of development.

Preceding sections identified many other benefits that FDI can bring in to the host country. Although there are concerns about few negative effects that MNCs may cause to the host country, in general, FDI can benefit host countries enormously. Hence, it is important to examine the impact of FDI in the context of Sri Lanka. Therefore, Chapter seven presents an empirical study conducted to examine the impact of FDI on firm level productivity in the context of Sri Lanka. Given the scope of this study, this thesis does not attempt to examine the other potential effects of FDI discussed in the section 2.4.3, which could be a potential topic for future research.

Chapter 3 : Geographic, Demographic, Policy and Economic Environment in Sri Lanka

3.1. Introduction

This chapter provides a context analysis of the economy of Sri Lanka. Special attention is given to recognise salient features in Sri Lanka that are relevant for FDI before detailed descriptive analysis of FDI in Sri Lanka is provided in the following chapter. Both chapters intend to offer the background information for the rigorous empirical studies to be reported in chapter 5-7. Section 3.2 reviews geography and resource endowments, followed by the summary of Sri Lanka's demographic characteristics. Sections 3.3 and 3.4 outline the general policy environment and the FDI policy framework, respectively. The chapter then moves on to examine the individual economic and financial indicators including economic growth and composition of GDP, savings and investments, human development indicators, external trade, fiscal and monetary sectors in section 3.5. Section 3.6 gives attention to political factors, i.e. civil war and internal conflicts. Finally, section 3.7 offers concluding remarks.

During 1505-1948, Sri Lanka was under the rule of several colonial European powers; namely the Portuguese, the Dutch and, then finally, the British (Foreign and Commonwealth Office, 2012). Post independent Sri Lanka was widely considered as a country with excellent prospects for economic development and was regarded as one of Asia's most promising new nations (Snodgrass, 1998; Kelegama, 2000). For example, when Sri Lanka received its political independence from UK in 1948, Sri Lanka had the third highest per capita income in Asia, after Japan and Malaysia (Rajapatirana, 1988). Even by 1965, Sri Lanka's per capita income was higher than that of South Korea, China and Thailand (The World Bank, 2012b). However, Sri Lanka encountered severe economic and political complications in its post independent progress and ended up with a reputation for weak economic growth indicators but strong development indicators (Snodgrass, 1998).

3.2 Geography, Resource Endowments and Demography

Sri Lanka is a relatively small sized island economy with a geographical area of 65,610 square kilometres and a population of 20.8 million in 2010 (Foreign and Commonwealth Office, 2012). It is located south of India in the Southern Asia in the Indian Ocean. Sri Lanka is situated at the crossroads of major shipping routes connecting South Asia, Far East and the Pacific with Europe and the Americas (Board of Investment Sri Lanka, 2011).

Sri Lanka has a tropical climate with average monthly temperature ranging from 25.1 to 28.1 degrees Celsius (The World Bank, 2012b) with only marginal seasonal and regional variations (Wenzlhuemer, 2008). The country is endowed with a rich natural resource base. Its resource base includes forests covering about 23% of the country; a rich biodiversity[8]; productive coastal and inland fisheries; fertile soils; diverse gem and mineral resources; and an intricate system of rivers, reservoirs, and groundwater aquifers that captures annual rainfall three times that of the world's mean (Asian Development Bank, 2008). Hydro power is a main source of power generation and contributes 46% of the total electricity generation in the country (Central Bank of Sri Lanka, 2010). Sri Lanka is home to numerous unique tourist attractions and is considered as one of the best tourist attractions in the world. For example, NEW YORK TIMES ranked Sri Lanka as the number one travel destination for 2010 (The New York Times, 2010) and the Lonely Planet, the world's largest travel guide publisher, ranked Sri Lanka as the number one travel destination for 2013 (Lonely Planet, 2013).

The Sinhalese, Tamils and Muslims are the three largest ethnic groups in the country accounting for 73.8%, 8.5%, and 7.2% of the population, respectively (Central Intelligence Agency, 2012). Sinhala and Tamil are the most widely spoken languages with about 74% and 17% of speakers in 1993, respectively (Gordon, 2005). Buddhism, Hinduism, Islam, and Christianity are the most prevalent religions in Sri Lanka accounting for 69.1%, 7.1%, 7.6%, and 6.2% respectively (Central Intelligence Agency, 2012). Only 14% of the population is urban and the rate of urbanization is low at 1.1% annual rate (Central Intelligence Agency, 2012).

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[8] Sri Lanka is considered as one of the 25 biodiversity "hot spots" in the world

3.3 Post-Colonial Context and Policy Environment

Sri Lanka, which was previously known as Ceylon, had been considered as the model crown colony of the nineteenth-century British Empire (Wenzlhuemer, 2008). When Sri Lanka gained independence from Britain in 1948, Sri Lanka's economy was an open economy and was largely a plantation-based economy dependent on the export of three primary commodities: tea rubber and coconut (Rajapatirana, 1988). Because these commodities were highly demanded in the world market during this time, Sri Lanka had a smoothly functioning export economy (Snodgrass, 1998). Agricultural sector accounted for more than 40% of national income, out of which plantation sector alone accounted for one-third of national income and 90% of foreign exchange earnings (UNCTAD, 2004; Kelegama, 2000). Sri Lanka had the third highest per capita income in Asia, after Japan and Malaysia (Rajapatirana, 1988). Moreover, Sri Lanka had high human development indicators, which was far higher than that of most of the Asian countries (Abeyratne, 2008). It also inherited a well-developed infrastructure, an efficient administrative mechanism and a democratic political system from the British colonial rule (Abeyratne, 2008). Sri Lanka's external assets at the end of 1950 were equivalent to almost an entire year of imports, a figure that was well above that of other small countries that were also highly dependent upon international trade (Central Bank of Sri Lanka, 1950). All these favourable aspects positioned Sri Lanka in a very promising state, and therefore, Sri Lanka was considered as the most prospective development success in Asia (Abeyratne, 2008).

Sri Lanka's continuous reliance on these relatively price inelastic primary commodities (tea, rubber and coconut) and expending bulk of the export income on subsidised food imports weakened the terms of trade in subsequent years and resulted in negative trade balances and balance of payment deficits after 1960s. This tempted to a shift towards protectionist import-substituting policies (Kelegama, 2000; Athukorala and Rajapathirana, 2000). From early 1960s, Sri Lanka started introducing inward oriented development strategies coupled with import substitution policies, and Sri Lankan economy ended up being one of the most inward-oriented and regulated economies outside the communist bloc by mid-1970s (Athukorala & Jayasuriya, 2004). Moreover, policy environment was largely concerned about achieving equality and was largely driven by wealth redistribution strategies (through extensive welfare programmes) while

giving less attention to wealth creation (Abeyratne, 2008). Expanding the social welfare system was seen as a convenient means to achieve political popularity among masses (Abeyratne, 2008). Due to a change in political power from left-wing to right-wing in 1965, Sri Lanka gasped some limited liberalisation during 1965-1970 (Snodgrass, 1998). However, the left-wing regained political power in 1970, and thereafter, Sri Lanka resumed its inward oriented controlled economy (Snodgrass, 1998). During these periods, state intervention in the economic activities became commonplace, and the Sri Lanka's economy was dominated by state-owned enterprises (SOEs) while private sector receiving less attention by the state (Athukorala & Jayasuriya, 2004). Most sectors including manufacturing, trade, transport, telecommunications and financial services were under state monopolies and were subject to state controls (The World bank, 2007). Due to these inward looking and short-sighted policies, Sri Lanka experienced slow growth rates with rising unemployment in this era, and instead of relieving the balance of payment problem, these policies aggravated it by discouraging export expansion (Abeyratne, 2008). Dismal outcomes of these inward oriented policies led to a major shift in political power from left-wing to right-wing in 1997 with the elected party, United National Party, securing majority of the votes (Snodgrass, 1998).

The new government, with the strong mandate, initiated extensive economic liberalisation process in 1977 by liberalising trade, price and investment controls (Athukorala & Jayasuriya, 2004; Rajapatirana, 1988). Previously imposed quantitative restrictions on imports were removed and a more uniform tariff structure was introduced. Also, exchange rate was realigned in 1978 which had been overvalued due to pre-existed trade suppression (The World Bank, 2007). In addition to relaxing several impediments to FDI, the new government established the Greater Colombo Economic Commission (GCEC) in 1978 to promote export oriented foreign investment (The World Bank, 2007). GCEC is the forerunner to the Board of Investment, which is the incumbent establishment responsible for FDI. GCEC was responsible in establishing several export-processing zones (EPZ's) and formulating and implementing an incentives package for foreign investments (The World Bank, 2007).

However, as a result of delays and inconsistencies in the implementation of the 1977 reform process, mostly caused by the internal civil conflict, the 1977 reform process lost its momentum in early 1980s. Thereafter, a second wave of liberalisation was initiated in

1990s (Athukorala & Jayasuriya, 2004). The 1990s reform process focused more on export expansion and included further tariff cuts, simplification of tariff structure, opening up of the current account, and privatization of large state-owned enterprises (Athukorala & Jayasuriya, 2004; The World bank, 2007). Since 1989, privatisation has been pursued aggressively and 92 enterprises, largely in the plantation, industry, insurance, telecom, hotel, and airline sectors, were privatised during 1989-2005 (Central Bank of Sri Lanka, 2007, table 116). In addition to these, 92 bus depots in the public transport sector were also privatised (Salih, 2000). Since 1994, political power changed back and forth between the two major political parties in several occasions; however, these changes did not lead to radical changes in economic policy (Snodgrass, 1998). However, the privatisation trend was halted, if not reversed, after 2005. Incumbent government advocates state control of what it believes to be strategic enterprises, and have halted some of the privatisations that were in the process and have reversed several previous privatisations (Bureau of Economic, 2011). Furthermore, in 2011, 37 privately owned companies, some of which were foreign-invested firms, were expropriated by the Sri Lankan government through passing a controversial law in the parliament. The bill was termed as The Revival of Under-Performing Enterprises and Under-Utilised Assets Act, and targeted 37 private enterprises that had previously received land or aid from the government (The Economist, 2011; Brown, 2011). In addition to these, Sri Lankan military is also gradually increasing its involvement in some of the activities that were earlier reserved for the private sector such as air and sea transport and tourism (Bureau of Economic, 2012).

3.4 FDI Policy Framework

BOI, which was established in 1992 as the successor to GCEC, is the principal government authority responsible for investment in the country, with a focus on foreign investment (Bureau of Economic, 2011). BOI has extensive authority of tax relief and administrative discretion in all matters related to FDI (Pravakar, 2006). BOI grants these concessions to firms fulfilling stipulated eligibility criteria on minimum investment, exports and employment (Bureau of Economic, 2011). However, major investments in Sri Lanka, such as infrastructure projects, require cabinet approval (Bureau of Economic, 2011).

Majority of sectors are open to foreign investment; however, Sri Lanka maintains a long list of sectors in which FDI is completely restricted[9] or only allowed with minority stakes[10] (Pravakar, 2006; Bureau of Economic, 2012). Furthermore, foreign investments in several strategic sectors[11] are regulated and subject to approval by the BOI and various government agencies (Bureau of Economic, 2012). Nevertheless, Sri Lanka is relatively more open to FDI than other south Asian countries (Pravakar, 2006; Bureau of Economic, 2011).

Until February 2013, foreign investors could purchase land from private sellers subject to a 100% tax[12] although the government, which owns about 80% of the land in Sri Lanka, usually leased land on 50 year-term or on 99 year-term on case by case basis. (Bureau of Economic, 2012). In February 2013, Sri Lankan government brought in new regulations prohibiting sale of state owned and private owned land to foreigners (Reuters, 2013). Foreign investors are allowed to access credit on the local market and to raise foreign currency loans (Bureau of Economic, 2011).

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[9] Areas of non-bank money lending, pawn-brokering, retail trade with a capital investment of less than $1 million, and coastal fishing are completely restricted for foreign investments.

[10] Foreign investment in growing and processing of primary commodities, production for export of goods subject to international quotas, timber based industries using local timber, deep sea fishing, mass communications, education, freight forwarding, and travel agency and shipping agency business are partially restricted, i.e. foreign investors are allowed to invest up to 40% or a higher percentage if approval of BOI is granted.

[11] Air transportation; coastal shipping; large scale mechanized mining of gems; lotteries and manufacture of military hardware, military vehicles and aircraft, dangerous drugs, alcohol, toxic, hazardous or carcinogenic materials, currency and security documents

[12] This tax is applicable if the foreign stake of a venture is not less than 25%

Sri Lanka has bilateral Investment Protection Agreements with 27 countries and bilateral double tax avoidance agreements with 38 countries (Board of Investment Sri Lanka, 2012). The repatriation of capital and profits is guaranteed (Pravakar, 2006). Sri Lanka has 12 free trade zones, 11 of which are export processing zones and one of which is an industrial park (Figure 3-1).

Figure 3-1: Free Trade zones in Sri Lanka
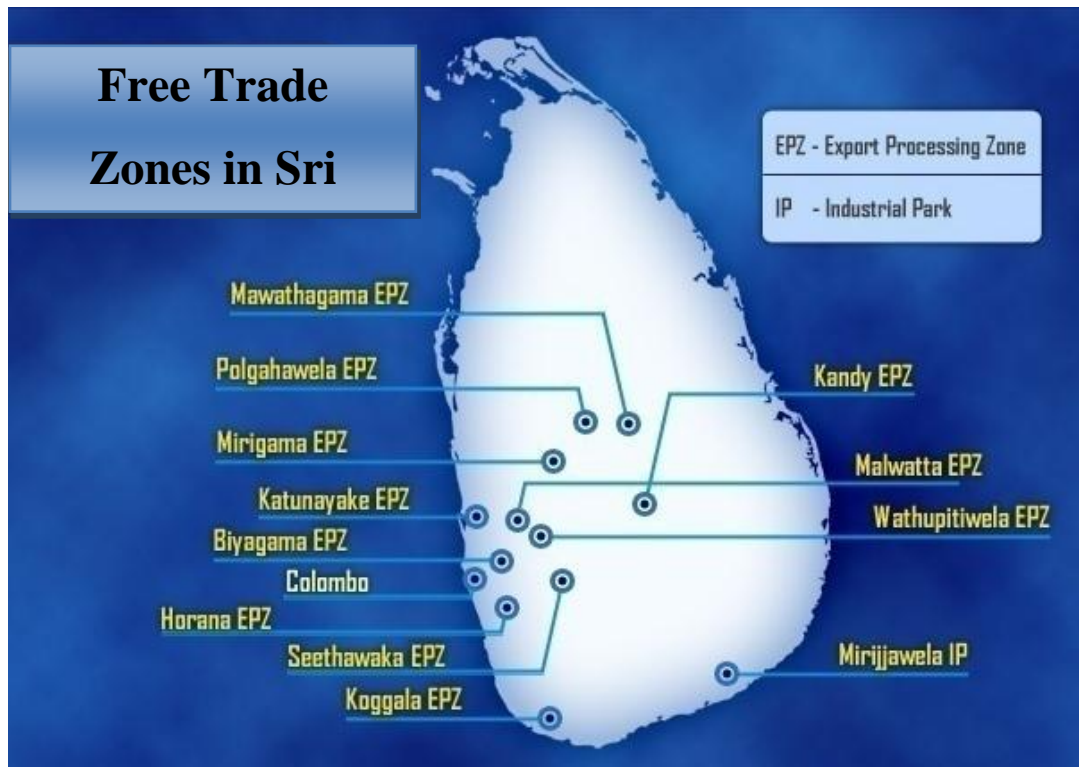
Source: Board of Investment Sri Lanka, 2012

3.5 Economic and Financial Indicators

3.5.1 Economic growth and composition of GDP

Despite its inward looking economic policies in the past and decades of civil war, Sri Lanka has managed to record relatively moderate economic growth during past 6 decades (Table 3-1). As a result of the economic liberalisations initiated after 1977, Sri Lanka witnessed an average GDP growth rate of 5.4% during 1977-1983 (Table 3-1).

Sri Lanka's economy has been growing rapidly in the recent years while recording an 8 percent growth in year 2010 and 8.3 percent growth in year 2011, which is the highest GDP growth rate achieved in the last three decades (Central Bank of Sri Lanka, 2010; Central Bank of Sri Lanka, 2011). Sri Lanka has also been graduated to a 'middle income' economy status by the international monetary fund (IMF) in January 2010 (Central Bank of Sri Lanka, 2010).

Table 3-1: Economic growth rates under distinctive periods

Period/Sub period	Real Gross Domestic Product (Percentage change per year)
1948-1956: Populism with open economy	3.2*
1956-1965: Populism with controlled economy	4.3*
1965-1970: Limited Liberalisation	5.8
1970-1977: Resumption of controlled economy	3.8
1977-1983: Liberalisation with relative peace	5.4
1983-1989: Start of civil war	3.5
1989-1995: Second round of reform	5.6
1995-2009: post reform period with civil war	4.9
2009-2011: post war	8.2

Source: The World Bank, 2012 and Snodgrass, 1998

FDI is generally considered as a positive moderator for most of the determinants of growth such as capital stock, technology infrastructure, human capital and productivity. Therefore, FDI is likely to have a positive impact on host country's economic growth. However, in his econometric analysis examining FDI and GDP growth relationship in the context of Sri Lanka, Athukorala (2003) shows that although FDI and GDP growth are

positively related, this relationship is a result of GDP growth causing FDI. He finds no evidence of a direct growth impact of FDI on the Sri Lankan economy.

Main contribution to the GDP comes from the services sector which accounts for almost 60% of GDP in 2011. Industrial sector accounts for about 30% of GDP and agricultural sector accounts for only 11% of GDP (Table 3-2). Sri Lanka's dynamic private sector is the main contributor to the GDP and it accounts for more than 85% of the GDP (Asian Development Bank, 2008).

Economic growth in Sri Lanka has been mainly driven by services and industrial sectors while growth in agricultural sector has been very low (Table 3-3). Therefore, the proportion of agricultural sector has continuously contracted while proportion of industrial and services sectors have increased (Table 3-2).

Table 3-2: Composition of economic sectors (as a share of GDP)

	As a share of GDP (%) Composition of economic sectors			
	1981	1991	2001	2011
Agriculture	24.6	22.6	20.1	11.2
Industry	22.1	27.0	26.8	29.3
Services	53.3	50.4	53.1	59.5
GDP	100.0	100.0	100.0	100.0

Source: Central Bank of Sri Lanka, (various years), Annual Reports, various issues

Table 3-3: Growth in GDP by economic sector

	Growth in GDP by economic sector (Rate of change %)			
	1980-1990	1990-2000	2000-2010	2011
Agriculture	3.2	1.9	3.0	1.5
Industry	6.2	8.0	5.2	10.3
Services	4.7	5.2	5.9	8.6
GDP	4.3	5.2	5.2	8.3

Source: Central Bank of Sri Lanka, (various years), Annual Reports, various issues

Sri Lanka's industrial sector is narrowly concentrated in a few sectors with little participation in technical intensive sectors (Figure 3-2). OECD Directorate for Science, Technology and Industry has classified manufacturing industries into four categories

based on R&D intensities[13]; (1) high-technology industries, (2) medium-high-technology industries, (3) medium-low-technology industries, and (4) low-technology industries (Economic Analysis and Statistic Division, 2011). Except chemical and chemical products sector, which account for only 5% of the total value addition in 2011, all other sectors come under either medium-low-technology industries category or low-technology industries category.

Figure 3-2: Composition of value added by industry in 2011
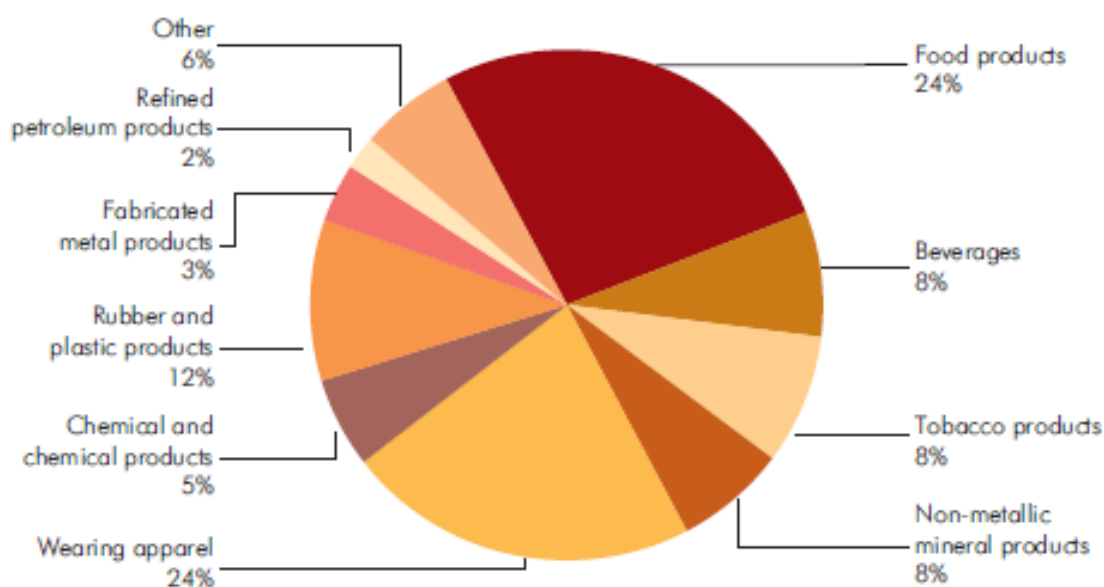
Source: Central Bank of Sri Lanka, 2011

3.5.2 Savings and Investments

Sri Lanka's national savings rate is low compared to countries in East Asia and to India (Table 3.4). Sri Lanka's historical savings rate has also been very low, averaging below 12% during 1965-1993. Contrastingly, countries in East Asia and India have had comparatively high average savings rates of around 24%-33% and 18% respectively (Radelet, Sachs, & Lee, 1997, Table 14). However, this may not be surprising due to the political instability that prevailed in the country[14]. Gross capital formation as a percentage of GDP stands at 27.8% in 2010 and it is lower than India and some of the East Asian countries. The main contribution to GCF comes from the domestic private sector and

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[13] ISIC Rev. 3 technology intensity definition
[14] Radelet, Sachs, & Lee (1997) have shown that political instability has a negative effect on national savings.

contribution to GCF from public investment remains low (Athukorala, 2003). The contribution from FDI to GCF is very low, particularly compared with countries in South East Asia.

Table 3-4: Key economic indicators of selected Asian countries

Country	FDI as % of GDP	FDI as a % of GCF	GCF (Investment)/ GDP	Savings/ GDP	Exports as a % of GDP	Imports as a % of GDP	Average Inflation
	2011	2011	2011	2011	2011	2011	(2001- 2011)
South Asia							
Sri Lanka	1.62	5.40	29.93	15.38	23.05	37.60	10.37
India	1.72	4.85	35.45	29.00	23.88	30.33	6.59
Pakistan	0.62	4.75	13.07	8.00	14.16	19.23	9.19
Bangladesh	1.02	4.04	25.15	16.44	22.90	31.61	6.79
Nepal	0.50	1.52	32.54	8.62	8.91	32.83	6.98
East Asia							
China	3.83	7.93	48.31	50.89	31.39	27.32	2.45
Hong Kong	38.65	160.31	24.11	27.21	224.57	221.47	0.89
Korea, Rep.	0.43	1.47	29.51	31.53	56.03	54.02	3.26
South East Asia							
Malaysia	4.17	17.67	23.58	39.48	91.56	75.66	2.30
Singapore	22.82	102.85	22.19	49.81	207.19	179.57	1.95
Thailand	2.25	8.45	26.63	31.16	76.94	72.41	2.73
Vietnam	6.01	17.17	34.98	30.77	86.96	91.17	8.73
Philippines	0.81	3.96	20.46	16.81	31.97	35.62	4.64
Indonesia	2.27	6.90	32.94	34.38	26.36	24.92	8.30

Source: The World Development Indicators, 2013

Sri Lanka has a negative savings investment gap, largely due to low domestic savings, and such a negative savings investment gap has to be financed by external financing, either in the form of FDI or borrowing (Central Bank of Sri Lanka, 2012). Sri Lanka's negative savings investment gap is largely funded by foreign borrowings and these borrowings have led Sri Lanka to accumulate large external debt. Poor performance in attracting foreign investment during the past is likely to be a reason for deteriorating external debt situation. For example, in 2012, FDI inflows amounted to US$ million 891 while medium and long-term loan inflows to the government alone amounted to US$ 2,869 million (Central Bank of Sri Lanka, 2012). Sri Lanka's total external debt as a percentage of GDP stood at 47.9 per cent in 2012 (Central Bank of Sri Lanka, 2012).

Inward FDI can directly contribute to the host country capital formation (Lipsey & Sjöholm, 2004c). Contribution of FDI to capital formation is higher when it takes the form of Greenfield investments compared to mergers and acquisitions (M&A), where existing assets are simply transferred from domestic to foreign owners. Contribution of M&A to capital formation will be limited to the extent that the proceeds of the sale of the assets are not consumed (Herzer, 2012). FDI can also affect domestic capital formation either positively or negatively (United Nations, 1992). FDI can complement domestic investment through encouraging and facilitating investment in upstream and downstream industries, particularly due to increased demand for MNCs inputs and price/quality benefits of MNCs outputs (Faeth, 2005). FDI can negatively affect domestic capital formation when MNCs drives out domestic firm through competition, undertake projects that would otherwise be undertaken by domestic firms or compete with local firms for scarce resources such as skilled labour and local finance (Herzer, 2012; Faeth, 2005). Since FDI can either compliment or substitute domestic investment, the net effect of FDI on overall capital formation in the host country is difficult to comprehend. Many empirical studies have dedicated their effort to answer this inquiry. Although few studies have found FDI to have a crowding out effect on domestic capital formation in some countries (Agosin & Mayer, 2000), most studies have found FDI to have a crowding in effect on domestic investment (Agosin & Mayer, 2000; Bosworth, Collins, & Reinhart, 1999; Konings, 2000; Borensztein, De Gregorio, & Lee, 1998). Due to these beneficial effects of FDI, instead of relying on foreign borrowings, Sri Lanka needs to put more attention on bringing in larger volumes of FDI in order to bridge its inherent savings investments gap.

3.5.3 Human Development Indicators

Although Sri Lanka's economic performance indicators are not admirable, Sri Lanka is well known for its impressive development indicators (Pradhan, 2001). Expanding the social welfare system was seen as a convenient means to achieve political popularity among masses, and possibly, for this reason, Sri Lanka's post-colonial governments had a strong commitment to social development, often policy environment driven mainly by wealth redistribution strategies (Abeyratne, 2008). Prior to economic reforms introduced in 1977, Sri Lanka maintained extensive social welfare strategies, for example, providing free education and health services, food rationing, subsidising agriculture, carrying out land reforms and controlling the prices of essential food items (Semasinghe, 2011).

Although some of these provisions were discontinued after the economic reforms introduced in 1977, Sri Lanka's social welfare system continued to provide free health care and social services and free education to all people (United Nations Development Programme, 1998; Semasinghe, 2011). Due to decades of prioritised attention given to human development, Sri Lanka ended up with very good human development indicators. For a country that has recently been graduated to a middle-income country (Central Bank of Sri Lanka, 2010), social indicators in Sri Lanka are unusually high (Table 3-5). Such exceptional human development indicators made Sri Lanka stand out in the Asian region in the past; nevertheless, Sri Lanka has now become less distinctive because most of the faster growing countries in Asia have caught up Sri Lanka's previously outstanding human development indicators (Table 3-5; Snodgrass, 1998; United Nations Development Programme, 1998; UNDP Sri Lanka, 2012).

Table 3-5: Human Development Indicators in selected Asian countries

Country	Male Life expectancy at birth, male (years)		Life expectancy at birth, female (years)		Infant Mortality Rate (per 1,000 live births)		Average years of Schooling (in population age 25+)		Literacy rate, adult total (% of people ages 15 and above)		Secondary education enrolment rate	
	1970	2010	1970	2010	1970	2011	1960	2010	1979-1982	2008-2009	1976	2008
South Asia												
Sri Lanka	61	72	65	78	56	14	4.2	10.8	87	91	49	87
India	50	64	48	67	127	48	0.9	4.4	41	63	26	60
Pakistan	53	64	53	66	130	70	0.9	4.9	26	56	18	34
Bangladesh	40	68	44	69	156	38	0.9	4.8	29	56	16	45
Nepal	43	68	43	69	163	41	0.1	3.2	21	59	12	44
East Asia												
China	62	72	64	75	78	16	1.4	7.5	66	94	57	78
Hong Kong SAR, China	68	80	75	86	N/A	N/A	4.4	10	N/A	N/A	49	85
Korea, Rep.	58	77	65	84	41	4	3.2	11.6	N/A	N/A	58	96
South East Asia												
Malaysia	63	72	65	76	43	5	2.3	9.5	70	92	47	69
Singapore	65	79	72	84	22	2	2.8	8.8	83	95	N/A	N/A
Thailand	57	71	62	77	73	11	3.4	6.6	88	94	25	75
Vietnam	45	73	50	77	N/A	19	2.2	5.5	84	93	37	77
Philippines	59	65	63	72	57	23	3.7	8.7	83	95	57	83
Indonesia	50	67	53	71	100	27	1.1	5.8	67	92	22	70

Source: The World Bank, 2012 and Barro & Lee, 2010

3.5.4 External Trade

When Sri Lanka gained independence from Britain in 1948, export sector was dominated by three primary commodities; tea, rubber, and coconut. Since these commodities were highly demanded in the world market, Sri Lanka not only enjoyed a significant trade surplus but also a strong external financial position. Sri Lanka's external assets at the end of 1950 were equivalent to almost an entire year of imports, a figure that was well above that of other small countries that were also highly dependent upon international trade (Central Bank of Sri Lanka, 1950).

However, Sri Lanka's continuous reliance on these relatively price inelastic primary commodities and spending bulk of the export income on subsidized food imports weakened the terms of trade in subsequent years and resulted in negative trade balances and balance of payment deficits after 1960s (Kelegama, 2000). The reforms introduced in late 1970s helped Sri Lanka's trade and industrial structure to transform from a one based on land-intensive plantation exports to a one based on labour-intensive manufacturing (The World bank, 2004). Thereafter, proportion of agricultural exports has declined while proportion of industrial exports has increased (Table 3-6). However, industrial exports growth has been primarily driven by textile and garment exports. Textile and garment exports have now become Sri Lanka's most important industry employing about 15% of the labour force (The World Bank, 2004) and accounting for about 40% of all exports (Table 3-6). Almost all exports are generated in resource and/or labour intensive sectors with low technology intensity. Sri Lanka has yet failed to diversify its exports composition to medium or high technology intensive sectors.

In the recent past, Sri Lanka's imports have grown faster than exports and currently imports expenditure is about two times as exports income[15]. This has led to a large current account deficit[16]. This situation would have been worse if not for the large amount of remittances from migrant workers, Sri Lanka's largest source of foreign exchange.

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[15] In 2011, Sri Lanka's exports and imports stood at $10.5 billion and $20.2 billion, respectively (Central Bank of Sri Lanka, 2011).

[16] Current account deficit ($9.3 billion) was almost as the same size as the value of exports ($10.6 billion) in 2011 (Central Bank of Sri Lanka, 2011).

Table 3-6: Composition of Exports

Category	Composition of Exports (as a percentage of total exports)				
	1960	1981	1991	2001	2011
Agricultural Exports	**90.5**	**57.83**	**31.45**	**19.35**	**23.9**
Tea	59.8	30.62	21.17	14.32	14.1
Rubber	20.7	13.73	3.13	0.50	2
Coconut	10	6.83	3.10	1.70	2.5
Spices					2.2
Industrial Exports		**34.67**	**60.13**	**77.02**	**75.7**
Textiles and Garments		14.36	39.42	52.79	39.7
Rubber products				3.57	8.4
Petroleum Products		16.04	3.90	1.41	5.2
Gems, Diamonds and Jewellery		3.01	2.79	5.54	5

Source: Central Bank of Sri Lanka, (various years), Annual Reports, 1960, 1981, 1991, 2001, 2011

Sri Lanka's exports income is generated through a very narrow product range while more than half of the exports coming from tea and garments (Table 3-6). Closely corresponding to Sri Lanka's industrial structure, almost all industrial exports are associated with very low technical intensity. Also, Sri Lanka's exports destinations are narrowly concentrated in few markets, particularly in western markets. More than half of the export goes to USA and EU (Figure 3-3). Moreover, more than 90% of garment exports go to USA and EU (Central Bank of Sri Lanka, 2011, Table 69). Sri Lanka enjoyed duty free privileges for exports to the EU under the "EU GSP-Plus" incentive agreement, but this concession was withdrawn in 2010 due to Sri Lankan government's failure to implement three human rights conventions (Bureau of Economic, 2011). However, Sri Lanka continues to enjoy duty free privileges for exports to the USA under US GSP program (Bureau of Economic, 2012).

Figure 3-3: Exports by destination in 2011 (as a percentage of total exports)
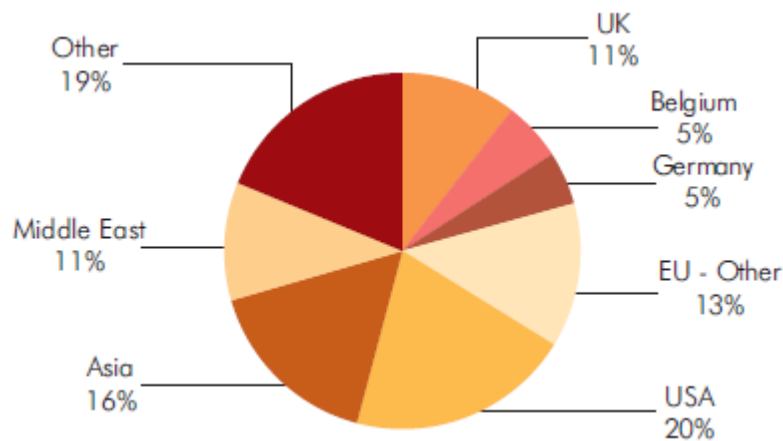
Source: Central Bank of Sri Lanka, 2011

In the early decades after independence, Sri Lanka was spending bulk of its export income to subsidize food imports, and therefore, imports of consumer goods dominated import expenditure at that time (Table 3-7). With the expansion of manufacturing and services industries, imports expenditure on intermediate goods has become more significant. Currently, more than 60% of imports expenditure is incurred on intermediate goods. Import of petroleum goods, which is categorised under intermediate goods, accounts for about quarter of total imports. This shows the extent to which Sri Lanka is dependent on oil imports. Due to this dependency, Sri Lanka is highly susceptible to world oil price fluctuations. Therefore, import expenditure on petroleum goods has fluctuated significantly. Majority of imports takes place in consumer goods sectors and low technology intensive sectors. Absence of imports into advance technology sectors is not surprising due to lower level of industrialization in Sri Lanka.

Table 3-7: Composition of Imports

Category	Composition of Imports (as a percentage of total imports)					
	1960	1980	1990	2000	2010	2011
Consumer Goods	**46.70**	**29.90**	**26.38**	**16.87**	**18.40**	**18.00**
Food and Beverages	34.10	18.90	14.50	8.93	9.80	7.70
Intermediate Goods	**8.90**	**45.70**	**51.76**	**51.76**	**59.90**	**60.60**
Petroleum Goods	6.00	23.80	13.34	12.31	22.60	23.70
Textiles			12.49	20.10	13.50	11.40
Investment Goods	**6.70**	**24.00**	**21.73**	**23.73**	**20.50**	**21.10**
Machinery and Equipment	1.30	12.40	9.18	10.75	10.00	10.60

Source: Central Bank of Sri Lanka, (various years), Annual Reports, various issues

Although Sri Lanka's majority of exports goes to western markets, Majority of Sri Lanka's imports originate from Asian destinations (Figure 3-4). More than 60% of imports are sourced from Asia. India is the largest source of imports which accounts for about a quarter of total imports. Therefore, Sri Lanka has a large trade surplus with the western countries while having a large trade deficit with Asia, primarily with India and China.

Figure 3-4: Imports by destination in 2011 (as a percentage of total exports)
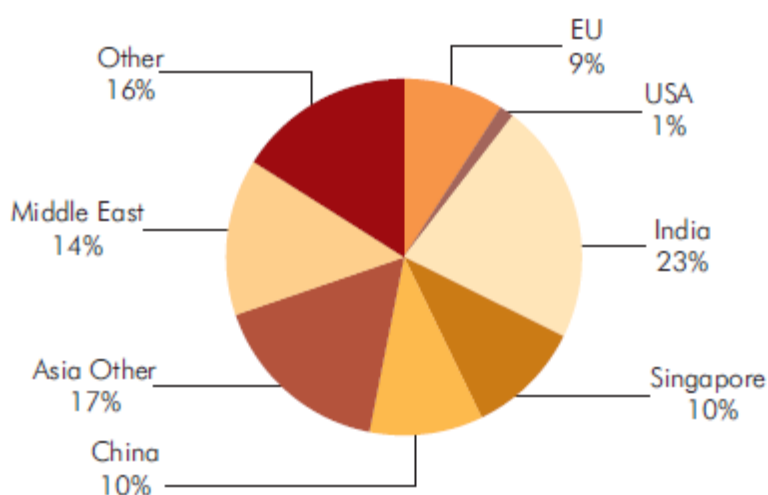
Source: Central Bank of Sri Lanka, 2011

3.5.5 Fiscal and Monetary sectors

Sri Lanka's government faces budget constraints largely due to high public sector expenditure, large interest payments on public debt and military expenditure[17]. Sri Lanka's bureaucracy is one of the largest in the Asian region, which employs 3.9% of the total population as civil servants (The World Bank, 2004). Sri Lanka's large bureaucracy is highly inefficient, and therefore, largely subsidised (Pradhan, 2001; The World Bank, 2004). State owned enterprises (SOEs) are active in many sectors including transport (bus, railway, and aviation), utilities (electricity, water supply, petroleum imports and retail, and telecommunications), TV and Radio broadcasting, newspaper publishing, banking and insurance (Bureau of Economic, 2011). Most of the SOEs are inefficient, overstaffed and loss making enterprises (The World Bank, 2004). More than 30% of government's current expenditure is spent on salaries and wages for public sector employees (Central Bank of Sri Lanka, 2011, table 6.3). Although Sri Lanka's Government debt as a percentage of GDP is declining primarily because of fast economic growth, it remains high at 78.5% (Central Bank of Sri Lanka, 2011). This has imposed a severe interest burden on the government budget. Interest payment on government debt is the single largest recurrent expenditure and currently consumes 35.4% of current expenditure. Even though civil war ended in May 2009, military expenditure has not declined after 2009. Currently defence expenditure consumes about 16% of current expenditure (Central Bank of Sri Lanka, 2011). Interest payments, public sector wages and defence expenditure taken together consume almost all of the tax revenues. As a result, capital expenditure of Sri Lankan government is largely constraint, the primary reason why Sri Lanka remains with a large infrastructure deficit.

Sri Lanka is notorious for high inflation rates in the past; however, inflation pressures were relatively lower since the end of war (Table 3-8). Sri Lanka is also associated with high interest rates, and as a result, businesses face high borrowing costs, and this has been a main barrier for entrepreneurship in the country (Bureau of Economic, 2011). Low level of domestic investment is also partly attributed to higher interest rates (Pradhan, 2001).

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[17] Fiscal deficit stood at 6.9% of GDP in 2011(Central Bank of Sri Lanka, 2011)

Table 3-8: Annual Inflation, annual % increase in consumer prices index

Year/Period	Yearly/Average	Minimum	Maximum
1981-1990	12.4	1.5	21.5
1991-2000	9.7	4.7	15.9
2001-2010	10.7	3.4	22.6
2010	6.2		
2011	6.7		

Source: The World Bank, 2012 and Central Bank of Sri Lanka, 2011

3.6 Civil War and Internal Conflicts

Sri Lanka much like Singapore is home to two distinct ethnic communities - the Tamils and Sinhalese. Unlike in Singapore, the two groups have not been able to forge unity in promoting the interests of one and all. Sri Lanka has recently emerged from a long drawn out internecine conflict between these two main ethnic communities in Sri Lanka.

Sri Lanka has faced several phases of violent internal conflict and each phase has adversely affected the growth prospects of the country. Two major types of conflicts were evident in the past. First is the civil war which was waged between the government of Sri Lanka and a separatist guerrilla group representing Tamil minority (LTTE) who sought to break off the north and east regions of the country as a separate sovereign state (Abeysekera, 2011). Second is an armed revolution led by the radical Sinhalese youth-based movement, the JVP, against the Sri Lankan government (Arunathilaka, Jayasuriya & Kelegama, 2000).

After Sri Lanka gained independence from Britain in 1948, Sri Lankan politicians opt to pro-Sinhalese nationalism in order to gain political gains by posturing and pandering the majority Sinhalese (Petesch & Thalayasingam, 2010). This led to several legislative changes that marginalised and discriminated the Tamil minority. In 1956, Sri Lankan parliament passed the Sinhala only bill making the Sinhala language the only official language (DeVotta, 2010; DeVotta, 2000). In addition to this, introduction of language-based quota system for allocating university admissions in 1972[18] and the change in the constitutional definition of Sri Lanka to a Sinhala-Buddhist country are the major legislative changes that increasingly marginalised the Tamil minority (Abeyratne, 2008; Petesch & Thalayasingam, 2010). These ethnic discriminations led to a rise in Tamil militarism in the mid-seventies, and these Tamil separatist movements developed to a fully-fledged civil war between the Sri Lankan government and the LTTE (DeVotta, 2004; Abeyratne, 2008).

The civil war took place in four phases with cease fire arrangements in between these phases; phase one during 1983-1988, phase two during 1990-1994, phase three during 1995-2002, and phase four during 2004-2009 (Arunatilake, Jayasuriya, & Kelegama,

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[18] Although this language based quota system was changed to a district- base quota system in 1974, there has been a significant decrease in the share of Tamil students in Universities (Abeyratne, 2008).

2001; Duma, 2007; Various issues of Central Bank annual reports). In May 2009, Sri Lanka's government declared victory over LTTE, bringing to an end to the 26 years of brutal war, which was the bloodiest conflict in Asia (DeVotta, 2010). The JVP based armed uprising took place in two occasions, in 1971 and in 1989-1990, and in both occasions the uprisings were violently crushed by the incumbent government with the use of armed forces (Arunatilake, Jayasuriya, & Kelegama, 2001). The on and off nature of these conflicts can be represented in the timeline shown in Figure 3-5. Extent of variation in conflict intensity can be comprehended by observing the number of total confirmed fatalities (Figure 3-6).

Even though the civil war was largely confined to north and east (Asian Development Bank, 2008), LTTE occasionally attacked other regions, particularly Colombo, the capital of Sri Lanka. They targeted some of the key places, for example, Colombo International Airport and Central Bank, and bombed Colombo's financial and business districts causing extensive damage in terms of both casualties and property damage (Bureau of Economic, 2011).

Figure 3-5: Timeline of the conflicts in Sri Lanka
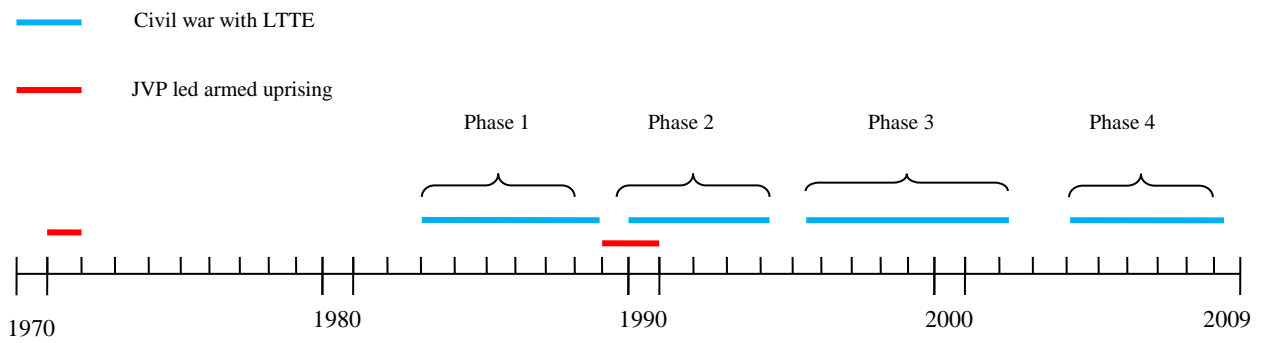
Figure 3-6: Number of total confirmed fatalities (killed) in conflict related incidents
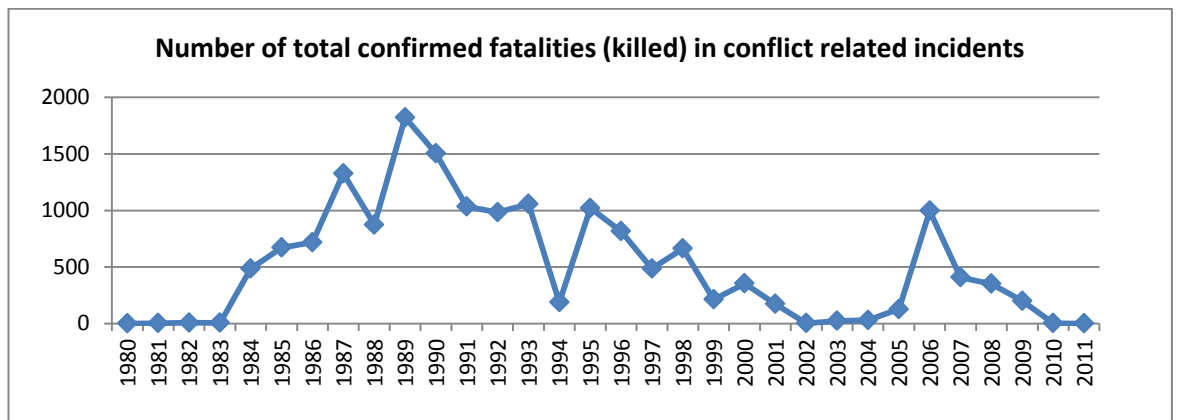
Source: National Consortium for the Study of Terrorism and Responses to Terrorism (START), 2011.

Global Terrorism Database

3.7 Concluding Remarks

This chapter provided the necessary background to extend this research study on FDI in Sri Lanka. Sri Lanka had been considered, and continued to be considered, as a country with excellent prospects for economic development. However, Sri Lanka's economic performance has so far failed to achieve its potential.

Subsequent to the policy reforms introduced in 1977, Sri Lanka remains an open economy. Sri Lanka possesses significant resource and location advantages and impressive human development indicators but its growth indicators are not impressive. Civil war has been considered as one of the main barriers to economic development. Sri Lanka has a predominantly factor driven economy that rely on low skilled labour. It's economy is characterised by a lower level of industrialisation and is narrowly concentrated in a few sectors with little participation in technical intensive sectors. These structural deficiencies along with weak export structure could undermine Sri Lanka's competitiveness in the global marketplace. Low savings and investment rates; fiscal constraints due to high public sector expenditure, large interest payments on public debt and military expenditure; high inflationary pressures and high interest rates appear to be major issues that inhibit growth prospects of Sri Lanka.

Chapter 4 : FDI in Sri Lanka

4.1. Introduction

The purpose of this chapter is to provide a context analysis of FDI and related aspects of FDI in the context of Sri Lanka. Section 4.1 provides an overview of current status of FDI in Sri Lanka. Dimensions of FDI in terms of distribution by sector and origin is explored in section 4.2. Section 4.3 investigates the opportunities that Sri Lanka can offer to potential foreign investors. Finally, section 4.4 presents a preliminary overview of factors that can influence FDI flows to Sri Lanka.

4.2 FDI in Sri Lanka: an Overview

When Sri Lanka gained independence from Britain in 1948, Sri Lanka's economy was an agricultural economy, largely based on plantation crops, tea, rubber, and coconut. The plantation sector, much of which was owned by foreign investors, was nationalized in the early 1970s (UNCTAD, 2004). Thereafter, foreign involvement in direct investment was very limited until 1977s liberalisation initiatives. Although 1977s reforms and the establishment of GCEC improved FDI inflows in 1980s, FDI did not surge until the 1990s. FDI inflows jumped in the 1990s mainly due to the ambitious privatisation programme (Table 4 1). Out of the total privatisation proceeds realised during 1989-2005, 59% was financed by foreign investors (Central Bank of Sri Lanka, 2007, table 116). With the relaxation of several impediments to FDI and establishment of the Greater Colombo Economic Commission (GCEC) in 1978, FDI started picking up after 1978. GCEC was responsible for establishing several export processing zones (EPZ's) and formulating and implementing an incentives package for foreign investments (The World bank, 2007). However, GCEC's mandate was confined to the outskirts of Colombo. In 1992, the GCEC was reconstituted as the Board of Investment of Sri Lanka (BOI) with its mandate extended to the entire island (Board of Investment of Sri Lanka, 2012).

Although FDI inflows have considerably increased in the last two decades relative to pre-liberalisation era, Sri Lanka's performance in generating FDI has been low by the standards of the best performers in Asia (Table 4-2). For example, Malaysia, a country with a population comparable to that of Sri Lanka, has attracted 20 times as much FDI as Sri Lanka (Table 4-2).

Table 4-1: Privatisation programme and FDI

Year	FDI inflow (US Dollar Million)	Privatisation Programme			
		No of firms privatised	Local Investment (US $ Million)	Foreign Investment (US $ Million)	Total Investment (US Dollar Million)
1989	17.90	1	0.14	2.50	2.64
1990	43.35	5	2.64	10.87	13.51
1991	67.00	4	25.84	0.00	25.84
1992	122.63	13	116.89	39.12	156.01
1993	194.49	13	100.49	172.82	273.30
1994	166.41	7	25.29	19.36	44.65
1995	65.00	10	52.28	55.42	107.70
1996	133.00	10	78.90	71.84	150.74
1997	433.00	8	156.15	385.66	541.82
1998	150.00	5	24.41	139.36	163.77
1999	201.00		0.00	0.00	0.00
2000	172.95	2	0.16	0.00	0.16
2001	171.79	2	20.46	162.84	183.30
2002	196.50	3	56.73	0.00	56.73
2003	228.72	7	212.27	202.42	414.69
2004	233.00	1	0.50	0.00	0.50
2005	272.00	1	11.24	0.00	11.24
Total	**2868.74**	**92**	**884.37**	**1262.22**	**2146.58**

Source: The World Bank, 2012 and Central Bank of Sri Lanka, 2011

Table 4-2: Comparative FDI performance of Sri Lanka, 2011

Country	FDI Inflow (Millions of US$)	FDI Stock (Millions of US$)	FDI Inflow Per capita (US$)	FDI Inflow as a % of GCF	FDI Stock Per capita (US$)	FDI Stock as a % of GDP
South Asia						
Sri Lanka	981.10	5989.50	46.62	6.12	284.60	10.12
India	36190.40	206434.60	29.15	5.90	166.28	10.88
Pakistan	1327.00	20916.00	7.51	5.54	118.34	10.01
Bangladesh	1136.38	6165.81	7.55	4.33	40.97	5.81
Nepal	95.49	348.10	3.13	2.43	11.42	1.88
East Asia						
China	123985.00	711802.00	92.01	3.72	528.21	9.88
Hong Kong	96125.39	1184511.36	13496.61	180.51	166312.87	486.85
Korea, Rep.	10246.50	133660.00	211.74	3.35	2762.06	11.97
South East Asia						
Malaysia	12197.58	115063.98	422.66	19.14	3987.09	39.96
Singapore	55922.66	625744.75	10779.37	91.89	120615.43	240.81
Thailand	7778.68	150517.17	111.89	8.39	2165.14	40.71
Vietnam	7430.00	64162.30	83.68	20.44	722.61	51.91
Philippines	1816.00	28230.00	19.15	4.18	297.62	12.56
Indonesia	19241.25	185803.73	79.40	7.10	766.75	21.94

Source: World Development Indicators, 2013 and UNCTAD, 2013

4.3 Dimensions of FDI: Distribution by Sector and Origin

Until plantation sector was nationalised in early 1970s, a significant proportion of the plantation sector was owned by foreign investors. Thereafter, foreign involvement in direct investment was very limited until 1977s liberalisation initiatives. The reforms introduced in late 1970s helped Sri Lanka's trade and industrial structure to transform from a one based on land-intensive plantation exports to a one based on labour-intensive manufacturing (The World bank, 2004). Also, post-reform trade and investment policies strongly promoted export oriented industries. As a result, FDI inflows started flowing to manufacturing industries and by 1983 more than 90% of FDI stocks were concentrated in manufacturing industries (Table 4-3). Up to 1980s, services sector did not attract much FDI. FDI in service sector started picking up in 1990s largely due to privatisation programme. Thereafter, FDI in services became more prominent than FDI in manufacturing. Currently FDI in services accounts for more than 70% of total FDI stocks while FDI in manufacturing has shrunk to less than 30% of total FDI stocks (Table 4-3). Majority of manufacturing FDI has taken place in textile and garments related sector, which accounts for about one third of total realised manufacturing FDI stocks. However, this sector's prominence in attracting FDI has shrunk from its dominant position in 1980s and 1990s (Table 4-3). Communication sector had attracted over 50% of service FDI by early 2000s (UNCTAD, 2004) and have continued to dominate service FDI to date by attracting over 50% of service FDI during 2005-2010 (Table 4-4). However, tourism sector has recently started attracting considerable attention from foreign investors, largely due to the end of war. Hotels and tourism sector, surpassing the conventionally dominant telecommunication sector, attracted the largest share of service FDI in 2011 (Central Bank of Sri Lanka, 2011). Since nationalisation of plantation sector in early 1970s, agricultural sector has failed to attract attention from foreign investors.

Similar to Sri Lanka's industrial structure, FDI in Sri Lanka is also narrowly concentrated in a few sectors with little participation in technical intensive sectors (Figure 4-2). Almost

all the FDI[19] has taken place in either medium-low-technology industries or low-technology industries[20].

[19] Only exception is the chemical sector, which is categorised as a medium-high-technology industry. However, FDI in Chemical sector is not reported separately and it is reported with FDI in Petroleum, Coal, Rubber and Plastic Products, and therefore, FDI in chemical sector is unlikely to be substantial.

[20] As per the ISIC Rev. 3 technology intensity definition (Economic Analysis and Statistic Division, 2011)

Table 4-3: Realised FDI in Sri Lanka: Sectoral distribution

Sector	1983		1991		2001		2011	
	FDI (US$)	% from total FDI	FDI (US$)	% from total FDI	FDI (US$)	% from total FDI	FDI (US$)	% from total FDI
Total manufacturing industries	**54.3**	**92.4**	**210.3**	**77.3**	**581.1**	**36.8**	**1760.9**	**29.6**
Food, Beverages and Tobacco Products	0.3	0.6	2.3	0.8	56.6	3.6	262.5	4.4
Textile, Wearing Apparel and Leather Products	27.2	46.3	76.5	28.1	246.3	15.6	568.7	9.6
Wood and Wood Products	0.4	0.7	0.1	0.0	14.5	0.9	76.0	1.3
Paper Products, Publishing and Printing	0.0	0.0	1.9	0.7	5.8	0.4	38.9	0.7
Chemical, Petroleum, Coal, Rubber and Plastic Products	10.8	18.3	67.5	24.8	113.9	7.2	355.8	6.0
Non-metallic Mineral Products	2.0	3.4	11.7	4.3	34.9	2.2	115.0	1.9
Fabricated Metal Products, Machinery and Transport Equipment	2.6	4.5	29.2	10.7	42.8	2.7	142.5	2.4
Manufactured Products (n.e.s)	11.0	18.7	21.2	7.8	66.3	4.2	201.6	3.4
Services	**4.5**	7.6	**61.6**	22.7	**999.6**	63.2	**4187.5**	70.4
Total FDI	**58.7**	**100**	**271.9**	**100**	**1580.7**	**100**	**5948.4**	**100**

Source: Board of Investment Sri Lanka

Table 4-4: Sector-wise FDI inflows to Sri Lanka

Sector	FDI inflows in Sri Lanka (US $ Mn.)									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Manufacturing	**42.02**	**78.52**	**80.46**	**122.60**	**135.32**	**234.78**	**174.02**	**189.18**	**164.47**	**159.65**
- Food, Beverages & Tobacco		8.28	10.39	23.01	29.38	34.10	25.93	14.74	11.34	17.54
- Textile, Wearing Apperal & Leather	18.11	20.51	22.10	26.82	47.28	103.48	62.60	72.28	51.40	37.56
- Wood & Wooden Products		17.10	6.35	0.35	0.92	4.39	0.77	2.21	1.69	1.43
- Paper,Paper Products& Printing		8.97	0.79	0.09	8.16	0.76	0.00	0.86	20.77	8.71
- Chemicals, Petroleum, Coal & Plastics	17.95	2.24	14.80	8.85	4.31	10.89	1.14	5.25	1.75	28.02
- Rubber Products					15.83	32.27	47.90	34.68	13.64	16.38
- Electronics & Electricals					5.90	6.88	7.67	14.61	23.15	7.86
- Non-Metalic & Mineral Products	0.25	11.00	8.63	51.74	5.90	5.27	4.71	12.77	11.18	10.50
- Fabricated Metal, Machinery &	1.81	10.42	10.51	3.60	15.34	14.08	12.54	14.38	14.04	14.91
- Other Manufactured Products	3.90		6.89	8.14	2.31	22.67	10.75	17.41	15.50	16.74
Agriculture					**0.47**	**0.67**	**0.42**	**2.65**	**3.69**	**6.45**
Services and Infrastructure	**42.03**	**141.4**	**130.14**	**111.68**	**151.41**	**368.24**	**559.93**	**697.10**	**434.09**	**350.20**
- Housing, Property Development and Shopping & Office complexes					13.43	58.32	30.16	19.86	17.74	42.06
- Telephone & Telecommunication Network					111.74	263.43	403.63	553.10	296.06	205.16
- Power Generation					15.78	7.81	92.68	87.86	67.73	58.44
- Hotels & Restaurants					2.43	6.19	7.83	3.13	5.56	5.57
- IT and BPO					2.16	14.34	8.71	15.22	12.61	11.48
- Other Services					5.87	18.14	16.92	17.93	34.38	27.48
GRAND TOTAL	**84.05**	**219.92**	**210.60**	**234.28**	**287.20**	**603.69**	**734.36**	**888.94**	**602.25**	**516.30**

Source: Board of Investment Sri Lanka

Figure 4-2: Composition of FDI (realised FDI) in industrial production – 2011
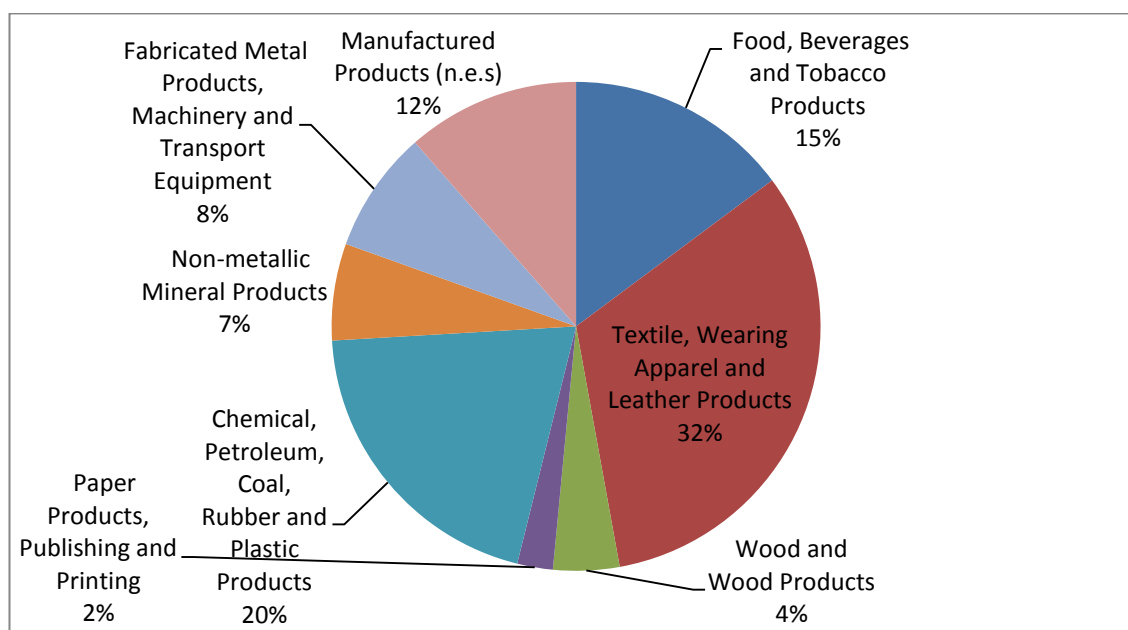
Source: Central Bank of Sri Lanka, 2011

Leading sources of FDI in Sri Lanka are presented in Table 4-5 and Table 4-6. Up to 2000, FDI in Sri Lanka had been dominated by seven home countries, which altogether accounted for about 80% of total invested value during 1979-2000 (Table 4-5). Malaysia has emerged as the largest FDI investor in recent past. India is recently emerging as an important foreign direct investor while contributing the largest FDI inflow in 2010 (Table 4-6).

Table 4-5: Home country distribution of FDI in Sri Lanka, cumulative, 1979-2000 (percentages)

Home Country	Share in the number of projects	Share in total FDI
Singapore	3.9	16.5
United Kingdom	5.4	13.9
Japan	6	12.1
Republic of Korea	10.6	11.5
Hong Kong (China)	6.6	10
British Virgin Island	0.6	8
Australia	2.4	7.5

Source: UNCTAD, 2004

Table 4-6: FDI inflows by country (% of total), 2005-2010

Country	FDI inflow by country (% of total), 2005-2010						
	2005	2006	2007	2008	2009	2010	2005-2010
Malaysia	34.66	27.28	40.36	16.92	27.36	14.08	26.11
India	6.22	4.48	5.84	14.17	12.93	21.35	11.06
U.K	9.18	6.69	13.05	9.84	14.81	11.97	11.04
Netherland	0.21	2.09	3.90	13.19	7.31	5.36	6.35
Hong Kong	5.39	7.66	4.91	8.31	4.40	5.58	6.25
Luxemburg	6.03	8.95	0.81	9.25	3.97	1.00	5.19
U.S.A	4.44	5.89	3.59	6.39	3.58	2.88	4.62
Singapore	10.66	4.90	2.72	2.32	3.59	8.21	4.54
Sweden	3.53	8.26	4.28	4.25	3.29	2.26	4.42
Japan	1.43	6.40	6.64	1.88	3.22	2.62	3.89
UAE.	2.47	3.32	2.18	1.05	2.80	12.76	3.72
China	0.33	0.73	1.46	3.08	3.28	0.79	1.85
Italy	3.68	3.22	2.48	0.79	1.18	0.36	1.77
Belgium	2.92	1.34	1.89	1.50	0.48	0.56	1.36
Mauriteus	1.41	1.23	0.03	0.16	0.29	2.92	0.82
Other Countries	7.44	7.57	5.84	6.92	7.51	7.31	7.00
	100.00	*100.00*	*100.00*	*100.00*	*100.00*	*100.00*	*100.00*

Source: Board of Investment Sri Lanka

4.4 FDI Potential in Sri Lanka

This section will provide an analysis of Sri Lanka's potential in attracting various FDI, may it be resource-seeking, market-seeking or efficiency seeking. As reviewed in the previous chapter, Sri Lanka is a country with abundant resources in the form of national resource endowments and human capital and a strategic geographical location. However, it is also weak in terms of level of industrialisation and the extent of participation in technical intensive sectors. These salient features have significant impact on what type of FDI the country can attract, subsequently, the impact of FDI on the economy.

4.4.1 Resource-seeking FDI

Global FDI in the early 19th century was dominated by resource seeking investments in the primary sector and this trend was reversed in the latter part of the century where primary sector played a minor role in inward FDI. But, recently the importance of resource seeking investment in the primary sector has increased considerably in the global context, partly contributed by resource seeking investments from emerging economies such as China and India (Dunning & Lundan, 2008).

Sri Lanka's rich natural resource base offers ample resource seeking opportunities to MNCs; Sri Lanka's export performance in agricultural and mineral products (Central Bank of Sri Lanka, 2010) and recent discovery of oil drilling prospects demonstrates the degree of resource abundance in Sri Lanka. The large extent of physical resource seeking investments that have been recently undertaken by Chinese and Indian MNCs in Africa (Dunning & Lundan, 2008) should be of great interest to Sri Lanka as Sri Lanka might have an opportunity to attract physical resource seeking investments from its neighbouring giants. Some FDI in services can also depend on location bound resources, for example, performance of tourism industry in a particular country depends on the availability of numerous attractions in that country (Dunning & Lundan, 2008). Sri Lanka is home to numerous unique tourist attractions and is considered as one of the best tourist attractions in the world[21].

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[21] Lonely Planet, the world's largest travel guide publisher, ranked Sri Lanka as the number one travel destination for 2013 (Lonely Planet, 2013)

The second type of resource that is sought by multinationals is human resources; MNCs, usually manufacturing and service MNCs from countries with high real labour costs, seek supplies of cheap unskilled, semi-skilled, and skilled labour (Dunning & Lundan, 2008). Sri Lanka has a relatively cheap but highly trainable labour supply as indicated by Sri Lanka's impressive human capital indicators. Sri Lanka faces two major challenges in terms of materialising this benefit. Although Sri Lanka has the highest literacy rate in South Asia, Sri Lanka might not have a significant comparative advantage in terms of labour costs against most of its neighbouring countries, such as India and China. Thus, Sri Lanka could face a home region disadvantage (Banalieva, Gregg, & Sarathy, 2010) because it is surrounded by countries with comparable traits. Therefore, the better option would be to look out for countries with high real labour costs, but for this, Sri Lanka will have to attract MNCs from countries that are in distant waters and unfamiliar cultures.

The second challenge comes from the fact that most of this type of human resource seeking investments has been taken place in the more advanced industrialising developing countries such as Mexico, Taiwan and Malaysia (Dunning & Lundan, 2008). Sri Lanka has undergone a very little structural transformation; the shift from agriculture to higher value added manufacturing and services is not very significant (UNCTAD, 2004). Therefore, this underdevelopment will become a major obstacle in attracting MNCs that seek cheap labour.

The third type of resource seeking FDI arises from the MNC's aspiration to acquire technological capabilities, management or marketing expertise, and organisational skills. It is doubtful whether Sri Lanka possesses considerable amounts of such tacit skills since Sri Lanka is lagging far behind its developed counterparts in terms of technology and other business related skills and expertise.

4.4.2 Market-seeking FDI

With 20 million population and low per capita income (The World Bank, 2011), Sri Lanka would not be able to offer considerable market seeking opportunities, relying solely on the internal market. Although the internal market size of the country is not significantly large, the proximity to India and Sri Lanka's favourable geographical location have provided Sri Lanka with a lucrative opportunity to attract MNCs that want

to target Indian and other regional markets. However, Sri Lanka faces a home region disadvantage because most of the adjacent countries are developing nations with low per capita income (The World Bank, 2011), which might to some extent make the opportunity of targeting the regional markets not so lucrative.

Since Sri Lanka has a limited internal market, Sri Lanka might want to attract market seeking FDI that target nearby regional markets. Therefore, higher level of regional integration will be advantageous in terms of attracting such FDI. Literature on FDI and regional integration advocate that following accession to a regionally integrated area (RIA), the individual member's market size will no longer be a limiting factor in attracting FDI (Buckley et al., 2001). Also, Feils & Rahman (2011) have empirically proven that, subsequent to regional integration, market size of an individual member country becomes less important as a determinant of FDI inflows. MNCs would prefer to serve a market from an adjacent facility when the production and transaction cost of doing so is less than serving the market from a distance (Dunning & Lundan, 2008). Therefore, it is crucial for Sri Lanka to have lower trade costs and lower transport costs with its regional partners in order to attract such facilities. It is important that Sri Lanka accommodates correct policies and incentives in order to attract market seeking MNCs. Due to the limited market size of Sri Lanka, export promotion policies are likely to be suitable over import substituting policies for attracting larger volumes of FDI.

4.4.3 Efficiency-seeking FDI

Some authors have argued that MNCs now gives less importance to the size of the domestic market due to the effects of globalisation (Nunnenkamp, 2002; Miyamoto, 2003; Blomström & Kokko, 2003a). Furthermore, some studies have shown that the motivation for FDI is shifting from "market-seeking" to "efficiency-seeking" (Ruane, 2008). Sri Lanka's sufficiently skilled labour market and low labour costs could complement efficiency seeking investments of MNCs.

Dunning & Lundan (2008) has highlighted two types of efficiency seeking FDI. First type takes place as a result of MNCs trying to benefit from factor price differences among different countries. The most prominent factor price differential that is exploited by MNCs is the relative costs of labour in different skill levels. Developing countries, by

and large, contribute low cost unskilled or semi-skilled labour while developed countries, generally, contribute skilled labour. Sri Lanka's low labour costs and highly admired human capital level indicate Sri Lanka is in a better position to attract MNCs that seek low cost unskilled or semi-skilled labour. Since Sri Lanka's lower level of industrialisation, it is unlikely that Sri Lanka could supply skilled labour, at least in the near future. However, Sri Lanka will have to compete with its regional counterparts to attract efficiency seeking investments because most of the Asian countries and particularly the South Asian countries possess comparable labour costs, and therefore, further improvements in the skills and quality of labour is crucial for Sri Lanka in order to attract efficiency seeking FDI.

The second type of efficiency seeking FDI take place as a result of MNCs trying to benefit from scale and scope economies, and differences in consumer tastes and supply capabilities (Dunning & Lundan, 2008). Sri Lanka, as a standalone country cannot offer considerable scale or scope economies to MNCs due to its relatively small and not so affluent internal market. Although income levels are not so high, South Asia is a highly populated region with rising income levels. This fact can provide both opportunities and treats to Sri Lanka in terms of attracting MNCs seeking scale and scope economies. Such MNCs is likely to give their attention to countries with large populations, and therefore, may overlook Sri Lanka. On the other hand, if Sri Lanka can provide a better environment and comparatively low cost inputs than those of highly populated countries, and also maintain very low levels of trade and logistic costs with these countries, then Sri Lanka could provide a better proposition for MNCs seeking scale and scope economies.

4.5. Factors that can Influence FDI in Sri Lanka: a Preliminary Overview

4.5.1. Introduction

There are numerous factors that can encourage and discourage FDI in a country. These factors and their significance vary with different country settings. Detail analysis of these factors is essential for formulating correct policies in order to increase FDI inflows as well as to improve the benefits of the FDI. However, studies based on Sri Lanka are scarce. The most relevant study is Wijeweera & Mounter (2008); an econometric analysis that uses vector autoregressive model (VAR) to regress FDI against GDP, total trade, wage rate, exchange rate, and interest rate. Proceeding sections provides a preliminary investigation of various factors that can influence FDI inflows to Sri Lanka. Priority is given to identify salient features of Sri Lanka that could encourage or discourage FDI inflows.

4.5.2 Size and growth of the economy

The market potential of a country will depend on the size of the population and income levels of the country (Hoang, 2006). Sri Lanka's internal market size is small, with a population of 20 million only, which could constrain the market seeking FDI potential of Sri Lanka. Therefore, the significance of the GDP to FDI inflows is unlikely to be strong. However, Wijeweera & Mounter (2008) have found that Sri Lanka's GDP has a positive impact on its FDI inflows in the long run, while having a negative impact in the short run.

4.5.3. Trade regimes and degree of trade openness

Sri Lanka has gone through three phases of trade regimes. When Sri Lanka gained political independence from Great Britain in 1948, Sri Lanka's economy was an open economy and specialized in export of three crops; tea, rubber and coconuts. Sri Lanka continued to remain an open trading nation until 1960, (Rajapatirana, 1988; Athukorala & Jayasuriya, 2004) in which the incumbent government at that time introduced inward oriented development strategies and started relying on import substituting policies (Rajapatirana, 1988; Wijeweera & Mounter, 2008). This closed economy; which embraced strict trade and exchange controls, strict regulation, and state intervention;

continued until 1977 (Wijeweera & Mounter, 2008). Also, in this period Sri Lanka's economy was dominated by SOEs while private sector receiving less attention by the state. As a result, Sri Lankan economy became one of the most inward-oriented and regulated economies outside the communist bloc by mid-1970s (Athukorala & Jayasuriya, 2004).

Responding to the fruitless outcomes of these inward-oriented policies, Sri Lankan government initiated an extensive economic liberalization process in 1977 by liberalising trade, price and investment controls (Athukorala & Jayasuriya, 2004; Rajapatirana, 1988). This reform introduced a significant trade reform by replacing quantitative restrictions on imports with tariffs, and also revising the tariff structure to achieve greater uniformity (Athukorala & Jayasuriya, 2004).

As a result of delays and inconsistencies in the implementation of the 1977 reform process, mostly caused by the internal civil conflict, the 1977 reform process lost its momentum in early 1980s, and a second wave of liberalisation was initiated in 1990s. The 1990s reform process focused more on export expansion and employed further tariff cuts and simplified tariff structure (Athukorala & Jayasuriya, 2004). Since 1990's trade liberalisation, Sri Lanka has maintained its trade openness and continued bringing down its tariffs further. However, some believe a pressure for protectionism is gradually building up in recent years (Pursell & Ahsan, 2011), a development which is unlikely to be favourable for future FDI inflows.

4.5.4. Political instability

Both Sri Lanka and the South Asian region are renowned for their internal political instability (Javorcik, 2004; Kumaraswamy, 2007). Quazi & Mahmud (2004) has pointed out that political instability in South Asian region has been a major deterrent in attracting FDI to South Asian region.

Many writers and international institutions attribute the reason for Sri Lanka not been able to perform well in both FDI and economic growth to the political instability that prevailed in the country, mainly due to the civil war (Pradhan, 2001, Zita & Kapur, 2004). However, to the best of my knowledge, the impact of the civil war on FDI in Sri Lanka has not been investigated in any empirical study.

Significance of the war on past FDI inflows to Sri Lanka can be studied by comparing the performance of FDI against the timeline shown in Figure 3-5. However, it should be noted that the intensity of these conflicts varied significantly over time (Duma, 2007), and therefore, ignoring the intensity of the conflicts at different times might, to a certain extent, undermine the accuracy of the findings. One way to account for these different intensities of conflicts is to use the political stability variables published by various institutions such as World Bank (Figure 4-3) or other rating agencies. Although these estimates do not capture all the intricate variations in the political stability in a country and may capture multiple dimensions of political instability, such estimates can be useful for factoring the intensity of the internal conflicts. Alternatively, we can use the number of conflict related causalities (Figure 3-6) or measure of conflict related physical damages to proxy the intensity of conflict.

War could not only affect FDI inflows, but also cause foreign direct divestments. Therefore, the extent of divestments caused by the civil war should also be ascertained in order to determine the overall impact of the civil war on FDI performance.

Figure 4-3: Variation of the political stability variable in Sri Lanka
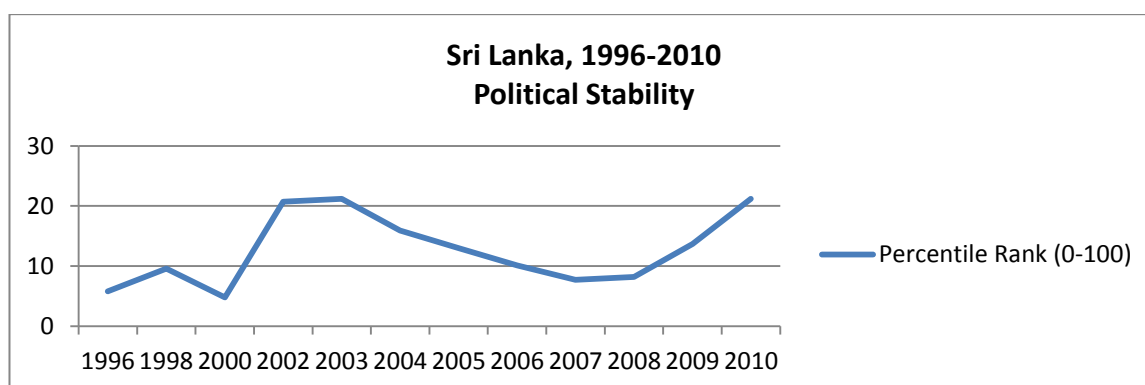
Source: The World Bank. 2010

Available evidence shows that Sri Lanka lost several high profile potential foreign investments due to the civil war. With the emergent of civil war in 1983, Motorola and Harris Corporation, both of which are major electronic MNCs, aborted their

investment plans and withdrew from Sri Lanka[22] (Kelegama, 2000). In addition to these MNCs, Sony, Marubeni, Sanyo, Bank of Tokyo and Chase Manhattan Bank, all of which were in the pipeline to invest in Sri Lanka, decided against investing in Sri Lanka when the civil war erupted in 1983 (Kelegama, 2000).

4.5.5. Human capital

Sri Lanka is widely known for its high rating in human capital index in terms of literacy rate and schooling rates (Table 4-7). Sri Lanka is a country with free education from kindergarten to university (Ganegodage & Rambaldi, 2011; Ranasinghe & Hartog, 2002) and its educational achievements are highly praised by researchers (Ganegodage & Rambaldi, 2011; Duma, 2007) as well as international bodies such as World Bank (UNDP Sri Lanka, 1998; UNDP Sri Lanka, 2012; Duma, 2007). Also, some research studies suggest that Sri Lanka has a low wage rate but a high relative labour productivity (Wijeweera & Mounter, 2008; Athukorala & Jayasuriya, 2004).

It is true that Sri Lanka's education system is a success story compared to other developing countries in terms of providing universal access to general education, achieving high literacy rates and school enrolment rates, and achieving gender parity in education attainment (Aturupane, 2009). However, Sri Lanka's economic performance, and performance in FDI inflows in particular, are far behind that of East Asian countries which have similar educational achievements (Ganegodage & Rambaldi, 2011; UNCTAD, 2004). To add to this, Ganegodage & Rambaldi (2011) has found that the returns of education investment in Sri Lanka is lower than those found for other developing economies.

Host country's capacity to absorb advance technology and other skills that MNCs bring in depend on the quality of human capital in the host country (United Nations, 1992; Moosa, 2002). Based on FDI flows from industrial countries to 69 developing countries during 1970-1989 and proxing human capital by level of schooling, (Borensztein, De Gregorio, & Lee, 1998) shows that FDI contributes to economic growth only when the host country has a minimum threshold level of human capital. Therefore, Sri Lanka's human capital indicators can have implications on realising the benefits of FDI.

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[22] Harris Corporation left a half-built plant with an initial employment capacity of 1,850.

Table 4-7: Human capital indicators of selected countries in Asia

	Literacy Rate	Percentage of population aged 15 and over(2010)		Percentage of population aged 25 and over(2010)		GDP per person engaged (constant 1990 US$ at PPP)
	Most recent figure from 2005-2010	Who enrol secondary education	Who completed secondary education	Who enrol tertiary education	Who completed tertiary education	Labour Productivity
South Asia						
Sri Lanka	90.56	66.3	52.1	16.4	10.5	15622
India	62.75	40.7	1.3	5.9	3.7	8401
Pakistan	55.53	34.6	22.5	6.4	5.2	8525
Bangladesh	55.9	39.9	23.9	4.4	2.8	3917
East Asia						
China	93.98	60.4	46	6.2	4	12593
Mongolia	97.49	67.7	34.4	12.5	8	n/a
South East Asia						
Malaysia	92.46	61.4	38.9	13.9	5	25058
Singapore	94.71	46.3	22.3	18.8	12.3	44524
Thailand	93.51	27.9	14.6	9.1	8.9	15743
Vietnam	92.78	31.6	16.1	4.5	2.9	5898
Philippines	95.42	42.1	21.3	29.6	22.4	10587
Indonesia	92.19	27.6	22.8	2.5	1.6	n/a
Myanmar	92.03	13.7	5.2	6.5	4.2	n/a
Brunei	95.29	52.9	27.1	9.8	6.3	n/a

Source: The World Bank, 2012

4.5.6. Institutional Environment

Sri Lanka is a constitutional, multiparty republic; however, the government is dominated by president's family[23] (Bureau of Democracy United States, 2012). Investment climate of Sri Lanka is contaminated by corruption, lack of good governance, bureaucratic inertia, and poor law and order (Athukorala, 2003). Sri Lanka scores medium to low in all governance indicators according to the scores published by the World Bank (The World Bank, 2010). Weak institutional environment in the country is likely to further deteriorate due to the current political climate in the country and increasing concentration of the political power. For example, in 2010, president of Sri Lanka exercised his authority under the 18th amendment to take control of appointments to public institutions

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[23] Three of president's brothers hold three key positions, i.e. defence secretary, minister of economic development, and speaker of parliament while number of other relatives, including president's son hold key political or diplomatic positions (Bureau of Democracy United States, 2012).

that oversee the judiciary, police, and human rights, which were previously independent (Bureau of Democracy United States, 2011).

Sri Lanka scores a negative figure of -0.43 from a scale from -2.5 to +2.5, with a percentile rank of 40.7 in the 'control for corruption' score published by the World Bank. Sri Lanka's score is better than the South Asian regional average but slightly worse than East Asian average (Table 4-8).

Table 4-8: Control for corruption for selected countries for the year 2010

Country	Percentile Rank (0-100)	Governance Score (-2.5 to +2.5)
Afghanistan	1	-1.62
Bangladesh	16.3	-0.99
Bhutan	75.1	0.83
China	32.5	-0.6
Hong Kong Sar, China	94.7	1.94
India	35.9	-0.52
Maldives	32.1	-0.63
Nepal	28.7	-0.69
Pakistan	12	-1.1
Singapore	98.6	2.18
Sri Lanka	40.7	-0.43
Vietnam	33	-0.58
Sub-Saharan Africa	32.1	-0.6
South Asia	30.2	-0.64
East Asia	45.8	-0.18
OECD	89.8	1.61

Source: World Wide Governance Indicators 2010b

Sri Lanka scores a negative figure of -0.09 from a scale from -2.5 to +2.5, with a percentile rank of 40.7 in the 'Rule of Law' score published by the World Bank. Sri Lanka's score is better than the South Asian regional average but slightly worse than East Asian average (Table 4-9).

In terms of 'Regulatory quality' score published by the World Bank, Sri Lanka scores a negative figure of -0.21 from a scale from -2.5 to +2.5, with a percentile rank of 45.5. Sri Lanka's score is better than the South Asian regional average and also slightly better than the East Asian average (Table 4-10).

Table 4-9: Rule of law for selected countries for the year 2010

Country	Percentile Rank (0-100)	Governance Score (-2.5 to +2.5)
Afghanistan	0.5	-1.9
Bangladesh	26.5	-0.77
Bhutan	58.8	0.11
China	44.5	-0.35
Hong Kong Sar, China	91	1.56
India	54.5	-0.06
Maldives	45.5	-0.33
Nepal	16.1	-1.02
Pakistan	25.6	-0.79
Singapore	93.4	1.69
Sri Lanka	52.6	-0.09
Vietnam	38.9	-0.48
Sub-Saharan Africa	28.4	-0.74
South Asia	35	-0.6
East Asia	50.8	0.02
OECD	90.4	1.5

Source: World Wide Governance Indicators 2010b

Table 4-10: Regulatory quality for selected countries for the year 2010

Country	Percentile Rank (0-100)	Governance Score (-2.5 to +2.5)
Afghanistan	4.8	-1.56
Bangladesh	21.5	-0.86
Bhutan	12	-1.13
China	45	-0.23
Hong Kong Sar, China	99.5	1.89
India	39.2	-0.39
Maldives	37.8	-0.41
Nepal	24.4	-0.74
Pakistan	30.1	-0.6
Singapore	98.6	1.8
Sri Lanka	45.5	-0.21
Vietnam	31.1	-0.58
Sub-Saharan Africa	29	-0.71
South Asia	26.9	-0.74
East Asia	41.1	-0.29
OECD	90.4	1.44

Source: The World Bank, 2010

Although Sri Lanka's governance indicators are weak compared to developed nations and some FDI success stories such as Singapore and Hong Kong, they are better than the South Asian regional average and more or less in par with East Asian regional average. However, a possible downward revision in these scores can be expected due to some recent events that have undermined the democracy of the country (DeVotta, 2010).

The ultimate risk a foreign firm faces due to a poor institutional environment is the risk of expropriation. The threat of partial or total nationalisation is a major institutional and political risk factor that affects FDI inflows. The likeliness of such an action is perceived to be dependent on the intentions of the host government, and the possibility of the government to enact such an intention is largely dependent on institutional factors. For example, if there is a strong constitution which protects property rights and provides freedom from expropriation, then even if the government desires to expropriate assets, such an action would be difficult to implement.

Prior to the introduction of economic reform in 1977, Sri Lanka had a history of nationalisation of private enterprises; local subsidiaries of several international oil companies were nationalised in 1961, and tea and rubber plantations were nationalised under the Land Reform Act in 1972 (The Economist, 2011). Realising the negative impacts of previous nationalist/socialist actions, the Sri Lankan government guaranteed freedom from expropriation under the new constitution adopted in 1978. Thereafter, as per available evidence, except a one expropriation in cement manufacturing industry in 1990 (Hajzler, 2006), foreign investments have been safe until 2011. In 2011, 37 privately owned companies, some of which were foreign-invested firms, were expropriated by the Sri Lankan government through passing a controversial law in the parliament. The bill was termed as The Revival of Under-Performing Enterprises and Under-Utilised Assets Act, and targeted 37 private enterprises that had previously received land or aid from the government. Although the expropriation was justified by the government stating that the firms were either under-utilised or being used for purposes other than those originally envisaged, the criteria and the process of selecting these firms were not explicit. Ironically, some of the expropriated firms were performing well in terms of profitability and growth. Despite widespread opposition from opposition political parties, the island's bar association, trade chambers, Buddhist religious leaders,

and rights activists; the bill was passed as an urgent bill preventing public scrutiny and pre-enactment review (The Economist, 2011; Brown, 2011).

The likelihood of expropriation is perceived to be dependent on the ideologies of the host government - more likely with a left-wing orientation and less likely with a right-wing orientation (Schneider & Frey, 1985). Since Sri Lanka became an independent nation in 1948, the political power in Sri Lanka has swing between two major parties: UNP (United National Party) and SLFP (Sri Lanka Freedom Party), former having a more right-wing orientation than the latter. It would be interesting to know under which regimes these expropriations have taken place, in order to identify the relationship between ideologies of the host government and the likeliness of expropriation.

4.5.7. Domestic stock market development

Sri Lanka's stock market is a relatively small sized market with severe liquidity constraints (Elyasiani, Perera, & Puri, 1998). There are only 267 companies listed in the Colombo Stock Exchange (CSE) (by end of 2011) and the market suffers from a high concentration of market capitalisation in blue chip stocks (Various issues of Colombo Stock Exchange annual reports; Elyasiani, Perera, & Puri, 1998). Therefore, Sri Lanka's less developed stock market can hinder FDI in Sri Lanka.

Sri Lanka's stock market is considered to be highly manipulated (Daily Mirror, 2012) and financial reporting has issues of transparency. Although, insider trading is prohibited on paper (Jaleel & Samarakoon, 2009), insider dealing is explicitly entertained (Jayasinghe, 2012; Perera, 2011). Countries with better legal systems and shareholder protection attract more attention from foreign investors (Claessens, Klingebiel & Schmukler, 2001). Therefore, Sri Lanka needs to improve in these factors in order to attract both portfolio investment as well as FDI inflows.

Moreover, CSE is dominated by local investors and foreign holdings of the CSE at end the end of year 2011 was only Rs. 437 billion (US$ 3.9 billion), representing 20% of the market (CSE). The degree of internationalisation of the stock market is positively correlated with FDI inflows (Claessens, Klingebiel & Schmukler, 2001), and therefore, level of internationalisation in the Sri Lanka's stock market is likely to affect FDI inflows.

4.5.8. Exchange rate

As per Sri Lanka's central bank's official pronouncement, Sri Lanka maintains a floating exchange rate (Rajan, 2010). However, Sri Lanka's central bank's interventions to maintain a fixed peg arrangement with the US$ is not a secret. According to IMF's exchange rate classification Sri Lanka falls into the 'other conventional fixed peg arrangement' category (International Monetary Fund, 2008). Type of exchange rate regime adopted by a country is an important aspect that could affect FDI. The exchange rate regime has an effect on current and future exchange rate levels as well as volatility of exchange rates. All of these could affect FDI (Abbott, Cushman, & De Vita, 2012; Blonigen, 2005; Campa, 1993; Cushman, 1985; Cushman, 1988). Most importantly, exchange rate regime will also determine the degree of undervaluation and overvaluation of currencies, which will certainly have a major effect on FDI flows. Although the effect of different exchange rate regimes on capital flows has been a popular topic, particularly related to Asian financial crisis and global financial crisis of 2008-2009 (Rajan, 2010), its effect on FDI is an understudied area.

The exchange rate regimes can be arranged in a continuum of fixed to floating spectrum according to their relative degrees of flexibility. The available regimes can be categorised into nine regimes, ranging from the most fixed arrangement to the most floating arrangement: Currency union, Currency board, "Truly fixed", Adjustable peg, Crawling peg, Basket peg, Target zone or band, Managed float, and Free float (Frankel, 1999). One of the main advantages of a fix exchange rate regime is that fixing the exchange rate is supposed to reduce the transaction costs and exchange rate risks, and therefore, supposed to encourage trade and investments (Frankel, 1999; Abbott, Cushman, & De Vita, 2012). Along this line, it can be hypothesised that fixed exchange rates can positively influence FDI flows. Fixing of exchange rate would reduce the exchange rate volatility, at least until there is no balance of payment crisis, and therefore, would affect FDI flows indirectly through reducing exchange rate volatility.

To the best of my knowledge, Abbott, Cushman, & De Vita (2012) is the only empirical study that has looked at the effect of different exchange rate regimes on FDI. Abbott, Cushman, & De Vita (2012) has established that both fixed and intermediate exchange rate regimes are better than floating exchange rate regimes for attracting FDI flows. However, the notion that fixed exchange rate regime is preferable for attracting FDI

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inflows may not be a universal truth. This is because if the currency is not freely floated, then the currency can either be undervalued or overvalued. The degree of over/under valuation and how long the country would be capable of maintaining this artificial valuation is likely to have an effect on FDI inflows. For example, if a particular country maintains its currency at a high value through intervention while its currency goes through real depreciation due to high relative inflation, then such a currency is overvalued. If the country is also facing severe balance of payment problems due to excessive balance of payment deficits then the credibility of the fixing of the currency will also be low, and therefore, investors might anticipate a currency devaluation in future. This might deter and delay FDI inflows as investors would abstain in investing just before currency devaluation. Moreover, due to the positive inflation differential, local currency will be increasingly overvalued, and this in turn will make the competitiveness of export goods to fall while competitiveness of imports to rise. This will make the foreign production attractive compared to domestic production, and therefore, FDI inflows will be discouraged while FDI outflows are being encouraged.

Along with the soft-pegged exchange rate, Sri Lanka's large current account deficit and high inflation rates (Central Bank of Sri Lanka, 2010) places an enormous pressure on its exchange rate. Due to this Sri Lanka's real exchange rate has appreciated significantly during the past (Figure 4-4 and Table 4-11), and therefore, Sri Lanka's currency is deemed to be overvalued and this fact will have implications on FDI inflows. It's quite extraordinary that being a developing country, Sri Lanka's real exchange rate has appreciated relative to most of the countries in Asia, even against the developed countries in Asia.

Such an overvalued exchange rate is likely to have devastating impact on exports and thereby export oriented FDI. This negative impact on export oriented FDI can be quite severe given that real exchange rates of South Asian countries have depreciated during the same period.

Figure 4-4: Exchange rate (against US$) in South Asian countries during 1990-2010
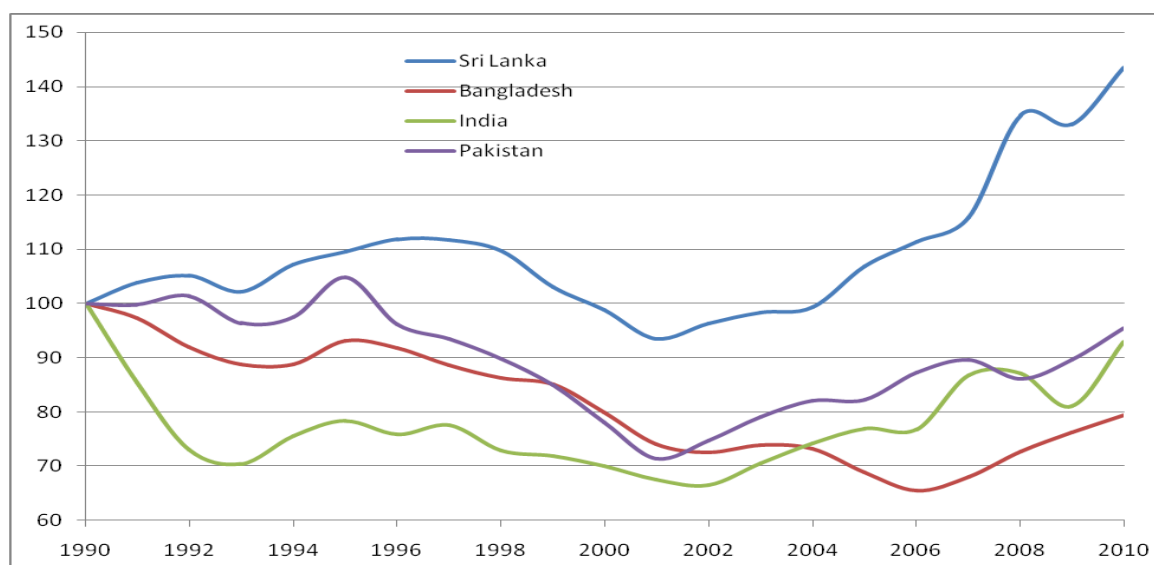
Table 4-11: Real exchange rate appreciation (against US$) in selected countries in Asia during 1990-2010

Country	Real exchange rate appreciation
Sri Lanka	43
India	-7
Pakistan	-4
Bangladesh	-21
China	5
Hong Kong	5
Taiwan	-36
South Korea	-14
Malaysia	12
Singapore	12
Thailand	3
Vietnam	156
Philippines	26
Indonesia	60

The effect of Sri Lanka's real exchange rate appreciation on exports and thereby export oriented FDI is self-evident. During the last decade, Sri Lanka's exports growth rate is significantly low than its imports growth rate (Figure 4-5); a consequence inevitable with an overvalued exchange rate. Due to this, Sri Lanka's trade deficit has been increasing alarmingly. Moreover, Sri Lanka's exports growth rate has been significantly lower than

that of its regional counterparts (Table 4-12). Therefore, Sri Lanka is likely to be losing exports and export oriented FDI to its nearby regions. For example, both Sri Lanka and Bangladesh rely heavily on textile exports and compete with each other for textile exports; therefore, Sri Lanka may be losing textile exports to Bangladesh largely due to its overvalued currency and consequently loosing export oriented FDI as well.

Figure 4-5: Exports and imports performance in Sri Lanka (US$ millions)
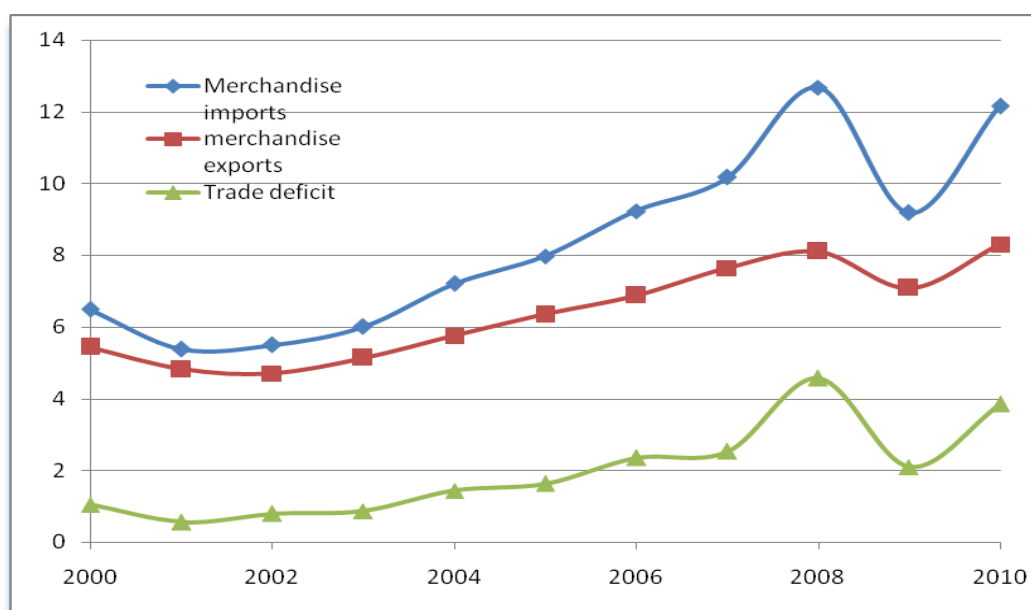
Source: The World Bank, 2012

Table 4-12: Average annual growth rates (%) in exports and imports during 2000-2010 in south Asian countries

Country	Merchandise imports	Merchandise exports
Sri Lanka	8.5	5.9
Bangladesh	13.2	13.0
India	23.2	19.8
Pakistan	16.1	10.2

Source: The World Bank, 2012

Overvalued exchange rate can also have implications on the timing of FDI. Kohlhagen (1977) points out that the timing of FDI will certainly be affected by expected future exchange rate. A foreign investor who is expecting a devaluation of host country's currency would prefer to invest after the devaluation rather than before the devaluation which would enable him to make the investment for a lesser amount of foreign exchange (Kohlhagen, 1977). Therefore, an overvalued exchange rate may signal future devaluations, and therefore, the expected devaluation of the currency could deter, or at least delay, FDI inflows.

4.5.9. Infrastructure

Sri Lanka has serious infrastructure bottlenecks that could discourage FDI into the country. A comparison of the most common infrastructure indicators for Sri Lanka and for its regional counterparts is presented in Table 4-13 and Table 4-14. Sri Lanka's transport infrastructure is very poor. Although Sri Lanka's road density is relatively high compared to regional and international standards (Table 4-13), roads are poorly maintained, and therefore, not in a good condition and roads do not connect remote areas to main markets (The World Bank, 2007). Due to congestion and poor quality of the roads, average travel speed is low at 39 km/h. It is estimated that poor quality roads reduce corporate productivity by as much as 44% (Asian Development Bank, 2008). Moreover, many studies conducted by the Sri Lankan government, ADB and World Bank have found that transport is a major obstacle to start and operate a business, particularly in rural areas (Asian Development Bank, 2008). Sri Lanka's railway system is no better than the road infrastructure and suffers from similar issues due to decades of neglect (Asian Development Bank, 2008).

Sri Lanka has only one international airport, which has capacity and efficiency issues. However, Sri Lanka is currently in the process of constructing a new international airport in Mattala. Direct comparison of Sri Lanka's aviation standards with the standards of other regional airports is not possible due to Sri Lanka's airport not being assessed or ranked by international rating agencies. On the other hand, world airport awards, an entity that assesses airport quality, has ranked several Indian airports, and also ranked Delhi International Airport as the world's most improved airport in 2012. Therefore, it is obvious that India's airports have become superior to Sri Lanka's airport, which would further aggravate Sri Lanka's aviation infrastructure weaknesses.

Table 4-13: Comparison of transport Infrastructure in selected countries in Asia

Country	Roads				Rail lines			Air transport	Sea Transport
	total network	per 1000 sq. Km of land area	Per 1000 Population **	% of paved roads	total network	per 1000 sq. Km of land area	Per 1000 Population**	registered carrier departures worldwide	Container port traffic (TEU: 20 foot equivalent units)
	2000-2009*	2000-2009*	2000-2009*	2000-2009*	2000-2010*	2000-2010*	2000-2010*	2010	2010
Sri Lanka	97,286	1551.36	4.664	81.0	1,463	0.023	0.070	17248	4080000
India	4,109,592	1382.22	3.356	49.5	63,974	0.022	0.052	629991	9752908
Pakistan	258,350	335.14	1.488	65.4	7,791	0.010	0.045	50217	2149000
Bangladesh	239,226	1837.80	1.609	9.5	2,835	0.022	0.019	12182	1356099
Nepal	19,875	138.65	0.663	53.9	n/a	n/a	n/a	2102	n/a
China	3,860,823	413.92	2.885	53.5	66,239	0.007	0.049	2390793	129610695
Hong Kong	2,050	1967.37	0.290	100.0	n/a	n/a	n/a	150961	23699
South Korea	25,554	212.22	1.050	2.8	n/a	n/a	n/a	665	n/a
Mongolia	49,250	31.70	17.870	3.5	1,814	0.001	0.658	7535	n/a
Malaysia	98,722	300.48	3.476	81.3	1,665	0.005	0.059	240468	18247032
Singapore	3,356	4794.29	0.661	100.0	n/a	n/a	n/a	81074	29178500
Thailand	180,053	352.43	2.605	98.5	4,429	0.009	0.064	122066	6648532
Vietnam	160,089	516.30	1.842	47.6	2,347	0.008	0.027	103462	5983583
Philippines	200,037	670.88	2.145	9.9	479	0.002	0.005	169405	4946882
Indonesia	476,337	262.94	1.986	56.9	3,370	0.002	0.014	404547	8371058

Data are for the most recent year available in the period shown.   ** *2010 population figure is used for the calculation*

Source: The World Bank, 2012

Port infrastructure is in better terms compared to other transport infrastructure elements in Sri Lanka. Colombo port is one of the two major hub ports in the southern Indian region[24]. Colombo Port was ranked 28th in the world in terms of container traffic (American Association of Port Authorities, 2010). It handled over four million TEUs of containers in 2010, which is considerable given Sri Lanka's low trade volumes compared to countries like China, India and Singapore. This achievement is a result of high volumes of transhipment business generated due to its strategic location in the Indian Ocean. Sri Lanka is in the process of developing another large port in Hambantota.

Sri Lanka's weak power infrastructure in terms of availability, reliability and costs is another major constraint in conducting businesses. Some parts of the country, particularly rural areas, do not have access to the main power grid, and for areas that access is available, the supply is unreliable and costs are high. It is estimated that access to the main power grid increases corporate productivity by 25% (Asian Development Bank, 2008).

Table 4-14: Power, telecommunication and information infrastructure

Country	Mobile cellular subscriptions (per 100 people)	Internet users (per 100 people)	Electric power consumption v(kWh per capita)	Telephone lines (per 100 people)	Population covered by mobile cellular network %
	2010	2010	2009	2010	2008
Sri Lanka	83.22	12.00	408.48	17.15	95
India	61.42	7.50	570.93	2.87	61
Pakistan	57.14	16.78	449.32	1.97	90
Bangladesh	46.17	3.70	251.63	0.61	90
Nepal	30.69	7.93	90.95	2.81	60
China	64.19	34.38	2631.40	22.00	97
Hong Kong	195.16	71.85	5924.58	61.71	100
South Korea	103.87	82.52	8979.71	58.40	-
Mongolia	91.09	12.90	1410.58	7.01	82
Malaysia	119.22	56.30	3613.53	16.10	92
Singapore	145.45	71.13	7948.91	39.32	100
Thailand	103.62	21.20	2044.83	10.02	38
Vietnam	177.16	27.85	917.57	18.87	70
Philippines	85.67	25.00	593.46	7.27	99
Indonesia	91.72	9.90	590.15	15.83	90

Source: The World Bank, 2012

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[24] India's Jawaharlal Nehru Port is the other major hub port in the southern Indian region

Sri Lanka has one of the highest electricity tariffs in Asia (The World bank, 2007). Due to the unreliable nature of the electricity supply, it is estimated that more than 80% of urban firms own a generator and these firms spend, on average, an equivalent of 12% of their fixed costs to purchase these generators and 3–4 times of the standard costs of electricity to generate electricity from these generators (Asian Development Bank, 2008).

Sri Lanka's telecommunication and information infrastructure has improved a lot during the last decade due to fast expansion in the telecoms network. Sri Lanka's telecoms have grown really fast mainly due to high volume of FDI in the telecommunication sector (Figure 4-6 and Figure 4-7). Access to mobile and fixed-line networks have increased significantly in recent years, but access to internet and internet penetration still remains very low (Table 4-14).

Figure 4-6: Fixed Access Telephone Growth 1990-2012

Fixed Access Telephones Growth 1990- 2012
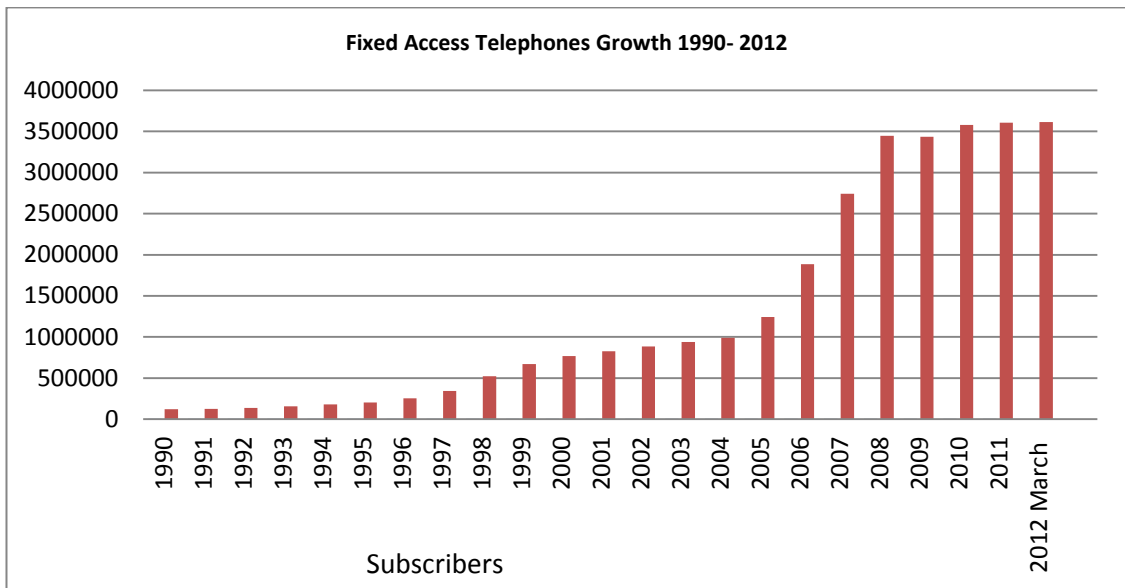
Source: *(Telecommunications Regulatory Commission of Sri Lanka 2012)*

Figure 4-7: Mobile Telephones Growth 1992-2012

Mobile Telephones Growth 1992- 2012
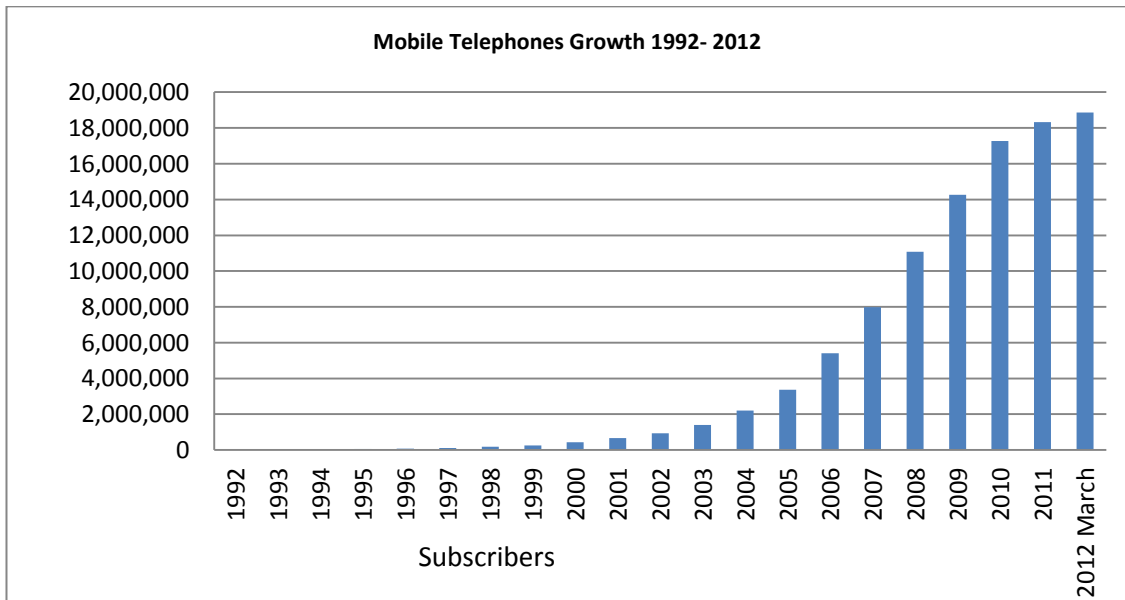
Source: *(Telecommunications Regulatory Commission of Sri Lanka 2012)*

4.5.10. Labour cost and productivity

In 1970s, Sri Lanka was ranked above most of Asian countries such as Philippines, Taiwan, Korea and India in terms of relative labour productivity (Athukorala & Jayasuriya, 2004). Since then Sri Lanka's real wage has declined and this real wage decline has been accompanied by strong labour productivity growths (Athukorala & Jayasuriya, 2004). Therefore, it can be assumed that Sri Lanka has a high relative labour productivity; however, a detailed comparison of relative labour productivities in the region is necessary to validate this assumption.

Even though Sri Lanka is considered to be having low wages (Wijeweera & Mounter, 2008; Athukorala & Jayasuriya, 2004, Table 4-15), low wages itself will not provide a comparative advantage in attracting FDI. This is because countries in Asia and South Asian region in particular have comparable labour costs. Due to data limitations, direct comparison of wage rates in these countries is not possible, however, available evidence point out that labour costs in these countries are comparable (Table 4-15).

Table 4-15: Score for "Compensation costs" in the Global Services Location Index by AT Kearney

	Score for "Compensation costs"
Sri Lanka	7.12
India	6.86
Pakistan	7.08
China	5.74
Malaysia	5.77
Singapore	1.41
Thailand	6.54
Vietnam	7.07
Phillipines	6.87
Indonesia	6.95
United States	0.54
United Kingdom	1.12

Source: Kearney, 2011

However, the advantage of having low wages is somewhat eroded by strict labour regulations present in the country; Sri Lanka has some of the most restrictive labour regulations in Asia and one of the most generous severance pay clauses in the world (The

World bank, 2007). Also, Sri Lanka's industrial sector frequently experience labour unrest mainly due to the presence of strong labour unions often attached to political parties (Central Bank of Sri Lanka, 2002, Teitelbaum, 2007). Workers employed extreme and violent measures in some labour protests and scared off prospective foreign investors and in some situations chased away existing foreign investors (Teitelbaum, 2007).

4.5.11. Regional context and the degree of regional integration

South Asian countries, in total, have a market size of $4.5 trillion (in PPP terms); which ranks the South Asian region fourth in the world after the US, EU and China. South Asian region has a population of 1.5 billion, which accounts for 23 per cent of the total world population (Aggarwal, 2008). Also, South Asian countries have recorded high economic growth rates in the recent past with average growth rates of above 6% (Pravakar, 2006; Aggarwal, 2008; The World Bank, 2011). This massive size and rapid growth of SAARC region can provide high prospects for attracting downstream FDI to the region. However, the low per capita income and high levels of poverty (Guha-Khasnobis & Bari, 2000) associated with this region will to a certain extent undermine the prospects created by size and growth attributes of the region.

In the past, South Asia has only being able to attract a very small amount of FDI, less than 2% of global FDI inflows (Aggarwal, 2008), a performance that is not worthy for a region of its size. South Asia not only has underperformed in terms of attracting FDI from outside countries, but also has performed extremely poor in terms of generating intra-regional FDI (Aggarwal, 2008). Except Sri Lanka and Nepal, which have received considerable amount of FDI from India, none of the South Asian countries have attracted a noteworthy amount of FDI from the regional partners (Aggarwal, 2008).

Majority of intra-regional FDI have flown from India to Sri Lanka; Sri Lanka has received more than 50% of India's outward FDI in the SAARC region (Aggarwal, 2008). India-Sri Lanka FTA has been instrumental for bilateral investment flows between Sri Lanka and India. When the India-Sri Lanka FTA came into effect in 2000 (Aggarwal, 2008), India accounted for just about two per cent of Sri Lanka's FDI stocks (Jayasuriya and Weerakoon 2001 cited in Aggarwal, 2008). Within five years India became the fourth-largest investor (Aggarwal, 2008) and by 2010 India has become the main contributor of the Sri Lanka's FDI inflows (Central Bank of Sri Lanka, 2010). FDI flows

from Sri Lanka to India have also increased significantly. Although this volume of FDI is insignificant relative to India's volume of inward FDI, Sri Lanka has emerged as the largest investor in India from the South Asian region (Aggarwal, 2008).

Apart from generating little intra-regional FDI, South Asia has also not been able to generate considerable amount of intra-regional trade: Intra-SAARC trade (4.5%) has been very small compared to Intra-EU trade (55%), intra-NAFTA trade (61%) and intra-ASEAN trade (25%) (Aggarwal, 2008). Most of South Asian countries are comparable in terms of their resources, skills and capabilities, income levels, and quality and cost of labour (The World Bank, 2011), and therefore, there is little opportunity for these countries to develop comparative advantage among themselves. This in turn will result in low levels of intra-regional trade and investment in the South Asian region (Aggarwal, 2008). Also, vertical FDI is likely to take place between countries with considerable differences in factor endowments (Yeyati, Stein, & Daude, 2002). Furthermore, countries in South Asia are said to have broadly similar production structures and competing exports, a fact which further undermines the potential of generating trade and FDI among the SAARC countries. However, a comprehensive study is warranted to analyse similarities and dissimilarities among South Asian nations in order to investigate whether there are any opportunities to develop comparative advantages among themselves. Such an exercise will be of great value in terms of improving intra-regional trade and investments in the South Asian region.

Sri Lanka is included in several multilateral and bilateral trading agreements which can be utilised to promote export oriented FDI. Sri Lanka is linked to South Asian nations through three multilateral agreements: South Asian Free Trade Agreement (SAFTA), South Asian Preferential Trade Agreement (SAPTA) and South Asian Association for Regional Co-operation (SAARC) Framework Agreement on Trade in Services. Asia-Pacific Trade Agreement (APTA) is the only regional trade agreement that links Sri Lanka to East Asia (Central Bank of Sri Lanka, 2010). Sri Lanka also has bilateral trade agreements with India and Pakistan: India-Sri Lanka Free Trade Agreement (ISFTA) and Pakistan-Sri Lanka Free Trade Agreement (PSFTA) (Central Bank of Sri Lanka, 2010).

Despite being included in several regional trade agreements, Sri Lanka's exports performance to nearby regions has not been significant. In 2010, USA and EU in

combine have accounted for 56% of total exports and Asia has only accounted for 16% of total exports (Central Bank of Sri Lanka, 2010). The only positive export performance in terms of regional trade partners is that India has been the third largest export destination, behind USA and UK (Central Bank of Sri Lanka, 2010). Even though Sri Lanka has not been able to achieve significant exports to its neighbouring countries, Sri Lanka's imports have come mainly from Asian destinations. In 2010, Asian destinations in combine have accounted for 60% of total imports; while India, Singapore, and China contributing 21%, 8% and 7% respectively (Central Bank of Sri Lanka, 2010). In light of these facts, it is apparent that Sri Lanka has not been able to benefit much from its proximity to regional counterparts and regional trade agreements in terms of generating exports while some of its regional partners have clearly benefitted from the proximity and regional ties.

With the possible use of export promotion (EP) strategies, Sri Lanka could capitalise on its regional trade agreements and attract export oriented FDI that target nearby regions. Alternatively, with the use of import substitution (IS) policies, and understandably with lesser trade liberalisation with its nearby regions, Sri Lanka could attempt to attract import substitution FDI from its regional counterparts. Pursuing import substitution FDI from its regional counterparts looks appealing over pursuing export oriented FDI that target regional markets due to Sri Lanka's very low level of exports to regional partners and high level of imports from regional partners. But such a strategy has many negative aspects. First, it is recognised in the literature that, generally, EP strategy is likely to both attract a higher volume of FDI and promote more efficient utilisation thereof compared to IS strategy (Balasubramanyam, Salisu, & Sapsford, 1996). Furthermore, potential EP oriented FDI is considered to be larger than potential IS-induced FDI because IS-induced FDI is limited by the constraints of host-country market (Balasubramanyam, Salisu, & Sapsford, 1996). Therefore, due to the limited market size of Sri Lanka compared to some of its outsized trading partners, opportunity costs of import substitution policy/ trade restrictions is very high; Sri Lanka will lose the prospect of grabbing slices of larger export markets of its regional partners by trying to generate import substitution FDI from its regional imports which cater to a comparatively small internal market. Export promotion policies are useful in providing incentives to MNCs to locate facilities in the country and to export to larger regional markets. Contrastingly, import substitution

policies would make the intermediary goods expensive, and therefore, make the exports less competitive (Dunning & Lundan, 2008).

Majority of Sri Lanka's imports are low technology products; consumer and intermediate goods accounts for 78% of total imports and intermediate goods imports are dominated by basic low technology products (Figure 4-8). Therefore, it can be reasonably assumed that majority of the imports that come from regional trading partners are low technology products. Rajapaksha & Arunathilake (1997) has also concluded that majority of Sri Lanka's trade in the SAARC region is limited to basic consumer goods. If this is the case, import substituting FDI will take place in low technology industries. FDI in low technology products is likely to generate little technology spillovers (Malik, 2010), and therefore, potential spillovers of IS-induced FDI in Sri Lanka is likely to be limited.

Figure 4-8: Imports by commodities for the year 2011
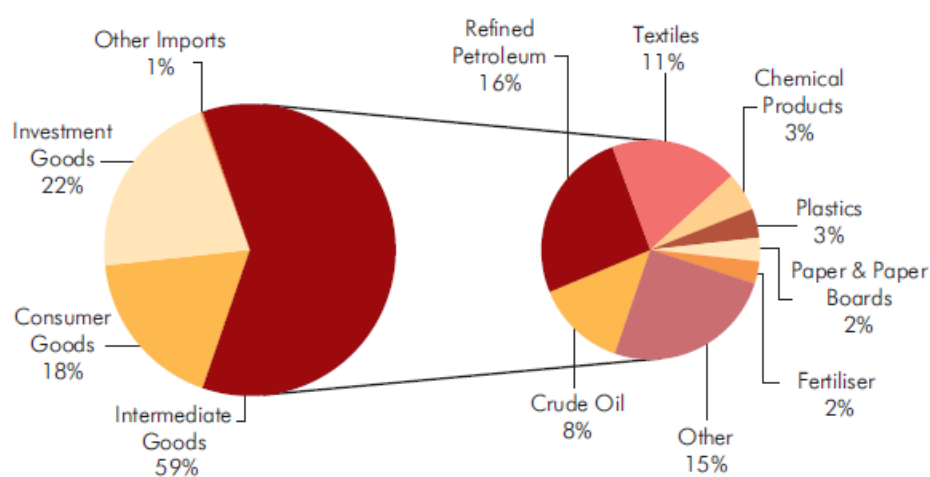
Source: Central Bank of Sri Lanka, 2011

Also, EP induced FDI is considered much more efficient in promoting growth since such FDI is allowed to operate in a distortion-free environment (Balasubramanyam, Salisu, & Sapsford, 1996). Since IS oriented strategy creates distortions, it provides widespread incentives for rent seeking and directly unproductive profit seeking activities (Balasubramanyam, Salisu, & Sapsford, 1996), which has resulted in large corrupted public sectors in some developing countries, as in the case with Sri Lanka (Pravakar, 2006). Also, free play of market forces, which is associated with EP strategy, enables the

country to develop long term sustainable competencies through the allocation of resources on the basis of comparative advantage.

Due to above reasons, pursuing EP-oriented FDI rather than import- oriented FDI in the region is likely to be more beneficial for Sri Lanka. Along these lines, more trade liberalisation within the region can be advocated. However, whether such a trade liberalisation would promote FDI in Sri Lanka will largely depend on Sri Lanka's location advantages and comparative advantages relative to other member countries as well as the potential of the region as a whole to generate market seeking FDI opportunities.

Sri Lanka is situated at the crossroads of major shipping routes connecting South Asia, Far East and the Pacific with Europe and the Americas (Board of Investment Sri Lanka, 2011). Sri Lanka also has the advantages of being adjacent to India, close to Southeast Asia and the Middle East, and not too distant from China. Therefore, MNCs that target these markets have the option of locating their operations in Sri Lanka. Moreover, such MNCs could also gain preferential trade access to Asian markets via regional and bilateral trading agreements such as SAFTA, SAPTA, APTA, ISFTA, and PSFTA. The only downside of Sri Lanka's geographical location is that Sri Lanka has India as the only adjoining country while other countries in South Asia have contiguous neighbours besides India (Dash, 1996). Undeniably, this fact would make Sri Lanka a bit uncompetitive in terms of attracting MNCs that target other South Asian markets.

Empirical evidence suggests that, following accession to an RIA, geographic distance between the home and the host country and the geographical location of the host country within the region becomes more important determinants for attracting inward FDI (Feils & Rahman, 2011; Velde & Bezemer, 2004). Moreover, Velde & Bezemer (2004) have shown that countries located close to the largest country or close to the core of the region benefit more from being part of a region. Therefore, being included in regional RIAs is likely to boost the strength of Sri Lanka's favourable geographical location.

FDI can be categorised into two types according to the motives of MNCs: downstream FDI and upstream FDI. FDI in search for increased sales is defined as downstream FDI and FDI in search of increased production/sourcing efficiency is defined as upstream

FDI. In general, downstream FDI is attracted by the regions that have largest market potential and upstream FDI is attracted by countries with low-cost labour, greater labour productivity and better institutional efficiency (Feils & Rahman, 2011). Sri Lanka's small internal market may limit the potential of downstream FDI. However, both the literature and empirical studies suggest, subsequent to regional integration, market size of an individual member becomes less important as a determinant of FDI inflows (Buckley et al., 2001; Feils & Rahman, 2011). Following accession to an RIA, a country's labour cost becomes more important in attracting FDI (Buckley et al., 2001)[25]. Therefore, regional integration would provide an opportunity for Sri Lanka to attract MNCs that want to serve other regional markets. The imperative question is whether MNCs would want to locate their operations in Sri Lanka instead of locating their operations inside the country where their target market is. For example, why would a MNC that target Indian market want to locate their operation in Sri Lanka instead of locating in India itself? This question cannot be answered without a comprehensive comparison of location characteristics, and comparative advantages of Sri Lanka with those of other countries in the region.

Therefore, Sri Lanka might have a good opportunity to attract upstream FDI due to its cheap but productive labour capital. However, since most of the South Asian countries have comparably low wage rates, Sri Lanka will have to have a considerable advantage in labour productivities over other countries in the region in order to become the prime candidate for upstream FDI. However, as it was highlighted earlier, Sri Lanka has a poor institutional infrastructure, which would be a constraint in attracting upstream FDI. Nevertheless, other countries in the region are at least not better than Sri Lanka in terms of institutional infrastructure. Therefore, improvements in institutional efficiency are crucial for Sri Lanka, in order to stay ahead among other South Asian countries and to reach standards of other Asian countries.

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[25] However, rather ironically, Feils and Rahman (2011) have shown that, following accession to an RIA, labour cost efficiency becomes less important in attracting intra-regional FDI.

4.6. Concluding Remarks

This chapter provided a preliminary analysis of FDI in the context of Sri Lanka. Sri Lanka had been considered, and continued to be considered, as a country with excellent prospects for economic development. However, Sri Lanka's economic performance and performance in FDI have so far failed to achieve their potential. FDI inflows have been recently dominated by FDI into services. Manufacturing sector continues to attract diminishing attention from foreign investors while agriculture sector remains largely unexplored by foreign investors. Manufacturing FDI in Sri Lanka is narrowly concentrated in a few sectors with little participation in technical intensive sectors. Furthermore, export oriented manufacturing FDI has largely taken place in low-end export oriented industries that are largely labour intensive. Although FDI in labour intensive operations with less advanced technology can have a larger contribution to the host country's employment, these operations do not attract advance technologies to the host country and make limited contribution to the capability development in human capital (United Nations, 1992).

After observing the industrial structure, composition of trade and composition of FDI in third and fourth chapters, it can be comprehended that Sri Lanka is still in the stage one of the investment development path (IDP). While almost all exports are generated in resource and/or labour intensive sectors (with low technology intensity), majority of imports takes place in consumer goods sectors and low technology intensive sectors. Inward FDI flows have been modest and have gone into labour or resource intensive manufacturing sectors and market oriented services sectors. Annual outward FDI flows have been negligible, if not zero.

Civil war, which was considered as one of the main barriers to economic development and to attract FDI, ended in 2009. This has given renewed hopes for Sri Lanka. Sri Lanka's impressive human capital indicators remain as one of the key strengths but Sri Lanka has yet failed to capitalise on this strength. Past political instability, poor infrastructure, weak institutional factors, lower level of industrialisation and weaknesses in export structure, ineffective and weak policy environment, and poorly managed exchange rate policies appear to be major issues in terms of boosting future FDI inflows. Regional context within which Sri Lanka operates pose both opportunities and

challenges. However, it appears that regional integration within the South Asian region has yet failed to generate any tangible benefits to Sri Lanka, in general, and in terms of boosting FDI flows.

Chapter 5 : Civil War and FDI –A Time Series and a Panel Data Study

5.1 Introduction

FDI is subject to host country political risk in addition to economic factors, e.g. market size, trade and trade-related factors, labor costs, tax and exchange rates, commonly identified in the literature (Chakrabarti, 2001; Moosa, 2002). Political risk stems from various political dynamics in the host country, including violence such as wars, riots, disorders, labor unrests; stability of the host government; attitude of the host government; and changes in the rules and regulations governing FDI.

Civil war is a major source of political instability of a country and, is likely to discourage FDI. Due to a war that prevailed for three decades, Sri Lanka has gone through a considerable degree of variation in conflict intensity, periods with war, without war, and with ceasefire arrangements. It as a case study provides an excellent opportunity to analyze the implications of war on FDI inflows.

This chapter presents two econometric studies conducted to determine the effect of the civil war on FDI inflows to Sri Lanka. By employing time series and panel data econometric analysis, these two econometric studies investigate the degrees of impact of war on FDI, as a whole, FDI in manufacturing and FDI in services and manufacturing FDI by market-orientation. First study employs time series econometric analysis based on three series of FDI inflows: annual gross FDI inflows to Sri Lanka during the period from 1980 to 2012, and annual net FDI inflow (increase in realised FDI stock) to manufacturing sector and service sector during the period from 1984 to 2012. Second study employs a panel study based on annual sector wise net FDI inflows (increase in realised FDI stock) to manufacturing industries during the period from 1984 to 2012.

5.2 Effect of War on FDI

Politically instability, i.e. high degree of political risks, of a host country is considered as one of the key concerns of potential foreign investors (Walsh & Yu, 2010). War and political violence (including civil war, uprisings and terrorist attacks) is a major source of political instability of a country. War and political violence in a country is likely to discourage inflows of FDI, and therefore, should have a negative relationship with FDI inflows. Some countries and regions that are associated with high level of political conflict have performed very badly in terms of attracting FDI. For example, despite having rich natural resources, competitive labour and large population (markets), Muslim countries in the developing world are among the most unpopular destinations for FDI mainly due to their political instability[26] (Rahman, 2010).

Civil war can degrade the investment climate of the host country and increase the risk to foreign investors. It can affect FDI both directly and indirectly. Direct effects capture the possibility of destruction and damage to physical and human assets of FDI due to violence. In addition to the loss of value to the assets, these damages can lead to time delays, revenue losses due to stock outs, missed opportunities, reputation damage and even complete close down of production lines, plants or firms (Jain & Grosse, 2009).

Indirect effects can take many forms and be more widely spread than direct effects (Czinkota, Knight , Liesch, & Steen, 2010). From the perspective of business, profitability of MNCs can be adversely affected by war due to potential damages, uncertainty and extra costs, such as costly insurance covers, extra security measures, and business continuity plans. Conflicts can negatively affect the efficiency of operations and efficiency of resource use and allocation in businesses; for example, logistic issues due to extra security measures and travel restrictions, interruptions to operations due to curfew and emergency situations. Moreover, host government can bring in new regulations, policies and procedures to counter potential threats, which could obstruct smooth business operations and increase transaction costs (Czinkota et al., 2010). For example, many governments have increased their scrutiny of shipping containers and have implemented new security programmes to safeguard ports and

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[26] 57 Muslim countries received only 2.0 per cent of the world's total FDI in 2003

airports from terrorism, all of which have lower the efficiency of international shipping and logistics (Czinkota et al., 2010). Firms may also have to incur additional costs in complying with enhanced compliance and reporting requirements. Disruptions in local operations can cause shortages or delays of critical inputs and lead to interruptions in international supply chains (Czinkota et al., 2010).

From the perspective of demand, civil war can cause decline in buyer demand which can have an adverse effect on market seeking FDI that cater to host country market. Conflict related acts can create fear, panic and uncertainties which can negatively affect demand for both consumer and industrial goods/services (Czinkota et al., 2010).

War can also have a significant negative effect on the business environment in which MNCs operate. There is a general consensus in the literature that war is the reason why some countries fail to sustain adequate economic growth (Abadie & Gardeazabal, 2003; Arunatilake, Jayasuriya, & Kelegama, 2001; Barro, 1991; Blomberg, Hess, & Orphanides, 2004). For example, in their attempt to assess the economic costs of War in Sri Lanka for the period 1984-1996, Arunatilake, Jayasuriya, & Kelegama (2001) shows that WAR has contracted GDP growth rates in Sri Lanka significantly. Also, extra military expenditure by the government can crowd out expenditure in infrastructure which will have a negative impact on FDI inflows. In the context of Sri Lanka, Arunatilake, Jayasuriya, & Kelegama (2001) have shown that military expenditure has crowded out government investment significantly. Quality of labour force can be affected due to displacements, disability, death and emigration caused by internal conflicts (Arunatilake, Jayasuriya, & Kelegama, 2001). Complicating this further, MNCs may be hesitant or find it difficult to post their staff to conflict prone areas (Czinkota et al., 2010). MNCs will have to duly compensate employees when they are posted in conflict prone areas, which can increase labour costs considerably. Furthermore, host government may carry out extra scrutiny on people entering the country and even tight immigration policies for security reasons (Jain & Grosse, 2009; Enderwick, 2001). This can lead to delays in issuing visas to foreigners and sometimes intimidate visiting foreign business people. These HR related issues are likely to have an effect on operations of foreign businesses and also on potential FDI. War may also weaken other institutional

dimensions. Presence of internal conflict can indirectly contribute to higher levels of corruption (Arunatilake, Jayasuriya, & Kelegama, 2001), deterioration of rule of law, fall in transparency and governance, and curtailment of civil liberties (Pradhan, 2001), all of which could have a negative impact on FDI inflows (Busse & Hefeker, 2007).

Empirical studies that give explicit attention to the effect of war/conflict on FDI flows are in short supply (Czinkota et al., 2010), possibly due to researchers taking the negative effect of war/conflict as granted. On the other hand, there exist a handful of studies exploring the effects of broad political instability which normally encapsulates war/conflict as a sub-component. These studies have largely relied on composite measures of political instability published by various risk reporting agencies. These empirical studies, both surveys and cross-country studies, have produced mix results (Walsh & Yu, 2010; Agarwal, 1980). Some have found a negative relationship between political instability and FDI inflows (Root & Ahmed, 1979; Schneider & Frey, 1985; Suliman & Mollick, 2009; Brada, Kutan, & Yigit, 2006) while some have found that there is little or no relationship between these two variables (The World Bank, 1998; Wheeler & Mody, 1992; Bennett & Green, 1972; Green and Cunningham, 1975; Kobrin, 1976; Asiedu, 2002).

Bennett & Green (1972), investigating the effect of political instability on direct investments by US firms in marketing activities in forty-six countries, found that political instability do not discourage such FDI flows[27]. Kobrin (1976), investigating the effect of economic, social, and political aspects of the host country environment on investments of 187 major US manufacturing firms, found a strong relationship between market-related variables and FDI but failed to find any relationship between FDI and variables based on political event data. (Suliman & Mollick, 2009), investigating the determinants of FDI in 29 sub-Saharan African countries from 1980 to 2003, find that the incidence of war exerts strong negative effects on FDI inflows. Brada, Kutan, & Yigit (2006), examining FDI flows to the transition economies of Central Europe, the Baltics and the Balkans, report that while transition economies unaffected by conflict and political instability received more FDI flows than comparable west European countries,

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[27] Bennett & Green (1972) use a 7-point scale, which was constructed by Feierabend & Feierabend (1966) by assigning weights (from 0 to 6) to 30 types of politically destabilising events.

Balken countries, due to conflict and instability, received less FDI than comparable west European countries.

Inconsistencies in these research outputs can be due to various reasons. These studies have employed different kinds of data and methodologies and also have used different definitions for political instability (Agarwal, 1980). Also, the risk faced by MNCs in different industries and also from different home countries will vary according to the context of the political instability (Agarwal, 1980). Furthermore, some countries offer various incentives and guarantees for the investments in order to mitigate the effect of political risk, and effects of such schemes are usually not incorporated in these research studies (Agarwal, 1980).

Moreover, most of these studies have looked at the impact of broad political instability variable which encapsulates many dimensions of political instability and many studies rely on composite measures of political instability published by various risk reporting agencies. Use of broad measures of political instability can bias results due to various reasons. First, each dimension of political instability can have different effects on FDI. For example, risk of changing policy environment and risk of potential damages from a civil war are likely to have completely different implications on incoming FDI. Most of the policy environmental factors usually change slowly, and therefore, may have a limited explanatory power to explain inter-temporal variations of FDI flows; in contrast, civil war can vary fast, and therefore, are likely to be more important in explaining inter-temporal variations of FDI flows (Fielding, 2004). Also, cross section studies that look into the relationship between a composite measure of different dimensions of political instability and FDI flows are likely to generate bias results. Moreover, slope coefficients of political instability variable in cross country studies are the average effect of political instability on FDI flows across all the countries in the sample, and therefore, the effect of various types of political instability on various countries/contexts become ambiguous (Fielding, 2004).

One way to overcome these issues and to understand the true effect of civil war on FDI is to conduct time series studies and panel data studies on a country that have gone through a considerable degree of variation in conflict intensity. To this end Sri Lanka becomes a valuable case study to analyse the impact of political conflict on FDI flows.

Sri Lanka as a case study provides an excellent opportunity to analyse the implications of war on FDI inflows because intensity of war in Sri Lanka has varied significantly during different timeframes, consisting of periods with war, without war, and with ceasefire arrangements. As guided by the literature and past empirical studies, it is hypothesised that civil war negatively affects FDI inflows.

5.3. Impact of Civil War on FDI by Sector

War can increase the risks to investments and undermine the host country location advantages. Therefore, MNCs might opt for alternative forms of serving the host market such as exporting or licensing over FDI or completely avoid serving the host country. However, are manufacturing and services FDI affected differently by civil war? Do both export-oriented FDI and market-seeking FDI react to civil war in the same way? Studies investigating the relationship of civil war to different sorts of FDI or FDI in different sectors is almost non-existent (Czinkota et al., 2010; Driffield, Jones, & Crotty, 2013). But there are reasons to believe that the determinants of services FDI might differ from those of manufacturing FDI and determinants may also vary by the market-orientation of manufacturing FDI.

The degree to which FDI being substituted or avoided can largely depend on type of FDI (whether horizontal or vertical), characteristics of the investment (size and degree of sunk cost) and characteristics of products/services. Foreign firms may be less inclined to undertake FDI in conflict zones in sectors that need large investments and the degree of sunk costs associated with the investments is high, and may substitute FDI with alternative forms or may completely avoid it. Therefore, FDI in different sectors can have different sensitivities to conflict.

As is established in the literature, firms may prefer undertaking FDI over exporting when marginal costs of exporting are high compared to fixed costs of FDI (Greenway & Kneller, 2007) but the threshold required to shift from exports to FDI may vary by sector in the presence of war. Due to distinctive characteristics of services, mainly simultaneity, inseparability and perishability[28], most services are usually non-tradable or very costly to trade and are location bound (Brouthers & Brouthers, 2003; Dunning, 1989). These characteristics and shorter life cycle of services therefore imply that service FDI is not easily substituted by other forms. If service firms intend to service countries in conflicts, they have to undertake FDI. Service FDI also tend to require substantially lower levels of

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[28] Simultaneity means that services tend to be produced, delivered and consumed simultaneously. Inseparability refers to the impossibility of separating service production from service consumption and difficulty of separating service from the service provider. Perishability signifies that service cannot be inventoried like products. These characteristics tend services to be normally geographically linked, i.e. the service firm needs to be present at the time of production and consumption.

financial resource commitments than manufacturing (Brouthers & Brouthers, 2003). Therefore, I posit that service FDI is less sensitive to conflict than manufacturing.

Conflict may also affect manufacturing FDI differently by market-orientation. For market-seeking FDI, i.e. when FDI is undertaken to cater to local market, both the FDI operation and target market are prone to conflict; however, the potential damage is completely localized. In contrast, when export-oriented FDI is undertaken in a conflict zone, the FDI operation and the target market are in different locations. Disruption in the conflict zone can have a wider impact on other markets. With shortening of lead times particularly due to practices such as just-in-time manufacturing, lean manufacturing, and made to order strategies, locating part of global supply chain in a conflict zone increase vulnerability to the potential disruptions to the entire global operations, something which manufacturing MNCs cannot afford (Czinkota et al., 2010; Enderwick, 2001; Jain & Grosse, 2009). Conflict can increase uncertainty and amplify inherent risk that entrepreneurs face, and therefore, can divert economic resources from productive use, and thus, can decrease factor demands (Colino, 2012). These demand uncertainties can have a major impact on export-oriented manufacturing FDI while having a limited impact on market-seeking manufacturing FDI. Furthermore, a firm undertaking offshore export-oriented manufacturing may have several location options that provide similar locational benefits, and therefore, may be relatively convenient in locating the manufacturing operations in a conflict free alternative location. In contrast, when market-seeking manufacturing FDI is substituted by exports, a firm may have to incur additional marginal costs (tariff/transportation costs). Therefore, export-oriented FDI is likely to be more sensitive to war than market-seeking FDI.

Following from the above discussion, the following hypotheses are derived. These hypotheses will be tested using Sri Lanka's experience:

1) Civil war has higher level of impact on manufacturing FDI than service FDI
2) Civil war has higher level of impact on export-oriented manufacturing FDI than market-seeking FDI.

5.4 Time Series Study Based on Aggregate FDI Inflows and FDI in Manufacturing and Services

5.4.1 Methodology

This econometric study employs three sets of time series analysis based on annual gross FDI inflows to Sri Lanka during 1980-2012, and annual net FDI inflows to manufacturing sector and service sector during 1984-2012[29]. Each FDI series will be regressed against civil war variables and an appropriate set of control variables. Three different proxies are used to represent civil war: WAR, CONFLICT and NKILL. WAR is a binary variable identifying whether an internal conflict was present in Sri Lanka. Suliaman & Mollick (2009) and Kravis & Lipsey (1982) have also used such dummy variable to capture the presence and absence of war. CONFLICT includes two sets of dummy variables, C1 and C2, which are constructed from the conflict intensity variable published by Uppsala Conflict Data Program (UCDP) and Centre for the Study of Civil Wars, International Peace Research Institute, Oslo (PRIO). C1 indicates the presence of minor war and C2 indicates the presence of major war. NKILL is also a measure of conflict intensity and is the number of conflict related deaths reported by National Consortium for the Study of Terrorism and Responses to Terrorism (START). In the extant empirical literature, 'deaths per year' is widely used and is considered as an appropriate measure to gauge the civil war severity (Murdoch & Sandler, 2002; Drakos, 2011 and Hicks & Jeff, 2009).

Guided by the existing literature on FDI determinants and on the availability of time series data for Sri Lanka, four measures of control variables are selected: market growth, interest rate, trade openness and infrastructure. Market size is expected to positively affect FDI. Many studies use real GDP growth rate to control for market demand of the host country (Chakrabarti, 2001; Suliman & Mollick, 2009). Three different growth rates are used in this study in order to relate to different types of FDI: GDP growth rate (GR), growth rate in value added in manufacturing (GRM) and growth rate in value added in services (GRS) are used for total FDI, FDI in manufacturing and FDI in services, respectively.

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[29] Annual gross FDI inflows are realized FDI reported at the end of each year. Since sector-wise FDI inflows are not reported, sector-wise FDI for each year were taken as the difference between cumulative realized FDI figure for that year and previous year. Therefore, the FDI figure for manufacturing and services considered here is the net FDI (net of any divestments or any capital erosions due to negative profits) rather than gross FDI.

Lower real interest rates (RIR) can augment investment and increase the profitability, therefore, could augment FDI. Real interest rates can also be used as an ancillary variable to measure overall macroeconomic stability (Erdal & Tatoglu, 2002). Macroeconomic stability can lead to higher sustainable growth rates, smaller fiscal and trade deficits, all of which again can have a positive effect on incoming FDI (Busse & Hefeker, 2007). Therefore, real interest rate is included as a control variable. I expect a negative relationship between real interest rate and FDI (Erdal & Tatoglu, 2002).

Trade openness (TO) is another widely used control variable (Chakrabarti, 2001; Suliman & Mollick, 2009) and is expected to have a positive or negative relationship with FDI depending on whether FDI and trade substitute or complement each other. It is often measured by trade intensity. Since majority of empirical studies supports for a positive relationship between trade openness and FDI (see, for example Erdal & Tatoglu, 2002; Suliman & Mollick, 2009; Noorbakhsh, Paloni, & Youssef, 1999; Abbott, Cushman, & De Vita, 2012), I expect to see a positive relationship between FDI and TO.

Finally, telephone density (TP) measured by telephone lines per 100 people is included as a measure of the level of infrastructure. Previous studies on FDI determinants have highlighted the importance of level of infrastructure for incoming FDI, and majority of studies have used telephone density as a proxy for the level of infrastructure in the host country (Suliman & Mollick, 2009). Description and sources of variables used in this time series study is given in Table 5-1. Table 5-2 presents descriptive statistics.

The following three initial specifications will be estimated with suitable estimation methods.

$$FDI \quad = f \,(X, GR, RIR, TO, TP) \qquad 5.1$$

$$FDIS \quad = f \,(X, GRS, RIR, TO, TP) \qquad 5.2$$

$$FDIM \quad = f \,(X, GRM, RIR, TO, TP) \qquad 5.3$$

Where, X is the conflict related variable which is either WAR, CONFLICT or NKILL.

Table 5-1: Description of variables used in the Time series Study for Sri Lanka

Variable	Description	Broad measure	Source
FDI	Gross FDI Inflows to Sri Lanka	FDI	UNCTAD, 2012
FDIM	Net FDI inflows (increase in realised FDI stock) to manufacturing sector	FDI	Board of Investment of Sri Lanka and central bank annual reports
FDIS	Net FDI inflows (increase in realised FDI stock) to service sector	FDI	Board of Investment of Sri Lanka and central bank annual reports
GR	Growth of GDP (in constant prices)	Host market growth	UNCTAD, 2012
GRM	Growth of value added (in constant prices) for manufacturing sectors	Host market growth	World Development Indicators and Central Bank of Sri Lanka, 2012
GRS	Growth of value added (in constant prices) for service sector	Host market growth	World Development Indicators and Central Bank of Sri Lanka, 2012
RIR	Real interest rate (lending interest rate adjusted for inflation as measured by the GDP deflator)	Interest rate	World Development Indicators and International Monetary Fund, 2011
TO	Trade openness represented by trade intensity, i.e. total trade (imports plus exports of goods and services) as a percentage of GDP	Trade openness	UNCTAD, 2012
TP	telephone density measured by telephone lines per 100 people	Infrastructure	World Development Indicators and Central Bank of Sri Lanka, 2012
War	A binary variable representing whether an internal conflict was present in Sri Lanka. 0 No war 1 War	Presence of conflict	Compiled using various sources including central bank annual reports, newspapers and journals (Arunatilake, Jayasuriya, & Kelegama, 2001; Duma, 2007)
CONFLICT	A variable representing whether an internal conflict was present in Sri Lanka and the intensity of the conflict C1=1 if minor war (between 25 and 999 deaths) and zero otherwise C2=1 if major war (at least 1,000 deaths) and zero otherwise	Presence of conflict /severity of conflict	Uppsala Conflict Data Program (UCDP)/Centre for the Study of Civil Wars, International Peace Research Institute, Oslo (PRIO) Armed Conflict Dataset
NKILL	Number of total confirmed fatalities (killed) in conflict related incidents (in thousands)	Severity of conflict	National Consortium for the Study of Terrorism and Responses to Terrorism (START). (2011). Global Terrorism Database [Data file]. Retrieved from http://www.start.umd.edu/gtd

Table 5-2: Descriptive statistics for variables used in time series study

Variable	Mean	s.d.	Min	Max	Correlation Matrix									
					WAR	C1	C2	NKILL	GR	GRM	GRS	RIR	TO	TP
FDI	236.986	254.599	17.9	956	-0.25	-0.30	0.05	-0.36	0.49			0.01	-0.34	0.90
FDIS	162.952	234.363	-77.732	965.669	-0.38	-0.30	-0.11	-0.45			0.43	-0.08	-0.35	0.81
FDIM	58.860	68.153	-47.455	265.921	-0.55	-0.13	-0.12	-0.31		0.11		-0.23	-0.09	0.53
WAR	0.667	0.479	0	1		-0.05	0.55	0.64	-0.37	0.09	-0.38	0.22	-0.03	-0.31
C1	0.212	0.415	0	1			-0.72	0.10	-0.17	0.00	-0.22	-0.17	-0.28	-0.30
C2	0.515	0.508	0	1				0.26	-0.12	0.07	-0.04	0.34	0.35	-0.05
NKILL	0.501	0.504	0	1.822					-0.26	0.27	-0.24	-0.06	-0.10	-0.53
GR	5.092	1.926	-1.37	8.3								-0.12	-0.01	0.38
GRM	6.198	3.208	-4.162	12.254								-0.11	-0.01	-0.21
GRS	5.470	2.104	-0.517	8.601								-0.20	0.16	0.27
RIR	3.838	4.487	-5.944	12.742									0.23	-0.12
TO	70.921	9.647	49.149	88.637										-0.44
TP	4.754	5.970	0.359	17.155										

In order to avoid spurious regression, it is important to identify the order of integration of each variable prior to estimating the models. Except the civil war variables, which are dummy variables, all other variables are of time series nature, therefore, can be potentially nonstationary. All variables are tested for unit roots. The results of Augmented Dickey-Fuller (ADF) tests are reported in Table 5-3.

Table 5-3: Results of the Unit root tests (Augmented Dickey-Fuller tests)

	Reported test statistic (with two lags)		Reported test statistic (with one lags)	
	Level	First Difference	Level	First Difference
FDI	1.107	-4.494***	0.044	-6.447
FDIM	-1.814	-3.766***	-2.679*	-6.526***
FDIS	0.500	-3.799***	-1.148	-7.580***
GR	-2.120	-4.066***	-2.934**	-6.104***
GRM	-1.950	-3.651***	-2.560	-5.860***
GRS	-2.141	-4.050***	-3.202**	-6.381***
RIR	-2.329	-4.313***	-4.486***	-6.799***
TO	-0.874	0.0827*	-1.153	-3.963***
TP	0.209	-2.614*	-0.818	-2.842*
WAR	-3.394**	-3.270**	-2.804*	-4.084***
C1	-2.360	-4.318***	-2.604*	-5.324***
C2	-2.133	-2.841*	-2.424	-4.861***
NKILL	-1.530	-2.534	-1.603	-4.724***

Results of the unit root tests indicate all three dependent variables, i.e. FDI, FDIM, and FDIS are integrated of order one, I (1). All explanatory variable are either stationary, I (0), or integrated of order one, I (1). Since some of the variables are integrated of order one, statistically it would be more appropriate to test these variables in their first difference form than in their levels. This is because direct application of ordinary least squares regression to non-stationary data produces regressions that are misspecified or spurious in nature (Engle & Granger, 1987). However, the process of differencing variables to achieve stationarity results in loss of long-run information in the data (Ang, 2007). An alternative approach to using first difference in a regression model is using Error Correction Model (ECM) and this model can be used to capture both short term and long term effects of explanatory variables. In order to use ECM, first, we have to establish whether there is co-integration among these variables. To test for co-integration among these variables, both Engle-Granger residual base approach and Johansen co-integration test were employed.

Since WAR is a dummy variable, inclusion of the variables in the Johansen co-integration test was not possible due to collinearity between error and the dummy variables. However, we can carry out the co-integration test for non stationary time series to detect co-integration relationship, and then safely plug in other I (0) variables into the model and still expect the identified co-integration relationship to persist (Charemza & Deadman, 1997). Therefore, the Johansen co-integration test was conducted for the rest of the variables except WAR, for example, co-integration test for specification 5.1 was carried out for variables FDI, GR, RIR, TO and TP. For all specifications, Johansen co-integration test was carried out using a lag level of one, which was suggested by Schwarz Bayesian Criterion (SBC).

Results of the Johansen co-integration tests are presented in Table 5-4. For all three specifications, as per the Trace test, null hypothesis of no co-integration (r=0) can be rejected at 5% significant levels but null hypothesis of at most 1 co-integration relationship (r ≤ 1) cannot be rejected[30]. Therefore, test results indicate that there is one co-integration relationship in all three specifications.

Alternatively, Engle-Granger residual based approach was also used to test co-integration between these variables. For co-integration to be present, there should be a linear combination of FDI, GR, RIR, TO, and TP that is stationary. According to Engle-Granger residual based approach, the residuals from the regression of FDI on GR, RIR, TO, and TP were tested for stationarity using ADF test. Student-t ratio depends on the number of coefficients estimated and there are four coefficients to be estimated in this co-integration test. Therefore, we cannot use critical values from the standard DF/ADF tables where the number of coefficients estimated is assumed to be zero; instead we have to use critical values from the tables for positive number of estimated coefficients (Charemza & Deadman, 1997). Similarly, this co-integration test was repeated for specification 5.2 and specification 5.3.

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[30] Max-eigenvalue test also produce similar results for specification 5.1 and 5.2. For specification 5.3, null hypothesis of at most 1 co-integration relationship (r ≤ 1) can be rejected, but very marginally (Max-eigenvalue statistic is almost equal to 5% critical value). Therefore, Max-eigenvalue test result can be fairly approximated to indicate a 1 co-integration relationship for specification 5.3.

Table 5-4: Results of the Johansen co-integration test

			Null Hypothesis: hypothesised number of co-integrating equations		
			None	At most 1	At most 2
For specification 4.1: co-integrating equations among FDI, GR, RIR, TO, and TP	Eigenvalue		0.784983	0.604817	0.379852
	Trace test	Trace Statistic	87.82164	44.78458	18.78919
		5% critical value	69.81889	47.85613	29.79707
	Max-eigenvalue test	Max-Eigen statistic	43.03706	25.99539	13.37833
		5% critical value	33.87687	27.58434	21.13162
For specification 4.2: co-integrating equations among FDIS, GRS, RIR, TO, and TP	Eigenvalue		0.720882	0.563293	0.428364
	Trace test	Trace Statistic	77.05946	42.60417	20.23488
		5% critical value	69.81889	47.85613	29.79707
	Max-eigenvalue test	Max-Eigen statistic	34.45529	22.36929	15.09984
		5% critical value	33.87687	27.58434	21.13162
For specification 4.3: co-integrating equations among FDIM, GRM, RIR, TO, and TP	Eigenvalue		0.723821	0.644272	0.243963
	Trace test	Trace Statistic	73.65603	38.91494	11.00801
		5% critical value	69.81889	47.85613	29.79707
	Max-eigenvalue test	Max-Eigen statistic	34.74109	27.90693	7.550969
		5% critical value	33.87687	27.58434	21.13162

Results of the ADF test are presented in Table 5-5. For specification with total FDI and Services FDI, reported test statistic is far below the lower bound of critical values, and therefore, the null hypothesis of no co-integration (or residuals are not I(0)) can be rejected. Therefore, results indicate that there is co-integration between these variables. For the specification with manufacturing FDI, although reported test statistic is much lower than the critical value taken from the standard DF/ADF tables (where number of coefficients estimated is assumed to be zero), the test statistic is slightly above the upper bound of critical values obtained from the tables for positive number of estimated coefficients. However, critical values can become excessively lower when the number of coefficients to be estimated increases. If the co-integration test is performed only for FDI, TO and TP (which were the most assuredly confirmed as I (1) variables), then the reported test statistic is below the lower bound of critical values, and therefore, the null hypothesis of no co-integration (or residuals are not I (0)) can be rejected. Since FDIM, TO and TP are integrated of order one, and other variables can be fairly approximated as integrated of order zero, if there is a co-integrating relationship among FDIM, TO and TP then this co-integrating relationship should persist when the other I (0) variables are included in the model (Charemza & Deadman, 1997). Therefore, specification 5.3 can also be considered to have a one co-integrating relationship.

Table 5-5: Results of the augmented Dickey-Fuller tests for unit root in the residuals

	Reported test statistic	5% critical value (standard DF/ADF tables)	No of observations (n)	coefficients to be estimated (m)	10% critical value		5% critical value	
					lower bound	upper bound	lower bound	upper bound
For specification 5.1: regression of FDI on GR, RIR, TO, and TP	-5.330**	-2.983	33	4	-4.18	-4.12	-4.57	-4.50
For specification 5.2: regression of FDIS on GRS, RIR, TO, and TP	-4.770**	-2.994	29	4	-4.18	-4.12	-4.57	-4.50
For specification 5.3: regression of FDIM on GRM, RIR, TO, and TP	-3.720	-2.994	29	4	-4.18	-4.12	-4.57	-4.50
For specification 5.3: regression of FDIM on TO and TP	-3.523*	-2.994	29	2	-3.43	-3.37	-3.82	-3.73

Note: Estimations are based on one lag
** Significant at 5 percent   * Significant at 10 percent

As per the results of both Johansen co-integration test and Engle-Granger residual base approach, it can be concluded that there is one co-integrating long-run relationship in

each set of variables. Therefore, vector error correction models (VECMs) are used and the following specifications are formulated:

$$\Delta FDI_t = \alpha_0 + \alpha_1 \Delta FDI_{t-1} + \alpha_2 \Delta GR_{t-1} + \alpha_3 \Delta RIR_{t-1} + \alpha_4 \Delta TO_{t-1} + \alpha_5 \Delta TP_{t-1} + \alpha_6 EC1_{t-1} + \alpha_7 X_t + \varepsilon_{1t} \qquad (5.4)$$

$$\Delta FDIS_t = \theta_0 + \theta_1 \Delta FDIS_{t-1} + \theta_1 \Delta GRS_{t-1} + \theta_2 \Delta RIR_{t-1} + \theta_3 \Delta TO_{t-1} + \theta_4 \Delta TP_{t-1} + \theta_5 EC3_{t-1} + \theta_6 X_t + \varepsilon_{4t} \qquad (5.5)$$

$$\Delta FDIM_t = \beta_0 + \beta_1 \Delta FDIM_{t-1} + \beta_1 \Delta GRM_{t-1} + \beta_2 \Delta RIR_{t-1} + \beta_3 \Delta TO_{t-1} + \beta_4 \Delta TP_{t-1} + \beta_5 EC2_{t-1} + \beta_6 X_t + \varepsilon_{2t} \qquad (5.6)$$

Where Δ represents the first difference and ECM represents the error correction term associated with each error correction model, for example, EC1 is the lagged value of the residuals from the co-integrating regression of FDI on GR, RIR, TO, and TP. X is the conflict related variable which is either WAR, CONFLICT or NKILL.

Political conflict variables (X) are considered as an exogenous variable and all other variables are considered as endogenous variables in vector error correction models. Since civil war in Sri Lanka has no direct economic root but mainly emerged as a result of ethnic differences, temporal variation in economic variables and FDI flows is unlikely to have a substantial effect on the political conflict variables, and therefore, justifies the consideration of political conflict variables as exogenously determined.

5.4.2 Results and Discussions

The results are summarized in Table 5-6[31]. Residuals were tested for autocorrelation and heteroskedasticity. Durbin-Watson d-statistic indicates that there is no serial correlation among residuals and Breusch-Godfrey LM test statistics indicate that there is no autocorrelation except in specification (6). White test results indicate that there is no heteroskedasticity among residuals.

In all estimations except one, error correction term (EC) is negative and statically significant indicating the existence of a long run relationship between FDI and its determinants[32]. Negative and significant error correction term indicate VECM model is more appropriate over vector auto regression (VAR) model, therefore, strongly supporting the chosen model.

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[31] Only the equation of interest, in which FDI is the dependent variable, is presented here and other simultaneous equations of the ECMs are not included here for brevity.
[32] The coefficients associated with EC are less than -1 in five specifications, implying some short run over-adjustment to deviations from long-run equilibrium. However they are not statistically different from -1.

Lagged FDI (ΔFDI_{t-1}) is statistically insignificant, indicating current FDI flows is not influenced by past FDI flows. Different from established consensus of the importance of market size to FDI inflows (Chakrabarti, 2001), GDP growth is found to have no effect on FDI inflows in Sri Lanka, either for aggregate FDI or for FDI in manufacturing and FDI in services. Real interest rate (RIR) has the expected sign of being negative and is statistically significant in most of the estimations. Trade openness (TO) is highly insignificant. Finally telephone density (TP) are positive as expected and significant in some estimations. Although coefficients of some of the explanatory variables are individually not significant, as suggested by a significant F statistics, explanatory variables are jointly significant.

Now turning to the variables of interest, i.e. WAR, CONFLICT and NKILL, all three variables have the expected negative sign. The negative coefficient of WAR is statistically insignificant for total FDI and services FDI but is highly significant for manufacturing FDI, clearly demonstrating that WAR has a significant negative impact on FDI in manufacturing compared to services. The estimated coefficient of WAR in column 4 signifies that average value of FDI in manufacturing is US$ 92 million less during war than that in absence of war. Given the average FDI flows to manufacturing was only around US$ 59 million (Table 5-2), the magnitude of the estimated coefficient appears to be considerably large. In order to compare the effects of war on FDI in manufacturing and FDI in services, beta coefficients were estimated for the estimated coefficients of WAR[33]. Estimated beta coefficient of WAR for manufacturing FDI (-0.65) is significantly higher than the estimated beta coefficient of WAR for services FDI (-0.25). This differential impact of WAR explains why the relationship between WAR and aggregate gross FDI flows is insignificant. WAR could instigate FDI, and the impact can be much larger for net FDI (increase in realised FDI) inflows than gross FDI inflows. This divestment phenomenon might have also caused the impact to be larger for net FDI inflows compared to that of gross FDI inflows.

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[33] Beta coefficient of explanatory variable (WAR) is equal to the product of the estimated coefficient of the explanatory variable (WAR) and the ratio of the standard deviation of the explanatory variable (WAR) to the standard deviation of the dependent variables (FDIS and FDIM)

Table 5-6: Results of the time series estimations

Dependent variable: ΔFDI_t	Total FDI			Manufacturing FDI			Services FDI		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
WAR	-29.738			-92.009***			-120.219		
	(54.945)			(31.559)			(81.840)		
C1		-89.899			-4.868			-136.258	
		(78.949)			(48.551)			(125.106)	
C2		-104.818			-86.733*			-226.753*	
		(74.516)			(49.437)			(108.148)	
NKILL			-22.653			-9.490			-50.240
			(48.689)			(30.996)			63.479
ΔFDI_{t-1}	0.445	0.087	0.428	0.096	-0.064	-0.441	-0.077	-0.222	0.284
	(0.292)	(0.3007)	(0.288)	(0.322)	(0.368)	(0.306)	(0.305)	(0.303)	(0.298)
ΔGR_{t-1}	-3.467	9.158	0.234						
	(11.129)	(11.9502)	(11.178)						
ΔGRM_{t-1}				-1.926	-1.215	1.926			
				(3.809)	(4.541)	(4.776)			
ΔGRS_{t-1}							0.944	10.961	-12.7185
							(14.927)	(15.792)	(14.961)
ΔRIR_{t-1}	-10.807**	-10.685*	-11.083**	-1.729	-2.235	-6.291*	-9.324	-8.569	-14.802*
	(4.888)	(5.8442)	(4.962)	(2.558)	(3.063)	(3.263)	(8.847)	(9.519)	(7.955)
ΔTO_{t-1}	-1.486	1.437	-1.339	-3.693	-6.969*	-1.382	9.387825	8.50582	6.372
	(5.585)	(6.570)	(5.560)	(2.92)	(3.941)	(3.532)	(8.236)	(8.918)	(7.408)
ΔTP_{t-1}	19.766	44.763	20.481	22.219	11.280	-6.544	82.651**	110.107**	58.158
	(24.985)	(32.223)	(24.760)	(16.177)	(17.921)	(18.297)	(38.701)	(47.289)	(33.929)
EC_{t-1}	-1.204***	-0.627**	-1.127***	-1.258***	-1.028**	-0.274	-0.747**	-0.478**	-1.210***
	(0.346)	(0.281)	(0.333)	(0.412)	(0.488)	(0.245)	(0.280)	(0.220)	(0.320)
Constant	24.399	79.706	15.384	49.853*	48.784	15.436	60.186	130.920	8.452
	(46.921)	(60.144)	(40.263)	(23.08)	(35.472)	(28.381)	(65.974)	(87.376)	(54.471)
R-squared	0.417	0.302	0.386	0.464	0.413	0.531	0.629	0.534	0.425
F-statistic	2.354*	1.189	2.068*	4.593***	2.581*	2.004	2.353*	1.585	3.075*
Durbin-Watson stat	2.048	2.017	2.014	1.788	2.118	2.182	1.919	1.885	1.902
Breusch-Godfrey LM test (F-statistic)	0.105	0.027	0.029	0.026	0.93	2.49*	0.022	0.133	0.121
White test (Chi-sq)	197.1	209.7	198.3	214.2	204.7	231.5	202.3	220.2	373.8

*** p<0.01, ** p<0.05, * p<0.1

Coefficients of C1 are statistically insignificant for all three FDI variables but those of C2 are significant for manufacturing and services FDI in their respective regressions, indicating that FDI is more responsive to major wars than minor wars. Coefficient of NKILL is statistically insignificant for all FDI variables. R squared, adjusted R squared and F statistics are significantly low for the estimations that include C1 and C2 compared to estimations that include WAR. Most importantly, estimations with C1 and C2 have insignificant F-statistic indicating weak explanatory power associated with C1 and C2. Therefore, we can see that out of all civil war variables, WAR has a much higher explanatory power compared to CONFLICT (C1 and C2) and NKILL. These results indicate that FDI is largely dependent on whether or not there is a war and it is the major wars which have the most detrimental effects on FDI. This is plausible due to two reasons. First, presence of war carries a reputational damage which will scare off foreign investors. However, major wars can cause serious damage to MNCs in terms of physical and human assets. Second, due to relatively long term nature of FDI compared to other forms of financial flows, FDI flows may not be able to react to swift changes in conflict intensity. Having observed this, it would be informative to compare the effect of presence/absence of conflict vs effect of conflict intensity on short term and long term financial flows, a potential project for future research.

Until 1977's liberalization initiatives, FDI remained very low in Sri Lanka. As a result of trade and investment liberalization and introduction of export-oriented policies in late 1970s, FDI started flowing to manufacturing and by 1983 more than 90% of FDI stocks were concentrated in manufacturing (Table 4-3). However, with the emergent of war in 1983, the momentum of FDI inflows to manufacturing subsided, instead services FDI started to dominate FDI inflows. Currently FDI in services accounts for more than 70% of total FDI stocks while FDI in manufacturing has shrunk to less than 30% of total FDI stocks (Table 4-3). Consistent with this observation, time series econometric study showed that war has had a significant negative effect on manufacturing FDI while having a negative but insignificant effect on service FDI. So the important question is why service FDI is less sensitive to war than manufacturing FDI.

Even though Sri Lanka has received a significant proportion of its FDI in services, they largely consist of domestic market-oriented FDI. Majority of services FDI has ended up in domestic service industries (Table 4-3). Inactivity of foreign firms in export-oriented

service industries is also evident from very low level of service exports (Figure 5-2). In contrast, FDI in manufacturing has taken place both in market-seeking and export-oriented categories. Therefore, Sri Lanka's experience shows that FDI inflows to domestic market oriented service FDI is less sensitive to conflict than FDI inflows to manufacturing.

A manufacturing MNC has couple of options available to serve a host country market, e.g. exporting, licensing and FDI, depending on the ownership, location and internalization advantages relevant to the specific context. Presence of conflicts can increase the risks to investments and undermine the host country location advantages, therefore, MNCs might opt out of FDI. Moreover, literature on choice of market entry mode suggests that under environmental uncertainty, manufacturing firms prefer lower control governance modes (Brouthers & Brouthers, 2003). MNCs may delay undertaking any FDI until the hostilities in the host country improve. In a similar vein, (Saggi, 1998) advocates that the firm's choice between exporting and FDI can be tilted towards the former in the face of uncertainty and theoretically proves that exporting is more favorable over FDI under demand uncertainty. Since serving the host market by exporting allows the operations to be located outside the host country, MNCs can minimize/avoid operational disruptions caused by conflict.

In contrast, options for serving foreign markets are generally limited for service MNCs. Due to distinctive characteristics of services, the option of exporting may not be available for firms involved in majority of service categories and they need to be present in the host country in order to serve the host market (Dunning, 1989). It is well recognized in the literature that in order to establish physical facilities abroad, service firms are more likely to internalize via FDI compared to manufacturing counterparts (Czinkota et al., 2010). Therefore, if a service firm wants to serve a conflict zone, FDI is likely to be the only available option, hence these MNCs are less responsive to the presence of war than manufacturing MNCs.

In summary, it is likely that the amount of FDI that can take place in a conflict zone is dependent on how easily FDI can be substitutable by an alternative means. A host country associated with conflict is likely to lose market-seeking manufacturing FDI that are easily substitutable by imports. In contrast, since substitutability of service FDI by an

alternative form is very low compared to substitutability of manufacturing FDI by an alternative form, it is conceivable that market-seeking service FDI is less sensitive to conflict.

The above discussion is also in line with casual observations of FDI flows and imports in tandem. We can distinguish two different trends in manufacturing and services (Figure 5-1 and Figure 5-2). In manufacturing, while FDI stock has almost been stagnant, merchandise imports have grown impeccably, suggesting MNCs being more inclined to export to Sri Lanka than undertaking FDI. In contrast, service FDI has outperformed service imports both by volume and growth rates, indicating MNCs might find it difficult to substitute market oriented service FDI with service exports due to idiosyncratic characteristics of services as discussed before.

Figure 5-1: FDI, exports and imports in manufacturing
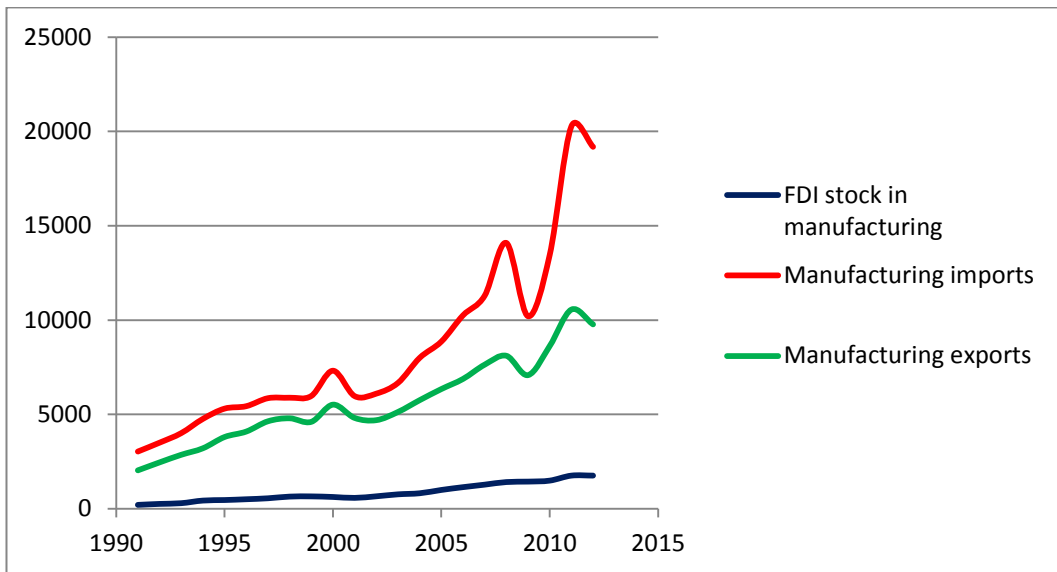
Figure 5-2: FDI, exports and imports in services
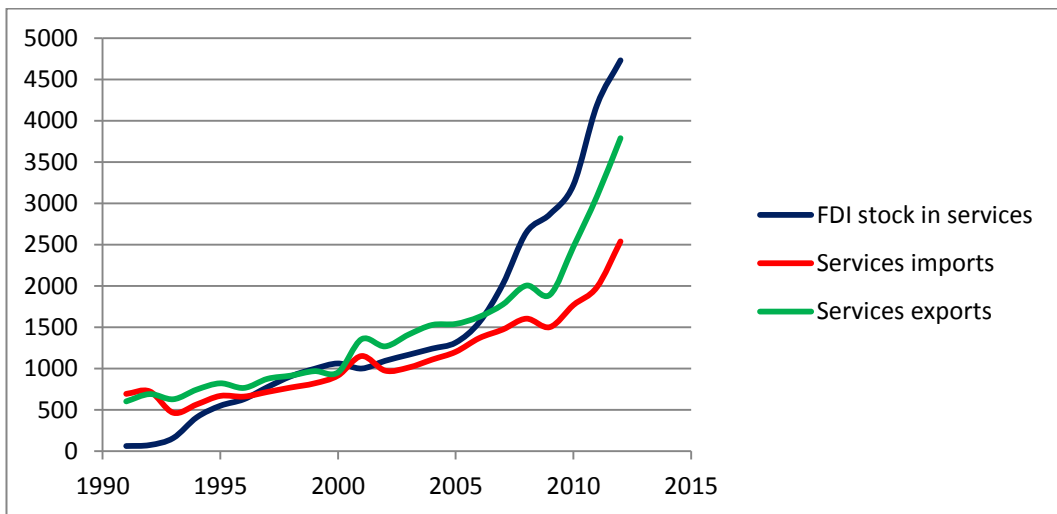
5.5. Panel Study Based on Annual Industry-wise Manufacturing FDI Inflows

5.5.1 Methodology

This econometric study employs a panel dataset based on annual industry-wise FDI inflows to Sri Lankan manufacturing industries during 1984-2012. The purpose of the study is to ascertain whether the effects of war differ between different industries. FDI into Sri Lanka is classified into 8 manufacturing industries (Table 5-7). Similar to above, the FDI figure considered is the net FDI. These FDI data were denominated in domestic currency and they were converted into US dollars using the end-of-year exchange rates published in the World Development Indicators. The control variables used are the same as those included in the time series study with one difference. Instead of the aggregate market growth variables used in the time series study, a sectoral growth rate (GRI) which is represented by growth of value added (in constant prices) in each manufacturing sector is included as a control variable. Description and sources of variables used in this econometric study is given in Table 5-8. Table 5-9 presents descriptive statistics.

Table 5-7: Sector classification

Sectors
Chemicals, Petroleum, Coal, Rubber & Plastics
Fabricated Metal, Machinery & Transport Equipment
Food, Beverages & Tobacco
Non-Metallic Mineral Products
Other Manufactured Products
Paper, Paper Prod. Printing & Publishing
Textiles, Wearing Apparel & Leather Products
Wood & Wood Products

**It was noted that although this category is named as services, all non-manufacturing FDI is included in this category.

Table 5-8: Description of variables used in the study

Variable	Description	Source
FDI	Increase in realised FDI in each sector	Board of Investment of Sri Lanka
GRI	Growth of value added (in constant prices) in each manufacturing sector	various issues of Central Bank annual reports
WAR	A binary variable representing whether an internal conflict was present in Sri Lanka. 0 No war 1 War	Compiled using various sources including central bank annual reports, and journals and newspapers including Arunatilake, Jayasuriya, & Kelegama, 2001; Duma, 2007)
CONFLICT	A variable representing whether an internal conflict was present in Sri Lanka and the intensity of the conflict 0 No war 1 Minor: between 25 and 999 deaths 2. War: at least 1,000 deaths	Uppsala Conflict Data Program (UCDP)/Centre for the Study of Civil Wars, International Peace Research Institute, Oslo (PRIO) Armed Conflict Dataset
NKILL	Number of total confirmed fatalities (killed) in conflict related incidents (in thousands)	National Consortium for the Study of Terrorism and Responses to Terrorism (START). (2011). Global Terrorism Database [Data file]. Retrieved from http://www.start.umd.edu/gtd

Table 5-9: Descriptive statistics for variables used in the study

	Observations	Mean	Std. Dev.	Min	Max
FDI	232	7.357672	18.25509	-54.5	113.61
GRI	232	8.41084	43.60677	-43.4	605.35
WAR	232	0.724138	0.447914	0	1
C1	232	.2413793	.428845	0	1
C2	232	.5862069	.4935772	0	1
NKILL	232	0.569586	0.492476	0	1.822
RIR	232	4.383599	4.303911	-5.94387	12.74168
TO	232	70.17285	9.577728	49.14915	88.63646
Δ.TO	232	-.3677198	4.897717	-14.21988	9.884984
TP	232	5.350498	6.04527	.505254	17.15471
Δ.TP	232	.5690499	1.062335	-.2096634	4.134913
Sector wise FDI					
FDI in Chemicals, Petroleum, Coal, Rubber & Plastics	29	13.20759	22.32817	-17.41	64.96999
FDI in Fabricated Metal, Machinery & Transport Equipment (F_METAL)	29	5.394483	16.52862	-28.08	53.29
FDI in Food, Beverages & Tobacco (FOOD)	29	9.641724	16.91527	-14.51	61.52
FDI in Non-Metallic Mineral Products (N_METALLIC)	29	4.291724	14.16421	-34.53	41.83
FDI in Other Manufactured Products (OTHER)	29	5.687241	12.32226	-25.7	29.62
FDI in Paper, Paper Prod. Printing & Publishing (PAPER)	29	1.301379	3.610168	-1.2	18.32
FDI in Textiles, Wearing Apparel & Leather Products (TEXTILE)	29	16.79172	32.90665	-54.5	113.61
FDI in Wood & Wood Products (WOOD)	29	2.545517	5.609616	-4.56	18.81

Prior to regression analysis, panel unit-root tests are conducted in order to identify the order of integration of each variable (Table 5-10).

Table 5-10: Results of the unit-root tests

	Test statistics (with one lag)		
	Levin-Lin-Chu unit-root test	Im-Pesaran-Shin unit-root test	Fisher-type unit-root test based on augmented Dickey-Fuller tests (P statistic)
FDI	-4.0197***	-5.1802***	65.0668***
GROWTH	-9.6312***	-9.6661***	157.1453***
WAR	-6.4911***	-1.9963**	24.2494*
C1	-4.0401***	-4.0146***	46.1330***
C2	-3.0310***	-3.4299***	38.9854***
NKILL	-3.6006	0.9825	6.3242
RIR	-1.9181**	-4.6784***	55.0343***
TO	1.4242	1.2274	5.5561
Δ.TO	-7.0871***	-7.5600***	102.8544***
TP	0.0654	2.1210	3.3802
Δ.TP	-4.6965***	-4.0948***	47.1649***

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Results of the unit root tests indicate that FDI, GROWTH and RIR are stationary but TO and TP are integrated of order one. Therefore, following model is formulated.

$$FDI = \gamma_0 + \gamma_1 X + \gamma_2 GRI + \gamma_3 RIR + \gamma_4 \Delta TO + \gamma_5 \Delta TP + \varepsilon \qquad (5.7)$$

Where Δ represents the first difference and X is civil war variable, which is either WAR, CONFLICT or NKILL.

Estimations are carried out by Pooled Ordinary Least Squares (POLS), fixed effects (FE) and random effects (RE) estimation methods. In order to decide between Fixed and Random Effects models, Hausman test was performed and the test result favours random effects estimation; there was strong evidence to support the null hypothesis of industry-specific intercepts (U_i) not being correlated with the regressors. This is not surprising because except GRI and FDI, all other variables vary only over time and do not vary across industries. F-test for the joint significance of the industry specific effects (in Fixed Effects estimation) provided strong evidence for the presence of industry specific effects; the null hypothesis (that all u_i are zero) of the F-test could be rejected. Moreover, Breusch and Pagan Lagrangian multiplier test for random effects also

supported random effects over simple OLS: the null hypothesis that there is no significance difference across units (no panel effect) could be strongly rejected. Therefore, compared to fixed effects model and Pooled Ordinary Least Squares regression, random effects model is more suitable to estimate these models.

Residuals of all the estimations were tested for heteroskedasticity using Modified Wald test for groupwise heteroskedasticity. Results indicate heteroskedasticity. Since panels with long time series tend to have the problem of serial correlation, Wooldridge test for autocorrelation was used to test for serial correlation among residuals, but no serial correlation is detected in all specifications. Cross sectional dependence is finally tested using Pasaran's test of cross sectional independence and result indicates that there is no cross sectional correlation. Therefore, all specifications are estimated using RE with cluster robust standard errors.

Table 5-11: Test results

	Spec. 5.7 with WAR	Spec. 5.7 with C1 and C2	Spec. 5.7 with NKILL
Hausman test for fixed Vs random effects (chi2)	0.15	0.16	0.15
F-test for the joint significance of industry specific effects	2.97***	2.81***	2.83***
Modified Wald test for groupwise heteroskedasticity (chi2)	391.20***	406.40***	450.71***
Wooldridge test for autocorrelation	1.158	0.400	0.580
Pesaran's test of cross sectional independence (chi2) (no cross sectional dependence)	0.083	1.500	1.585

Potential endogeneity between industry-wise growth rates and industry-wise FDI is a major concern. Therefore, lagged growth rates are employed instead of contemporaneous growth rates. Moreover, generalised methods of moments (GMM) are also used in order to tackle the potential endogeneity. However, since GMM estimators can lack efficiency, RE estimations are reported alongside GMM estimators.

Table 5-12: Results of panel data estimations

Dependent variable: FDI	RE	RE	GMM	RE	RE	GMM	RE	RE	GMM
WAR	-9.995***	-9.979***	-10.030***						
	(2.506)	(2.595)	(2.505)						
C1				-5.135**	-4.225*	-4.331**			
				(2.212)	(2.375)	(1.865)			
C2				-6.473**	-6.031**	-6.027**			
				(2.889)	(2.906)	(2.409)			
NKILL							-4.748***	-5.071***	-4.963***
							(1.065)	(1.088)	(0.975)
L.FDI			-0.034			-0.018			-0.014
			(0.045)			(0.046)			(0.045)
GRI	-0.008		-0.008	-0.011*		-0.010*	-0.010		-0.007
	(0.005)		(0.005)	(0.006)		(0.006)	(0.007)		(0.006)
L.GRI		0.012*			0.008			0.011	
		(0.007)			(0.010)			(0.009)	
RIR	-0.0567	-0.102	-0.0696	-0.119**	-0.270**	-0.248**	-0.347**	-0.571***	-0.545***
	(0.119)	(0.180)	(0.179)	(0.061)	(0.122)	(0.110)	(0.135)	(0.186)	(0.178)
ΔTO	0.203	0.186	0.189	0.213	0.178	0.181	0.368*	0.303	0.307
	(0.194)	(0.208)	(0.190)	(0.211)	(0.214)	(0.189)	(0.207)	(0.212)	(0.193)
ΔTP	4.312**	4.281**	4.382**	4.108**	3.905**	3.943**	3.397*	3.049	3.087
	(2.136)	(2.149)	(2.114)	(1.970)	(1.878)	(1.835)	(1.997)	(1.961)	(1.917)
Constant	12.54***	12.62***	12.86***	10.75***	11.10***	11.28***	9.868***	11.37***	11.43***
	(2.601)	(2.527)	(2.475)	(2.168)	(2.178)	(1.882)	(1.761)	(2.009)	(1.905)
N	232	224	216	232	224	216	232	224	216
R-squared	0.107	0.105		0.066	0.066		0.068	0.072	

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

5.5.2 Results of the baseline model

Results of all the estimations are presented in Table 5-12. Coefficients of all civil war variables are negative as expected and statistically significant. These results indicate that war/conflict significantly impede FDI in manufacturing. As it was the case in time series study, WAR remains to have a higher explanatory power compared to CONFLICT (C1 and C2) and NKILL. Coefficients of C2 are slightly higher than those of C1. These results reiterate that FDI is largely dependent on whether or not there is a war and it is the major wars which have the most detrimental effects on FDI. However, as before, R-squired value is low for the estimations based on C1, C2 and NKILL, compared to R-squired value of estimations based on WAR. Therefore, out of the conflict related variables, WAR has a much higher explanatory power compared to CONFLICT (C1 and C2) and NKILL.

The coefficients of sectoral growth rate are negative but only significant (marginally) in some of the estimations. However, the estimated coefficient of lagged sectoral growth rate is positive. Coefficients of all other control variables have the expected sign. RIR and ΔTP are statistically significant in most of the estimations but ΔTO is insignificant in most of the specifications. In GMM estimations, coefficients of lagged FDI are negative and statistically insignificant in all estimations. In the presence of agglomeration benefits, FDI in current year is positively correlated with FDI in previous period (Busse & Hefeker, 2007). Therefore, results of these estimations may indicate an absence of agglomeration effect on FDI in the context of Sri Lanka, a result which is also found in time-series study above.

5.5.3 Effect of Civil War on FDI by Industry

In order to understand the effects of civil war on FDI by industry, I include dummy variables for industries[34] and use pooled ordinary least squares (POLS) and GMM. Given the strong explanatory power of WAR in previous estimations, results with the interaction terms of WAR and industry dummies are presented in Table 5-13. However, estimation results are qualitatively similar when CONFLICT (C1 and C2) and NKILL are used.

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[34] "Chemicals, Petroleum, Coal, Rubber & Plastics" sector is used as the base group

Table 5-13: Results of panel data estimations with dummy variables for each industry

Dependent variable: FDI	POLS	POLS	GMM
WAR	-12.31***	-11.83***	-11.48***
	(0.813)	(0.978)	(0.798)
WAR* F_METAL	5.063***	4.562***	4.316***
	(0.00870)	(0.0117)	(0.520)
WAR * FOOD	-0.979***	-1.257***	-1.500**
	(0.0208)	(0.00115)	(0.649)
WAR * N_METALLIC	-3.529***	-4.346***	-5.393***
	(0.037)	(0.0553)	(0.901)
WAR * OTHER	9.392***	8.403***	8.455***
	(0.176)	(0.226)	(0.708)
WAR * PAPER	11.60***	11.15***	10.91***
	(0.013)	(0.0200)	(0.531)
WAR * TEXTILE	-5.110***	-5.351***	-5.575***
	(0.083)	(0.0724)	(0.150)
WAR * WOOD	2.229***	1.766***	0.291
	(0.009)	(0.0221)	(0.861)
L.FDI			-0.037
			(0.043)
GRI	-0.011*		-0.009***
	(0.006)		(0.003)
L.GROWTH		0.010	
		(0.008)	
RIR	-0.057	-0.100	-0.089
	(0.124)	(0.187)	(0.162)
ΔTO	0.204	0.187	
	(0.201)	(0.216)	
ΔTP	4.308*	4.279*	4.188**
	(2.206)	(2.220)	(2.036)
Constant	20.06***	20.08***	13.06***
	(0.871)	(0.988)	(2.586)
F_METAL	-11.49***	-11.44***	
	(0.0137)	(0.0187)	
FOOD	-2.865***	-2.821***	
	(0.0193)	(0.00491)	
N_METALLIC	-6.321***	-6.29 ***	
	(0.00628)	(0.0113)	
OTHER	-14.10***	-14.07***	
	(0.0156)	(0.00318)	
PAPER	-20.34***	-20.27***	
	(0.0285)	(0.0124)	
TEXTILE	7.345***	7.411***	
	(0.0292)	(0.00756)	
WOOD	-12.32***	-12.27***	
	(0.0172)	(0.0175)	
N	232	224	216
R-squared	0.203	0.202	
Wald chi2			18413.38***

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1
Refer Table 5-9 for representations of sector specific dummy variables

Table 5-13 shows that the impact of WAR is significantly different for each manufacturing industry. Estimated marginal effects of WAR on FDI in each manufacturing industry (based on GMM) are presented in Table 5-14. Results indicate that WAR has impeded FDI in all industries, ranging as high as US$ 17 million in Textiles, Wearing apparel and Leather products to as low as US$ 570,000 in Paper, Paper Prod. Printing & Publishing, an industry that has not been able to attract much FDI in the past. Compared to total FDI stock at the end of year 2012, the magnitudes of these coefficients are considerably large. Therefore, the amount of FDI foregone due to civil war is very large for most of the manufacturing sectors. Another interesting casual observation is that industries with high export volumes seem to be those that also have high marginal effects of WAR on FDI. This propels a question, whether the impact of civil war on FDI also varies by market-orientation of MNCs.

Table 5-14: Marginal effects of WAR on FDI in each manufacturing sector

	∂ FDI/ ∂ WAR	Realised FDI stock in US $ Mn as at end of year 2012	Gross Export Earnings of BOI firms (US $ Mn)
Chemicals, Petroleum, Coal, Rubber & Plastics	-11.48	393.72	998.74
Fabricated Metal, Machinery & Transport Equipment	-7.164	159.10	161.63
Food, Beverages & Tobacco	-12.98	279.93	309.63
Non-Metallic Mineral Products	-16.873	126.47	175.27
Other Manufactured Products	-3.025	175.88	410.49
Paper, Paper Prod. Printing & Publishing	-0.57	37.77	52.50
Textiles, Wearing Apparel & Leather Products	-17.055	514.16	3377.76
Wood & Wood Products	-11.189	74.21	54.55
Services (included for comparison purposes)		4730.08	370.40

5.5.4 Effect of Civil War on FDI in Export-Oriented/Local-Market-Oriented Manufacturing Industries

In order to understand the effect of war on export-oriented/local-market-oriented FDI, I include an interaction term between WAR and Export intensity of the industry (EX_INT).

$$FDI = \beta_0 + \beta_1 \, WAR + \beta_2 \, GROWTH + \beta_3 \, EX\_INT*WAR + \beta_4 \, EX\_INT + u_{1t} \qquad (5.8)$$

Export intensity is measured by the ratio of gross export earnings of BOI firms in year 2011 to the total realized FDI in BOI firms in year 2011[35]. Following from the discussion in section 5.3, I expect the negative effect of WAR to be higher for the sectors associated with higher export intensity in FDI, therefore, a negative estimate for the interaction term.

All else constant, marginal impact of WAR on FDI will be given by:

$$\frac{\partial \, FDI}{\partial \, WAR} \quad = \quad \beta_1 + \beta3 * EX\_INT$$

Therefore, I expect a negative estimate for coefficient β3 if the negative effect of WAR is higher for the sectors associated with higher export intensity in FDI.

Estimated results are reported in Table 5-15. Coefficients of WAR are negative and statistically significant, indicating the negative impact of WAR on FDI. Coefficients of EXP_INT are positive and statistically significant indicating the industries with higher export intensity are associated with higher FDI. The coefficients of the interaction term between EXP_INT and WAR are negative and highly significant in all three specifications, indicating that the negative impact of WAR increase with export intensiveness of the FDI in the sector, a result in line with theoretical expectation.

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[35] BOI firms also include non FDI projects but majority of BOI investments are foreign investments, and therefore, this ratio is used as an approximation for export intensity.

Table 5-15: Results of the specification with interaction term between WAR and Export Intensity

Estimation method	RE	RE	GMM
Dependent variable: FDI			
WAR	-7.137**	-7.286**	-7.526***
	(2.967)	(2.964)	(2.681)
WAR*EXP_INT	-2.051**	-1.930*	-1.786**
	(1.022)	(1.034)	(0.884)
EXP_INT	5.258***	5.259***	9.211***
	(0.929)	(0.928)	(2.106)
RIR	-0.0567	-0.101	-0.0718
	(0.120)	(0.181)	(0.178)
D.TO	0.203	0.187	0.190
	(0.195)	(0.209)	(0.189)
D.TP	4.312**	4.280**	4.367**
	(2.145)	(2.158)	(2.110)
GROWTH	-0.00877*		-0.00753
	(0.00515)		(0.00469)
L.GROWTH		0.0105	
		(0.00701)	
L.FDI			-0.0291
			(0.0436)
Constant	5.215	5.290	0
	(3.452)	(3.481)	(0)
Observations	232	224	216
R-squared	0.1648	0.1632	
Wald chi2	642.96***	4726.80***	6.20e+10***

5.6 Concluding Remarks

Civil war/conflict in a country is likely to discourage inflows of FDI. However, few studies explicitly investigate how civil war affects FDI (Czinkota et al., 2010). As highlighted in this paper, most of the existing studies that look at the impact of broad political instability variable which encapsulates civil war as one dimension show mixed findings. These studies contribute limited understanding of war-FDI relationship. Use of broad measures of political instability is unlikely to identify the true effect of war on FDI. This study attempts to address these limitations by investigating the effects of Sri Lanka's three decade of civil war, which has gone through considerable variation in conflict intensity, on FDI in Sri Lanka.

Time series study clearly demonstrate that civil war has a significant negative impact on FDI in manufacturing sectors compared to FDI in services sectors. This differential impact explains why the relationship between civil war and gross FDI flows is insignificant. Civil war could also instigate foreign direct divestments, and therefore, the impact can be much larger for net FDI inflows than gross FDI inflows.

The panel study based on annual industry-wise net FDI inflows to Sri Lanka reconfirms the strong negative relationship between civil war and FDI inflows to manufacturing sectors. Moreover, in contrast to time series study, all three war related variables were highly significant in the panel study. Superior performance of the panel study over the time series study is not surprising due to several reasons. FDI into different sectors could be affected to different degrees by political instability, but the aggregate FDI data does not capture these differences. Moreover, panel study accounts for sectoral differences which were mainly captured by sector level dummies and sectoral growth rates. Furthermore, superiority of panel study over time series study in terms of more degrees of freedom and more variability may have also helped the panel study to perform well than the time series study. Results of the panel study also points out that the magnitude of the negative impact of war varies by industry. Finally, panel study also provided strong evidence for a higher negative impact of WAR on FDI in export-intensive industries than in local-market-oriented industries.

The above results highlight the importance of using disaggregated FDI data when investigating determinants of FDI. FDI data aggregated over sectors can suppress the

variation, and therefore, make it difficult to identify the precise relationship of explanatory variables to FDI flows.

Findings of this study contribute to the literature on political instability and FDI by providing empirical evidence. These economic estimations are useful not only to assess the harmful effects of civil war on FDI, but also to assess the peace dividend, or the economic benefits (in terms of the increase in potential international investment) of avoiding or concluding conflict or at least achieving a reduction in political conflict. Moreover, this study also contributes to the literature on FDI in Sri Lanka and can also influence future policymaking with regard to handling conflicts and attracting FDI.

Results of this study indicate that high real interest rate can affect FDI flows negatively, and trade openness and level of infrastructure (telephone density) can affect FDI flows positively. The relationship between market growth and FDI is a bit controversial; some of the negative coefficients are statistically significant. This could be due to several reasons. First, in Sri Lanka, services FDI are largely market-oriented while manufacturing FDI takes both market-seeking and export-oriented forms. Second, MNCs have a notorious reputation for having a larger import content in their inputs, and therefore, this fact is likely to affect the growth of value added negatively. Moreover, it is well documented that Sri Lanka's failure to develop backward linkages to foreign firms which could have also contributed to this negative relationship (Kelegama & Foley, 1999). Furthermore, a significant proportion of manufacturing FDI has taken place in 'Textiles, Wearing Apparel & Leather Products' category, a sector which is reputed to have a very low value addition due to higher import content of the inputs to this sector and weak backward linkages in this sector (Kelegama & Foley, 1999). Finally, due to Sri Lanka's smaller internal market, the significance of the GDP to FDI inflows cannot be strong as it is for countries with larger markets.

Findings of this study extends IB theory by helping to answer an enquiry that remains largely unaddressed: "what sort of investment is particularly sensitive to conflict?" (Driffield, Jones, & Crotty, 2013). In Sri Lanka, manufacturing FDI has taken place in export-oriented forms as well as market-oriented forms. In contrast, majority of services FDI is directed towards servicing the domestic market. Therefore, Sri Lanka's experience shows that war can have a much larger negative impact on manufacturing FDI over

market oriented services FDI. However, since services FDI in Sri Lanka has been primarily market-seeking, this study does not suggest that effect of war on non-market oriented services FDI is also low. In fact non market-seeking (vertical) service FDI is likely to be more sensitive to conflict even more than export-oriented manufacturing FDI. Due to simultaneity of production/delivery and consumption in services, potential damage of local disruptions to the global operations will be significantly higher for services than for manufacturing. For example, if manufacturing operation of a garment exporter in a conflict zone is disrupted, then the global operation will not come to standstill if the damaged product line is re-established in the same plant or somewhere else before stocks are exhausted. In contrast, if an offshore call centre operation is disrupted, then the entire operation will come to standstill instantaneously. Therefore, the potential damage of disruptions should be higher for non-market-seeking service FDI than for export-oriented manufacturing FDI. This might be the reason for Sri Lanka to perform very poorly in attracting export-oriented service FDI as well as generating very low volumes of service exports.

Despite its merits, this study is not without limitations. One limitation of the time series study is the reliance on a limited number of observations. Number of observations were 33 for the total FDI and 29 for the FDI in manufacturing and FDI in services. Given that there are five explanatory variables in the model and VECM model uses lag values of explanatory variables and the dependent variable to estimate the model, the degrees of freedom of the time series regressions is likely to be compromised, which could to some extent undermine the reliability and generalizability of the results. However, it should be noted that, although a larger sample size is desirable for good performance of a time series econometric model, in practical applications we seldom get longer time series, particularly when less frequent annual data is used. Given that the time series econometric model performed well (with reasonably high R-squared value and F statistics), results of the time series study can be fairly approximated to determine the effect of war on FDI. Another limitation of this study was the reliance on country specific explanatory variables in absence of an exhaustive set of sector specific explanatory variables. Except sector specific growth variable and industry dummies, all other explanatory variables were country specific. An exhaustive set of sector specific explanatory variables could not be included because of the unavailability of sector specific information.

Chapter 6 : Determinants of FDI – A Country Level Study

6.1 Introduction

This chapter presents an empirical study conducted to examine the determinants of FDI. Study employs a panel study based on annual FDI inflows to a selected group of countries, one of which is Sri Lanka. The dataset spans 13 countries selected from South Asia, East Asia, and South East Asia and a period from 1995 to 2010. A special attention is given to detach relationships specific to Sri Lanka from the relationships general to rest of the countries.

This chapter is organised as follows. Sections 6.2 and 6.3 provide a theoretical discussion on the key FDI determinants explored in this study. Section 6.4 details the methodology and reports the results and section 6.5 provides a detailed analysis and discussion on the reported results. Finally, section 6.6 concludes the chapter by highlighting the conclusions and contribution of this study.

6.2 Human Capital and FDI

Presence of a larger human capital base in the host country will increase the attractiveness of local investment climate through the direct effects of upgrading skill level of the workforce and the indirect effects of improved socio-political stability and health (Miyamoto, 2003). Furthermore, presence of infrastructure (physical capital) is also considered as a key determinant of FDI inflows. Effective use of physical capital largely depends on the quality of human capital since technical, professional, and administrative skills are needed for effective use of physical capital (Abbas, 2001). Success of offshore subsidiaries largely depends on how effectively the parent firms can transfer their ownership advantages to the subsidiaries. If local workers are educated, then local workforce can learn and adapt new technologies faster and easily, providing time and cost advantages to investing firms (Kinoshita & Campos, 2004). Moreover, a majority of present FDI takes place in capital-, knowledge- and skill-intensive industries. Therefore, the presence of high quality human capital is likely to be an important determinant in the modern FDI (Noorbakhsh, Paloni and Youseff, 2001).

Only few studies have given a considerable and systematic attention to empirically investigate the effect of host country human capital on incoming FDI (Kapstein, 2002) however, many studies have included proxies for human capital i.e. as an explanatory variable or as a control variable when the FDI is used as the dependent variable. Although the importance of human capital in attracting FDI is widely recognised in the literature, empirical evidence provided by these studies is inconclusive, particularly for developing countries.

Noorbakhsh, Paloni and Youseff (2001), using FDI flows to 36 developing countries in Africa, Asia and Latin America during 1980-94, investigated to what extent the level of human capital in host countries can affect FDI inflows to developing countries. They find that human capital is not only one of the most important determinants of FDI but also its importance is increasing over time. Nonnemberg and Mendonca (2004), investigating determinants of FDI into 38 developing countries, during 1975-2000, find that level of secondary schooling is positively related to FDI flows. Suliman & Mollick (2009), investigating determinants of FDI in 29 sub-Saharan countries during 1980-2003, find that adult literacy rate is a significant determinant of FDI flows to sub-Saharan Africa.

Yet, there are many studies that have found little or no effect of human capital on FDI flows. Root and Ahmed (1979), investigating the determinants of manufacturing FDI in 58 developing countries, find that none of their proxies for human capital, i.e. literacy rate, primary and secondary school enrolment rate, and the availability of technical and professional workers represented by size of the middle class, are statistically significant determinants of inward FDI. Schneider and Frey (1985), using FDI flows to 54 developing countries, finds that share of an age group with secondary education is not a significant determinant in the presence of other political and economic determinants in the model. Hanson (1996) shows that adult literacy rate was not a significant determinant of FDI for a sample of 105 developing countries. Kinoshita & Campos, (2004), investigating the determinants of FDI inflows to 25 transition countries in Central Europe and in the former Soviet Union, find that secondary education enrolment rate is not significant. Nunnenkamp and Spatz (2002), using FDI stocks and FDI flows for a sample of 28 developing countries, find that average years of schooling is not significant for explaining both FDI stocks and flows in their multivariate regression analysis. In a study investigating determinants of the location of FDI in 29 Chinese regions, Cheng & Kwan (2000) find that none of their proxies for labour quality of the region, i.e. the percentages of the population whose education was at least primary school, junior high school, and senior high school, were significant determinants of FDI flows to Chinese regions. Interestingly, in a subsequent study conducted by Gao (2005), where bilateral FDI flows from 14 source countries to Chinese provinces are considered and bilateral specific effects are accounted for, proxies for labour quality of the region is positive and significant for most of their estimations. Jinyoung & Jungsoo (2012), investigating the relationship between FDI and foreign educated labour in an FDI host country, find that number of students in the host country who studied in an FDI source country has a significant positive effect on bilateral FDI flows, while the effect of secondary and tertiary school enrolment rates of the host country on FDI flows being insignificant.

Various explanations have been proposed by Miyamoto (2003) for these mixed findings including different motives of FDI and the employment of different proxies for human capital in the previous empirical studies. However, there can be reasons that are country specific which can bias estimated slope coefficients of human capital. To this end it is important to identify outliers –if there are any- and then to investigate country specific issues that affect the relationship between human capital and FDI.

Sri Lanka is widely known for its high rating in human capital index in terms of literacy rate and schooling rates, however, Sri Lanka's performance in FDI inflows is far behind that of East Asian countries that have similar educational achievements. Nevertheless, it cannot be concluded that Sri Lanka's educational achievements have not been instrumental in attracting FDI just by comparing FDI and educational achievements without controlling for other FDI determinants. To this end, one of the main purposes of this study is to systematically investigate FDI performance against human capital and other FDI determinant, while giving special attention to detach FDI-human capital relationship that is specific to Sri Lanka from the relationship that is general to rest of the countries.

6.3 Stock Market Valuations and FDI inflows

Arbitrage actions are generally associated with portfolio investments, however, both empirical and theoretical considerations suggest that FDI flows may reflect arbitrage activity by multinationals (Baker, Foley, & Wurgler, 2009). Extant literature recognises two types of misprice driven FDI: cheap financial capital hypothesis and cheap asset (fire sale) hypothesis. Under cheap financial capital hypothesis, it is assumed that FDI flows take place as a result of an opportunistic use of the relatively low-cost financial capital available to overvalued source-country firms. Under cheap asset hypothesis, it is assumed that FDI flows reflect undervalued host country assets (Baker, Foley, & Wurgler, 2009).

Empirical evidence testing cheap financial capital hypothesis and cheap asset (fire sale) hypothesis in the context of FDI is scarce. Baker, Foley & Wurgler (2009), regressing FDI flows on source and host country stock market valuations for US based FDI data, found that FDI flows are strongly positively related to the average market price to book value ratio of publicly traded firms in the source country, supporting the cheap financial capital hypothesis. However, Baker, Foley & Wurgler (2009) have not found a relationship between FDI flows and the market-to-book ratios of host countries, disputing cheap asset hypothesis.

However, it should be noted that this study used market price to book value ratio rather than market price to earnings ratio to proxy the host-country valuations. Since, investments are taken place considering their earning potential rather than their asset value, market price to earnings ratio is more appropriate than market price to book value ratio as a proxy for market valuations. Moreover, this study is based on US based FDI data, which can limit the generalisability of these findings to other countries, in particular, to developing countries.

Countries that are riskier, financially underdeveloped, institutionally weak and less transparent are supposed to have larger ratio of FDI to FPI inflows relative to countries that are otherwise (Claessens, Klingebiel & Schmukler, 2001; Goldstein & Razin, 2006). Thus, MNCs might prefer to engage in FDI in developing countries. Therefore, they might have a higher tendency to arbitrage (or buy cheap assets) through FDI rather than portfolio investments. More importantly, underdeveloped stock markets are often

manipulated and inefficient compared to developed stock markets (Khwaja & Mian, 2005). Due to these reasons, the degree of mispricing can be higher in developing country stock markets, and therefore, cheap asset hypothesis is likely to be more applicable to developing countries than developed countries. In some situations the stock markets could be pegged at artificial levels (as it is for currency pegs) by the host country governments with the use of its public funds and through manipulation of credit availability. Sri Lanka stock market experience provides a good example on how a stock market could be artificially pegged at a higher price level; during 2010 and 2011, in the midst of heavy foreign selling, the Sri Lankan government played a prominent role for sustaining high levels of prices (Daily Mirror, 2012). Therefore, an equally applicable situation in the context of developing countries is the opposite of cheap asset hypothesis, which is defined here as expensive asset hypothesis.

Expensive asset hypothesis: It is assumed that when the stock market is at an artificially high valuation (artificially high price to earnings ratio), FDI flows are discouraged because host country assets are overpriced.

6.3.1. Stock market valuations and FDI inflows: Sri Lanka's experience

After the end of three decades of civil conflict in 2009, CSE went through a tremendous but rather a magical growth. All share price index of Sri Lanka's Stock Exchange recorded an inconceivable growth of 125.7% in year 2009 and 96% in year 2010. Sri Lanka's Stock Exchange was the second best performing stock exchange in the world in the year 2009 (Colombo Stock Exchange, 2009; Central Bank of Sri Lanka, 2010). As a result of this magical growth, price to earnings ratio (PER) increased considerably after the end of civil conflict; market PER went up from 5.4 (at the end of 2008) to 25.2 (at the end of 2010). This growth of over 200% in the share price index and almost fivefold increase in the market PER during 2009 and 2010 was fuelled by local buying interests created mainly through credit support and from institutional buying from government through its various funds. The government played a prominent role for sustaining high levels of prices amidst heavy foreign selling. Therefore, the situation of Sri Lanka's stock market in this period can be considered as a kind of pegged market, and therefore, one could argue the share prices were artificially maintained at an upper level.

Table 6-1: Net foreign inflows to the stock exchange, FDI inflows and stock market valuations

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
FDI Inflow (US$ millions)	172	197	229	233	272	480	603	752	404	478	956
Net foreign inflow to the stock market (US$ millions)	-11	25	2	11	61	52	102	128	-7	-233	-172
No of IPOs	-	5	4	2	3	2	0	2	3	8	22
Contracted FDI projects	149	177	216	228	167	217	298	238	182	262	164
Market price to earnings ratio	7.5	12.1	11.1	10.8	12.1	14.0	11.6	5.4	16.6	25.2	15.8

Source: compiled using various issues of CSE annual reports, various issues of Central Bank annual reports and UNCTAD, 2012

Figure 6-1: Net foreign inflows to the stock exchange, FDI inflows and stock market valuations
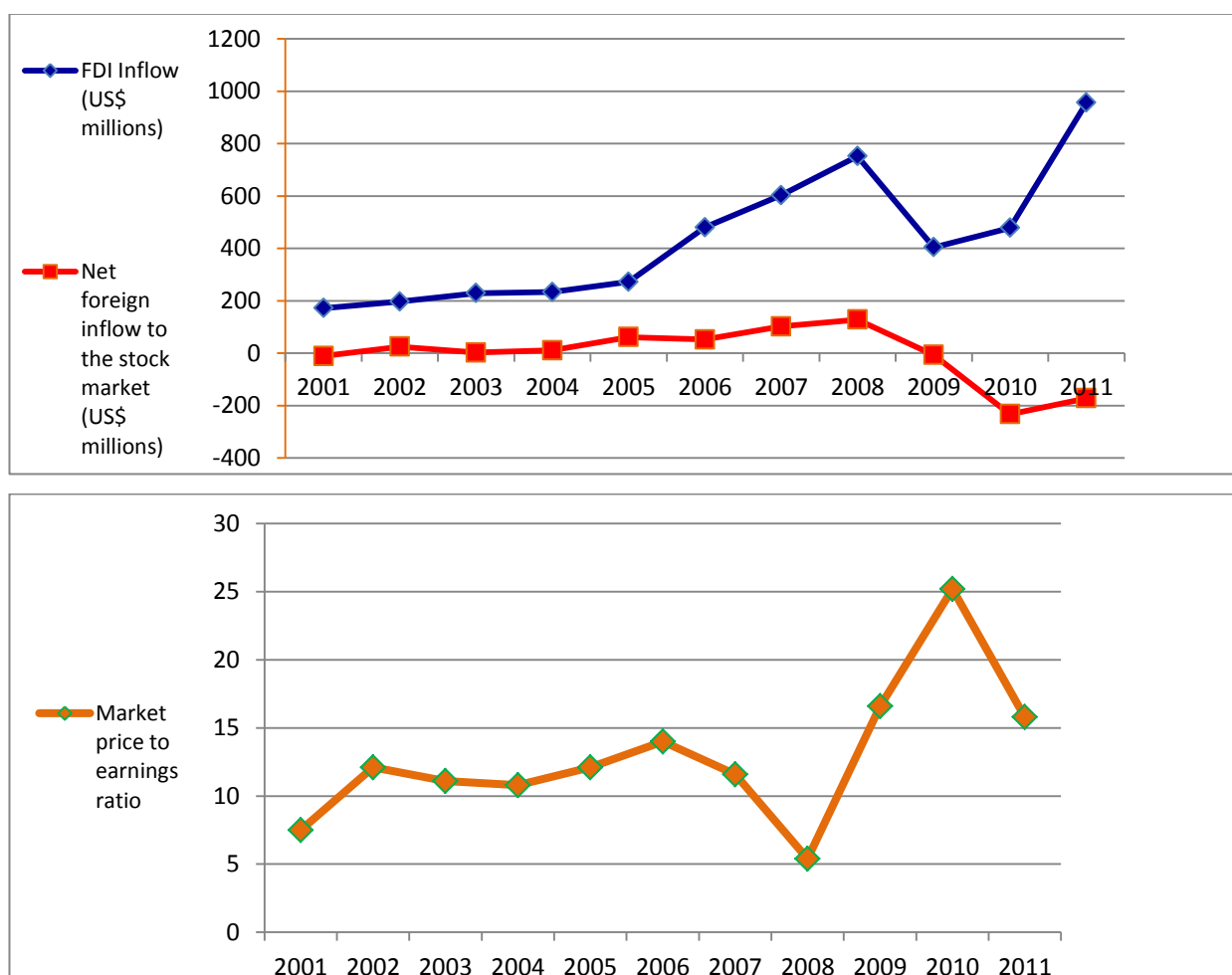
Source: various issues of CSE annual reports, various issues of Central Bank annual reports and UNCTAD, 2012

Even though CSE recorded a sharp growth after the war, CSE has consecutively recorded net foreign outflows since the end of civil war, possibly due to the higher price levels in the stock market (Table 6-1 and Figure 6-1). CSE experienced net foreign outflows of Rs.789 million, Rs. 26.3 billion, and Rs.19 billion in 2009, 2010 and 2011, respectively, adding to a total net outflow of over Rs. 46 billion for the three years (Central Bank Annual Report 2010). Also, even though FDI flows into Sri Lanka increased considerably during the last decade, rather paradoxically, while the stock market was going through a spectacular growth, FDI flows were unusually low in 2009 and 2010 despite the absence of war. A possible explanation for these strange observations in net foreign inflows (portfolio and FDI) is that the foreign investors could be reluctant to invest and/or could be selling their stocks because the stocks are overpriced.

High PER could discourage potential foreign acquisitions because they have to pay high prices if they acquire companies through the stock market. It is also possible that the PER in the stock market to be used as a proxy for privately negotiated deals, and therefore, higher PER can have a wider effect on foreign acquisitions. Higher PER can also make investors of local businesses who wants to sell their assets or raise capital to prefer initial public offerings (IPOs) through stock market over finding foreign investors. This will increase the opportunity cost of selling to foreign investors through a privately negotiated deal. This preference for IPOs over foreign investors can be observed by comparing FDI inflows, IPOs and contracted projects (Table 6-1).

To summarise, even though FDI flows into Sri Lanka increased considerably during the last decade, rather paradoxically, despite the absence of war, FDI flows were unusually low in 2009 and 2010 when the stock market was going through a dramatic growth. This recent performance in stock market and FDI provide an opportunity to test cheap asset hypothesis (and expensive asset hypothesis). Also, due to various reasons mentioned previously, cheap asset hypothesis (and expensive asset hypothesis) should be more applicable for a country that has less developed stock market, and therefore, should be more applicable to Sri Lanka.

Therefore, in light of these considerations, I hypothesise that cheap asset hypothesis (and expensive asset hypothesis) is valid in the context of less developed stock markets, and

therefore, in the context of Sri Lank. Put it differently, it is hypothesised that price levels in the stock market are inversely related to FDI inflows in the context of countries with underdeveloped stock markets, and therefore, in the context of Sri Lanka.

6.4 Methodology and Results

This econometric study employs a panel study based on annual FDI inflows to a selected group of countries during the period from 1996 to 2011. This time frame was selected because data for some of the selected variables, for e.g. political instability, regulatory quality, corruption, price earnings ratio, were not available prior to 1996.

The sample of countries comes from Asia. The sample comprises of 14 countries selected from South Asia, East Asia, and South East Asia (Table 6-2). Such a selection would enable Sri Lanka to be compared with its regional counterparts; Sri Lanka has to compete with both South Asian and Asian countries in order to attract FDI. Countries from these regions are selected based on data availability. Taking the sample from Asia would allow Sri Lanka and its neighbouring countries to be included in the analysis. Expanding the sample of countries by extending the region beyond Asia would inevitably bring in countries with very different FDI dynamics (relative to Sri Lanka), which could complicate the analysis and undermine the focus of the study. Also, inclusion of FDI success stories such as China, Hong Kong, Malaysia, and Vietnam in the group will enable Sri Lanka to be compared with benchmark FDI destinations.

Table 6-2: Selected countries for the cross country study

South Asia (5)	East Asia (4)	South East Asia (5)
Sri Lanka	China	Malaysia
India	Hong Kong	Thailand
Pakistan	Republic of Korea (South Korea)	Vietnam
Bangladesh	Mongolia	Philippines
Nepal		Indonesia

The dependent variable in the estimations is the FDI inflows to the selected countries. Human capital in the host country is measured by gross secondary school enrolment rate. Market price to earnings ratio is used to measure stock market valuations.

Guided by previous literature on determinants of FDI flows, following control variables are also included; market demand of the host country (Schneider & Frey, 1985; Billington, 1999; Suliman & Mollick, 2009; Noorbakhsh, Paloni, & Youssef, 1999),

trade openness (Suliman, 2009; Noorbakhsh, Paloni, & Youssef, 2001; Asiedu, 2002), level of infrastructure (Loree & Guisinger, 1995; Asiedu, 2002; Suliman & Mollick, 2009), political stability (Root & Ahmed, 1979; Schneider & Frey, 1985; Suliman & Mollick, 2009) corruption (Busse & Hefeker, 2007; Zhou, 2007; Wei, 2000), regulatory quality (Daude & Stein, 2007), exchange rate (Bénassy-Quéré, Fontagné, & LahrÈche-Révil, 2001; Blonigen, 1997; Froot & Stein, 1991) and the degree of stock market development (Adam and Tweneboah 2009; Henry, 2000).

Real GDP growth rate is used to control for market demand of the host country and trade intensity, measured by total trade to GDP ratio, is used to control for trade openness. Level of infrastructure in the host country is proxied by telephone density measured by telephone lines per 100 people. Political stability, corruption, and regulatory quality are represented by the relevant indicators in worldwide governance indicators published by World Bank. Exchange rate is represented by real exchange rate defined as the nominal exchange rate (direct quote against US\$[36]) times foreign (US) to domestic price ratio. Degree of stock market development is measured by the market capitalization of listed companies as a percentage of GDP. Inclusion of these variables also provides an opportunity to assess the effect of these variables on FDI inflows in the context of these selected countries. The variable measurement and sources of data are presented in Table 6-3.

Prior to deciding on the regression model and estimating the models, Fisher-type unit-root test (based on Dickey-Fuller unit-root tests) was conducted in order to identify the order of integration of each variable (Table 6-4).

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[36] Domestic currency units per US\$

Table 6-3: Description of variables used in the panel study

Variable	Description	Broad measure	Source
FDI	FDI Inflows	FDI inflows	World Development Indicators
GGDP	Real GDP growth rate	Market demand	World Development Indicators
TO	Trade openness represented by trade intensity (X+M/GDP)	Trade openness	World Development Indicators
POLI	Political stability variable published by Worldwide Governance Indicators	Political Stability	Worldwide Governance Indicators of World Bank
CORR	Corruption variable published by Worldwide Governance Indicators of	Institutional environment	Worldwide Governance Indicators of World Bank
REGQ	Regulatory quality variable published by Worldwide Governance Indicators	Institutional environment	Worldwide Governance Indicators of World Bank
EXR	Real Exchange rate (direct quote against US$)	Exchange rate	World Development Indicators
PER	Market Price to Earnings Ratio	Stock Market valuations	World Federation of Exchanges and respective stock market annual reports
MCAP	Market capitalization of listed companies (% of GDP)	Degree of stock market development	World Development Indicators
EDS	Secondary School enrolment (% gross)	Human Capital	World Development Indicators
TEL	Telephone density measured by telephone lines per 100 people	Infrastructure	World Development Indicators

Table 6-4: Results of the Fisher-type unit-root tests

| | Test statistic based on Dickey-Fuller unit-root tests (with 2 lags) | |
	Level	First Difference
FDI	13.4566	55.1966***
GGDP	56.1429***	
TO	17.7625	78.3726***
POLISTAB	43.0938*	
REGQUALITY	57.3887***	
CORRUPTION	35.7390	74.3576***
EDS	143.8697***	
MC_INS	46.3458***	
TEL	21.6361	30.5862
TELE (with one lag)	27.9407	49.1323**
PER	38.2004***	
EXR	122.8069***	

Notes: *** p<0.01, ** p<0.05, * p<0.1

Results of the unit root tests indicate variables FDI, TO, CORRUPTION and TEL are integrated of order one, i.e. I(1) and rest of the variables are integrated of order zero, i.e. I(0). However, stationarity of the first difference of variable TEL was not assuredly confirmed, and therefore, this variable is not included in the baseline specification. Since some of the variables are integrated of order one, statistically it would be more appropriate to test these variables in their first difference form than in their levels. This is because direct application of ordinary least squares regression to non-stationary data produces regressions that are misspecified or spurious in nature (Engle & Granger, 1987). An alternative approach to using first difference in a regression model is using Error Correction Model (ECM) and this model can be used to capture both short term and long term effects of explanatory variables. In order to use ECM these variables should have a co-integrating relationship. Pedroni Residual Cointegration Test, which is based on Engle and Granger two step residual based test, was used to test for co-integration among these variables. Out of the seven statistics reported in Pedroni co-integration test, most of the statistics indicate that there is no co-integration among variables (Table 6-5). In this case, where nonstationary variables are integrated of the same order but the residual sequence is nonstationary, it is recommended that regression equation be estimated with the first differences of such variables (Walter, 1948).

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Therefore, first difference model (including I(1) variables in their first difference form) is chosen as the basis of the estimations.

Table 6-5: Results of Pedroni co-integration test

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	1.525572	0.0636	-2.06753	0.9807
Panel rho-Statistic	2.965767	0.9985	3.374529	0.9996
Panel PP-Statistic	-6.29265	0	-1.61437	0.0532
Panel ADF-Statistic	4.983414	1	1.346334	0.9109
Group rho-Statistic	4.688367	1		
Group PP-Statistic	-5.60583	0		
Group ADF-Statistic	1.989419	0.9767		

Null Hypothesis: No co-integration
Automatic lag length selection based on SIC

A major concern in designing the econometric model is the possibility of existence of explanatory variable that might be correlated with FDI flows as well as other explanatory variables and the potential endogeneity between FDI flows and explanatory variables. Existing literature has emphasised the potential endogeneity between FDI and economic growth rate (Wang, Wei, & Liu, 2010). Therefore, lagged growth rate is included in the model instead of contemporaneous growth rate. For potential foreign investors, economic growth rate of the previous period can act as an indicator variable of the presence economic growth. Another major issue is the potential endogeneity between market price to earnings ratio (PER) and FDI inflows. PER is the reported figure at the end of each year. Therefore, both current PER (price level at the end of the current year) and lagged PER (price level at the beginning of the current year) have equal potential for representing current price levels. Therefore, lagged PER is included in the model instead of contemporaneous PER in order to mitigate the reverse causality of FDI on PER. Inclusion of MCAP (Market capitalization of listed companies as a percentage of GDP) as a measure of stock market development can also pose complications. First, MCAP can be correlated with PER. Since market capitalization is equal to the share price times the number of shares outstanding, increase in PER can make market capitalization increases and vice versa. Therefore, for stock markets that goes through considerable fluctuations in PER compared to the changes in shares outstanding and changes in GDP, as it is the case in less developed stock markets, PER can be highly correlated with Market capitalization ratio. Proving this fact, correlation coefficient between PER and MCAP for Sri Lanka, is 0.88 for the observed time period. Furthermore, MCAP can be endogenous

with FDI as well as economic growth rate. In order to address these concerns, the following instrumental variable is used to represent the level of stock market development.

$$MC\_INS = (L_2.MCAP + L_3.MCAP + L_4.MCAP) / 3$$

Where L_i is the ith lag of the variable

All the endogeneity concerns are mitigated by not including both current measures as well as lagged measures of MCAP. In order to MC_INS to be a good instrumental variable, first, MC_INS should be highly correlated with MCAP and, second, MC_INS should be exogenous from FDI, GDP and PER. MC_INS is highly correlated with MCAP with a correlation coefficient of 0.92. By construct, MC_INS is exogenous from FDI, GDP and PER; because both current measures and lagged measures of MCAP are not used to construct MC_INS. Supporting this further, the correlation coefficient between PER and MC_INS for Sri Lanka, is 0.22 which is far lower than the correlation coefficient between PER and MCAP for Sri Lanka, which is 0.88.

Considering the results of unit root tests and above concerns, following two baseline specifications are formulated.

$$\Delta FDI = \alpha_0 + \alpha_1 EDS + \alpha_2 D_{s*}EDS + \alpha_3 GGDP + \alpha_4 \Delta TO + \alpha_5 POLI + \alpha_6 MC\_INS + + \alpha_6 EXR + \varepsilon_1$$
(6.1)
$$\Delta FDI = \beta_0 + \beta_1 PER + \beta_2 D_{s*}PER + \beta_3 GGDP + \beta_4 \Delta TO + \beta_6 POLI + \beta_7 MC\_INS + \beta_8 EXR + \varepsilon_2$$
(6.2)
D_s-Dummy variable for Sri Lanka

Estimated results of specification 6.1 are reported in Table 6-6. Variables FDI, TO, TELE, and CORR were plugged into the specifications in their first differences since they were not stationary. First the specification was estimated without the variable TELE since the stationarity of ΔTELE was not assuredly confirmed. Institutional factors are interconnected and dependent on each other, and therefore, weaknesses in one institutional factor can lead into deterioration in other institutional variables: for example, economic, political and social structures that are poorly differentiated and lack independency can facilitate and propagate corruption. Confirming this, the correlation coefficients among institutional variables were very high, particularly between variables REGQUALITY and CORRUPTION, for which correlation coefficient was 0.932.

Therefore, to avoid multicollinearity, each institutional variable was included in separate estimations. Finally, in order to account for any effects of Asian financial crisis and Global financial crisis, specification was re-estimated using two dummy variables, AFC and GFC. AFC is a binary variable which is unity for year 1997 and 1998 and GFC is a binary variable which is unity for year 2007 and 2008.

Table 6-6: Estimated results of specification 6.1

Dependent variable: ΔFDI	(1)	(2)	(3)	(4)	(5)
EDS	498.4***	526.3***	483.9***	546.2***	462.3***
	(81.00)	(83.04)	(63.41)	(95.03)	(89.33)
Ds*EDS	-685.9***	-721.7***	-482.6***	-595.5***	-698.5***
	(67.35)	(71.92)	(54.36)	(59.94)	(74.71)
L.GGDP	-64.29	-64.01	-110.6	-160.0	-108.0
	(115.8)	(125.0)	(88.50)	(117.8)	(137.6)
D.TO	286.3***	303.7***	290.0***	316.2***	308.0***
	(21.89)	(27.13)	(17.52)	(26.69)	(30.76)
POLI	3,214***	3,766***			4,040***
	(837.3)	(880.5)			(879.0)
MC_INS	82.10***	80.73***	75.41***	72.51***	84.35***
	(12.15)	(11.72)	(9.348)	(11.71)	(12.58)
EXR	30.95	59.78*	47.00	50.92*	46.41
	(29.00)	(34.78)	(31.86)	(26.19)	(38.89)
D.TEL		-47.66	43.17	-83.41	-72.67
		(181.0)	(164.1)	(206.6)	(192.8)
REGQ			8,223***		
			(1,144)		
D.CORR				-3,139	
				(2,795)	
AFC					-1,957
					(1,696)
GFC					2,082
					(1,705)
Constant	-20,270***	-20,985***	-15,519***	-25,914***	-17,477***
	(3,960)	(3,970)	(3,160)	(4,618)	(4,305)
Observations	169	164	164	156	164
R-squared	0.422	0.427	0.430	0.428	0.428
Wald chi2	10990.58***	8476.03***	316702.23***	28501.60***	1.23e+06***
Number of countries	14	13	13	13	13

Standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1
Vietnam could not be included in the estimations with TEL (columns 2-5) due to missing values in TEL.

Specifications 6.1 was initially estimated using fixed effects estimation (employing country fixed effects). According to the test results, residuals of the estimations displayed heteroskedasticity in all the specifications. Wooldridge test for autocorrelation was used to test for serial correlation among residuals in the estimations, and the test results indicate that there is serial correlation among residuals in all specifications. In the presence of autocorrelation, although OLS estimates are unbiased and consistent, they are inefficient and standard errors tend to be underestimated/overestimated. Presence of missing data in some panels did not allow testing for cross sectional dependence for the whole sample. Therefore, cross sectional dependence were tested for a smaller sample (11 countries) where complete data were available, and the test indicated presence of cross sectional correlation. Therefore, specifications were estimated using fixed effects estimation with heteroskedastic, cross sectional dependent and panel-specific AR1 autocorrelation error structure[37].

In all specifications, human capital (EDS) have the expected positive sign and significant at a one per cent significance level. Coefficient of the interaction term between Sri Lanka dummy and human capital variable (Ds*EDS), which corresponds to the additional effect of human capital for Sri Lanka, is negative and significant at a one per cent significance level. Its absolute value is numerically larger than the coefficient of EDS. Coefficient of human capital for Sri Lanka is given by the sum of coefficients of EDS and Ds*EDS, which add up to a negative value in all specifications. Therefore, the coefficient of human capital for Sri Lanka is negative in all specifications. This supports the point of view that although Sri Lanka scores well in human capital measurements, Sri Lanka has not been able to capitalise on these high scores to attract FDI.

With respect to control variables, most of the results are consistent with expectations, except GDP growth rate. Trade openness (TO), the level of development of stock market (MC_INS), political stability (POLI) and regulatory quality (REGQ) have the expected positive sign and significant in all specifications. Coefficient estimate of exchange rate is positive and significant in some of the estimations. This positive coefficient indicates that depreciation of exchange rate is associated with higher FDI flows, which is consistent with the mainstream of the extant literature. GDP growth rate (GGDP) has a negative

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[37] Estimations were carried out based on xtpcse estimator. xtpcse calculates panel-corrected standard error (PCSE) estimates for panel data models.

sign but insignificant in all specifications. Level of infrastructure (TELE) is highly insignificant. Contrary to initial expectations, estimated coefficient of control for corruption (CORR) is negative but insignificant. Finally, coefficient of AFC variable representing Asian financial crisis is negative and coefficient of GFC variable representing global financial crisis is positive; however, neither of them is significant.

Estimated results of specification 6.2 are reported in Table 6-7. Out of the total 14 countries, information on stock market PER was available only for 9 countries[38]. Therefore, sample coverage was reduced to 9 countries for this estimation. Similar to previous estimations, the residuals of the estimations displayed heteroskedasticity, presence of serial correlation and cross sectional dependence. Therefore, specifications were estimated using fixed effects estimation with heteroskedastic, cross sectional dependent and panel-specific AR1 autocorrelation error structure.

Coefficient of stock market price level (L.PER) has a negative sign and is highly insignificant. This result does not support the cheap asset hypothesis where price level and FDI is expected to have a negative relationship. This result is in line with previous empirical findings of Baker, Foley & Wurgler (2009), where they find similar evidence that conflict with cheap asset hypothesis. However, coefficient of the interaction term between Sri Lanka dummy and stock market price levels (Ds*L.PER), which corresponds to the additional effect of stock market price levels for Sri Lanka, is negative, numerically very large and significant. Coefficient of PER for Sri Lanka corresponds to the sum of coefficients of L.PER and Ds*L.PER, which add up to a large negative value in all specifications. Therefore, as it was hypothesised, stock market price level and FDI has a significant negative relationship in the context of Sri Lanka.

Coefficient estimates of control variables have the same sign compared with previous estimates; however, significance levels are somewhat lower compared to previous estimates. This may be due to the smaller sample size.

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[38] Information on stock market PER was available for Sri Lanka, India, China, Honk Kong, Malaysia, Thailand, Indonesia, Korea and Philippines.

Table 6-7: Estimated results of specification 6.2

Dependent variable: ΔFDI	(1)	(2)	(3)
L.PER	-4.205	-9.890	-3.304
	(46.48)	(47.83)	(44.77)
Ds*L.PER	-792.2**	-861.7***	-849.4***
	(374.1)	(316.4)	(308.1)
EDS	448.8	470.8**	429.8*
	(274.7)	(231.5)	(239.2)
L.GGDP	-82.29	-35.37	-47.02
	(320.4)	(317.4)	(273.3)
D.TO	349.4***	354.9***	361.4***
	(82.08)	(82.31)	(79.15)
POLI	2,471	2,605*	3,513**
	(1,727)	(1,504)	(1,709)
MC_INS	55.48	55.96	62.56
	(41.41)	(40.61)	(38.71)
EXR	39.96	43.69	35.26
	(50.01)	(43.59)	(45.35)
D.TEL		270.8	266.2
		(590.9)	(680.2)
AFC			-3,760*
			(2,093)
GFC			1,372
			(3,704)
Constant	-16,480	-18,351	-15,728
	(23,916)	(20,397)	(20,570)
Observations	110	110	110
R-squared	0.472	0.472	0.471
Wald chi2	52.02***	55.23***	63.71***
Number of countries	9	9	9

Standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

As it was emphasised earlier, due to the distinctive characteristics of underdeveloped stock markets, the degree of mispricing can be higher in underdeveloped stock markets and therefore, cheap asset hypothesis (and expensive asset hypothesis) is likely to be more applicable in countries with underdeveloped stock markets. As per the above results, this hypothesis is supported in the context of Sri Lanka, which has one of the lowest market capitalisations in this sample of countries. In order to extend this analysis, nine countries in the sample were divided into two groups, based on the average market capitalisation ratio for last 10 years (Table 6-8).

Table 6-8: Degree of development of stock markets in selected countries

Country	Average market capitalization (% of GDP) for last 10 years (m)	Standard Deviation of market capitalization (% of GDP) for last 10 years (β)	β /m	Dummy variable (LD) for less developed stock market
China	72.2	23.35173	32.4	0
Hong Kong	465.8	104.5	22.4	0
India	71.9	21.6	30.0	0
Indonesia	37.3	14.2	38.0	1
Korea	87.4	24.1	27.6	0
Malaysia	127.7	35.4	27.7	0
Philippines	57.5	22.8	39.7	1
Sri Lanka	25.7	13.3	51.8	1
Thailand	63.7	22.7	35.6	1

Out of the 9 countries, Sri Lanka, Indonesia, Philippines, and Thailand have the lowest market capitalisation (as a % of GDP). These four countries also have the highest fluctuation in the market capitalisation, as suggested by β/m ratio (Table 6-8 Column 4). Therefore, out of the 9 countries, these countries appear to have the least developed stock markets, and therefore, they were assigned a dummy variable (LD) and the following specification was estimated.

$$\Delta FDI = \beta_0 + \beta_1 \, PER + \beta_2 \, LD_*PER + \beta_3 \, GGDP + \beta_4 \, \Delta TO + \beta_6 \, POLI + \beta_7 \, MC\_INS + \beta_8 \, EXR + \varepsilon_2 \quad (6.3)$$

Estimated results of specification 6.3 are reported in Table 6-9. Coefficient of stock market price level (L.PER) has a positive sign but insignificant. In line with previous empirical findings of Baker, Foley & Wurgler (2009), this result does not support the cheap asset hypothesis where price level and FDI is expected to have a negative relationship. However, coefficient of the interaction term between less developed stock market dummy and stock market price levels (LD_*L.PER), which corresponds to the additional effect of stock market price levels for countries with less developed stock markets, is negative, numerically very large and highly significant. Coefficient of L.PER for these countries corresponds to the sum of coefficients of L.PER and LD_*L.PER, which add up to a large negative value in all specifications. Therefore, as it was hypothesised, results indicate that stock market price level and FDI has a significant negative relationship in the context of countries with less developed stock markets.

Table 6-9: Estimated results of specification 6.3

Dependent variable: ΔFDI	(1)	(2)	(3)
L.PER	9.512	6.444	13.31
	(46.13)	(47.09)	(43.46)
LD*L.PER	-440.7***	-457.1***	-467.6***
	(115.1)	(114.9)	(127.6)
EDS	385.7*	391.3**	358.8*
	(225.0)	(186.8)	(194.4)
L.GGDP	-71.24	-50.41	-69.71
	(303.3)	(297.0)	(250.4)
D.TO	367.5***	370.5***	376.7***
	(83.32)	(84.22)	(82.17)
POLI	1,620	1,569	2,315*
	(1,180)	(1,038)	(1,288)
MC_INS	55.98	56.53	63.20*
	(40.45)	(40.10)	(38.22)
EXR	13.73	14.13	7.279
	(37.29)	(31.39)	(34.98)
D.TEL		167.5	176.1
		(607.2)	(700.6)
AFC			-3,759*
			(1,926)
GFC			1,371
			(3,723)
Constant	-12,757	-13,338	-11,378
	(20,420)	(17,315)	(17,558)
Observations	110	110	110
R-squared	0.472	0.472	0.471
Wald chi2	51.61***	54.62***	60.94***
Number of country	9	9	9

Standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

6.5 Analysis and Discussion of Results

6.5.1 Human capital as a determinant of FDI

It was revealed that human capital has a significant positive relationship with FDI inflows to the selected Asian countries. However, this was not the case for Sri Lanka; the relationship between human capital and FDI flows was significantly negative for Sri Lanka. Does this mean increase in human capital has negatively affected FDI flows to Sri Lanka? This is unlikely to be the case. We have to interpret the result cautiously, without establishing a naive causality of human capital affecting FDI negatively.

The negative relationship between human capital and FDI inflows in Sri Lanka may not be surprising due to few reasons. First, Sri Lanka's human capital indicators are more than exceptional, particularly for a developing country with less achievement in other facets. Since these other facets such as level of development, infrastructure, and income levels also affect FDI inflows, performance of FDI does not commensurate with the level of human capital. Therefore, further improvements in human capital cannot positively affect FDI inflows due to constraints in these other facets. Moreover, since Sri Lanka's secondary education enrolment rate was already very high in 1995, which is the starting period for this regression study, further increase in human capital after 1995 may be contributing diminishing marginal effects.

Even though we cannot conclude any causality of human capital negatively affecting FDI in Sri Lanka, we can clearly understand that Sri Lanka has not been able to capitalise on its impressive human capital indicators to attract FDI, formally from the results of the panel study, and casually from comparing Sri Lanka's performances in FDI and Human Capital indicators. Therefore, the important question is why Sri Lanka has not been able to capitalise on its impressive human capital indicators to attract FDI.

Quality of education and FDI inflows

If the quality of education differs between two countries, then there literacy rates and particularly the secondary/primary school enrolment ratios are difficult to be compared; A country with a less attractive literacy rates and schooling rates might have a more effective education system than a country that has a better profile in terms of literacy rates and secondary/primary school enrolment ratios, and therefore, the former might be

able to offer a better package of skills to foreign investors than the latter. This aspect is neglected in previous research studies, and therefore, may have also been a reason for some studies to produce weak relationships between Human capital and FDI inflows.

Even though Sri Lanka has a high rating in human capital index in terms of literacy rate and schooling rates (UNDP Sri Lanka, 1998; UNDP Sri Lanka, 2012; Duma, 2007; The World Bank, 2011), it might be the case that Sri Lanka has concentrated only on the quantity while neglecting the aspect of quality in education. It is noteworthy that Sri Lanka, being classified as a middle-level income group country, spends only a 3% of its national income on education, while average spending on education by countries in the low and lower-middle income groups are around 3.2% and 4.1% respectively (Ganegodage & Rambaldi, 2011). Education expenditure as a share of national income and as a share of government expenditure in Sri Lanka and selected other countries are given in Table 6-10. It can be clearly seen that Sri Lanka's spending on education does not commensurate with its achievement in education. Also, Sri Lanka's education system is highly criticised for being inefficient, and for having a low level of interaction between academic world and industry, which have resulted in high level of graduate unemployment (Aturupane, 2009; Country Summary of Higher Education, 2007; Ganegodage & Rambaldi, 2011).

Table 6-10: Education expenditure as a share of national income and government expenditures for Sri Lanka and selected other countries.

Country	Education Expenditure as a Proportion of National Income %	Education Expenditure as a Proportion of Government Expenditure %
Sri Lanka	2.8	8.3
India	3.7	10.7
Bangladesh	2.5	14.2
Pakistan	2.3	10.9
Nepal	3.4	14.9
Malaysia	8.0	28.0
Thailand	4.2	27.5
South Korea	4.6	15.0
Philippines	3.2	17.2
Costa Rica	4.9	18.5
South Asia	2.9	12.8
Lower Middle Income Countries	4.3	na
Upper Middle Income Countries	4.6	na

Source: (Aturupane, 2009)

Countries where education system is dominated by the public sector are well known for their associated inefficiencies that bring about negative impact on the quality of education (Bukowska & Siwińska-Gorzelak, 2011). Wößmann (2007) finds that student performance is better in countries with large share of privately managed schools. In Sri Lanka, private sector is largely excluded from the provision of education (Aturupane, 2009, Ganegoda & Rambaldi, 2011). Several efforts in the past to establish private universities in Sri Lanka were also blocked, mainly due to pressures of students, political parties, and various interest groups. Higher education is mainly catered through the 17 public universities, which are sufficient to cater to only 3% of student enrolment rate (Country Summary of Higher Education, 2007). Nevertheless, universities, other public institutions and unregulated private institutions, collectively, cater for about 18% of student enrolments (Country Summary of Higher Education, 2007). It is believed that a significant proportion of students go abroad for higher education but the exact statistics are not available (Silva, 2012). Limiting the private sector in participating in the provision of education has several negative consequences. It puts an extra burden on the government because the cost of providing education is largely borne by the government. This also reduces the resources available for the education sector, and undermines the efficiency of government education system due to lack of competition from private players (Aturupane, 2009). Furthermore, Sri Lanka has restrictions on FDI in education sector (UNCTAD, 2004). Such restrictions would further obstruct the flow of latest skills and knowledge to the country's education sector.

In his study examining the effects of educational performance on the economic growth of Sri Lanka and Pakistan during the period 1970–1994, Abbas (2001) has found that education at the primary level has a negative relationship, secondary level has a significant positive relationship and higher education has a positive but insignificant relationship to the economic growth of Sri Lanka. This raises questions on the efficacy of Sri Lanka's tertiary education investment because Sri Lanka spends more on tertiary education at the expense of primary and secondary schooling (Ganegodage & Rambaldi, 2011). Several studies have exposed the lower quality of education in primary schools and a mismatch between the skills and the needs of the job market and the education provided by secondary school system and the public universities (Aturupane, 2009; Country Summary of Higher Education, 2007; Ganegodage & Rambaldi, 2011).

Another interesting aspect that has not been taken account of in the previous research studies on FDI and human capital is the differences in compositions of the output of tertiary education systems in different countries. For example, some countries produce more scientists and engineers than other countries. These different compositions of the output of tertiary education system might have major implications on the level of FDI inflows as well as the type of FDI inflows that a country pursues. This neglected issue may have been a reason for some studies to produce weak relationships between Human capital and FDI inflows.

Interestingly, output composition of the Sri Lankan tertiary education system looks extraneous. The percentage of students studying subjects such as Engineering, Information and communication technologies, Medicine and Dental are very low while a large percentage of students are studying Arts and Law subjects (Figure 6-2). This might have major implications on the level of FDI inflows as well as the type of FDI inflows that Sri Lanka can pursue. Although, Sri Lanka is highly praised for its educational achievements, majority of FDI inflows to Sri Lanka has taken place in standard labour-intensive manufacturing sectors, out of which majority has concentrated in the garment industry (Athukorala, 2006). It might be the case that Sri Lanka does not have the required level of technical graduates to attract higher value added FDI. It would be intriguing to look at the output composition of tertiary education systems of other countries, especially of the countries that have been successful in attracting higher volumes of FDI and higher value added FDI. Although the contribution of higher technical education on FDI is not investigated, there exist studies where contribution of higher technical education on productivity growth is empirically investigated. In the McMahon (1984)'s study attempting to assess the effects of education on productivity growth, when their measure of schooling is augmented with higher science and technical education[39], then the higher science and technical education variable had a significant positive effect on labour productivity growth.

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[39] Higher science and technical education is measured as the number of newly trained physical scientists, social scientists, engineers, management personnel and agricultural specialists as a percentage of the labour force.

Figure 6-2: Undergraduate admissions by Broad fields
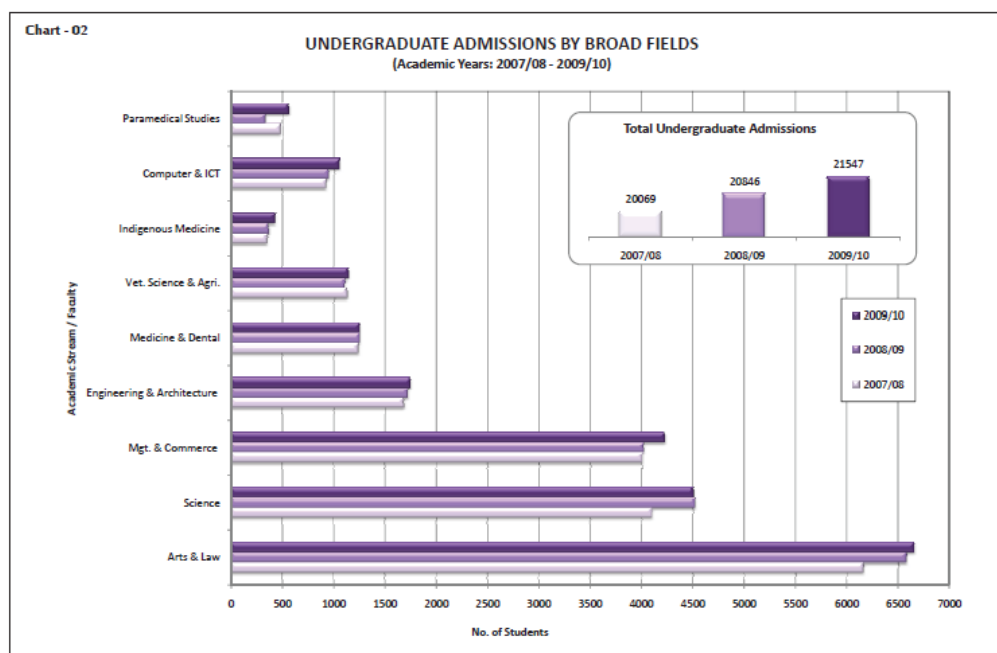
Source: University Grant Commission Sri Lanka, 2010

It appears that Sri Lanka's quality of education is not as good as its quantitative achievements in education. Therefore, in terms of quality of education, Sri Lanka may be far behind the countries which are successful in attracting FDI inflows. Therefore, these qualitative weaknesses in education are likely to have made Sri Lanka's high human capital indicators infertile in attracting foreign investors.

Linguistic capabilities/limitations of human capital and FDI inflows

Liability of foreignness (Hymer, 1960) and the associated administrative and transaction costs that MNCs must overcome when undertaking FDI in a host country can be better overcome if the home and host country share common language. On the empirical side, one observation in the FDI literature is the country-bias effects, i.e. FDI source countries tend to invest more in host countries that use the same language. For example, much of Chinese FDI inflows originate from East Asian countries with similar ethnic backgrounds and countries which have large Chinese Diaspora (Wei & Wang, 2009); Indian FDI inflows mainly come from English speaking countries (Aggarwal, 2008); and some of the major recipients of Turkish FDI are newly independent Turkish speaking

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Central Asian Republics (Demirbag, McGuinness, & Altay, 2010). Lundan & Jones (2001) suggest that the widespread use of the English language, along with other similarities within the Commonwealth, have lowered the cost of foreignness, and thereby, increase the bilateral trade and investment among the Commonwealth members. Adding to these, there is a tendency for MNCs to confine their early expansion to regions within their language groups (Welch, Welch, & Marschan-Piekkari, 2001). In many MNCs, staff in different countries are often required to operate in a common corporate language (Harzing, Köster, & Magner, 2011; Selmier Ii & Oh, 2012; Welch & Welch, 2008), and therefore, language skills are an important consideration of MNC strategy. Moreover, several empirical studies have shown that language distance between host and home countries plays a major role in determining bilateral FDI flows (Konara & Wei, 2013b; Goldberg, Heinkel, & Levi, 2005; Hejazi & Ma, 2011; Oh, Travis Selmier, & Lien, 2011).

Previous studies that have explored the relationship between human capital and FDI inflows have not considered the importance of language. Most of these studies rely on education enrolment rates and literacy rates. If language is important in determining FDI inflows, then overlooking linguistic capabilities of human capital i.e. not considering the language element of education enrolment rates and literacy rates may have been a reason for these studies to produce weak relationships between Human capital and FDI inflows. Providing support to this hypothesis, Konara & Wei (2013a) have shown that linguistic capabilities of human capital are important in determining bilateral FDI flows. Considering the relationships between language, human capital and FDI in a single framework, they show that human capital is a positive determinant of FDI flows. However, this positive effect of human capital diminishes when the host country becomes linguistically distant from the home country. Sri Lanka's high human capital indicators are largely based on vernacular languages, and therefore, Sri Lanka is likely to be at a disadvantage when attracting FDI.

Under the British colonial rule, Sri Lanka had two types of schools for aged from 5 to 18: higher status schools (fee levying) where the teaching was done in English medium and lower status primary schools (free education) where teaching was done in local languages (Punchi, 2001). Those who received education in vernacular languages were marginalised as they were not proficient in English, and most government employment

opportunities and opportunities for higher education were open only to the students from the fee-levying schools (Ranasingha 1999 in Punchi, 2001). This created hatred against the English language among the masses. Sri Lankan politicians, capitalising on this hatred to gain political advantage, made Sinhala language the only official language through the Sinhala only bill in 1956, and also made local languages (Sinhala and Tamil) as languages of instruction in education in all primary schools in 1945, in secondary schools in 1953 and in universities in 1960. These language policies laid the foundation for the ethnic division that later on led to a civil conflict and adversely affected the economic competitiveness of the country by reducing fluency in English, the lingua franca of the international business (Aturupane, 2009; Utne and Garbo, 2009; DeVotta, 2010; DeVotta, 2000). This exclusion of English from the primary and secondary education system still remains (Table 6-11); less than 1% of total students were studying in English in any grade in Sri Lanka in 2006 (Ministry of Education Sri Lanka, 2006).

Table 6-11: language of instruction and medium of study in primary and secondary education in Sri Lanka

Schools by language of instruction		Students by medium of study		
	No of schools		No of students	%
Sinhala only	6500	Sinhala	2,902,157	73.6
Tamil only	2825	Tamil	1,006,460	25.5
Sinhala and Tamil	40	English	33,795	0.9
Sinhala and English	249			
Tamil and English	86			
Sinhala, Tamil, and English	27			

Source: Ministry of Education Sri Lanka, 2006

If linguistic homogeneity is important in attracting foreign investors, Sri Lanka might not be able to capitalise on its high literacy rate as its literacy rate is largely based on 'Sinhala' language, a language that is understandable only by Sri Lankans. Similarly, Sri Lanka's high primary/secondary/tertiary enrolments rates would be, to some extent, impotent for attracting FDI because the languages of instruction in primary schools, secondary schools and universities are mainly vernacular languages.

Evolution of language of instruction in the education system in Sri Lanka can be contrasted with that of India. Similar to Sri Lanka, English was established as the medium of instruction and administration in India during British occupation and was

replaced by Hindi after the independence due to nationalist movement that wanted an indigenous Indian language to be adopted as the official language. Imposition of Hindi, which is not evenly distributed throughout India, as the official language led to ethnic conflicts as it was the case with Sri Lanka. However, in direct contrast to Sri Lanka, central government of India made Hindi and English joint official languages in 1967 (Hohenthal, 2003). This change significantly increased English literacy in India, particularly among speakers of languages linguistically distant to Hindi (Shastry, 2012).

Therefore, India's English literacy rate is far superior to that of Sri Lanka's. For this reason, even though India's literacy rate and school enrolment rates are considerably low compared to Sri Lanka, India's effective literacy rate and effective school enrolment rates (effective in the sense applicable to international business) might be higher than that of Sri Lanka's. Therefore, Sri Lanka's low level of English proficiency is likely to be a major barrier for attracting FDI inflows.

Widespread education/literacy (lower GINI coefficient of education) and FDI inflows

Sri Lanka enjoys a widespread literacy rate and its population enjoys relatively long years of education. Literacy rates are evenly spread as it is depicted by a low GINI coefficient (Figure 6-3). As a result of the deficiencies in the education system identified previously, Sri Lanka might not possess a considerable proportion of highly skilled labour or a rich endowment of human capital. Is it likely that such a high literacy rate and a low GINI on education, though most admirable from a social and politico economic point of view, might not be attractive to MNCs, especially those who seek high skilled labour. Instead of widespread literacy, they may seek an oasis of highly educated skilled labour as Sri Lanka is a largely service based economy. Contrastingly, India has a very low level of average years of education and a very high GINI coefficient. Therefore, while bulk of their population being illiterate, India might possess a small proportion of highly skilled labour or a rich endowment of human capital. This might explain why India, relative to Sri Lanka, has been successful in attracting large volumes of FDI in the recent past, particularly in the services sector.

Figure 6-3: Education Gini Coefficient for selected countries, 1990
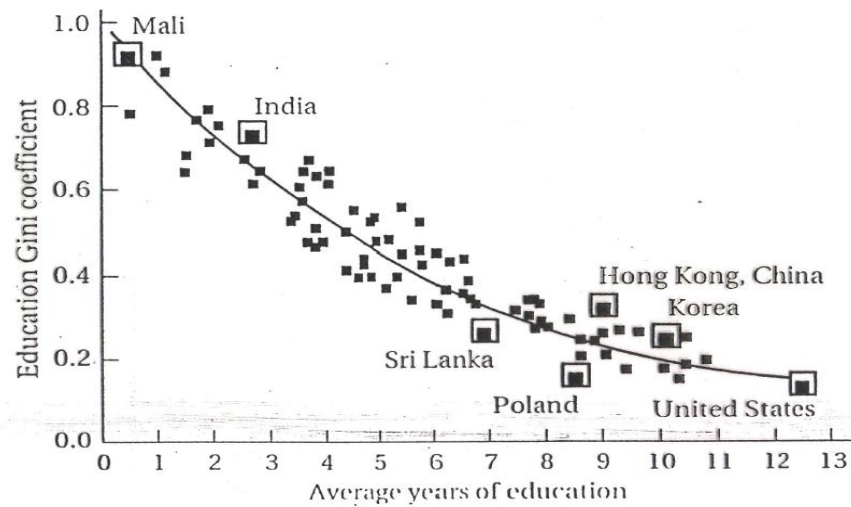
Source: Thomas et al., 2000

Also, low GINI on education in Sri Lanka might have implications for the impact of FDI. It could be possible that whilst FDI may promote growth it may not promote development in the sense that a low GINI on education would not necessarily assist in promoting technology and know-how and activities associated with high technology. Therefore it will be informative to understand how this evenly distributed literacy rate affects both the attractiveness of the country to MNCs and the impact of FDI, a potential topic for future research.

6.5.2. Stock market valuations as a determinant of FDI

In line with the findings of Baker, Foley & Wurgler (2009), when all countries are considered together, this study did not reveal any relationship between host country stock market valuations and FDI inflows. However, as it was hypothesised, host country stock market valuations and FDI inflows has a significant negative relationship in the context of Sri Lanka. Moreover, the relationship between host country stock market valuations and FDI inflows was negative and significant for the countries with less developed stock markets. Therefore, these results indicate that cheap assets hypothesis (and expensive assets hypothesis) is likely to be applicable in the Sri Lanka's context and in the context of countries with less developed stock markets.

Sri Lanka's recent performance in stock market and FDI provide evidence for cheap assets hypothesis (and expensive assets hypothesis) in the context of FDI. This finding is not only important to Sri Lanka, but also to other countries with underdeveloped stock markets. As it was emphasised earlier, due to the distinctive characteristics of underdeveloped stock markets, the degree of mispricing can be higher in developing country stock markets and therefore, cheap asset hypothesis (and expensive asset hypothesis) is likely to be more applicable to developing countries than developed countries.

However, this finding is only based on a sample of nine countries, and therefore, it would shed more light if we can use data on several countries with less developed stock markets. However, this is practically difficult because of the difficulty of finding past stock market valuation data on underdeveloped stock markets.

The above observations bring attention to another interesting question. Have these high price levels in the stock market resulted in any foreign divestments, particularly through the stock market? This should be the case because, during 2009-2011, CSE has experience a net foreign outflow of US$ 412, a figure larger than 10% of total foreign holdings of the CSE as at the end the end of year 2011. The magnitude of this figure suggests that foreign stakes of some of the companies should have been considerably decreased. However, a detail study on the extent of fall in foreign stake is not possible due to data limitations.

6.5.3. Other FDI determinants

This study also provided a platform to verify other conventional FDI determinants as they were used as control variables. Results of this study indicated that trade openness is a significant positive determinant of FDI flows to selected countries.

This study provided evidence for positive association of good institutional factors and FDI. Coefficients of both regulatory quality and political stability had the expected positive sign and were significant. However, contrary to our expectations, control for corruption had a negative coefficient but insignificant. Therefore, in line with some of the previous empirical studies (Walsh & Yu, 2010), effect of corruption on FDI remained largely inconclusive in our study. Countries in Asia and countries in South Asia in

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particular perform poorly in terms of institutional factors. As it was presented earlier, and summarised in Table 6-12, East Asian average is negative for Control for corruption and Regulatory quality and slightly positive for Rule of law; and South Asian average is negative for all three institutional factors. Even though Sri Lanka's institutional environment is weak, this fact will not be that frustrating in terms of attracting FDI because Sri Lanka's institutional environment is at least not worse than its counterparts in the South Asian region. Sri Lanka could also benefit from the improvements in political stability due to the end of civil war. However, Sri Lanka will have to improve its institutional environment in order to standout in the region or at least to stay par with other regional counterparts since most of the countries in the region are pursuing institutional reforms.

Table 6-12: Institutional factors for South Asia, East Asia and OECD

	Control for corruption		Rule of law		Regulatory quality	
	Percentile Rank	Governance Score	Percentile Rank	Governance Score	Percentile Rank	Governance Score
South Asia	30.2	-0.64	35	-0.6	26.9	-0.74
East Asia	45.8	-0.18	50.8	0.02	41.1	-0.29
OECD	89.8	1.61	90.4	1.5	90.4	1.44

Source: World Wide Governance Indicators 2010b

Exchange rate was found to be positively associated with FDI flows to the selected countries. This indicates that depreciation of exchange rate is associated with higher FDI flows. This finding has a major implication for Sri Lanka. Due to overvalued exchange rate, Sri Lanka's competitiveness in attracting FDI is likely to be largely compromised. Past empirical evidence provide evidence for a larger effect of exchange rate on export oriented FDI. Therefore, Sri Lanka's export competitiveness, and therefore, capacity to attract export oriented FDI is also likely to be compromised.

This study failed to support a positive association between improvements in infrastructure and FDI inflows. However, there were couple of issues regarding the variable used to represent the level of infrastructure: Telephone connections per 100 people (TEL). First, the variable "TEL" represents only a one aspect of infrastructure and therefore fails to act as a composite measure of level of infrastructure in a country. Second, it was not possible to incorporate the variable "TEL" as a regressor in its level form due to its non-stationarity and hence ΔTEL was used instead. But the stationarity of

ΔTEL was not assuredly confirmed. Although this study is constrained from the above mentioned limitations, results of this study combined with findings from previous research studies point out that infrastructure is an important determinant of FDI. Therefore, Sri Lanka's infrastructure deficits are likely to stifle FDI. As it was presented earlier, Sri Lanka has severe infrastructure deficits in internal transport (road and railroad) and power categories. These categories are likely to be more crucial for manufacturing industries than services industries. Therefore, deficiencies in these categories is likely to be a major reason for Sri Lanka to perform poorly in FDI in manufacturing sectors compared to FDI in services. However, Sri Lanka's infrastructure standards in telecommunication are irreprehensible. Infrastructure in telecommunication is crucial for services, and this fact might have facilitated Sri Lanka's better performance in FDI in services compared to FDI in manufacturing.

GDP growth rate was found to be insignificant as a determinant of FDI in the selected countries in Asia. This might have been due to the larger proportion of vertical FDI in FDI flows to the selected countries.

Although there are theoretical arguments favouring both complementary and substituting relationships between local stock market development and FDI, arguments favouring a complementary effect of stock market development on FDI inflows are much stronger. Supporting this, results of this study indicate that the stock market development is positively related to FDI inflows, and therefore, results of this study suggest that complementary effect between stock market development and FDI inflows is predominant over their substitute effect.

6.6 Concluding Remarks

This chapter examined the determinants of FDI by conducting a panel study based on annual FDI inflows to a selected group of countries in Asia. It was evident that the relationship between human capital and FDI flows was significantly negative for Sri Lanka while, in general, human capital has been a positive determinant of FDI flows to rest of the countries. Several reasons for this deviation were identified and examined in this chapter. Therefore, it can be concluded that Sri Lanka's so called impressive human capital indicators have not been able to augment FDI inflows possibly due to linguistic limitations of the human capital and qualitative weaknesses in the education system.

Study also revealed a significant negative relationship between host country stock market valuations and FDI inflows in the context of Sri Lanka, while not revealing any relationship between host country stock market valuations and FDI inflows for rest of the countries taken as a whole. When the sample is divided into two groups based on the level of development on their stock markets, the effect of host country stock market valuations on FDI inflows was negative for the countries with less developed stock markets and was positive but insignificant for the other countries. Therefore, these results indicate that cheap assets hypothesis and expensive assets hypothesis are likely to be applicable in the Sri Lanka's context and in the context of countries with less developed stock markets.

Finally, this study also confirmed the importance of trade openness, political stability, regulatory quality and exchange rate for attracting FDI flows in the context of these Asian countries.

Chapter 7 : FDI Spillover Effects: Evidence from Sri Lanka

7.1. Introduction

This chapter presents an empirical study conducted to examine the impact of FDI on firm level productivity in the context of Sri Lanka. Using Sri Lanka 2011 Enterprise Survey Data Set published by World Bank, this study examines the direct effects (own firm effects of foreign owned firms) and spillover effects (effects of foreign owned firms on other firms) of FDI on firm level labour productivity. This chapter is organised as follows. Sections 7.2 provide a theoretical discussion on FDI and firm level productivity. Section 7.3 provides a preliminary investigation of own firm effects of foreign firms. Section 7.4 includes an empirical study focuses on estimating direct effects and spillover effects of FDI on firm level labour productivity. Finally, section 7.5 concludes the chapter by highlighting the conclusions and contribution of this study.

7.2. FDI and Firm Productivity

Theories of FDI demonstrate that foreign firms possess significant ownership advantages over domestic firms, without which they would not be able to engage in FDI (United Nations, 1992). This supposition leads to the inference that foreign firms are productive than domestic firms. To put it differently, foreign firms that are not productive than domestic firms cannot enter the host country due to entry costs (Moller, Markusen, & Schjerning, 2007). Much of the foreign firms' higher productivity stems from their advanced technological knowledge, improved marketing and management skills, international contacts, and reputation (United Nations, 1992; Aitken & Harrison, 1999). If foreign ownership leads to subsequent increase in productivity in the firm (own firm effects), then such an increase is beneficial to the host country. However, foreign firms' superior productivity can also stem from the sample selection bias: It is believed that MNCs tend to acquire or join up with local firms with higher than average productivity (Vahter, 2004; Vahter & Masso, 2006).

Although most of the literature points to a positive own firm productivity effects, there are few instances in the literature indicating the possibility of foreign firms to have lower productivity than domestic firms (Vahter, 2004). Foreign owned firms may not be as productive as domestic firms, particularly in the short run, due to liability of foreignness

and initial difficulties in assimilating the new venture into the MNC's network (Harris & Robinson, 2003). Use of lower skilled workers and older technology due to MNCs tendency to retain most of their higher value adding operations at home and locate lower value-adding operations in the host country can also bring down foreign owned firms productivity (Domes & Jensen, 1998).

Presence of foreign firms can also affect performance of domestic firms. Foreign firms' superior productivity can spillover to domestic firms, often in the form of technology transfer (Hanousek, Kočenda, & Maurel, 2011). Such spillovers occur when MNC's cannot completely internalise their ownership advantages due to public good characteristics of firm specific assets (Vahter & Masso, 2006; Vahter, 2004). Literature recognizes three main channels of productivity spillovers; demonstration effects, worker turnover and competition effects (Blomström & Kokko, 1998; Havranek & Irsova, 2012; Bwalya, 2006; Hanousek, Kočenda, & Maurel, 2011; Kugler, 2006). Under demonstration effects, local firms can improve their productivity by observing and adopting/imitating advance technologies, and managerial and organisational skills that foreign firms possess. Through observing foreign firms, local firms can not only detect existence of new/advance products and processes but also understand the benefits and risks of adopting them; this will increase the chances of adopting/imitating these technologies by local firms (Blomström & Kokko, 1998).

Local firms will also be exposed to foreign firms' expertise when local firms engage in arm's length relationships with foreign firms, particularly in the form of upstream and downstream relationships (Görg & Strobl, 2001). Additionally, foreign firms may provide training and support, particularly in the form of technical assistance, to their suppliers and customers, and this could benefit local firms in upstream and downstream sectors.

Foreign owned firms hire local employees and these employees will be exposed to foreign firms' superior technologies. Moreover, foreign firms have a reputation for training their staff (Aitken & Harrison, 1999; Blomström & Kokko, 1998). Spillovers through worker turnover occur when these workers are subsequently hired by local firms or when these employees start their own firms.

The competition effect can have both positive effects and negative effects on local firms. Local firms may be forced to improve their efficiencies in order to compete with foreign owned firms. The competition may also encourage local firms to innovate and find more efficient technologies. Average productivity of local firms can also increase due to the selection effect under which only the fittest firms will survive the foreign competition (Kugler, 2006). Some industries are associated with high initial capital requirements, advanced technology, and intensive advertising. Local firms may not have the necessary capacity to enter/compete in such industries, particularly in less developed and/or small countries, and this can lead to high concentration in such industries. Not only foreign firms are likely to enter just those industries but they are also capable of entering/competing in such industries due to their scale, resource and technological superiorities. Therefore, foreign firms' entry into such monopolistic industries is likely to increase the level of competition within such industries, and compel existing firms to become more efficient (Blomström & Kokko, 1998). However, due to weaknesses of local competition, MNCs could attain a higher degree of market dominance, which could lead to higher concentration (Blomström & Kokko, 1998; Lall, 1978). Higher competition can also adversely affect local firms' productivities. Increase competition from foreign firms may compel local firms to operate in less-efficient scales of production; when local firms lose market share amid competition by foreign firms, local firms can experience lower productivities because their fixed costs are being spread over a smaller output (Lipsey, 2004; Javorcik, 2004; Aitken & Harrison, 1999). This could also hurt the technology progress of local firms because larger and profitable firms are in a better position to undertake R&D and also to enjoy economies of scale in R&D (Blomström & Kokko, 1998).

Spillovers of FDI are typically categorised into two types: horizontal and vertical spillovers. Externalities of a foreign firm on the domestic firms in its own industry are categorized as horizontal spillovers and externalities of a foreign firm on the firms in upstream industries (backward spillovers) and downstream industries (forward spillovers) are categorized as vertical spillovers (Hanousek, Kočenda, & Maurel, 2011; Havranek & Irsova, 2012). There is a wide held expectation for vertical spillovers, particularly backward spillovers, to be significant than horizontal spillovers (Kugler, 2006; Javorcik, 2004). The competition effects discussed above primarily take place within industries rather than between industries (Kugler, 2006), and therefore they are

commonly associated with horizontal spillovers rather than vertical spillovers. Unlike demonstration and worker turnover effects that are presumably positive, competition can have both positive and negative externalities (Vahter, 2004). Moreover, MNCs may lose competitiveness when their firm specific advantages are leaked to competitors, but MNCs can benefit by transferring their knowledge to their suppliers. Therefore, MNCs are encouraged to prevent spillovers to local firms in their own industry while encouraged to facilitate spillovers to their local suppliers (Javorcik, 2004). Therefore, vertical spillovers are more likely to be positive than horizontal spillovers. Forward spillovers are also likely to exist because of MNCs' provision of product/service inputs that are technologically more advanced, are less costly or previously did not exist (Javorcik, 2004).

Empirical evidence, except handful of exceptions, provide strong evidence for positive own firm effects of foreign ownership (Vahter, 2004; Lipsey, 2004; Chang, Chung, & Moon, 2013). In most of the exceptions, some of which are included below, higher productivity of foreign firms can be attributed to their larger size or higher capital intensity (Lipsey, 2004). Controlling for differences in capital intensity, labor quality, scale, and concentration, Blomström (1988), finds that foreign affiliates in Mexican manufacturing industries are significantly more productive than local Mexican firms. Looking at firms in manufacturing sectors in Hong Kong, Indonesia, Malaysia, Singapore and Taiwan, Ramstetter (1999) finds that, except Malaysia, foreign firms in all other countries have higher productivities than local firms. Using panel data on Venezuelan plants between 1976 and 1989, Aitken & Harrison (1999) find that foreign owned plants are more productive than domestic plants. However, this productive advantage of foreign firms was robust only for smaller plants that employ less than 50 employees. Globerman, Ries, & Vertinsky (1994), comparing economic performance of foreign-owned firm and local firms in Canada, found that although foreign owned firms were relatively more productive in terms of value added per worker, this superior productivity disappear when size and capital intensity are controlled for. Based on panel data from Estonia for the period 1995–2002, Vahter & Masso (2006) shows that foreign owned firms in Estonia have higher TFP than domestic firms. Recently, based on Chinese firm level data, Chang, Chung, & Moon (2013) find superior performance associated with foreign acquired local firms compared to comparable local firms,

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particularly when foreign firms acquire local firms with higher absorptive capacity or modernised ownership structure.

Although relatively few studies have looked at own firm effects of FDI, possibly because authors have generally taken foreign owned firms' productivity superiority for granted, plethora of studies have examined the productivity spillover of FDI on domestic firms, and these studies have produced mixed results (Lipsey, 2004).

Blomström & Persson (1983) analysed spillovers of foreign firms on Mexican manufacturing industries in 1970. Controlling for capital intensity, labour quality and scale of production, they found that labour productivity in domestic owned plants are positively associated with the extent of foreign owned plants in the industry. Kokko (1994), analysing spillovers of foreign firms on domestic manufacturing industries in the same country, found that, generally, presence of foreign firms increase labour productivity of domestic firms. However, extent of spillovers differed across industries and spillovers were less likely in industries where large technology gaps and high foreign market shares coincide, which authors designated as industries with "enclave" characteristics.

Using panel data on Venezuelan plants between 1976 and 1989, Aitken & Harrison (1999) exposed that foreign owned plants has negatively affected the productivity of domestic plants in Venezuela. However, own firm positive effects were slightly higher than negative spillover effects of FDI, and therefore, the overall effect of FDI on productivity in Venezuelan plants were marginally positive. Thereafter, trying to replicate Aitken & Harrison (1999)'s results for other countries, several studies found insignificant or negative spillovers for Czech Republic, India, Lithuania, China, and Mexico (Herzer, 2012, page 397).

Using Taiwanese firm-level data, Chuang & Lin (1999) found that FDI have positive spillover effect on productivity of domestic firms. In contrast, they found weak evidence for spillover effects on productivity of other foreign owned firms. Conducting a meta-analysis of 32 empirical studies on technology spillovers from FDI in developing countries, Wooster & Diebel (2010) shows that past empirical evidence, collectively, provide weak support for the presence of horizontal spillovers in developing countries.

As is expected from theoretical considerations, between horizontal and vertical spillovers, empirical findings favours for the existence of vertical spillovers, particularly supporting vertical spillovers taking place through backward linkages. Using firm level data from Lithuania for the period 1996-2000, Smarzynska (2002) provide evidence of positive spillovers taking place through backward linkages but they do not find evidence of horizontal spillovers. Havranek & Irsova (2012) conducted a meta-analysis of the literature on horizontal and vertical spillovers[40]. The average spillover estimates of their sample were insignificant for horizontal spillovers, negligible for forward spillovers and significant for backward spillovers. Based on firm-level data from Lithuania, Javorcik (2004) finds evidence for presence of productivity spillovers taking place through backward linkages while finding no evidence for the presence of horizontal spillovers or spillovers taking place through forward linkages. Moreover, their results indicate that spillovers are associated with partially owned foreign investments but not with fully owned foreign investments.

A recent econometric study conducted by Jeon, Park, & Ghauri (2013) using Chinese firm-level panel dataset provides some interesting findings. They investigate the extent of horizontal and vertical spillover effects of foreign firms in different industries. With respect to horizontal spillovers, they find mixed results (positive and negative spillovers) associated with high and medium technology industries. However, they find consistent negative spillovers associated with most of the low technology intensive industries. With respect to vertical spillovers, they find positive spillovers associated with most of the industries.

In sum, extant literature and empirical studies provides a strong support for the own firm effects of foreign firms. Evidence on spillover effects of foreign firms on local firms is mixed, particularly for horizontal spillovers. Moreover, past empirical evidence, collectively, provide weak support for the presence of horizontal spillovers in developing countries.

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[40] However, their sample included studies that focus on vertical spillovers, and therefore their sample is not fully representative of studies on horizontal spillovers.

7.3. Data, Descriptive Statistics and Preliminary Investigation at Own Firm Effects of Foreign Firms

Data used in this empirical study come from the Sri Lanka 2011 Enterprise Surveys Data Set published by World Bank. This data set contains firm level data on 610 firms in both manufacturing and services sectors[41]. World Bank Enterprise Survey uses a uniform sampling methodology and a common questionnaire for the participating countries. In the Enterprise Survey, firms are randomly selected from the universe of registered businesses[42] based on a stratified random sampling with three levels of stratification: industry, establishment size, and region. Thereafter, enumerators personally visit the sampled firms and collect a range of quantitative and qualitative information through the survey questionnaire.

Table 7-1 presents the breakdown of local and foreign firms in each sector and their share of sales and workers in each sector. It can be seen that penetration of foreign investment is low in most of the sectors. One salient limitation of this sample is that only a few foreign firms are included in some sectors, particularly in Textile, Wearing Apparel and Leather Products category. Available evidence shows that although the number of foreign firms is low in this sector, they account for a larger share of output (Kelegama & Foley, 1999).

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[41] Universe of this study is the non-agricultural economy, comprising all manufacturing sectors (group D), construction sector (group F), services sector (groups G and H), and transport, storage, and communications sector (group I) and IT (sub-sector 72 of group K). Group classification is based on ISIC Revision 3.1.

[42] Sample frame used for this survey is the database of firms obtained from the Department of Census and Statistics of Sri Lanka.

Table 7-1: Local and foreign firms' share of activity in each sector

Sector	No of Firms			Sales (%)		Employment (%)	
	Total firms	Local firms	Foreign affiliates	Local firms	Foreign affiliates	Local firms	Foreign affiliates
Food, Beverages and Tobacco Products	130	124	6	82.1	17.9	85.8	14.2
Textile, Wearing Apparel and Leather Products	130	129	1	99.9	0.1	99	1
Wood and Wood Products	34	34	0	100	0	100	0
Paper Products, Publishing and Printing	6	5	1	9.5	90.5	41.4	58.6
Chemical, Petroleum, Coal, Rubber and Plastic Products	20	17	3	69.3	30.7	94.4	5.6
Non-metallic Mineral Products	30	28	2	94.2	5.8	80.1	19.9
Fabricated Metal Products, Machinery and Transport Equipment	4	4	0	100	0	100	0
Manufactured Products (n.e.s)	2	2	0	100	0	100	0
Services	246	229	17	75.4	23.8	83.2	15.7
	602	572	30				

Source: Sri Lanka 2011 Enterprise Survey Data

Table 7-2 reports the descriptive statistics differentiated by foreign and domestic ownership. Foreign firms are considerably larger than domestic firms in terms of both sales and employment and enjoy a substantially higher productivity and profitability relative to domestic firms. Foreign firms pay a higher nominal wage rate and employ a higher percentage of educated employees compared to local firms. However, the effective wage rate measured by skill adjusted wage rate is lower for foreign firms. Therefore, even though foreign firms pay a higher wage rate, it is because they hire higher proportion of skilled workforce. Put it differently, foreign firms does not pay a higher wage rate for a given level of human capital. Capital intensity, measured as energy consumption per employee[43], is considerably higher in foreign firms compared to local firms.

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[43] Ideally, net assets per worker, which is the popular choice for representing capital intensity in previous studies, would be a better proxy for capital intensity of a firm. Since majority of firms have not reported their net assets value, energy consumption per worker is chosen to proxy the capital intensity. There is a large literature indicating that capital and energy are complementary inputs in manufacturing (see Globerman, Ries, & Vertinsky, 1994). This approach is used in several studies (for example, Lipsey & Sjöholm, 2004a; Lipsey & Sjöholm, 2004b; Lipsey & Sjöholm, 2004c; Globerman, Ries, & Vertinsky, 1994). Energy consumption is taken as the total cost of fuel and electricity for the manufacturing sector and cost of electricity for the services sector.

Table 7-2: Descriptive statistics by foreign and domestic ownership

	Domestic	Foreign
sales (Rs Mn)	199.2	1006.1
employment	88	240
Labour productivity (Rs Mn per worker)	2.34	7.03
Profit (Rs Mn)	62.68	313.66
Wage rate (Rs ,000)	197.2	692.8
Percentage of full-time permanent workers who completed secondary school	52.3	67.3
Skills adjusted wage rate (wage rate/secondary education level)	14.5	9.6
Exporting firms (%)	7.9	30
Percentage of sales exports from total sales (%)	4.8	16.7
Importing firms (%)	10.2	26.7
Inputs of foreign origin (%)	10.2	35.6
Directly or indirectly exporting firms (%)	16.6	46.7
% of firms which have introduced new products or services during past 3 years	29.4	63.3
% of firms which have introduced new or significantly improved methods during past 3 years	42.2	69
% of firms which have introduced new or significantly improved logistic or business support processes past 3 years	37.7	65.5
% of firms which have introduced new or significantly improved organizational structures or management practices during past 3 years	34.4	70
% of firms which have introduced new or significantly improved marketing methods during past 3 years	38.7	75.9
% of firms which have incurred R&D expenditure during past 3 years	11.2	41.4
% of firms which have had formal training programs	25.4	83.3
Average staff turnover	22.3	14.4
Capital intensity (energy consumption per employee)	106.99	188.02

Out of total foreign firms, 30% are engaged in exporting while only 7.9% of local firms are engaged in exporting. On average, foreign firms' export intensity, measured as the percentage of exports from total sales, is considerably higher than that of local firms. Therefore, it seems foreign firms are more export oriented than local firms. Out of total foreign firms, 26.7% are engaged in importing while only 10.2% of local firms are engaged in importing. Foreign firms, on average, imports 35.6% of its inputs, while domestic firms using only 10.2% of inputs of foreign origin. Therefore, it seems that foreign firms are much more import oriented. Even when both direct and indirect exporting are considered, foreign firms significantly outperform local firm; 47% of foreign firms engaged in either exporting or indirectly exporting while only 16.6% of local firms are engaged in either exporting or indirect exporting. Since foreign firms are very active in both exporting and indirect exporting, it may be the case that foreign firm are exporting via other foreign firms. This speculation coupled with higher import propensity of foreign firms may suggest that foreign firms source larger proportion of their inputs either from abroad or from foreign firms established in the host country. However, this speculation cannot be confidently ascertained without observing the dyadic sourcing relationships between sourcing and supplying firms.

Foreign firms tend to engage in research and development activities much more than local counterparts; 41.4% of foreign firms have incurred research and development expenditure during past three years compared to 11.2% of local firms. While only a quarter of local firms have undertaken formal training programmes, more than 83% of foreign firms have undertaken training programmes. Foreign firms experience much lower staff turnover compared to domestic firms. Moreover, compared to domestic firms, foreign firms display much higher propensity in introducing new products/services, new or significantly improved methods, new or significantly improved logistic or business support processes, new or significantly improved organisational structures or management practices, and new or significantly improved marketing methods.

Table 7-2 shows that foreign firms are distinctive from domestic firms in each reported characteristic. However, simple comparison of average of each characteristic for foreign firms and domestic firms is not adequate. In order to check whether these differences are significant Two-sample t test was employed and the results are reported in column one of

Table 7-3. Also, in order to account for sector specific differences, following model was estimated for each characteristic:

$$Y_i = \beta_0 + \beta \, FDI_i + U_j + \varepsilon_i$$

Where Y is the each characteristic observed in Table 7-2 and FDI is a dummy variable identifying whether or not a firm has FDI which adopts the value of 1 if the firm's foreign ownership is more than 10% and zero otherwise. U_j is a vector of sector specific dummies. Estimated regression coefficients of FDI (β) are reported in column two of Table 7-3[44].

Results presented in Table 7-3 show that compared to domestic firms, foreign firms are larger, more productive and more profitable. They also tend to hire high proportion of skilled workers and pay higher wages than their domestic counterparts. Furthermore, foreign firms are more export oriented and rely more on inputs of foreign origin than local firms. Foreign firms tend to be more active in R&D and undertake more in-house training programmes than domestic counterparts. Foreign firms are much more innovative than domestic firms; foreign firms display much higher propensity in introducing new/improved products, services, methods, processes, management practice and marketing methods. These results are largely consistent with empirical studies conducted on other countries (Yasar & Paul, 2007; Chudnovsky, López, & Rossi, 2008; Doms & Jensen, 1998) which have found similar superior characteristics associated with foreign firms. Even though initial crude comparisons show that foreign firms have lower skill adjusted wage rate, lower staff turnover and higher capital intensity, subsequent analysis show that these differences are not statistically different from zero. Most importantly, observed differences between foreign firms and local firms mostly persisted when controlled for sector specific effects. However, it is important to highlight one limitation of this methodology. Except for sector specific effects, I do not separately account for other factors that might be relevant to explaining each type of characteristic observed. For example, differences in labour productivity may be due to other factors that can affect labour productivity such as capital intensity and skill intensity of the workforce.

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[44] When the dependent variable is a binary variable, probit estimation was used instead of OLS.

Table 7-3: Differences between foreign owned firms and domestic firms

Dependent variable	Two-sample t test difference = mean(Foreign) - mean(Domestic)[45]	Estimated coefficient of FDI (β) with sector specific dummies as control variables)
Sales (Rs Mn)	806.9***	762.5***
	(213.8)	(217.1)
Employment	152.1**	144.9**
	(60.10)	(60.79)
Labour productivity (Rs Mn per worker)	4.696***	4.345***
	(1.340)	(1.361)
Profit (Rs Mn)	251.0**	187.8*
	(98.67)	(101.8)
Wage rate (Rs ,000 per worker)	495.6***	471.8***
	(77.71)	(77.79)
Secondary education level : Percentage of full-time permanent workers who completed secondary school	15.06**	12.56*
	(6.582)	(6.432)
Skills adjusted wage rate (wage rate/secondary education level)	-4,884	-799.4
	(15,373)	(11,964)
Exporting firm (= 1 if the firm exports and 0 otherwise)	0.22***	.86***
	(0.05)	(.25)
Export intensity: Percentage of sales exports from total sales (%)	11.90***	11.67***
	(3.882)	(3.894)
Importing firm (= 1 if the firm imports and 0 otherwise)	0.16***	1.23***
	(0.05)	(.38)
Import intensity: Inputs of foreign origin (%)	25.40***	24.21***
	(7.526)	(7.364)
Directly or indirectly exporting firm (= 1 if the firm exports directly or indirectly and 0 otherwise)	0.3***	.996***
	(0. 07)	(.249)
New Product (=1 if the firm introduced new products or services during past 3 years and 0 otherwise)	0.339***	.831***
	(0.085)	(.244)
New Process (=1 if the firm introduced new or significantly improved methods during past 3 years and 0 otherwise)	0.266***	.59**
	(0.093)	(.25)
New Process2 (=1 if the firm introduced new or significantly improved logistic or business support processes past 3 years and 0 otherwise)	0.277***	.58**
	(.092)	(.25)
New Management (=1 if the firm introduced new or significantly improved organizational structures or management practices during past 3 years and 0 otherwise)	0.356***	.79***
	(0.088)	(.25)
New Marketing (=1 if the firm introduced new or significantly improved marketing methods during past 3 years and 0 otherwise)	0 .371***	.93***
	(0.092)	(.26)
R&D firm (=1 if the firm incurred R&D expenditure during past 3 years and 0 otherwise)	0.301***	.909***
	(0.062)	(.249)
Training firm (=1 if the firm had formal training programs for its permanent, full-time employees and during the year and 0 otherwise)	0.579***	1.63***
	(0.081)	(.29)
Staff turnover (staff turnover/	-7.873	-4.976
	(6.464)	(6.410)
Capital intensity (Energy consumption per employee)	81.04	87.79
	(165.1)	(168.2)

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[45] Two-sample t test difference = mean (Foreign) – mean (Domestic). Standard errors of the differences in means are reported in parenthesis. The significance level is based on the p value of the null hypothesis that difference between foreign firms and domestic firms are zero.

7.4. Direct and Indirect Effects of FDI on Firm Level Productivity: a Cross Sectional Econometric Study

Direct and indirect effects of FDI on firm level productivity are usually estimated based on the production function using econometric analysis regressing firm productivity, either labour productivity or total factor productivity, on factors that can affect productivity (Vahter, 2004; Hanousek, Kočenda, & Maurel, 2011). Among the explanatory variables, a measure of foreign presence in the firm is included to assess the direct effects and a measure of foreign presence in the sector in which the firm operates is included to assess the indirect effects (Aitken & Harrison, 1999; Vahter, 2004). Along these lines, this empirical study focuses on estimating direct effects of FDI on labour productivity in foreign affiliates and spillover effects of FDI on labour productivity in other firms[46].

This study investigates the spillover effects of foreign firms on other firms in the same sector. The effect of foreign firms on downstream and upstream sectors could not be investigated due to unavailability of recent input output table for Sri Lanka. However, since this study uses a broad sectoral classification, i.e. a classification that is largely based on two digit sectoral classification, some vertical relationships between 3-digit level sectors or between more detailed level sectors will be included within each of the two digit level sector (Vahter & Masso, 2006). Moreover, in the classification used in this study, some of the two digit sectors are grouped into broader categories, and therefore, even relationships between 2-digit level sectors are included within each category. For example two digit sectors 17 to 19, i.e. Textiles (17), Garments (18) and Leather (19) are considered as a one category, and therefore, vertical relationships among these three categories are included within the considered category. Therefore, although the measured spillover effects largely represent horizontal effects, they may capture a considerable amount of the vertical effects within the categories considered in this study.

In line with previous literature on FDI spillovers, the following initial representation is formulated:

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[46] Due to data limitations on input costs and capital employed, total factor productivity cannot be accurately measured, and therefore, labour productivity was chosen as the measure of productivity for this study.

$$LP_i = \beta_0 + \beta\, FDI_i + \beta_{spillover}\, FP_j + \beta_x\, X_i + \boldsymbol{\varepsilon_i} \qquad\qquad (7\text{-}1)$$

where LP is a measure of firm's labour productivity, FDI is a measure of foreign presence at the firm level, FP is a measure of foreign presence in sectoral level and X_i is a vector of control variables that explain labour productivity.

Non-random selection of FDI recipients is a major concern in estimating equation 7.1 (Vahter, 2004). It is commonly highlighted in the literature that foreign investors tend to acquire stakes in domestic firms that have better performance or/and better assets/capabilities (Smarzynska, 2002). Assuming foreign investor's entry decision is dependent on certain characteristics of the firm, foreign investor's entry decision can be represented by the following dichotomous choice model.

$$FDI_i = 1 \text{ if } FDI^*_i > 0$$
$$FDI_i = 0 \text{ otherwise}$$
$$\text{Where} \qquad FDI^*_i = \alpha_0 + \alpha\, W_i + e_i \qquad\qquad (7.2)$$

FDI^*_i is a latent variable measuring foreign investors' underline propensity to invest in the firm which depends on firm characteristics and industry conditions that form the vector W_i. FDI_i is a dichotomous variable indicating whether the firm received FDI or not, taking the value of one if the latent variable FDI^*_i is positive and taking the value of zero otherwise. While the latent variable FDI^*_i is not directly measurable, the indicator variable FDI_i can be directly measured by observing whether the firm receives FDI or not.

Disregarding the selection equation (equation 7.2) when the outcome equation (equation 7.1) is estimated can lead to bias estimates for direct effects (β) and spillover effects ($\beta_{spillover}$) due to following reasons. First, the relationship between FDI and firm productivity can run in both ways; FDI may lead to higher labour productivity and firms with higher labour productivity can attract FDI (Vahter, 2004). Many studies have indicated the existence of this self selection bias (Vahter & Masso, 2006). If foreign investors prefer domestic firms with higher labour productivity or be drawn towards more productive industries, then firms with higher labour productivity or firms in high productive sectors can be associated with higher foreign presence. Therefore, both β and $\beta_{spillover}$ will be overestimated if multinationals are inclined to choose firms or industries

associated with higher labour productivity and this selection is not properly treated in the estimation. Second, there can be unobserved factors that can affect labour productivity that are not included in the vector X_i and unobservable factors that can affect foreign investors preference to invest in a firm that are not included in the vector W_i. These unobservable effects are captured in ε_i and e_i, respectively. If $\boldsymbol{\varepsilon_i}$ and e_i include same unobservable effects, then $\boldsymbol{\varepsilon_i}$ and e_i will be correlated (Shaver, 1998). For example, firm specific intangible assets that are difficult to be measured can affect attractiveness of a firm to foreign investors and can also contribute to higher labour productivity. Unless such factors are measured and included in the vector X_i, $\boldsymbol{\varepsilon_i}$ and e_i will be positively correlated[47]. It is reasonable to assume that unobservable factors that positively affect labour productivity will improve the attractiveness of a firm to foreign investors. Therefore, the two-stage Heckman selection model is used to account for this selection issue. This treatment procedure involves two steps. First, the selection model (equation 7.2) is estimated using a probit estimation to obtain estimate of α and then inverse mills ratio is computed for each observation. Thereafter, this ratio is included as an additional regreessor in the outcome equation (equation 7.1) to control for possible selection bias and obtain estimate for β and $\beta_{\text{spillover}}$[48].

Guided by previous literature, outcome equation and selection equation is expanded by including suitable explanatory variables in vector X and vector W, and the following final representations are formulated:

Outcome equation:
LP = β_0 + β_1FDI + β_2FDI*FP + β_3DOM*FP + β_4SIZE + β_5SIZE2 + β_6WAGE + β_7TRADE + β_5STATUS + β_6EC + β_7RD + $\boldsymbol{\varepsilon}$ (7.1)

Selection equation:
       FDI_i = 1 if FDI^*_i > 0
       FDI_i = 1 otherwise
       Where FDI^*_i = α_0 + α1 L3.LP + α2 L3.SIZE + α3 EXP_FIRM + α4 SKILL + e_i (7.2)

where LP is the firm's labour productivity. In this study, labour productivity is measured as output per employee, which is the most common approach of measuring labour

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[47] Therefore, both β and $\beta_{\text{spillover}}$ will be overestimated
[48] This procedure is referred as the Heckman selection model. See Heckman (1979) and Smarzynska (2002) for further explanation on this procedure.

productivity. Alternatively, some studies use value added instead of output in calculating labour productivity (Doms & Jensen, 1998). However, this measure cannot be used in this study due to data limitations on input costs.

FDI is a dummy variable identifying whether or not a firm has FDI which adopts the value of 1 if the firm's foreign ownership is more than 10% and zero otherwise. DOM is the opposite of FDI, and takes the value of zero if the firm's foreign ownership is more than 10% and one otherwise. Most common approach of measuring foreign presence in the sector is to use the foreign firms' share of output in the sector, while some studies have used foreign firms' share of employment and equity in the sector (Havranek & Irsova, 2012; Yasar & Paul, 2007). Most cross sectional studies on productivity spillovers use the same dataset to calculate the foreign firms' share of output in a sector[49] and use this as a proxy for the degree of foreign presence in a sector (Havranek & Irsova, 2012). However, I couldn't rely on 2011 Enterprise Surveys Data Set to calculate foreign presence variable (FP) because only few foreign firms are included in some sectors, particularly in Textile, Wearing Apparel and Leather Products category, which is an important sector for Sri Lanka (Table 7-1). As per this dataset, foreign share in this category in terms of sales and employment is about 0.1% and 1%, respectively. However, available evidence suggests that although large proportion of factories in the Garment sector is owned by locals, foreign firms, which are considerably larger than local firms, account for almost half of all garment export earnings (Kelegama & Foley, 1999). In order to rely on a foreign presence measure calculated based on sample data, it is crucial for the sample to be representative in terms of MNC subsidiaries (Marin & Bell, 2006). Also, since Sri Lanka is a small country, inclusion or exclusion of a one big foreign firm can considerably change the average characteristics of firms and sectors (Vahter, 2004). Due to these reasons, foreign penetration levels calculated based on this data set is likely to be misleading. Therefore, in this study, degree of foreign presence (FP) is represented by the cumulative realised FDI stock in each sector as at the end of 2010. Degree of foreign presence (FP) is interacted with both FDI and DOM dummies in order to differentiate the spillover effects of foreign firms on domestic firms and on other foreign firms. This approach is used in several previous studies: see for example, (Smarzynska, 2002; Chudnovsky, López, & Rossi, 2008).

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[49] Some studies use the employment or equity share instead of sales share

Rest of the variables are control variables. Variable SIZE captures how large the firm is, which categorises firm size into four levels, i.e. micro, small, medium and large, based on the number of employees[50]. SIZE2 is the square of SIZE. Economies of scale can affect a firm's productivity positively, and therefore, size of a firm can have a positive effect on productivity. However, relationship between size and productivity can be non-linear; the effect of firm size on productivity can become negative above some optimum size due to diseconomies of scale. Therefore, similar to previous studies (Ganotakis & Love, 2012), both SIZE and SIZE2 is included as control variables.

WAGE is a proxy for the skill intensity of the firm's workforce and is represented by the average wage rate per employee. Average wage rate is commonly used as a measure of labour quality in productivity studies (Blomström, 1988). TRADE is a binary variable representing whether the firm engages in international trade; TRADE adopts the value of 1 if the firm either export or import and zero otherwise. Firm's engagement in international trade can have implications on its productivity. Technology transfer can take place not only through FDI spillovers but also through spillovers from international trade linkages (Smarzynska, 2002). These technology spillovers take place when firms that export and import come into contact with new technologies via their imports and import/export contacts. Firms that export will have to compete with world class practices and therefore need to be more efficient. Firms that export may have a better opportunity to achieve economies of scale and to better utilize internal capacity, which could lead to increase in factor productivity (Makki & Somwaru, 2004). On the other hand, firms that solely depend on domestic market may not be able to achieve optimum productive efficiency because of the small market size of Sri Lanka.

STATUS is a binary variable that adopts the value of 1 if the firm is a shareholding company and zero if the firm is a sole proprietorship or a partnership. Ownership structure can have implications on firm productivity (Hill & Snell, 1989; Barth, Gulbrandsen, & Schønea, 2005) and need to be controlled for. EC is a proxy for capital intensity of a firm which is represented by the energy consumption per worker. As capital available for each unit of labour (capital intensity) increases, labour productivity increases (Hill & Snell, 1989), and therefore, it is a common practice in studies

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[50] A firm is a micro-firm if it has less than five employees, small if it employs between 5 and 19 workers, medium if it has between 20 and 99 employees, and large firms if it employs more than 99 employees.

investigating labour productivity to control for capital intensity. RD is a binary variable that identifies whether a firm is R&D active or not; RD adopts the value of one if the firm has spent on formal research and development activities during the last three years and zero otherwise. R&D activities contribute to the firm's existing stock of accumulated knowledge and thus contribute to improvements in product/service quality and reduction in production/operation cost of the firm, and thereby, improving the productivity of firms (Wieser, 2005; Hill & Snell, 1989).

In line with previous studies (Vahter, 2004), four explanatory variables are included in the selection equation: L3LP, L3SIZE, SKILL, and EXP_FIRM. Foreign firms are inclined to invest in domestic firms that are more productive ex ante, which is commonly referred in the literature as the cherry-picking phenomenon (Hanousek, Kočenda, & Maurel, 2011). However, some previous studies tend to use the same variable that was used as the dependent variable in the outcome equation as an explanatory variable in the selection equation. For example, Vahter (2004), studying the effects of FDI on labour productivity, uses the same labour productivity measure in both selection equation and the outcome equation. This can create an endogeneity issue. Fortunately, ES questionnaire includes two questions where respondent firms are asked for the amount of sales generated and the number of workers employed in 2007/2008 (three fiscal years before). Using these information, the variable L3LP, i.e. three year lagged labour productivity, is constructed, and this measure is used in the selection equation, instead of contemporaneous labour productivity. This approach can help to mitigate the above mentioned endogeneity problem. Along similar considerations, instead of including the variable SIZE in the selection equation, L3SIZE is included. L3SIZE is a categorical variable constructed similar to SIZE variable, but based on the number of workers employed in 2007/2008. SKILL is a variable capturing the percentage of full-time permanent workers who completed secondary school, is used as a proxy for the skill intensity of the firm's workforce. Many studies have shown that foreign firms can self-select into firms with higher skill intensity (Doms & Jensen, 1998). EXP_FIRM is a binary variable that identifies whether a firm exports or not and adopts the value of one if the firm exports. Some studies point out that foreign firms can self-select into more capital intensive firms or industries (For example, Doms & Jensen, 1998). Therefore, energy consumption per worker (EC) was initially used in the selection equation. Since

coefficient of EC was insignificant and was not statistically different from zero, it was dropped from the selection equation.

Table 7-4: Description of variables used in the study

Variable	Description and measurement	Source
LP	labour productivity represented by output per employee measured in rupees millions per worker	Sri Lanka 2011 Enterprise Surveys Data Set published by World Bank
FDI	A binary variable representing whether or not a firm has FDI: adopts the value of 1 if the firm's foreign ownership is more than 10%	
DOM	A binary variable representing whether or not a firm has FDI: adopts the value of zero if the firm's foreign ownership is more than 10%	
SIZE	Categorical variable representing how large the firm is: A firm is a micro-firm if it has less than five employees, small if it employs between 5 and 19 workers, medium if it has between 20 and 99 employees, and large firms if it employs more than 99 employees	
WAGE	Labour quality of the firm's workforce represented by the average wage rate of the firm measured in rupees thousand per worker	
SKILL	skill intensity of the firm's workforce represented by the percentage of full-time permanent workers who completed secondary school	
TRADE	Binary variable representing whether the firm engage in international trade; adopts the value of 1 if the firm either export or import and zero otherwise.	
STATUS	Binary variable representing firm's status: 0 firm is a sole proprietorship or a partnership 1 firm is a shareholding company	
EC	Proxy for capital intensity of a firm represented by the energy consumption per worker measured in rupees millions per worker	
EXP_FIRM	Binary variable that identifies whether a firm exports or not: adopts the value of one if the firm exports	
RD	A binary variable that adopts the value of one if the firm has spent on formal research and development activities during the last three years and zero otherwise.	
FP	cumulative realised FDI stock in each sector as at the end of 2010 measured in US$ million	Central Bank of Sri Lanka, 2010

Table 7-5: Descriptive statistics and correlation matrix

	Variable	Descriptive statistics				Correlation Matrix									
		Mean	s.d.	Min	Max	1	2	3	4	5	6	7	8	9	10
1	LP	2.58	6.98	0.025	80										
2	FDI	0.05	0.22	0	1	0.15									
3	FP	1494.97	1443.11	35	3221.9	0.08	0.06								
4	SIZE	1.67	0.77	1	3	0.06	0.23	-0.02							
5	SKILL	53.08	34.09	0	100	0.08	0.07	0.24	0.08						
6	WAGE	220.72	407.60	5.455	5333.3	0.22	0.20	0.08	0.08	0.04					
7	TRADE	0.16	0.37	0	1	0.11	0.20	-0.22	0.40	0.05	0.11				
8	EXP_FIRM	0.09	0.29	0	1	0.06	0.18	-0.09	0.36	0.08	0.12	0.72			
9	STATUS	0.20	0.40	0	1	0.20	0.22	0.03	0.39	0.08	0.18	0.25	0.20		
10	EC	110.92	836.14	0	18157.8	0.25	0.03	-0.06	0.04	-0.07	0.16	0.13	0.02	0.01	
11	RD	0.13	0.33	0	1	0.15	0.22	0.02	0.36	0.05	0.12	0.20	0.22	0.21	0.14

Selection model (equation 7.2) is estimated using a probit estimation and the outcome model (equation 7.1) is estimated using OLS estimation. Residuals of the estimations of the outcome model were tested for heteroskedasticity using Breusch-Pagan / Cook-Weisberg test for heteroskedasticity. Since test results indicated heteroskedasticity, specification 7.1 was re-estimated with cluster (industry specific) robust standard errors.

Table 7-6: results of the probit estimation of the selection model

Dependent variable: FDI	
L3.LP	0.00542
	(0.00485)
L3.SIZE	0.291**
	(0.133)
EXP_FIRM	0.552*
	(0.289)
SKILL	0.00717**
	(0.00339)
Constant	-2.736***
	(0.342)
Prob > chi2	0.0003
Pseudo R-squared	0.1177
Observations	476

Standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

Table 7-7 presents the results of OLS estimation of the outcome model and presents four sets of regression results. Since unobserved industry specific effects can affect firm productivity, industry fixed effects are included in estimations reported in column two, three and four. Industry fixed effects is defined at a narrower categorisation[51] than the one used for measuring FDI spillover (industry-level foreign presence) variable. Column one and two present results estimated without accounting for the self-selection issue. Results reported in column four are estimated by including region specific dummies in addition to including sector specific dummies and accounting for self-selection. Some studies suggest that spillovers of foreign firms mainly accrue to the local firms located close to the foreign firms. Therefore, some of the empirical studies investigating productivity effects of FDI account for regional specific effects (Blomström & Kokko, 2003b) or regional specific spillover effects (Konings, 2000).

Coefficient of FDI, which represent direct effects of FDI, is positive and significant in all specifications, and therefore, provide strong indication of positive own firm effects of FDI.

Coefficient of "FDI*FP", which represent the effect of the degree of foreign presence in the sector on the productivity of foreign firms in the same sector, is negative and significant in all specifications indicating negative spillovers of foreign firms on other foreign firms in the same sector. This result is to some extent consistent with the findings of past empirical studies. Chudnovsky, López, & Rossi (2008), based on firm level data on Argentina, found that foreign firms have negetive spillovers (but only marginally significant) on other foreign firms. Chuang & Lin (1999) found weak spillovers on other foreign owned firms for Taiwanese firm-level data. Smarzynska (2002) did not find evidence of FDI spillovers on other foreign firms through the horizontal channel for firm level data from Lithuania. Contrastingly, based on panel data from Estonia, Vahter & Masso (2006) observed positive spillovers on other foreign firms.

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[51] Industry fixed effects are included for the following 21 sectors: Food (15), Tobacco (16), Textiles (17), Garments (18), Leather (19), Wood (20), Paper (21), Recorded media (22), Chemicals (24), Plastics & rubber (25), Non-metallic mineral products (26), Medical and optical precision instruments (33), Transport machines (34), Furniture (36), Recycling (37), Construction Section F (45), Sales, repairs, and service of motor vehicles (50), Wholesale (51), Retail (52), Hotel and restaurants section H (55), Transport Section I: (60), IT (72)

Table 7-7: Results of OLS estimations of the outcome model

Dependent variable: LP	(1) OLS estimation	(2) OLS estimation	(3) OLS estimation with Heckman treatment	(4) OLS estimation with Heckman treatment
FDI	7.407**	7.950**	8.537*	8.709*
	(3.336)	(3.399)	(4.449)	(4.306)
FDI*FP	-0.00219*	-0.00386***	-0.00420***	-0.00425**
	(0.00113)	(0.00104)	(0.00135)	(0.00173)
DOM*FP	0.000503*	-0.00105***	-0.00140***	-0.00134**
	(0.000248)	(0.000116)	(0.000212)	(0.000523)
SIZE	3.507	3.236	4.117	3.975
	(3.270)	(3.816)	(3.833)	(3.884)
SIZE2	-1.096	-1.035	-1.598	-1.513
	(0.942)	(1.108)	(1.112)	(1.088)
WAGE	0.00259**	0.00274**	0.00309	0.00263
	(0.000953)	(0.00111)	(0.00182)	(0.00190)
TRADE	1.141	1.284	0.406	0.218
	(0.894)	(1.086)	(1.141)	(1.204)
STATUS	2.480**	2.431**	2.991**	2.423*
	(0.888)	(0.974)	(1.168)	(1.253)
EC	0.00170***	0.00168***	0.00188***	0.00188***
	(0.000187)	(0.000189)	(0.000138)	(0.000135)
RD	1.402	1.517	1.691**	1.536*
	(0.991)	(0.932)	(0.803)	(0.749)
INVMILLS			-3.990***	-3.795**
			(1.379)	(1.521)
Constant	-2.020	-0.361	9.522*	11.21**
	(1.926)	(2.646)	(4.649)	(4.895)
Industry fixed effects	NO	YES	YES	YES
Regional effects	NO	NO	NO	YES
Observations	525	525	454	454
R-squared	0.165	0.192	0.216	0.235

Robust standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

Coefficient of DOM*FP, which represent the effect of the degree of foreign presence in the sector on the productivity of domestic firms in the same sector, is positive and significant for the specifications that do not control for self-selection and industry fixed effects (column 1). In contrast, when industry fixed effects are included, this coefficient turned negative and highly significant. Magnitude of this negative coefficient increases slightly[52] when both industry fixed effects and Heckman selection model are used. Also, the estimate of the coefficient of inverse mills ratio is negative and significant. This

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[52] As per the estimated results of the selection model (Table 7-6), labour productivity is not the main driving factor in the self-selection; instead skill intensity, firm size and export orientedness are more important in self-selecting to a foreign owned firm. In line with this observation, magnitude of this negative coefficient increases only slightly when self-selection issue is controlled for.

implies that self-selection is prevalent and highlights the importance of correcting for the selection bias. Previous studies, for example, (Aitken & Harrison, 1999; Marin & Bell, 2006) have warned that when FDI takes place in highly productive sectors, there can be a positive association between the degree of foreign presence in the sector and the productivity of domestic firms in the same sector. In line with these studies, results of this study reiterate the importance of controlling for industry specific effects and addressing the self-selection issue. In sum, results of the estimations indicate foreign firms have a negative spillover effect on domestic firms' productivity.

As expected, coefficient of SIZE is positive and the coefficient of SIZE2 is negative in all specifications, however they are not significant at a 10% significance level. This provides some evidence for the non-linear relationship between firm size and productivity. Coefficient estimate of WAGE is positive and significant in some specifications. This indicates the importance of firm level labour quality on firm level labour productivity. As expected, coefficient estimate of TRADE is positive in all specifications but not significant at a 10% significance level. The coefficient of EC, which represents the effect of capital intensity of the firm on firm productivity, is positive as expected and is highly significant in all specifications. In all specifications, coefficient estimate of STATUS is positive as expected and significant. This indicates that shareholding companies are more productive than sole proprietorships or partnerships. Coefficient of RD is positive and significant in some specifications, indicating the importance of R&D investment for higher labour productivity.

Results remain qualitatively similar when regional dummies are introduced. Most of the coefficient estimates do not change in term of magnitude and significance. This is not surprising because Sri Lanka is a relatively small country[53]. Therefore, it would be acceptable to ignore regional spillovers and consider entire Sri Lanka as one market for this study.

Some of the recent studies on productivity spillovers have emphasised the importance of accounting for the non-normal distribution of the labour productivity of the firms in the sample (Dimelis & Louri, 2002; Girma & Görg, 2007). If the labour productivity of the firms in the sample is not normally distribute, which is usually the case because there is

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[53] Konings (2000) found insignificant regional spillovers for Bulgaria, which is a small open economy.

large and persistent heterogeneity in labour productivity across firms even within narrowly defines sectors (Girma & Görg, 2007), then OLS estimations of the coefficients might not be representative of the entire firm distribution. Formal testing for normality using Shapiro-Wilk normality test and Shapiro-Francia normality test leads to a rejection of the null hypothesis of normality of the labour productivity distribution. Since OLS regressions estimate the means of labour productivity conditional on the covariates for the whole sample, quantile regression technique was employed in order to examine whether there are any notable differences in labour productivity dynamics in different quantiles of the distribution.

Table 7-8 reports the regression estimates for five different quantiles of the labour productivity distribution. Results largely remain intact except for few minor differences in some quantiles. Coefficient of FDI, which represent direct effects of FDI, remains positive for all quantiles except for the 10th quantile where the coefficient estimate is negative but insignificant. This is not surprising because foreign firms might not have a superior advantage in productivity in sectors associated with very low productivity. Also, foreign firms' participation is likely to be lower in sectors associated with lower productivity and this could make the coefficient estimate inefficient due to smaller number of foreign firms in the sector. Compared to other quantiles, coefficient estimate of FDI for the 90th quantile is very large and highly significant. This shows that foreign firms enjoy a very high labour productivity relative to domestic firms in the upper end of the labour productivity distribution.

Coefficient of "FDI*FP", which represent the effect of the degree of foreign presence in the sector on the productivity of foreign firms in the same sector, remains negative for all quantiles except for the 75th quantile where the coefficient estimate is positive but insignificant.

In line with OLS estimations, coefficient of DOM*FP, which represent the Spillover effect of foreign firms on the domestic firms in the same sector, is negative in all quantile estimations. However, interestingly, this negative coefficient estimate is significant in median and higher quantiles but insignificant in lower quantiles. This clearly indicate that negative spillovers are stronger in higher productivity quantiles.

With respect to control variables, all results remain intact with previous OLS estimates. Inverse mills ratio is negative in all quantiles, but only significant in the 90th quantile. This implies that self-selection is more prevalent in the upper end of the labour productivity distribution.

Table 7-8: Results of the quantile regressions

Dependent variable: LP	(1)	(2)	(3)	(4)	(5)
	10th quantile	25th quantile	Median	75th quantile	90th quantile
FDI	-0.0330	0.0228	1.844**	0.626	71.50***
	(0.144)	(0.450)	(0.871)	(1.523)	(2.515)
FDI*FP	-0.00003	-0.000129	-0.00105***	0.000323	-0.0239***
	0.00006	(0.000144)	(0.000338)	(0.000627)	(0.000843)
DOM*FP	-0.00002	-0.00004	-0.000353***	-0.000437***	-0.00152***
	0.00003	0.00004	(0.000136)	(5.58e-05)	(0.000534)
SIZE	0.0656	0.102	0.0599	0.832	6.209
	(0.0681)	(0.178)	(0.331)	(0.808)	(4.018)
SIZE2	-0.0277	-0.0573	-0.0789	-0.334	-2.016*
	(0.0202)	(0.0602)	(0.0715)	(0.227)	(1.082)
WAGE	0.00103***	0.00166***	0.00260***	0.00391**	0.0101
	(0.000394)	(0.000307)	(0.000582)	(0.00160)	(0.0106)
TRADE	0.0111	-0.0211	0.161	0.325	-0.273
	(0.0345)	(0.0718)	(0.200)	(0.430)	(1.337)
STATUS	0.0487	0.125	0.681*	1.367	4.080**
	(0.0526)	(0.103)	(0.357)	(1.288)	(2.047)
EC	0.00184***	0.00196***	0.00189***	0.00177***	0.00136**
	(0.000318)	0.00002	0.00002	(0.000115)	(0.000543)
RD	0.0207	0.00859	0.188	0.795	1.176
	(0.0518)	(0.0898)	(0.283)	(0.872)	(1.202)
INVMILLS	-0.0387	-0.185	-0.388	-0.781	-3.827**
	(0.0588)	(0.120)	(0.334)	(0.518)	(1.799)
Constant	0.159	0.569*	1.327	2.700*	9.421*
	(0.181)	(0.304)	(1.137)	(1.408)	(4.838)
Industry fixed effects	YES	YES	YES	YES	YES
Heckman treatment	YES	YES	YES	YES	YES
Observations	454	454	454	454	454
R-squared	0.084	0.098	0.140	0.159	0.119

Robust standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

7.5. Concluding Remarks

FDI is considered as a major channel in facilitating international transfers of resources, technology, management know-how, products and services from a home country to a host country (Bang Nam & Se Young, 2004). It is expected that presence of foreign firms in host economies to generate positive impact on the efficiency of investment within the host country through own firm effects and spillover effects of foreign firms. However, there are growing concerns of possible negative effects of FDI on the host country (Bang Nam & Se Young, 2004). Aggravating these doubts, empirical studies examining productivity spillovers of foreign firms have produced mix results, sometimes results varying according to the sample (country) and methodology. This study examines the direct effects and indirect effects of foreign firms on firm level labour productivity. To the best of my knowledge, this is the first empirical study that attempt to shed some light on the impact of FDI on firm level labour productivity, in the context of Sri Lanka.

In line with previous empirical studies conducted on other countries (Yasar & Paul, 2007; Chudnovsky, López, & Rossi, 2008; Doms & Jensen, 1998), comparison of foreign and local firms in Sri Lanka revealed that foreign firms are quite distinctive from local firms. Compared to domestic firms, foreign firms are larger, more productive and more profitable. Foreign firms also tend to hire high proportion of skilled workers, pay higher wages and undertake more in-house training programmes. They are more active in R&D and more innovative. They are more export oriented but rely more on inputs of foreign origin.

Results of the econometric study provided a strong indication of positive own firm effects of FDI. This is in line with the majority of previous empirical evidence (Yasar & Paul, 2007; Chudnovsky, López, & Rossi, 2008; Doms & Jensen, 1998; Lipsey, 2004).

As per the results of the econometric study, foreign firms have a negative Spillover effect on local firms' productivity. Given the Sri Lankan context, this might not be surprising due to several reasons. First, literature on productivity spillovers recognise that the extent of spillovers will depend on the degree to which foreign affiliates are technologically active in the host country (Marin & Bell, 2006; Deborah, 2013). Analysis of chapter four demonstrates that FDI in Sri Lanka has primarily taken place in sectors with low technical intensity. Therefore, potential for technology spillovers will be very limited.

Second, the extent of spillovers will also depend on the degree to which foreign affiliates expose their technologies (technology leakage) to local firms (Marin & Bell, 2006). Available evidence shows that backward linkages to foreign firms are weak in 'Textiles, Wearing Apparel & Leather Products' category, a sector which has attracted the largest proportion of foreign investments (Kelegama & Foley, 1999). Moreover, higher import propensity of foreign firms (from the results of section 7.3) and higher import content of the inputs to 'Textiles, Wearing Apparel & Leather Products' category (Kelegama & Foley, 1999), would limit the opportunities for domestic firms to develop. Also, as per the descriptive statistics reported in Table 7-2 foreign firms experience much lower staff turnover compared to domestic firms (However, two-sample t test showed that this difference is not statistically different from zero). All these indicate that the extent to which foreign affiliates expose their technologies is low, which could limit the extent of positive spillovers.

Third, literature on productivity spillovers also recognise that the extent of spillovers will depend on the level of absorptive capacity of the domestic firms (Marin & Bell, 2006). Industrial structure in Sri Lanka is narrowly concentrated in a few sectors with little participation in technical intensive sectors, which indicate that overall technical knowledge of the firms are low. As per the descriptive statistics reported in Table 7-2 and the results of econometric study reported in Table 7-7, foreign firms' average labour productivity is significantly higher than local firms' labour productivity. This indicate the technology gap between the local firm and foreign firm is quite large. Many studies have shown that when the technological gap between foreign firms and local firms are relatively large, then local firms are not technically proficient to absorb spillovers. Also, section 6.5.1 demonstrates that, although Sri Lanka has very good human capital indicators (secondary education levels and literacy), Sri Lanka produces only few technical graduates. Several studies have exposed that there is a mismatch between the skills and the needs of the job market and the education provided by secondary school system and the public universities (Aturupane, 2009; Country Summary of Higher Education, 2007; Ganegodage & Rambaldi, 2011). Descriptive statistics reported in section 7.3 revealed that compared to foreign firms, only a smaller percentage of local firms are undertaking R&D or in-house training programmes. All these factors indicate a low absorptive capacity of local firms. Given this context, it appears that out of the three potential spillover channels of demonstration effects, worker turnover and competition

effects; competition effects might be dominating over other two. Unlike demonstration and worker turnover effects that are presumably positive, competition can have both positive and negative externalities (Vahter, 2004). Increase competition from foreign firms may compel local firms to operate in less-efficient scales of production; when local firms lose market share amid competition by foreign firms, local firms can experience lower productivities because their fixed costs are being spread over a smaller output (Lipsey, 2004; Javorcik, 2004; Aitken & Harrison, 1999). This could also hurt the technology progress of local firms because larger and profitable firms are in a better position to undertake R&D and to enjoy economies of scale in R&D (Blomström & Kokko, 1998). Therefore, it seems that negative competition effects are predominant over other positive Spillover effects.

Sri Lanka's industry structure is concentrated in low technology intensive industries, while FDI has also taken place in low technology intensive industries. It appears that this absence of participation in medium and higher technical intensive sectors have largely facilitated the negative spillovers. This argument is supported by a recent econometric study conducted by Jeon, Park, & Ghauri (2013) based on Chinese firm-level data. Estimating the extent of horizontal and vertical spillover effects for different industries, they find consistent negative spillovers associated with most of the low technology intensive industries while finding mix results (positive and negative spillovers) associated with high and medium technology industries.

Results indicate that higher foreign presence in a sector has a negative Spillover effect on other foreign firms in the same sector. This is likely to occur due to competition effects. Higher foreign presence in a sector is likely to intensify the competition and compel the foreign firms to operate in less efficient scales of production. In contrast, lower foreign presence can allow few firms to enjoy monopolistic powers and economies of scale.

Findings of this study has important implications on the development of local firms. As per the IDP theory, inward FDI plays a major role in upgrading local firms' competencies, which will enable the indigenous firms to later on undertake outward FDI (Dunning, 1981; United Nations, 2006; Dunning, Kim, & Lin, 2001; Dunning, 2003). Also, according to this theory, the development of a country is closely linked to its local

firms' capacity to build up/upgrade firm specific advantages. Therefore, presence of negative spillovers could further retard the progress of Sri Lanka.

Results of this study are robust. First, the econometric model accounts for the non-random selection of FDI recipients. Moreover, measures were taken to minimise the endogeneity between dependent variable and explanatory variables. These results are also robust to the inclusion of sectoral fixed effects and regional fixed effect. Finally, results remains largely intact when quantile regression technique was used in order to account for the non-normal distribution of the labour productivity of the firms in the sample.

Chapter 8 : Conclusion

Sri Lanka has performed poorly in terms of attracting FDI. The country has resource and location advantages and impressive human capital indicators but had suffered from nearly three-decades of civil war, which ended in 2009. Systematic research on the determinants of FDI and FDI productivity spillovers in the context of Sri Lanka is almost non-existence. Only a handful of studies (Wijeweera & Mounter, 2008; Athukorala & Jayasuriya, 2004; Athukorala, 2003; Athukorala, 1995) have looked at FDI in the context of Sri Lanka. Motivated by this background, this thesis aims to conduct an in-depth research on FDI in the context of Sri Lanka.

This thesis consists an initial literature review covering theories in FDI, determinants of FDI and impact of FDI (Chapter 2), a context analysis of FDI in Sri Lanka (Chapters 3 and 4), and three empirical chapters (Chapter 5, 6 and 7). Chapter five investigates the effect of war on FDI, giving particular attention to the differential impact of war on FDI in different sectors, by employing time series econometrics (vector error correction model) and panel data econometrics. Chapter six explores the determinants of FDI for a sample of countries in Asia by employing panel data econometrics, giving special attention to detach relationships specific to Sri Lanka from the relationships general to rest of the countries. Chapter seven investigates the impact of FDI in the context of Sri Lanka with the use of firm level data by estimating the impact of foreign firms on labour productivity of both foreign and local firms.

This concluding chapter summarise the key empirical findings of this thesis and then highlight the key contributions of this research study. Thereafter, it emphasises policy implications of the research findings and finally discusses the limitations of this study and suggests potential research topics that could extend this study further.

8.1. Research Findings

Key findings of this thesis can be summarised as follows. Results of the econometric analysis in chapter five indicate that war has had been a major impediment in attracting FDI into the manufacturing sectors in Sri Lanka. Although, war also had a negative association with FDI into services, this was not statistically significant and the magnitude of the effect was also smaller than that for manufacturing FDI. Results also points out that war has a significant negative impact across almost all manufacturing industries, while the magnitude of this negative impact varying over industries. Also, the effect of war was greater in export intensive sectors compared to sectors that are host market oriented.

Panel study based on FDI into selected countries in Asia indicates that countries that have better human capital indicators attract more FDI; however, this was not the case with Sri Lanka. It was evident that the relationship between human capital and FDI flows was significantly negative for Sri Lanka, while, in general, human capital is a positive determinant of FDI flows to rest of the countries in the sample of countries. Two main reasons for this discrepancy were identified. First reason is the linguistic limitations of Sri Lanka's so called impressive human capital indicators. Sri Lanka's ability to capitalise on its high human capital indicators to attract FDI is largely limited because Sri Lanka's literacy rates and school enrolment rates are based on 'Sinhala' language, a language that is understandable only by Sri Lankans. Second reason is that although Sri Lanka's human capital indicators are quantitatively outstanding, there are widespread concerns on the quality of education system in Sri Lanka. Government expenditure on education is very low and Sri Lanka's education system is highly criticised for being inefficient, and for having a low level of interaction between academic world and industry. Moreover, limited access to tertiary education system and extraneous output composition of the tertiary education system is likely to waste the harvest of the secondary education system.

Another new finding of this thesis is the reported evidence supporting cheap asset hypothesis (and expensive asset hypothesis) in the context of FDI. This study revealed a significant negative relationship between host country stock market valuations and FDI inflows in the context of Sri Lanka, while this relationship was not evident for

rest of the countries taken as a whole. Moreover, the effect of host country stock market valuations on FDI inflows was negative for the countries with less developed stock markets while there was no such relationship for the other countries. Therefore, these results indicate that cheap asset hypothesis (and expensive asset hypothesis) is likely to be applicable in the Sri Lanka's context and in the context of countries with less developed stock markets.

In addition to war, human capital and price levels, this thesis also provided support for several FDI determinants. Findings of this thesis confirmed the importance of trade openness, political stability, regulatory quality and exchange rate for attracting FDI flows in the context of Asian region.

Empirical study based on firm level data in chapter seven also produced several important findings. A preliminary investigation on the nature of foreign invested firms relative to domestic firms revealed that foreign firms are quite distinctive from local firms. Compared to domestic firms, foreign firms are larger, more productive and more profitable. Foreign firms also tend to hire high proportion of skilled workers, pay higher wages and undertake more in-house training programmes. They are more active in R&D and more innovative. They are more export oriented but rely more on inputs of foreign origin. Finally, the cross sectional econometric study estimated the direct and indirect effects of FDI on firm level labour productivity. Results indicated a positive own firm effects of FDI and negative spillover effects of foreign firms on local firms and on other foreign firms in the same sector.

8.2. Key Contribution

This thesis comprises a detailed and systematic investigation of determinants, impact and policy issues relating to FDI in the context of Sri Lanka. Only a handful of studies (Wijeweera & Mounter, 2008; Athukorala & Jayasuriya, 2004; Athukorala, 2003; Athukorala, 1995) have looked at FDI in the context of Sri Lanka. The need for this thesis is largely justified by this dearth in research studies on FDI in Sri Lanka.

Chapters three and four provide a detailed overview of FDI in Sri Lanka while also providing a general discussion on the related geographical, political, social and economic background of Sri Lanka. Out of the existing studies on FDI in Sri Lanka, chapters three and four provide not only the most extensive overview but also the most recent one.

To the best of my knowledge, Wijeweera & Mounter (2008) is the only study that has examined the determinants of FDI in the context of Sri Lanka. However, their study is a short econometric study that uses vector autoregressive model (VAR) to regress FDI against GDP, total trade, wage rate, exchange rate, and interest rate. Therefore, this thesis is the first study that has undertaken a detailed and systematic investigation of determinants of FDI while covering an exhaustive set of FDI determinants. Moreover, this is the first study that estimates the impact of the civil war on FDI in Sri Lanka. In addition to these, this thesis has identified various factors that can influence FDI inflows at the country level and at the sector level in the context of Sri Lanka.

This research study is the first to compare and contrast foreign owned firms and local firms in the context of Sri Lanka and also the first to assess the direct and indirect effects of FDI on firm level productivity in the context of Sri Lanka. Therefore, this thesis contributes immensely to the FDI literature in the context of Sri Lanka.

This thesis not only contributes to the FDI literature in the context of Sri Lanka, but also makes several contributions to the general literature on FDI. Previous studies have major limitations in explaining the effect of war on FDI. These limitations were highlighted in chapter 5 in detail. Sri Lanka as a case study provided a unique opportunity to address these limitations due to the presence of a nearly three decade long civil war, which has gone through considerable variation in conflict intensity. Moreover, this is the first study that investigates the impact of war, or of any dimension of political instability, on FDI in

different sectors; previous studies investigating the effects of political instability on FDI flows have relied on country level FDI flows. Results of this study indicate that the effect of war on FDI inflows can be different for different sectors, and highlights the importance of using sectoraly disaggregated FDI data when determinants of FDI are investigated.

This thesis also contributes to the literature on human capital and FDI. Although the importance of human capital in attracting FDI is widely recognised in the literature, existing empirical evidence is inconclusive, particularly for developing countries. It was evident that the relationship between human capital and FDI flows was significantly negative for Sri Lanka while, in general, human capital has been a positive determinant of FDI flows to rest of the countries. Two main reasons for this discrepancy were identified: linguistic limitations and qualitative limitations of human capital in Sri Lanka. This finding highlights the importance of recognizing country specific limitations in human capital in understanding the relationship between human capital and FDI.

This study also contributes to the literature on the relationship between asset prices and FDI. Although theoretical considerations suspect lower asset prices in the host country to augment FDI (cheap asset hypothesis), this supposition is not supported by previous empirical studies. Extending the theoretical considerations further, it was comprehended that degree of mispricing is high in less developed markets due to market inefficiency and manipulation, and therefore, misprice driven FDI is a possibility in less developed markets. Empirical analysis strongly supported this supposition. This is a new finding that is in contrast with the extant empirical evidence. Therefore, this empirical finding and the associated theoretical justification makes an important contribution to revive a hypothesis that is disputed mainly because the hypothesis has been tested in the wrong context.

Extant literature on FDI spillovers remains inconclusive and it is widely believed that different methodologies and different country contexts contribute to these inconsistencies in empirical findings. This fact justifies the need for further studies on FDI spillovers in different country contexts. Therefore, this thesis contributes to the FDI spillover literature by providing evidence from a country that has never been empirically investigated in previous spillover literature. Also, as it is discussed in section 7.5, it

appears that existence of negative spillovers is closely related to the lower technology intensity in the industrial structure and FDI. This context provides an opportunity to understand conditions under which spillovers are (not) likely to materialise - a research gap that is identified in the literature (Deborah, 2013).

This study also makes methodological contribution by employing more recent data and applying statistically robust empirical methodologies in new applications. Except in the study investigating impact of FDI on labour productivity, all other studies use the most appropriate methodologies in both time series and panel data econometrics. For the study investigating impact of FDI on labour productivity, cross sectional econometrics were used due to unavailability of panel data. However, using responses received from respondents about past data, several tactical measures were taken to minimise the endogeneity and self selection bias, and thereby, largely minimising the well-known limitations of using cross sectional econometrics. Varity of estimation techniques were used in this thesis, for example, Ordinary Least Squares, Generalised Least Squares, fixed/random effects models, vector error correction model, GMM, Heckman selection model, and quantile regression technique, and most of these estimation techniques were applied in unique settings.

8.3. Policy Implications

Research findings of this study have important policy implications for scholars, practitioners and policymakers. First, research findings of this study have important policy implications for the Sri Lankan government and various institutions governing FDI and related areas. This study uses Sri Lanka as a case study but the policy implications can be generalised to other host countries that share similar characteristics with Sri Lanka. To this end, policy implications of this study can be particularly relevant to other countries with small, open and peripheral economies. However, Sri Lanka's unique features, such as having impressive development indicators while having weak growth indicators, could to a certain extent, limit the generalisability of the policy implications of this study to other host countries. Findings of this study also provide important insights to investing countries and multinational firms.

Results of this study show that the effect of war on FDI flows can be different for different sectors. It was observed that war has had a greater impact on FDI in manufacturing than FDI in services. Also its effect was greater in export intensive sectors compared to sectors that are host market oriented. Therefore, it is necessary to design sector specific FDI policies in order to revamp FDI in these affected industries. A possible strategy could be to provide carefully designed incentives to foreign investors in order to lure them into these affected industries. Service sector has attracted the majority of the FDI flows, and FDI flows to manufacturing sectors is concentrated in few sectors, mainly in industries that are associated with low technical intensity. Furthermore, analysis in chapter three and four shows that, not only FDI, but also exports and the overall economy are narrowly concentrated with little participation in technical intensive sectors. Therefore, one of the main agendas of the government should be to formulate appropriate strategic policies to diversify FDI flows, particularly to industries with high technical intensity. Given Sri Lanka's low technical maturity, diversifying FDI flows could be the best method to achieve economic and export diversifications. Findings of this study would also inform foreign investors, particularly assisting decision making of potential foreign investors who are considering investing in Sri Lanka or in a conflict zone.

This study strongly emphasize that different factors have different levels of effect on FDI inflows to different sectors. This has important implications for designing FDI policy framework in order to achieve the desired sectoral distribution of FDI in a host country.

Although Sri Lanka is touted as a country with impressive human capital indicators, it was revealed that Sri Lanka has not been able to capitalise on its quantitative achievements in human capital to attract FDI. Two main limitations that undermine Sri Lanka's human capital base were identified: linguistic limitations of its human capital and issues with quality of education. Countries such as Sri Lanka that rely primarily on vernacular languages might not be able to capitalise on their human capital to attract FDI unless they improve the linguistic capabilities of their human capital. In other words, having an educated workforce is necessary but not a sufficient condition to attract FDI; they should also give due attention to improve the linguistic capabilities of their human capital. One possible solution to mitigate this issue could be to train their workforce in a most widely spoken lingua franca in international business. For example, for a country like Sri Lanka, acquisition of English language proficiency can improve prospects of attracting FDI from English speaking countries. Therefore, it is important to draft suitable policies to improve linguistic capabilities of human capital. Improving the literacy in English, which is the lingua franca in international business, should be a high priority if the government intend to engage in international business. To this end, government should reintroduce English as a medium of instruction in schools and strengthen the English teaching infrastructure in schools. Also, following countries such as India and Singapore, Sri Lanka should seriously consider re-introducing English as an official language. These changes could not only help in attracting more FDI to the country but also increase its integration with global markets. Equipping Sri Lanka's large human capital base with linguistic capabilities in a lingua franca will improve the competitiveness of Sri Lanka in the international terrain and enable Sri Lanka to achieve its true potential. However, present nationalistic sentiments and policies that promote linguistic nationalism are likely to further deteriorate the ability of its human capital to engage in international business.

Sri Lanka's experience demonstrates the importance of the language competency of human capital for attracting FDI inflows. This can also have many implications for other host countries, investing countries and multinationals. Policy implications of this study

are equally valid for other countries that largely use their own vernacular languages. Countries in which only vernacular languages are spoken or countries that are linguistically distant from major FDI source countries are likely to be at a disadvantage in attracting FDI. Also, such countries may not be able to capitalise on their human capital to attract FDI unless they improve the linguistic capabilities of their human capital. Findings of this study would also inform MNEs and investing countries about the importance of language for undertaking FDI in a host country. MNEs could benefit by improving their own language skills within the firms; MNEs with wider linguistic capabilities can afford to be more flexible when their locational choices are made.

Sri Lankan policymakers should also concentrate on overhauling the current education system in order to improve the quality of education. Since Sri Lanka's education system is state managed, Sri Lanka needs to increase its government expenditure at least to a level in par with countries that have the same level of development. Alternatively, more private participation in the education system could be encouraged. Efficiency and effectiveness of the public education system should be improved giving particular attention to linking the education system to academic world and industry requirements. Finally, the tertiary education system should be revamped by increasing the output of technical graduates rather than producing excessive number of unemployable graduates that have studied arts and law.

Empirical results of chapter six suggest that, in the context of Asia, exchange rate depreciation in the host country positively affect FDI inflows. This finding has a major implication for Sri Lanka. It's quite extraordinary that being a developing country, Sri Lanka's real exchange rate has appreciated relative to most of the countries in Asia, even against the developed countries in Asia. Sri Lanka's central bank's interventions to maintain a fixed peg arrangement with the US$ and large foreign borrowing may have largely caused this overvaluation. Such an overvalued exchange rate is likely to have devastating impact on FDI and also on exports and thereby on export oriented FDI. Therefore, overvalued exchange rate largely compromise Sri Lanka's competitiveness in attracting FDI. However, in February 2012, central bank of Sri Lanka has limited its intervention and allowed some flexibility in the determination of exchange rate, and as a

result, exchange rate depreciated significantly after that[54]. It is important for Sri Lanka to maintain a reasonably competitive exchange rate in order to promote exports and attract more FDI into the country.

Research findings of chapter seven indicate that foreign firms have superior characteristics that can benefit Sri Lanka. Econometric analysis also provided a strong indication of positive own firm effects of FDI. However, results of the econometric analysis indicate that foreign firms can have a negative spillover effect on productivity of local firms in the same sector. These findings have several implications. First, since foreign firms have superior characteristics that can benefit Sri Lanka, Sri Lanka should be gravely concerned on the poor penetration of foreign firms in most of the sectors. Sri Lanka should revisit its policies and encourage more FDI into the country, particularly into the sectors that are associated with high technology intensities. Although, this study shows that FDI could contribute positive own firm effects and negative spillover effects, it cannot provide assured judgement on the net effect of FDI. Although this initiative provides a much needed first step in this direction, due to limitations in the data used in this study, it would be important to validate and extend these findings by employing better data. However, limitation on data availability makes this difficult, at least for now, but improving data availability in future, possibly by carrying out more comprehensive surveys that collect firm level time series data could benefit immensely to ascertain firm level benefits of FDI.

Sri Lanka's low national savings rate has led to a negative savings investment gap. In the past, this gap has been largely funded through foreign borrowing, which has led to a deteriorating external debt situation. Compared to foreign borrowing, FDI is a far better alternative for funding Sri Lanka's inherent savings investments gap. FDI can contribute to the host country capital formation directly and could also have an indirect crowding in effect on domestic capital formation (Agosin & Mayer, 2000; Bosworth, Collins, & Reinhart, 1999; Konings, 2000; Borensztein, De Gregorio, & Lee, 1998). Moreover, reliance on excessive borrowing can increase external vulnerability, particularly if it is financed by short term instruments such as bond investments. Therefore, Sri Lankan government should be less reliant on external borrowings by focusing its attention on attracting FDI.

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[54] During 2012 exchange rate depreciated about 10%

Lack of comprehensive data on FDI projects and scarcity of research studies on FDI in Sri Lanka makes proper policy making difficult. Developed countries and even some developing countries have organisations that collect and disseminate FDI related data and these organisations play an active role in carrying out research on FDI. Board of investment in Sri Lanka is the only organisation associated with FDI and it makes a very limited contribution to these activities. Therefore, it is recommended that Sri Lanka should either create suitable organisations or strengthen BOI to carry out these tasks.

Analysis of chapter three and four demonstrates that Sri Lanka has done a poor job in terms of progressing along the investment development path. It can be comprehended that Sri Lanka is still in stage one of the investment development path (IDP) with little participation in technology intensive sectors. As per the IDP theory, inward FDI plays a major role in upgrading local firms' competencies, which will enable the indigenous firms to later on undertake outward FDI (Dunning, 1981; United Nations, 2006; Dunning, Kim, & Lin, 2001; Dunning, 2003). Domestic firms build and upgrade their firm specific advantages mainly through the spillovers arising from foreign firms and competing with foreign firms. Sri Lanka's mediocre performance in attracting FDI, poor performance in attracting FDI into technology intensive sectors, and absence of positive spillovers from foreign firms to local firms may all have resulted in poor performance of local firms in terms of upgrading their firm specific capabilities. The goal of the national FDI policies are twofold. First a country should attract the right type of FDI. Second, the country should devise appropriate policies to extract benefits from it. It appears that Sri Lanka has performed poorly in both of these aspects, and this has in turn, deprived the country the much needed skills and technologies, and decelerated the development of the country.

8.4. Research Limitations and Future Research

Although this study extends the literature on FDI in Sri Lanka and also the literature on FDI in general, there are a few limitations largely arising due to limited resources that were available for this study, particularly because of poor data availability. One limitation of the empirical study on the effect of war on FDI was the reliance on country specific explanatory variables in absence of an exhaustive set of sector specific explanatory variables. Except sector specific growth variable and industry dummies, all other explanatory variables were country specific. An exhaustive set of sector specific explanatory variables could not be included because of the unavailability of sector specific information. Another limitation associated with the time series study is the reliance on a limited number of observations. Number of observations were 33 for the total FDI and 29 for the FDI in manufacturing and FDI in services. This could to some extent undermine the reliability and generalizability of the results of the time series study.

Panel data econometrics is usually considered superior to cross sectional econometrics. However, unavailability of panel data constrained me to use cross sectional data for assessing impact of FDI on firm level labour productivity. Although several tactical measures were taken to minimise the well-known limitations of using cross sectional econometrics, availability of panel data in future could help us to improve our understanding on this subject in the context of Sri Lanka. Also, recent studies on productivity spillovers use input-output tables to estimate vertical spillovers arising from forward and backward linkages. In future, if input-output tables are made available for Sri Lanka, then this could potentially be useful in estimating vertical spillovers of FDI in the context of Sri Lanka.

Sri Lanka's unique features, such as having impressive development indicators while having weak growth indicators, were helpful to extend the literature on FDI by providing unique perspectives. However, these unique features could also limit the generalisability of the findings to other host countries. Therefore, it is important to test the findings of this thesis in other country settings, and if possible, to explore the propositions put forwarded in this study in the context of larger set of countries with the use of large cross-country datasets.

It is also important to analyse the post war FDI performance to understand how investors react after the end of a long period of conflict. It would also be interesting to assess the Phoenix effect, in which war devastated countries are expected to bounce back to high levels of growth and development rapidly. At the time of writing this thesis, only three years of post war data was available, and therefore, it is too early to explore any post war effects. Another related extension of this research could be to understand different home country experiences during war and post war periods. Some home countries, particularly countries associated with conflict, may be more comfortable investing in conflict zones than others. Therefore it would be interesting to analyze the effect of war on bilateral FDI flows to understand different home country experiences during war and post war periods.

Another interesting potential future research theme is to analyze the effect of war on foreign direct divestments. As it was noted earlier, extent of foreign direct divestment that has occurred during the period of war is alarming. Moreover, our empirical analysis indicated that the effect of war on net FDI flows is much larger than its effect on gross FDI flows, probably indicating that war has resulted in divestments. Have these divestment lowered the social rate of return to investment much more than the elimination of the private rates of return to the firms that have divested? Future research could attempt to answer these questions.

Contrast to previous findings, research findings of this thesis show that lower asset prices in the host country can augment FDI and vice versa in the context of less developed stock markets in which the degree of mispricing is high due to market inefficiency and higher degree of manipulation. However, this finding is based on data for handful of countries. This study could be extended to include large set of countries. However, this extension would require time series P/E ratios for large number of less developed markets, which is currently difficult to find because of lack of data for less developed markets. Future studies could attempt to construct a different proxy for market price levels for underdeveloped markets probably by using index movements or aggregating firm level valuations.

This study carried out a preliminary investigation on how the regional context in which Sri Lanka operates can affect FDI inflows. It appears that regional integration within the South Asian region has yet failed to generate any tangible benefits to Sri Lanka, in

general, and in terms of boosting FDI flows. Given its geographical proximity to India - Sri Lanka lies 31 kilometers (19 miles) south east of India - that has emerged as a leading economy with growth rates of around 8% per annum; it is interesting to find out whether Sri Lanka can benefit from closer ties with India? Can FDI from India forge these ties given that the two countries share many attributes? Sri Lanka could largely benefit from its proximity to India, just as Hong Kong profits from being a trade hub to China. It would be important to find out whether Sri Lanka can benefit, particularly in terms of attracting FDI, through high degree of regional integration.

Finally, this thesis relies completely on secondary data. There are couple of advantages of using secondary data. Secondary data usually comes from reliable sources, and data collection is often guided by experts, and therefore, such data is more reliable. Use of secondary data is often more economical and less time consuming compared to using primary data. However, secondary data is collected for a different purpose and therefore may not contain all required information to answer all desired research questions. These data limitations were highlighted in previous chapters and in this concluding chapter. Future researchers can address these limitations by designing and collecting their own data. Also, future research could also employ more qualitative research methodologies to validate the findings of this study. For example, it would be informative to know how the end of war has affected the mind set of foreign investors.

List of Abbreviations

APTA	Asia-Pacific Trade Agreement
ASEAN	Association of Southeast Asian Nations
BOI	Board of Investment
BOP	Balance of Payment
CSE	Colombo Stock Exchange
ECM	Error Correction Model
EPZ	Export Processing Zone
EU	European Union
EP	Export Promotion
FDI	Foreign Direct Investment
FE	Fixed Effects
FPI	Foreign Portfolio Investment
FTA	Free Trade Agreement
GCEC	Greater Colombo Economic Commission
GCF	Gross Capital Formation
GDP	Gross Domestic Product
GMM	Generalised Methods of Moments
IDP	Investment Development Path
IFDI	Inward Foreign Direct Investment
IS	Import Substitution
ISFTA	India-Sri Lanka Free Trade Agreement
JVP	Janathā Vimukthi Peramuṇa (People's Liberation Front)
LTTE	Liberation Tigers of Tamil Eelam
MNC	Multi National Corporation
NAFTA	North American Free Trade Agreement
NFDI	Net Outward Foreign Direct Investment
OFDI	Outward Foreign Direct Investment
PER	Price Earnings Ratio
POLS	Pooled Ordinary Least Squares
PPP	Purchasing power parity
PSFTA	Pakistan-Sri Lanka Free Trade Agreement

RIA	Regionally Integrated Area
RE	Random Effects
R&D	Research and development
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asian Preferential Trade Agreement
SAPTA	South Asian Preferential Trade Agreement
SBC	Schwarz Bayesian Criterion
SOE	State Owned Enterprise
UNCTAD	United Nations Conference on Trade and Development
VAR	Vector Autoregressive Model
VECM	Vector Error Correction Model

References

Abadie, A. & Gardeazabal, J. 2003. The Economic Costs of Conflict: A Case Study of the Basque Country. *The American Economic Review*, 93(1): 113-32.

Abbas, Q. 2001. Endogenous Growth and Human Capital: A Comparative Study of Pakistan and Sri Lanka. *The Pakistan Development Review*, 40(4): 987-1007.

Abbott, A., Cushman, D. O., & De Vita, G. 2012. Exchange Rate Regimes and Foreign Direct Investment Flows to Developing Countries. *Review of International Economics*, 20(1): 95-107.

Abeyratne, S. 2008. Economic Development and Political Conflict: Comparative Study of Sri Lanka and Malaysia. *South Asia Economic Journal* 9: 393-417.

Abeysekera, I. 2011. Civil war, stock return, and intellectual capital disclosure in Sri Lanka. *Advances in Accounting*, 27(2): 331-37.

Adam, A. & Filippaios, F. 2007. Foreign direct investment and civil liberties: A new perspective. *European Journal of Political Economy*, 23(4): 1038-52.

Adam , A. M. & Tweneboah , G. 2009. Foreign Direct Investment and Stock market Development: Ghana's Evidence. *International Research Journal of Finance and Economics*, 26: 178-85.

Agarwal, J. 1980. Determinants of foreign direct investment: A survey. *Weltwirtschaftliches Archiv*, 116(4): 739-73.

Aggarwal, A. 2008. Regional Economic Integration and FDI in South Asia : Prospects and Problems: Indian Council for Research On International Economic Relations.

Agodo, O. 1978. The Determinants of U. S. Private Manufacturing Investments in Africa. *Journal of International Business Studies*, 9(3): 95-107.

Agosin, M. R. & Mayer, R. 2000. Foreign Investment In Developing Countries Does it Crowd in Domestic Investment?: No. 146, United Nations Conference on Trade and Development (UNCTAD).

Agrawal, P. 2000. Economic Impact of Foreign Direct Investment In South Asia: Indira Gandhi Institute of Development Research.

Aitken, B., Harrison, A., & Lipsey, R. E. 1996. Wages and foreign ownership A comparative study of Mexico, Venezuela, and the United States. *Journal of International Economics*, 40(3–4): 345-71.

Aitken, B. J. & Harrison, A. E. 1999. Do Domestic Firms Benefit from Direct Foreign Investment? Evidence from Venezuela. *American Economic Review*, 89(3): 605-18.

Akyuz, Y. & Chang, H.-J. 1998. New Perspectives on East Asian Development. *Journal of Development Studies*, 34(6): 4.

American Association of Port Authorities. 2010. World Port Rankings 2010: American Association of Port Authorities.

Ang, J. B. 2007. CO2 emissions, energy consumption, and output in France. *Energy Policy*, 35(10): 4772-78.

Anwar, S. & Nguyen, L. P. 2011. Foreign direct investment and export spillovers: Evidence from Vietnam. *International Business Review*, 20(2): 177-93.

Arunatilake, N., Jayasuriya, S., & Kelegama, S. 2001. The Economic Cost of the War in Sri Lanka. *World Development*, 29(9): 1483-500.

Asian Development Bank 2008. Country Partnership Stratergy, Sri Lanka 2009-2011.

Asiedu, E. 2002. On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? *World Development*, 30(1): 107-19.

Athukorala, P.-c. 2006. Outward-oriented Policy Reforms and Industrialisation: The Sri Lankan Experience. *Journal of South Asian Development*, 1(1): 19-49.

Athukorala, P.-c. 2009. Trends and Patterns of Foreign Direct Investments in Asia: A Comparative Perspective. *The Journal of Applied Economic Research*, 3(4): 365–408.

Athukorala, P.-c. & Rajapatirana, S. 2000. Liberalization and industrial transformation: Lessons from the Sri Lankan experience. *Economic Development & Cultural Change*, 48(3): 543.

250

Athukorala, P. 1995. Foreign Direct Investment and Manufacturing for Export in a New Exporting Country: The Case of Sri Lanka. *World Economy*, 18(4): 543-64.

Athukorala, P. C. & Jayasuriya, S. 2004. Complementarity of Trade and FDI Liberalization in Industrial Growth: Lessons from Sri Lanka, *ASARC an International Conference*. Canberra Australia.

Athukorala, W. P. P. A. 2003. The Impact of Foreign Direct Investment for Economic Growth: A Case Study in Sri Lanka, *9th International conference on Sri Lanka Studies*. Matara, Sri Lanka.

Aturupane, H. 2009. The Pearl of Great Price: Achieving Equitable Access to Primary and Secondary Education and Enhancing Learning in Sri Lanka, *CREATE PATHWAYS TO ACCESS*: Consortium for Research on Educational Access, Transitions and Equity.

Baker, M., Foley, C. F., & Wurgler, J. 2009. Multinationals as Arbitrageurs: The Effect of Stock Market Valuations on Foreign Direct Investment. *The Review of Financial Studies*, 22(1): 337-69.

Balasubramanyam, V. N., Salisu, M., & Sapsford, D. 1996. Foreign direct investment and growth in EP and IS countries. *Economic Journal*, 106(434): 92-105.

Balasubramanyam, V. N., Sapsford, D., & Griffiths, D. 2002. Regional Integration Agreements and Foreign Direct Investment: Theory and Preliminary Evidence. *Manchester School (14636786)*, 70(3): 460.

Banalieva, E., Gregg, G., & Sarathy, R. 2010. The Impact of Regional Trade Agreements on the Global Orientation of Emerging Market Multinationals. *Management International Review*, 50(6): 797-826.

Bang Nam, J. & Se Young, A. 2004. Multinational Corporations and Host Country Receptivity: Perceptions from Three Asian Countries. *Multinational Business Review (St. Louis University)*, 12(2): 17-36.

Bardhan, P. 1997. Corruption and development: A review of issues. *Journal of Economic Literature*, 35(3): 1320.

Barro, R. J. 1991. Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, 106(2): 407-43.

Barro, R. J. & Lee, J. W. 2010. Data Query.

Barth, E., Gulbrandsen, T., & Schønea, P. 2005. Family ownership and productivity: the role of owner-management. *Journal of Corporate Finance*, 11(1–2): 107-27.

Bénassy-Quéré, A., Fontagné, L., & LahrÈche-Révil, A. 2001. Exchange-Rate Strategies in the Competition for Attracting Foreign Direct Investment. *Journal of the Japanese and International Economies*, 15(2): 178-98.

Benito, G. R. G. 1997. Why are Foreign Subsidiaries Divested?In Bjorkman, I & M Forsgren, (Eds.), *The Nature of the International Firm*. Copenhagen: Copenhagen Business School Press.

Bennett, P. D. & Green, R. T. 1972. Political Instability as a Determinant of Direct Foreign Investment in Marketing. *Journal of Marketing Research*, 9(2): 182-86.

Beugelsdijk, S., Smeets, R., & Zwinkels, R. 2008. The impact of horizontal and vertical FDI on host's country economic growth. *International Business Review*, 17(4): 452-72.

Bhaumik, S. K. & Dimova, R. 2012. Does Human Capital Endowment of FDI Recipient Countries Really Matter? Evidence from Cross-Country Firm Level Data: IZA Discussion Paper No. 6382.

Billington, N. 1999. The location of foreign direct investment: an empirical analysis. *Applied Economics*, 31(1): 65-76.

Blalock, G. & Gertler, P. J. 2009. How firm capabilities affect who benefits from foreign technology. *Journal of Development Economics*, 90(2): 192-99.

Blomberg, S. B., Hess, G. D., & Orphanides, A. 2004. The macroeconomic consequences of terrorism. *Journal of Monetary Economics*, 51(5): 1007-32.

Blomström, M. 1988. Labor productivity differences between foreign and domestic firms in Mexico. *World Development*, 16(11): 1295-98.

Blomström, M. & Kokko , A. 1997. How Foreign Investment Affects Host Countries, *Policy Research Working Paper 1745*: The World Bank, International Economics Department, International Trade Division.

Blomström, M. & Kokko, A. 2003a. The Economics of Foreign Direct Investment Incentives: NBER Working Paper Series, Working Paper 9489.

Blomström, M. & Kokko, A. 2003b. Human Capital and Inward FDI, *Working Paper 167*.

Blomström, M. & Kokko, A. 1998. Multinational Corporations and Spillovers. *Journal of Economic Surveys*, 12(3): 247-77.

Blomström, M. & Persson, H. 1983. Foreign investment and spillover efficiency in an underdeveloped economy: Evidence from the Mexican manufacturing industry. *World Development*, 11(6): 493-501.

Blonigen, B. A. 1997. Firm-Specific Assets and the Link Between Exchange Rates and Foreign Direct Investment. *American Economic Review*, 87(3): 447-65.

Blonigen, B. A. 2005. A Review of the Empirical Literature on FDI Determinants, *ASSA conference*. Philadelphia.

Board of Investment Sri Lanka. 2011. Board of Investment Sri Lanka (BOI) (2011).

Board of Investment Sri Lanka. 2012. Board of Investment Sri Lanka, 2012.

Borensztein, E., De Gregorio, J., & Lee, J. W. 1998. How does foreign direct investment affect economic growth? *Journal of International Economics*, 45(1): 115-35.

Bosworth, B. P., Collins, S. M., & Reinhart, C. M. 1999. Capital Flows to Developing Economies: Implications for Saving and Investment. *Brookings Papers on Economic Activity*, 1999(1): 143-80.

Brada, J. C., Kutan, A. M., & Yigit, T. M. 2006. The effects of transition and political instability on foreign direct investment inflows. *Economics of Transition*, 14(4): 649-80.

Brakman, S., Garretsen, H., Marrewijk, C. V., & Witteloostuijn, A. V. 2007. *Nations and Firms in the Global Economy*. 2 ed. Cambridge: Cambridge University Press.

Brouthers, K. D. & Brouthers, L. E. 2003. Why Service and Manufacturing Entry Mode Choices Differ: The Influence of Transaction Cost Factors, Risk and Trust. *Journal of Management Studies*, 40(5): 1179-204.

Brown, M. 2011. Sri Lankan Nationalization Law Could Hinder Investment: Fitch Ratings.

Buckley, P. J., Clegg, J., Forsans, N., & Reilly, K. T. 2001. Increasing the size of "country": Regional economic integration and foreign direct investment in a globalized world economy. *Management International Review*, 41(3): 251-74.

Buckley, P. J., Clegg, J., & Wang, C. 2002. The Impact of Inward FDI on the Performance of Chinese Manufacturing Firms. *Journal of International Business Studies*, 33(4): 637-55.

Bukowska, G. & Siwińska-Gorzelak, J. 2011. School competition and the quality of education: introducing market incentives into public services. *Economics of Transition*, 19(1): 151-77.

Bureau of Democracy United States. 2012. Sri Lanka 2012 Human Rights Report: Executive Summary, *Country Reports on Human Rights Practices*: United States Department of State, Bureau of Democracy, Human Rights and Labor.

Bureau of Democracy United States. 2011. Sri Lanka: Executive Summary, *ountry Reports on Human Rights Practices*: United States Department of State, Bureau of Democracy, Human Rights and Labor.

Bureau of Economic, E. a. B. A. 2011. Openness to, and restrictions upon, foreign investment, *2011 Investment Climate Statement - Sri Lanka*.

Bureau of Economic, E. a. B. A. 2012. Openness to, and restrictions upon, foreign investment, Bureau of Economic, Energy and Business Affairs, *Investment Climate Statement – Sri lanka (2012)*.

Busse, M. & Hefeker, C. 2007. Political risk, institutions and foreign direct investment. *European Journal of Political Economy*, 23(2): 397-415.

Bwalya, S. M. 2006. Foreign direct investment and technology spillovers: Evidence from panel data analysis of manufacturing firms in Zambia. *Journal of Development Economics*, 81(2): 514-26.

Calvet, A. L. 1981. A Synthesis of Foreign Direct Investment Theories and Theories of the Multinational Firm. *Journal of International Business Studies*, 12(1): 43-59.

Campa, J. M. 1993. Entry by Foreign Firms in the United States Under Exchange Rate Uncertainty. *Review of Economics & Statistics*, 75(4): 614-22.

Caves, R. E. 1971. International Corporations: The Industrial Economics of Foreign Investment. *Economica*, 38(149): 1-27.

Caves, R. E. 2007. Multinational Enterprise and Economic Analysis. 3 ed: Cambridge University Press.

Central Bank of Sri Lanka. 1950. Central Bank Annual Report 1950: Central Bank of Sri Lanka.

Central Bank of Sri Lanka. 2002. Central Bank Annual Report 2002. Colombo: Central Bank of Sri Lanka.

Central Bank of Sri Lanka. 2009. Central Bank Annual Report 2009: Central Bank of Sri Lanka.

Central Bank of Sri Lanka. 2010. Central Bank Annual Report 2010: Central Bank of Sri Lanka.

Central Bank of Sri Lanka. 2011. Central Bank Annual Report 2011: Central Bank Annual Report.

Central Bank of Sri Lanka. 2007. Central Bank of Sri Lanka 2007: Central Bank of Sri Lanka.

Central Intelligence Agency. 2012. The World Fact Book (2012): Central Intelligence Agency

Chakrabarti, A. 2001. The Determinants of Foreign Direct Investments: Sensitivity Analyses of Cross-Country Regressions. *Kyklos*, 54(1): 89-114.

Chang, S.-J., Chung, J., & Moon, J. J. 2013. When do foreign subsidiaries outperform local firms? *Journal of International Business Studies*, 44: 853–60.

Charemza, W. W. & Deadman, D. F. 1997. *Econometric Practice*: Edward Elgar Publishing Inc.

Chen, C. J., Ding, Y., & Kimand, C. 2010. High-level politically connected firms, corruption, and analyst forecast accuracy around the world. *Journal of International Business Studies*, 41(9): 1505-24.

Chen, K.-M., Rau, H.-H., & Lin, C.-C. 2006. The Impact of Exchange Rate Movements on Foreign Direct Investment: Market-Oriented Versus Cost-Oriented. *The Developing Economies*, 44(3): 269-87.

Cheng, L. K. & Kwan, Y. K. 2000. What are the determinants of the location of foreign direct investment? The Chinese experience. *Journal of International Economics*, 51(2): 379-400.

Chuang, Y.-C. & Lin, C.-M. 1999. Foreign Direct Investment, R&D and Spillover Efficiency: Evidence from Taiwan's Manufacturing Firms. *Journal of Development Studies*, 35(4): 117.

Chudnovsky, D., López, A., & Rossi, G. 2008. Foreign Direct Investment Spillovers and the Absorptive Capabilities of Domestic Firms in the Argentine Manufacturing Sector (1992–2001). *The Journal of Development Studies*, 44(5): 645-77.

Claessens, S., Klingebiel, D., & Schmukler, S. L. 2001. FDI and Stock Market Development: Complements or Substitutes?

Colino, A. 2012. Conflict Resolution Processes, Uncertainty and Investment Dynamics: Evidence for the Basque Country. *Defence and Peace Economics*, 24(3): 229-45.

Colombo Stock Exchange. 2009. CSE Annual Report 2009. Colombo: Colombo Stock Exchange.

Conyon, M., Girma, S., Thompson, S., & Wright, P. 1999. The Impact of Foreign Acquisition on Wages and Productivity in the UK: Centre for Research on Globalisation

and Labour Markets, School of Economics, University of Nottingham, Research Paper 99/8.

Country Summary of Higher Education. 2007. Country Summary of Higher Education, Sri Lanka.

Cushman, D. 1988. Exchange-rate uncertainty and foreign direct investment in the United States. *Weltwirtschaftliches Archiv*, 124(2): 322-36.

Cushman, D. O. 1987. The Effects of Real Wages and Labor Productivity on Foreign Direct Investment. *Southern Economic Journal*, 54(1): 174-85.

Cushman, D. O. 1985. Real Exchange Rate Risk, Expectations, and the Level of Direct Investment. *The Review of Economics and Statistics*, 67(2): 297-308.

Czinkota, M. R., Knight , G., Liesch, P. W., & Steen, J. 2010. Terrorism and international business: A research agenda. *Journal of International Business Studies*, 41: 826-43.

Daily Mirror. 2012. Manipulation in the Sri Lankan stock market: Daily Mirror.

Dash, K. C. 1996. The Political Economy of Regional Cooperation in South Asia. *Pacific Affairs*, 69(2): 185-209.

Daude, C. & Stein, E. 2007. The Quality of Institutions and Foreign Direct Investment. *Economics & Politics*, 19(3).

Deborah, W. 2013. Potential and Actual FDI Spillovers in Global Value Chains: The Role of Foreign Investor Characteristics, Absorptive Capacity and Transmission Channels: The World Bank.

Demirbag, M., McGuinness, M., & Altay, H. 2010. Perceptions of Institutional Environment and Entry Mode. *Management International Review*, 50(2): 207-40.

DeVotta, N. 2004. *Blowback: Linguistic Nationalism, Institutional Decay, and Ethnic Conflict in Sri Lanka*. Stanford, Califonia: Stanford University Press.

DeVotta, N. 2000. Control Democracy, Institutional Decay, and the Quest for Eelam: Explaining Ethnic Conflict in Sri Lanka. *Pacific Affairs*, 73(1): 55-76.

DeVotta, N. 2010. From civil war to soft authoritarianism: Sri Lanka in comparative perspective. *Global Change, Peace & Security*, 22(3): 331-43.

Dhanaraj, C. & Beamish, P. W. 2009. Institutional Environment and Subsidiary Survival. *Management International Review*, 49(3): 291-312.

Dimelis, S. & Louri, H. 2002. Foreign Ownership and Production Efficiency: A Quantile Regression Analysis. *Oxford Economic Papers*, 54(3): 449-69.

Domes, M. E. & Jensen, J. B. 1998. Comparing Wages, Skills, and Productivity between Domestically and Foreign-Owned Manufacturing Establishments in the United States.In Baldwin, Robert E, Robert E Lipsey, & J David Richards, (Eds.), *Geography and Ownership as Bases for Economic Accounting*: University of Chicago Press.

Doms, M. E. & Jensen, J. B. 1998. Comparing Wages, Skills, and Productivity between Domestically and Foreign-Owned Manufacturing Establishments in the United States.In Baldwin, Robert E, Robert E Lipsey, & J David Richards, (Eds.), *Geography and Ownership as Bases for Economic Accounting*: University of Chicago Press.

Drakos, K. 2011. Security Economics: A Guide for Data Availability and Needs. *Defence and Peace Economics*, 22(2): 147-59.

Driffield, N., Jones, C., & Crotty, J. 2013. International business research and risky investments, an analysis of FDI in conflict zones. *International Business Review*, 22(1): 140-55.

Duma, N. 2007. Sri Lanka's Sources of Growth: International Monetary Fund.

Dunning, J. 1981. Explaining the international direct investment position of countries: Towards a dynamic or developmental approach. *Review of World Economics*, 117(1): 30-64.

Dunning, J. H. 1989. Multinational Enterprises and the Growth of Services: Some Conceptual and Theoretical Issues. *Service Industries Journal*, 9(1): 5-39.

Dunning, J. H. 2003. The Role of Foreign Direct Investment in Upgrading China's Competitiveness. *Journal of International Business And Economy*, 4(1): 1-13.

Dunning, J. H., Kim, C.-S., & Lin, J.-D. 2001. Incorporating Trade into the Investment Development Path: A Case Study of Korea and Taiwan. *Oxford Development Studies*, 29(2): 145-54.

Dunning, J. H. & Lundan, S. M. 2008. *Mutinational Enterprises and the Global Economy*. 2 ed: Edward Elgar Publishing Limited.

Dunning, J. H. & Narula, R. 1996. The Investment development Path Revisited: Some emerging issues.In Dunning, J H & Rajneesh Narula, (Eds.), *Foreign Direct Investment and Governments: Catalysts for economic restructuring*. London: Routledge.

Economic Analysis and Statistics Division. 2011. Classification of manufacturing industries into categories based on R&D intensities, *Technology Intensity Definition*: OECD Directorate for Science, Technology and Industry.

Egger, P. & Winner, H. 2005. Evidence on corruption as an incentive for foreign direct investment. *European Journal of Political Economy*, 21(4): 932-52.

Elyasiani, E., Perera, P., & Puri, T. N. 1998. Interdependence and dynamic linkages between stock markets of Sri Lanka and its trading partners. *Journal of Multinational Financial Management*, 8(1): 89-101.

Enderwick, P. 2001. Terrorism and The International Business Environment: Academy of International Business.

Engle, R. F. & Granger, C. W. J. 1987. Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, 55(2): 251-76.

Erdal, F. & Tatoglu, E. 2002. Locational Determinants Of Foreign Direct Investment In An Emerging Market Economy: Evidence From Turkey. *Multinational Business Review (St. Louis University)*, 10(1): 21.

Faeth, I. 2005 Foreign Direct Investment in Australia: Determinants and Consequences, Department of Economics, The University of Melbourne.

Feierabend, I. K. & Feierabend, R. L. 1966. Aggressive Behaviors within Polities, 1948-1962: A Cross-National Study. *The Journal of Conflict Resolution*, 10(3): 249-71.

Feils, D. & Rahman, M. 2011. The Impact of Regional Integration on Insider and Outsider FDI. *Management International Review*, 51(1): 41-63.

Feliciano, Z. & Lipsey, R. E. 1999. Foreign ownership and wages in the United States, 1987 - 1992: NBER working paper series, Working paper 6923.

Fielding, D. 2004. How Does Violent Conflict Affect Investment Location Decisions? Evidence from Israel during the Intifada. *Journal of Peace Research*, 41(4): 465-84.

Foreign and Commonwealth Office. 2012.

Forsgren, M. 2008. *Theories of the multinational firm: amultidimensional creature in the global economy*: Cheltenham : Edward Elgar.

Francis, J., Zheng, C., & Mukherji, A. 2009. An Institutional Perspective on Foreign Direct Investment. *Management International Review*, 49(5): 565-83.

Frankel, J. A. 1999. No Single Currency Regime is Right for all Countries or at All Times, *NBER Working Paper Series, Working Paper 7338*. Cambridge: National Bureau of Economic Research.

Frobel, F., Heinrichs, J., & Kreye, O. 1980. *The new international division of labour*: Cambridge University Press.

Froot, K. A. & Stein, J. C. 1991. Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach. *The Quarterly Journal of Economics*, 106(4): 1191-217.

Ganegodage, K. R. & Rambaldi, A. N. 2011. The impact of education investment on Sri Lankan economic growth. *Economics of Education Review*, 30(6): 1491-502.

Ganotakis, P. & Love, J. H. 2012. Export propensity, export intensity and firm performance: The role of the entrepreneurial founding team. *Journal of International Business Studies*, 43(8): 693-718.

Gao, T. 2005. Labor quality and the location of foreign direct investment: Evidence from China. *China Economic Review*, 16(3): 274-92.

Girma, S. & Görg, H. 2007. The Role of the Efficiency Gap for Spillovers from FDI: Evidence from the UK Electronics and Engineering Sectors. *Open Economies Review*, 18(2): 215-32.

Globerman, S., Ries, J. C., & Vertinsky, I. 1994. The Economic Performance of Foreign Affiliates in Canada. *The Canadian Journal of Economics / Revue canadienne d'Economique*, 27(1): 143-56.

Goldberg, M. A., Heinkel, R. L., & Levi, M. D. 2005. Foreign direct investment: The human dimension. *Journal of International Money and Finance*, 24(6): 913-34.

Goldstein, I. & Razin, A. 2006. An information-based trade off between foreign direct investment and foreign portfolio investment. *Journal of International Economics*, 70(1): 271-95.

Gordon, R. G. 2005. *Ethnologue : languages of the world* 15 ed: Dallas, Tex. : SIL International.

Görg, H. & Greenaway, D. 2001. Foreign direct investment and intraindustry spillovers : a review of the literature, *Globalisation and Labour Markets Programme*: Kiel Institute for the World Economy.

Görg, H. & Strobl, E. 2001. Multinational Companies and Productivity Spillovers: A Meta-Analysis. *The Economic Journal*, 111(475): F723-F39.

Govindan, K. 1997 The Impact of Foreign Direct Investment On a Developing Country: A Case Study of Malaysia, Department of Economics, University of Lancaster, Lancaster.

Greenaway, D. & Kneller, R. 2007. Firm heterogeneity, exporting and foreign direct investment. *Economic Journal*, 117(517): F134-F61.

Guha-Khasnobis, B. & Bari, F. 2000. Sources of Growth in South Asian Countries: Global Research Project.

Haddad, M. & Harrison, A. 1993. Are there positive spillovers from direct foreign investment?: Evidence from panel data for Morocco. *Journal of Development Economics*, 42(1): 51-74.

Hajzler, C. 2012. Expropriation of foreign direct investments: sectoral patterns from 1993 to 2006. *Review of World Economics*, 148(1): 119-49.

Hanousek, J., Kočenda, E., & Maurel, M. 2011. Direct and indirect effects of FDI in emerging European markets: A survey and meta-analysis. *Economic Systems*, 35(3): 301-22.

Hanson, J. R. 1996. Human Capital and Direct Investment in Poor Countries. *Explorations in Economic History*, 33(1): 86-106.

Harris, R. & Robinson, C. 2003. Foreign Ownership and Productivity in the United Kingdom Estimates for U.K. Manufacturing Using the ARD. *Review of Industrial Organization*, 22(3): 207-23.

Harzing, A.-W., Köster, K., & Magner, U. 2011. Babel in business: The language barrier and its solutions in the HQ-subsidiary relationship. *Journal of World Business*, 46(3): 279-87.

Havranek, T. & Irsova, Z. 2012. Survey Article: Publication Bias in the Literature on Foreign Direct Investment Spillovers. *The Journal of Development Studies*, 48(10): 1375-96.

Heckman, J. J. 1979. Sample Selection Bias as a Specification Error. *Econometrica*, 47(1): 153-61.

Hejazi, W. & Ma, J. 2011. Gravity, the English language and international business. *The Multinational Business Review*, 19(2): 152-67.

Henry, P. B. 2000. Do stock market liberalizations cause investment booms? *Journal of Financial Economics*, 58(1–2): 301-34.

Herzer, D. 2012. How Does Foreign Direct Investment Really Affect Developing Countries' Growth? *Review of International Economics*, 20(2): 396-414.

Hicks, M. J. & Jeff, S. 2009. Warfare, Civil Conflict and the Spatial Impacts on Domestic Investment: Evidence from South America, 1950-2000. *Peace Economics, Peace Science and Public Policy*, 15(1).

Hill, C. W. L. 2011. *International Business Completing in the Global Marketplace*: McGraw-Hill.

Hill, C. W. L. & Snell, S. A. 1989. Effects of Ownership Structure and Control on Corporate Productivity. *Academy of Management Journal*, 32(1): 25-46.

Hoang, T. T. 2006. Determinants of Foreign Direct Investment in Vietnam.

Hohenthal, A. 2003. English In India: Loyalty and Attitudes, *Language In India*.

Hsiao, F. S. T. & Hsiao, M.-C. W. 2006. FDI, exports, and GDP in East and Southeast Asia—Panel data versus time-series causality analyses. *Journal of Asian Economics*, 17(6): 1082-106.

Hymer, S. H. 1960 The International Operations of National Firms: A Study of Direct Foreign Investment, Massachusetts Institute of Technology.

International Monetary Fund. 2008. De Facto Classification of Exchange Rate Regimes and Monetary Policy Frameworks.

International Monetary Fund. 2011. Economic Indicators, International Financial Statistics Public Data: International Monetary Fund.

Jain, S. C. & Grosse, R. 2009. Impact of Terrorism and Security Measures on Global Business Transactions: Some International Business Guidelines. *Journal of Transnational Management*, 14(1): 42-73.

Jaleel, F. M. & Samarakoon, L. P. 2009. Stock market liberalization and return volatility: Evidence from the emerging market of Sri Lanka. *Journal of Multinational Financial Management*, 19(5): 409-23.

Javorcik, B. S. 2004. Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backward Linkages. *The American Economic Review*, 94(3): 605-27.

Jayasinghe, A. 2012. Sri Lanka stock market roiled by scandal. Colombo: Lanka Business Online.

Jensen, N. 2008. Political Risk, Democratic Institutions, and Foreign Direct Investment. *The Journal of Politics*, 70(4): 1040-52.

Jensen, N. M., Li, Q., & Rahman, A. 2010. Understanding corruption and firm responses in cross-national firm-level surveys. *Journal of International Business Studies*, 41(9): 1481-504.

Jeon, Y., Park, B. I., & Ghauri , P. N. 2013. Foreign direct investment spillover effects in China: Are they different across industries with different technological levels? *China Economic Review*, 26: 105–17.

Jinyoung, K. & Jungsoo, P. 2012. Foreign Directy Investment and Country-Specific Human Capital: Economic Inquiry, Western Economic Association International.

Kapstein, E. B. 2002. Virtuous Circles? Human Capital Formation, Economic Development and The Multinational Enterprise: Working Paper No. 191, Research programme on: Global Interdependence and Income Distribution.

Kearney, A. T. 2011. Offshoring Opportunities Amid Economic Turbulence, *Global Services Location Index*.

Kelegama, S. 2000. Development in Independent Sri Lanka: What Went Wrong? *Economic and Political Weekly*, 35(17): 1477-90.

Kelegama, S. & Foley, F. 1999. Impediments to Promoting Backward Linkages from the Garment Industry in Sri Lanka. *World Development*, 27(8): 1445-60.

Khwaja, A. I. & Mian, A. 2005. Unchecked intermediaries: Price manipulation in an emerging stock market. *Journal of Financial Economics*, 78(1): 203-41.

Kinoshita, Y. & Campos, N. F. 2004. Estimating the Determinants of Foreign Direct Investment Inflows: How Important are Sampling and Omitted Variable Biases?: Bank of Finland (BOFIT) - Institute for Economies in Transition.

Kobrin, S. J. 1976. The Environmental Determinants of Foreign Direct Manufacturing Investment: An Ex Post Empirical Analysis. *Journal of International Business Studies*, 7(2): 29-42.

Kohlhagen, S. W. 1977. Exchange Rate Changes, Profitability, and Direct Foreign Investment. *Southern Economic Journal*, 44(1): 43-52.

Kokko, A. 1994. Technology, market characteristics, and spillovers. *Journal of Development Economics*, 43(2): 279-93.

Kokko, A., Zejan, M., & Tansini, R. 2001. Trade Regimes and Spillover Effects of FDI: Evidence from Uruguay. *Weltwirtschaftliches Archiv*, 137(1): 124-49.

Konara, P. & Wei, Y. 2013a. The role of language in bilateral foreign direct investment: a forgotten factor? Paper presented at Academy of International Business (AIB) UK/Ireland Chapter Conference, Birmingham, UK.

Konara, P. & Wei, Y. 2013b. The role of language in bilateral foreign direct investment: a forgotten factor?In Chris, Jones & Yama Temouri, (Eds.), *International Business, Institutions and Performance after the Financial Crisis*: Palgrave Macmillan.

Konings, J. 2000. The Effects of Direct Foreign Investment on Domestic Firms: Evidence from Firm Level Panel Data in Emerging Economies: Working Paper Number 344.

Kravis, I. B. & Lipsey, R. E. 1982. The location of overseas production and production for export by U.S. multinational firms. *Journal of International Economics*, 12(3–4): 201-23.

Kugler, M. 2006. Spillovers from foreign direct investment: Within or between industries? *Journal of Development Economics*, 80(2): 444-77.

Kumar, N. 2001. Infrastructure Availability, Foreign Direct Investment Inflows and Their Export-orientation: A Cross-Country Exploration. New Delhi: Research and Information System for Developing Countries.

Kumaraswamy, P. R. 2007. Terrorism in South Asia: The Changing Trends. *South Asia: Journal of South Asian Studies*, 30(1): 7-24.

Lall , S. & Streeten, P. 1997. *Foreign investment, transnationals, and developing countries* Palgrave Macmillan.

Liljeblom, E. & Löflund, A. 2005. Determinants of international portfolio investment flows to a small market: Empirical evidence. *Journal of Multinational Financial Management*, 15(3): 211-33.

Lipsey, R. E. 2004. Home- and Host-Country Effects of Foreign Direct Investment: University of Chicago Press.

Lipsey, R. E. & Sjoholm, F. 2001. Foreign Direct Investment and Wages in Indonesian Manufacturing, *NBER Working Paper, Working papaer 8299*. Cambridge: National Bureau of Economic Research.

Lipsey, R. & Sjöholm, F. 2004a. FDI and wage spillovers in Indonesian manufacturing. *Review of World Economics*, 140(2): 321-32.

Lipsey, R. E. & Sjöholm, F. 2004b. Foreign direct investment, education and wages in Indonesian manufacturing. *Journal of Development Economics*, 73(1): 415-22.

Lipsey, R. E. & Sjöholm, F. 2004c. Host Country Impacts of Inward FDI: Why Such Different Answers?: Working Paper No 192.

Lonely Planet. 2012. Best in Travel 2013 - Top 10 countries.

Loree, D. W. & Guisinger, S. E. 1995. Policy and Non-Policy Determinants of U.S. Equity Foreign Direct Investment. *Journal of International Business Studies*, 26(2): 281-99.

Loungani, P. & Razin, A. 2001. How Beneficial Is Foreign Direct Investment for Developing Countries? *Finance and Development*, 38(2).

Lundan, S. M. & Jones, G. 2001. The 'Commonwealth Effect' and the Process of Internationalisation. *World Economy*, 24(1): 99-118.

Makki, S. S. & Somwaru, A. 2004. Impact of Foreign Direct Investment and Trade on Economic Growth: Evidence from Developing Countries. *American Journal of Agricultural Economics*, 86(3): 795-801.

Malik, S. K. 2010. Technology Spillovers from Foreign Direct Investment Evidence from Indian Manufacturing Industries. New Delhi: Jawaharlal Nehru University.

Marin, A. & Bell, M. 2006. Technology spillovers from Foreign Direct Investment (FDI): the active role of MNC subsidiaries in Argentina in the 1990s. *Journal of Development Studies*, 42(4): 678-97.

Mata, J. & Portugal, P. 1999. Closure and Divestiture by Foreign Entrants: The Impact of Entry and Post-Entry Strategies. Lisboa, Portugal: Banco De Portugal, Economics Research Department.

McMahon, W. W. 1984. The relation of education and R&D to productivity growth. *Economics of Education Review*, 3(4): 299-313.

Mencinger, J. 2008. Direct And Indirect Effects of FDI on Current Account: University of Ljubljana.

Meyer, K. E. & Sinani, E. 2009. When and Where Does Foreign Direct Investment Generate Positive Spillovers? A Meta-Analysis. *Journal of International Business Studies*, 40(7): 1075-94.

Ministry of Education Sri Lanka. 2006. School Census - 2006, Preliminary Report: Ministry of Education Sri Lanka, Statistics Branch.

Miyamoto, K. 2003. Human Capital Formation and Foreign Direct Investment in Developing Countries: Working Paper No.211, OECD Development Center.

Moller, N. M., Markusen, J. R., & Schjerning, B. 2007. Foreign Firms, Domestic Wages: Natinal Bureau Of Economic Research, Working Paper 13001.

Moosa, I. A. 2002. *Foreign Direct Investment: Theory, Evidence and Practice*: Palgrave Macmillan.

Moran, T. H. 2005. *How Does FDI Affect Host Country Development? Using Industry Case Studies to Make Reliable Generalizations*: Institute for International Economics Center for Global Development.

Mottaleb, K. A. & Kalirajan, K. 2010. Determinants of Foreign Direct Investment in Developing Countries: A Comparative Analysis.

Murdoch, J. & Sandler, T. 2002. Civil wars and economic growth: A regional comparison. *Defence and Peace Economics*, 13(6): 451-64.

Nigh, D. 1985. The Effect of Political Events on United States Direct Foreign Investment: A Pooled Time-Series Cross-Sectional Analysis. *Journal of International Business Studies*, 16(1): 1-17.

Nonnemberg, M. B. & Mendonça, M. J. C. d. 2004. The Determinants Of Foreign Direct Investment In Developing Countries.

Noorbakhsh, F., Paloni, A., & Youssef, A. 2001. Human Capital and FDI Inflows to Developing Countries: New Empirical Evidence. *World Development*, 29(9): 1593-610.

Noorbakhsh, F., Paloni, A., & Youssef, A. 1999. Low wages or skilled labour? Prospects for foreign direct investment in developing countries: Department of Economics, University of Glasgow.

North, D. C. 1991. Institutions. *Journal of Economic Perspectives*, 5(1): 97-112.

Nunnenkamp, P. 2002. Foreign Direct Investment in Developing Countries: What Economists (Don't) Know and What Policymakers Should (Not) Do: Kiel Institute of World Economics, Germany.

Nunnenkamp, P. & Spatz, J. 2002. Determinants of FDI in developing countries: has globalization changed the rules of the game? *Transnational Corporations* 11(2).

Oh, C. H., Travis Selmier, W., & Lien, D. 2011. International trade, foreign direct investment, and transaction costs in languages. *The Journal of Socio-Economics*, 40(6): 732-35.

Perera, Q. 2011. Insider trading? 'Nothing wrong - we all do it'-top investor says: The Sunday Times, Business Times.

Petesch, P. & Thalayasingam, P. 2010. Sri Lanka: Unequal Mobility in an Ethnic Civil War In Narayan, Deepa & Patti Petesch, (Eds.), *Moving Out of Poverty: Rising from the Ashes of Conflict*: Palgrave Macmillan.

Pradhan, G. 2001. Economic cost of Sri Lanka's ethnic conflict. *Journal of Contemporary Asia*, 31(3): 375-84.

Pravakar, S. 2006. Foreign Direct Investment in South Asia:Policy, Trends, Impact and Determinants: ADB Institute Discussion Paper No. 56.

Protsenko, A. 2003 Vertical and Horizontal Foreign Direct Investments in Transition Countries, Ludwig Maximilian University of Munich, Munich.

Punchi, L. 2001. Resistance towards the Language of Globalisation: The Case of Sri Lanka. *International Review of Education / Internationale Zeitschrift für Erziehungswissenschaft / Revue Internationale de l'Education*, 47(3/4): 361-78.

Pursell, G. & Ahsan, Z. F. M. 2011. Sri Lanka's Trade Policies: Back to Protectionism: ASARC Working Paper 2011/03

Quazi, R. M. & Mahmud, M. 2004. Determinants of Foreign Direct Investment in South Asia.

Radelet, S., Sachs, J., & Lee, J.-W. 1997. Economic Growth in Asia, *Emerging Asia: Changes and Challenges*: Asian Development Bank.

Rahman, M. 2010. Political instability discourages FDI: The Financial Express.

Rajan, R. S. 2010. The Evolution and Impact of Asian Exchange Rate Regimes: The ADB Economics Working Paper Series No. 208.

Rajapaksha, P. & Arunatilake, N. 1997. Would a reduction in trade barriers promote intra-SAARC trade?: A Sri Lankan perspective. *Journal of Asian Economics*, 8(1): 95-115.

Rajapatirana, S. 1988. Foreign trade and economic development: Sri Lanka's experience. *World Development*, 16(10): 1143-57.

Ramstetter, E. D. 1999. Comparisons of Foreign Multinationals and Local Firms in Asian Manufacturing over Time. *Asian Economic Journal*, 13(2): 163.

Ranasinghe, A. & Hartog, J. 2002. Free-education in Sri Lanka. Does it eliminate the family effect? *Economics of Education Review*, 21(6): 623-33.

Razin, A. 2002. FDI Contribution to Capital Flows and Investment in Capacity: NBER Working Paper Series, Working Paper 9204.

Religare Enterprise Limited. 2011. Institutional Research Report 2011.

Reuters. 2013. Sri Lanka bans land sales to foreigners: Thomson Reuters.

Root, F. R. & Ahmed, A. A. 1979. Empirical Determinants of Manufacturing Direct Foreign Investment in Developing Countries. *Economic Development and Cultural Change*, 27(4): 751-67.

Ruane, M. C. M. 2008. Attracting Foreign Direct Investments: Challenges and Opportunities for Smaller Host Economies. *Journal of International Business Research*, 7(2): 65-74.

Saggi, K. 1998. Optimal Timing of Foreign Direct Investment Under Uncertainty. *Journal of Transnational Management Development*, 3(2): 73-87.

Salih, R. 2000. Privatization in Sri Lanka.In Joshi, G, (Ed.), *Privatization in South Asia: Minimising Negative Social Effects through Restructuring*: External Publication.

Saunders, R. S. 1982. The Determinants of Interindustry Variation of Foreign Ownership in Canadian Manufacturing. *The Canadian Journal of Economics / Revue canadienne d'Economique*, 15(1): 77-84.

Schneider, F. & Frey, B. S. 1985. Economic and political determinants of foreign direct investment. *World Development*, 13(2): 161-75.

Selmier Ii, W. T. & Oh, C. H. 2012. International business complexity and the internationalization of languages. *Business Horizons*, 55(2): 189-200.

Semasinghe, W. M. 2011. The Effects of Public Welfare Policies on Rural Poverty in Sri Lanka: A Logistic Regression Analysis. *Sri Lanka Journal of Advanced Social Studies*, 1(1).

Severn, S.-L. 2007 Do conventional foreign direct investment theories explain why multinational enterprises conduct foreign direct investment in Thailand? , University of Nottingham, Nottingham.

Shastry, G. K. 2012. Human Capital Response to Globalization: Education and Information Technology in India. *Journal of Human Resources*, 47(2): 287-330.

Shaver, J. M. 1998. Accounting for Endogeneity When Assessing Strategy Performance: Does Entry Mode Choice Affect FDI Survival? *Management Science*, 44(4): 571-85.

Silva, L. 2012. Over 7,000 go overseas annually for studies *The Island*. Colombo, Sri Lanka: The Island News.

Smarzynska, B. K. 2002. Spillovers from Foreign Direct Investment through Backward Linkages: Does Technology Gap Matter?

Snodgrass, D. R. 1998. The Economic Development of Sri Lanka: A Tale of Missed Opportunitie, *Development Discussion Papers, Paper no. 637*: Harvard Institute for International Development, Harvard University.

Solomon, E. M. 2011. Foreign Direct Investment, Host Country Factors and Economic Growth. *Ensayos Revista de Economía*, XXX(1): 41-70.

Suliman, A. H. & Mollick, A. V. 2009. Human Capital Development, War and Foreign Direct Investment in Sub-Saharan Africa. *Oxford Development Studies*, 37(1): 47-61.

Takii, S. 2005. Productivity spillovers and characteristics of foreign multinational plants in Indonesian manufacturing 1990–1995. *Journal of Development Economics*, 76(2): 521-42.

Teece, D. J. 1986. Transactions cost economics and the multinational enterprise An Assessment. *Journal of Economic Behavior & Organization*, 7(1): 21-45.

Teitelbaum, E. 2007. Can a developing democracy benefit from labour repression? Evidence from Sri Lanka. *Journal of Development Studies*, 43(5): 830-55.

Telecommunications Regulatory Commission of Sri Lanka 2012. Statistical Overview.

The Economist. 2011. Sri Lanka regulations: Expropriation law raises investor concerns.

The New York Times. 2010. New York: The New York Times.

The World Bank. 1993. The East Asian Miracle: Economic Growth and Public Policy.

The World Bank. 1994. World Development Report, Infrastructure for Development

The World Bank. 1998. World Investment Report 1998: The World Bank.

The World Bank. 2004. Sri Lanka Development Policy Review, Poverty Reduction and Economic Management Sector Unit, South Asia Region.

The World Bank. 2005: The World Bank.

The World Bank. 2007. Sri Lanka Development Forum: The Economy, Regional Disparities, and Global opportunities, Poverty Reduction and Economic Management Unit South Asia Region.

The World Bank. 2010. Worldwide Governance Indicators, Country data report for Sri Lanka 1996-2010: The World Bank.

The World Bank. 2011. World Development Indicators 2011.

The World Bank. 2012a. World Development Indicators

The World Bank. 2012b. World Wide Governance Indicators The World bank.

The World Bank. 2013. World Development Indicators 2013.

Thomas, V., Dailami, M., Dhareshwar, A., Kaufman, D., Kishor, N., Lopez, R., & Wang, Y. 2000. The Quality of Growth: Oxford University Press.

UNCTAD. 2004. Investment Policy Review Sri Lanka. New York and Geneva: United Nations Conference on Trade and Development (UNCTAD).

UNCTAD. 2004. World Investment Report, The Shift Towards Services. New York and Geneva: United Nations Conference on Trade and Development

UNCTAD. 2012. UNCTAD Statistics: United Nations Conference on Trade and Development (UNCTAD).

UNDP Sri Lanka. 1998. National Human Development Report 1998; Regional Dimensions of Human Development. Colombo, Sri Lanka: United Nations Developmemt Programme.

UNDP Sri Lanka. 2012. Sri Lanka Human Development Report 2012; Bridging Regional Disparities For Human Development. Colombo, Sri Lanka: United Nations Development Programme.

United Nations. 1992. World Investment Report 1992: Transnational Corporations As Engines of Growth: Transnational Corporations and Management Division, Department of Economic and Social Development, United Nations, New York.

United Nations. 2006. World Investment Report 2006: FDI from Developing and Transition Economies: Implications for Development. New York and Geneva: United Nations Conference on Trade and Development.

United Nations Development Programme. 1998. National Human Development Report 1998: Regional Dimensions of Human Development.In Hettiarachchi, K, (Ed.). Colombo, Sri Lanka.

University Grant Commission Sri Lanka. 2010. University Admissions, Sri Lanka University Statistics 2010. Colombo: University Grant Commission, Sri Lanka

Urban, D. M. 2010. FDI, Technology Spillovers, and Wages. *Review of International Economics*, 18(3): 443-53.

Utne, B. B. & Garbo, G. 2009. Language and Power: The Implications of Language for Peace and Development.In Wedikkarage , L.K, (Ed.), *Science Education and English Medium: The Sri Lankan Experience*: Mkuki na Nayota Publishers.

Vahter, P. 2004. The Effect of Foreign Direct Investment on Labour Productivity: Evidence from Estonia and Slovenia: Tartu University Press.

Vahter, P. & Masso, J. 2006. Home versus Host Country Effects of FDI: Searching for New Evidence of Productivity Spillovers, *William Davidson Institute Working Paper Number 820*: William Davidson Institute At the University of Michigan.

Velde, D. W. t. & Bezemer, D. 2004. Regional Integration and Foreign Direct Investment in Developing Countries.

Vernon, R. 1966. International Investment and International Trade in the Product Cycle.In Buckely, P.J & P.N Ghauri, (Eds.), *The Internationalization of the Firm.* London: Thomas Learning London.

Walsh, J. P. & Yu, J. 2010. Determinants of Foreign Direct Investment: A Sectoral and Institutional Approach *IMF Working Paper, WP/10/187*: International Monetary Fund (IMF).

Walter, E. 1948. *Applied econometric time series*. 3 ed: Hoboken, NJ : Wiley.

Wang, C., Wei, Y., & Liu, X. 2010. Determinants of bilateral trade flows in OECD countries: Evidence from gravity panel data models. *World Economy*, 33(7): 894-915.

Wei, S.-J. 2000. Local Corruption and Global Capital Flow, *Brookings Papers on Economic Activity*: Brookings Institution.

Wei, S.-J. 1997. Why is corruption so much more taxing than tax? Arbitrariness kills: National Bureau of Economic Research, Working Paper 6255.

Wei, Y. & Wang, C. 2009. Understanding China's international economic integration. *Journal of Chinese Economic and Business Studies*, 7(4): 401-08.

Welch, D. & Welch, L. 2008. The importance of language in international knowledge transfer. *Management International Review*, 48(3): 339-60.

Welch, D. E., Welch, L. S., & Marschan-Piekkari, R. 2001. The Persistent Impact of Language on Global Operations. *Prometheus*, 19(3): 193-209.

Wenzlhuemer, R. 2008. *From Coffee to Tea Cultivation in Ceylon, 1880–1900: An Economic and Social History*. Boston.

Wheeler, D. & Mody, A. 1992. International investment location decisions: The case of U.S. firms. *Journal of International Economics*, 33(1–2): 57-76.

Wieser, R. 2005. Research And Development Productivity And Spillovers: Empirical Evidence At The Firm Level. *Journal of Economic Surveys*, 19(4): 587-621.

Wijeweera, A. & Mounter, S. 2008. A VAR Analysis on the Determinants of FDI Inflows: The Case of Sri Lanka. *Applied Econometrics and International Development*, 8(1).

Williamson, O. E. 1981. The Economics of Organization: The Transaction Cost Approach. *American Journal of Sociology*, 87(3): 548-77.

Williamson, O. E. 1979. Transaction-Cost Economics: The Governance of Contractual Relations. *Journal of Law and Economics*, 22(2): 233-61.

Woodward, D. P. & Rolfe, R. J. 1993. The Location of Export-Oriented Foreign Direct Investment in the Caribbean Basin. *Journal of International Business Studies*, 24(1): 121-44.

Wooster, R. B. & Diebel, D. S. 2010. Productivity Spillovers from Foreign Direct Investment in Developing Countries: A Meta-Regression Analysis. *Review of Development Economics*, 14(3): 640-55.

World Trade Organization. 1996. Trade and foreign direct investment: World Trade Organization.

Wößmann, L. 2007. International Evidence on School Competition, Autonomy, and Accountability: A Review. *Peabody Journal of Education*, 82(2-3): 473-97.

Wößmann, L. 2003. Specifying Human Capital. *Journal of Economic Surveys*, 17(3): 239-70.

Xing, Y. & Wan, G. 2006. Exchange Rates and Competition for FDI in Asia: Blackwell Publishing Ltd.

Xu, D. & Shenkar, O. 2002. Institutional Distance and the Multinational Enterprise. *The Academy of Management Review*, 27(4): 608-18.

Yasar, M. & Paul, C. J. M. 2007. Firm Performance and Foreign Direct Investment: Evidence from Transition Economies. *Economics Bulletin*, 15(21): 1-11.

Yeyati, E. L., Stein, E., & Daude , C. 2002. Regional Integration and the Location of FDI, *Looking Beyond Our Borders: Opportunities and Challenges of the New Regionalism*: Inter-American Development Bank.

Yeyati, E. L., Stein, E., & Daude, C. 2002. Regional Integration and the Location of FDI: Looking Beyond Our Borders: Opportunities and Challenges of the New Regionalism. Fortaleza, Brazil: Inter-American Development Bank Integration and Regional Programs Department Research Department.

Zhang, K. H. 2001. Does Foreign Direct Investment Promote Economic Growth? Evidence from East Asia and Latin America. *Contemporary Economic Policy*, 19(2): 175-85.

Zhou, Y. 2007. An empirical study of the relationship between corruption and FDI: with sample selection error correction. Edgbaston: Economics Department, University of Birmingham.

Zita, K. & Kapur, A. 2004. Sri Lanka Telecom Brief. New Delhi, India: USTDA South Asia Communications Infrastructure Conference.