Determinants of Foreign Direct Investment (FDI) in Developing Countries: The Case of Sri Lanka

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Abstract

This study aims at identifying the key determinants of FDI inflows to Sri Lanka during the period from 1970 to 2014. In the context of Sri Lanka, this period was coincided with economic policy shifts, civil wars and changing global economic climate. This study uses a supply demand approach to identify how Sri Lanka responded to global demand for investment sites using domestic supply factors to attract FDIs. An ARDL method is employed to analyse the long run relationships of the determinants. It is revealed that Sri Lanka has failed to benefit from the surge in international demand for investment sites in developing countries in last few decades. However, continuous liberalisation efforts have been successful compared to meager FDI flows in the closed economy era. It is also found that prevalence of peaceful environment after the last civil war has helped Sri Lanka to attract more FDIs.
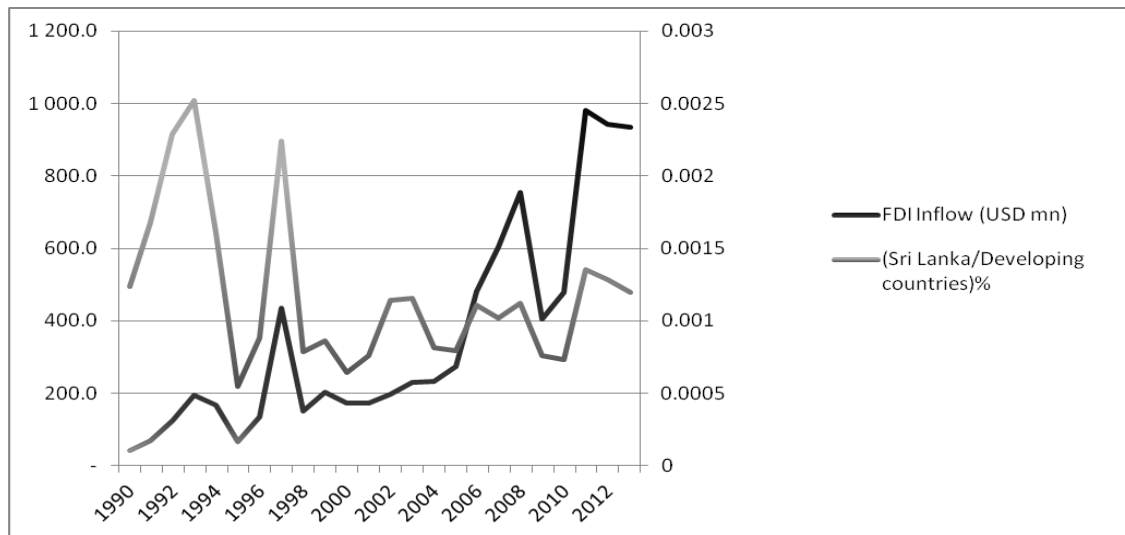
1. Introduction

FDI has long been identified I n the empirical literature as a potential contributor to the economic growth in developing countries. In addition to contributing to domestic capital formation, it brings technology, managerial knowhow and marketing channels to the host country. Having identified its importance, Sri Lanka, as many other developing countries, has had institutions, incentives and policies in place to attract FDI. Investment climate in the country has evolved over time in line with changes in global and domestic economy. Following the end of the three-decade civil war in 2009, and in particular after the political regime shift in early 2015, there has been a renewed emphasis in the policy circles on promoting FDI. It is, therefore, timely to identify the factors that determine the FDI inflows in Sri Lanka.

The current empirical literature on determinants of FDI is dominated by cross country studies. Regardless of various methodological shortcomings, these studies simply present the average picture across countries. They naturally do not capture country specific contextual factors such as social, political and institutional aspects. In order to contribute to the policy debate, it is necessary to go beyond the general picture and obtain a comprehensive account of country-specific factors. It is impossible to make generalizations from a study based on an individual country. However, insights gained from such a study are valuable for understanding relevant methodological and policy issues relevant for understanding the role of FDI in other countries.

The purpose of this study is to examine the determinants of FDI inflows to Sri Lanka from 1970 to 2014. Sri Lanka offers a resourceful laboratory to study this subject, for two reasons. First, Sri Lanka possesses relatively rich sources of data compared to many other developing countries. Second, policy regimes relating to FDI in the country has recorded significant periodic changes over the past half-a-century. Figure 1 shows the FDI inflows to the country since 1990 and the share of FDI received by Sri Lanka out of total FDI flows to developing countries, excluding China. Even though, there had been a surge in FDI inflows since the end of civil war in 2009, the share of FDI received by the country has remained almost constant. This provides further motivation for this study.

Figure 1: FDI inflows to Sri Lanka

Sources: Central Bank of Sri Lanka, UNCTAD

Changes in economic policy over the years also played an important role in Sri Lanka. Following the independence in 1948, Sri Lanka continued with open economic policies inherited from the colonial era up to the 1950s. During the era of closed economy in 1960 to 1977, a brief liberalization was undertaken in 1968-1970 and a five year plan 1972-1977 was introduced with various tax and production incentives reaffirming the commitment of government to promote FDI. However, the overall negativity in economic policy and macroeconomic instability were not supportive of attracting foreign investments (Athukorala 1995). Sri Lanka's economic liberalization started in 1977. FDI promotion was a key focus of the liberalization policy package. Greater Colombo Economic Commission (GCEC) was established to provide institutional foundation under which free trade zones (FTZ) and export promotion zones (EPZ). The second wave of liberalization was introduced in 1989 and FDI policies were further liberalized. During this era political leadership was instrumental in economic policy. In 1992, GCEC was replaced by Board of Investment of Sri Lanka (BOI). There was a reduction in nominal tariff rates, corporate and income taxes, liberalization of commodity and financial markets as well as a devaluation of the Rupee (Dunham and Kalegama 1997). In the 1990s and 2000s, despite regime changes, open economic policies were persisted with and further liberalizations were introduced. Civil war was ended in 2009 after which the general peaceful environment was conducive for an economic takeoff. However, unnecessary changes to the institutional structure and introduction of expropriation laws which created uncertainty led to less than expected FDI inflows (Athukorala 2012). Further, recently, the business areas for which FDIs were flowing changed from industrial and export oriented sectors to tourism and construction sectors (Central Bank of Si Lanka 2014).

This study employs a supply-demand framework to identify the determinants of FDI flows to a given host country. In this market, the product is the investment sites. Firms seeking an overseas investment site, the multinational enterprises (MNE), are the buyers whilst countries which offer investment sites are characterized as sellers. Flow of FDI to a given host country depends on the global demand for investment sites from foreign firms. On the other hand, the attractiveness of that country as a location for investment forms the supply factors. The global demand for locations for FDI depends on the locational choices of the MNEs. Supply factors of FDI determine to what extent the host countries are attractive as an investment destination in terms of investment climate and the incentives offered. Further, when evaluating sites, firms are concerned of the macroeconomic performance, political conditions and the policy context of the host country (Guisinger 1981).

The supply-side factors relevant for the site selection process varies depending on the motive of the particular investment, that is, whether it is market seeking (MSFDI) and efficiency seeking (ESFDI). MSFDIs are investments in the affiliates of the MNEs serving the domestic market for which determinants are market size, economic growth and the domestic tariff structure. ESFDIs are the investments in affiliates of MNEs which produce for international markets. For ESFDIs, the main determinants are domestic investment climate, competitiveness, policy uncertainty and governance.

In addition, depending on whether production targets domestic market or export markets, the impact of incentives offered by a host country on the investment decision might vary and it can induce locational choices. Export oriented firms are given tax holidays and infrastructure investments while tariff protections are given to import-competing firms.

Nevertheless, debate on benefits of these incentives to the host country, especially if it is a developing country, is inconclusive (Caves 2007).

This study takes into account the world demand for investment sites, the historical changes in the FDI related policy regime, relative competitiveness of the economy, openness and the incentives provided for foreign investors including the investment climate, as components in its theoretical framework. This paper is structured as follows. Section two provides a brief overview of the policy regime changes in the Sri Lankan economy with emphasis on FDI related policy. Section three explains the supply demand approach of determinants of FDI. Next section presents the model specification and data. The following section discusses the results followed by the conclusions.

2. FDI policy regime context in Sri Lanka: A Historical Overview

In terms of policy shifts, the post-independence periods can be divided into six sub periods, namely, early post independence years, closed economy era, first wave of liberalization, second wave of liberalization, period from 1993 to early 2000 and the post civil war era.

Early post-independence years

As a newly independent economy, Sri Lanka continued with open economic policies as a trading nation for another decade since the independence in 1948. However, during the late 50s, balance of payments difficulties and changes in political ideologies caused policy makers to shift to import substitution policies and to introduce restrictions on imports. Nevertheless, as part of import substitution industrialization strategy (ISI) government pursued a liberal policy on FDI up to mid-60s. MNEs were permitted to set up plants in Sri Lanka to produce domestically the items which hitherto imported from their overseas plants (Athukorala 2006).

Early 1960s to 1977-Closed-economy era

FDI was regulated in Sri Lanka right since the 1960s except for a brief era of liberalisation in 1968-1970. The 60s and 70s witnessed increasing controls in regulations on trade and FDI as well as adaptation of more introvert policies where ISI strategies inspired by socialist thinking played a major role. Approvals, for the most part of the era, were on case by case basis (Fernando 1972). The most stringent controls were put in place during the 1970-77 era by a coalition government in which socialist parties and their influence were prominent. Price of zero diversification of export portfolio after the independence was costly as 90 percent of export earnings were still coming from traditional plantation crops. Terms of trade were deteriorating and the lost export tax revenue contributed to an expanding budget deficit. Mounting internal and external debt, low growth, high unemployment and austerity budgets became endemic features of the economy (Herring 1985).

Economic Liberalisation

The two decades of 60s and 70s was coincided with south East-Asian peers of Sri Lanka, realising how self-reliant strategies can hamper their development, started introducing economic reforms. Liberalisation causes economic integration and interdependence among countries and instigates international division of factors of production among them promoting international specialisation. Economic liberalisation measures in Sri Lanka were first implemented in 1977, the first country in the South Asian region to do so. Sri Lanka was also a pioneer among many developing countries to implement reforms (Panagariya 2002).

First wave of liberalization 1977-90

As a reaction to the gloomy economic outcomes in closed-economy era, new government elected in 1977 started introducing market oriented policy reforms (Athukorala and Jayasuriya 1994; Dunham & Kalegama 1997; La1 and Rajapatirana 1989). Initial reforms included liberalization of trade and FDI related regulations to create more open policy regime. Greater Colombo Economic Commission (GCEC) was established under which FTZs were established with attractive incentives for foreign enterprises undertaking export-oriented production. This prompted referring to Sri Lanka as an 'IMF success' or vindication of the 'Singapore model' of an open economy (Herring 1987). GCEC played the role of a facilitator for foreign investors for both start ups and acquisitions. The incentive package of the GCEC included allowing complete foreign ownership of investment projects. Outcome of the reforms were apparent as annual average growth rate from 1978 to 1983 risen to over 6 per cent compared to 2.9 per cent during 1970 to 1977. This success, however, was short lived due to many reasons including, shifting of policy priorities and the eruption of civil war. (Athukorala 1995).

Second wave of liberalisation 1989-1993

By the late 1980s the room for any radical reforms was very narrow and the policy makers were more or less in a crises management atmosphere. A wide range of economic reforms were introduced in order to recover the economy from the double jeopardy of two civil uprisings (Dunham and Kalegama 1997).

On the FDI policy front, institutional reforms were introduced along with further legislative liberalizations. GCEC was renamed and revitalized under the BOI. Foreign Investment Advisory Committee which was the authority to grant case-by-case basis approvals was absorbed into the BOI. BOI was promoted as one-stop-shop for interested foreign investors. In 1992, under a general permission issued in government gazette notification, the requirement to obtain project specific approval for a FDI was abolished except for certain business areas, for which permission was required if it exceeded specified share of foreign ownership. (Central Bank of Sri Lanka 1997).

Liberalisation from 1993 to early 2000

By mid 1990s Sri Lanka had become one of the most open economies among developing countries. Coalition governments, even with leftist influence, never engaged in reversal of policies as the benefits of earlier liberalizations were convincing enough (More 1997). Further, the government was committed to simplify the tariff structure. Overall, country was experiencing a change in policy agenda from protection to stable and predictable policy direction (Cuthbertson 1997). FDI regime continued to remain highly liberal until about 2008 with continuation of liberalisation reforms.

Post-Civil war era

Civil war ended in 2009 bringing in bright economic prospects for the country. There was a surge in the FDI inflows, especially into the tourism and construction sectors (Central Bank of Sri Lanka 2014). However, some of the efforts of the government, led to uncertainties in the FDI regime and erosion of investor confidence. Government introduced expropriation laws under the 'Revival of Underperforming Enterprises and Underutilized Assets Act' violating the constitutional guarantee against expropriation of foreign owned assets (Goodhand, 2011). Strategic Development Projects (SDP) Act was enacted in 2008 which vested discretionary powers with the Minister of economic development and investment promotion to approve strategic projects and extend tax exemptions reducing the transparency in the investment approval process. Further, duty free access of 7200 products of Sri Lanka to European Union under the GSP-Plus scheme was abolished in 2010 that led to many foreign investment firms in manufacturing to leave the country. Despite attractively set FDI targets and revitalization of the BOI, no significant manufacturing investor has set up operations in the country over the few years after the end of civil war (Athukorala 2012).

3. Determinants of International Flows of FDI: A Supply-Demand Approach

It is important to identify the international supply and demand factors which affect the location decision of the FDI of MNE in a developing country. Foreign subsidiaries of MNEs in developing countries could be classified into two broad categories, those producing primarily for export markets and those serving the domestic market. The former are the more likely to be wholly owned subsidies by parents and are less reliant on local capital markets. However, there is no average or systematic differences in the level of profitability of the two. MNEs are active in the sectors that undertake labour intensive stages of processing as well as in sectors where the marketing entry barriers would otherwise limit developing country's manufactured exports (Caves 2007).

In addition, trade regime of a country has a substantial impact on the location decision of a MNE. Trade theory provides some evidence on the production decisions of a MNE. The Neo-Classical theory of trade depicted in Heckscher-Ohlin model says there is link between factor endowments of a country, production structure and returns to its factors. A capital rich country employs capital intensive production and tends to export goods. However, when the exports expand, the rentals to its capital rise while the wages fall. In a free trade equilibrium, under specialized assumptions capital will earn the same at home and abroad leaving no incentive for MNE to move capital internationally. On the contrary, where trade is restricted, capital flows can effectively substitute for trade. Accordingly, foreign investment and trade are alternatives in the general equilibrium as well as for the particular MNE (Caves 2007). Further, according to the orthodox theory of trade, the magnitude and the direction of capital flows among countries is influenced by the differences in endowments of factor proportions (Kurguman and Obsteld, 1994; Helpman and Krugman 1985). Another approach explains how the locational decision of a MNE depends on three sources of advantage, namely ownership, locational and internalization. Which firm is in the most suitable position to exploit on an investment opportunity is explained by the ownership advantage. Which country is preferred to set up a firm is explained by locational advantage. Why and when to set up a domestic production facility instead of a franchise or licensing arrangement explains the internalization advantage. In addition, the motive of FDI flows could be market seeking, resource seeking, assets seeking or efficiency seeking (Dunning 2000).

If world FDI flows are considered in the context of a market, investment sites are the products, while buyers and sellers are characterized by MNEs and host countries, respectively. Comparisons can be drawn between competition among countries to attract FDI with competition among producers for market shares. Countries try to modify their product to capture whatever share they seek of the FDI available.

Within the same framework, characteristics of the countries which promote FDI inflows could be identified. Countries can promote their location abroad through advertisement, websites and overseas offices. They can modify the attributes of their 'product' in both narrow and general senses. Industrial parks can be built with necessary services. Economic policies such as exchange rates and business laws can be altered to improve the attractiveness of host country. Countries can also 'price' their product by offering cash grants, tax rebates, and other inducements specifically to individual projects in association with the general incentives provided to all producers through trade, monetary and fiscal policies. Countries can even practice price discrimination if they can discern the investors' degree of interest and their alternatives. When competition is fierce, countries are likely to try all methods of product modification and pricing to achieve their objectives (Guisinger 1981).

Countries competing for FDI have different incentive packages under their respective foreign investment strategy schemes but intensity of competition and the strategies vary among countries. Guisinger (1981) identifies ten elements common in country strategies, namely, commodity or factor protection, total net incentive offered, explicit or implicit policies, linking of incentives with disincentives, variety of incentives, industrial priorities, discrimination among firms, degree of promotion and provision of infrastructure. However, there are elements which are important in FDI strategy still exogenous or exist outside the scope of the strategist such as, legal system, cultural heritage and traditional ways of conducting the business of government, political ideologies and availability of skilled technicians and managers.

Moreover, the constraints which developing countries have to deal with also differ depending on the context on which they strategize FDI policies. For an example, international cooperate agreements might restrict their available policy choices. In addition, limited economic development might also create issues. A country's level of income and degree of industrialization affect strategy in a number of ways. Poor countries lack fiscal capacity to finance factor protection policies, such as cash grants, or to undertake aggressive price incentives. The scope for commodity protection is necessary limited to those sectors for which a large internal market is available, such as consumer goods, high rates of effective protection are self defeating when domestic prices are pushed above affordable levels. Poor countries often face shortages of technical, managerial and professional staff to formulate, negotiate and implement effective foreign investment policies.

Another important constraint, especially in the context in the context of a small economy like Sri Lanka is the relatively small domestic markets to offer. For MSFDIs, such countries, even with higher per capita levels of income are not attractive. This is because, there is a minimum scale at which production of industrial goods can be operated profitably. So, the policy makers of such countries need to encourage foreign investments by ESFDI firms and incentivize the industries that substitute imports. Large countries, in contrast, control access to markets that manufacturers find profitable for import substitution investments. Accordingly, small countries appear to be more intensely competitive because their strategies call for centralized authority and aggressive incentive pricing.

Effectiveness of incentives provided for FDI can influence the location/site decision of an investor. General belief is that potential investors pay more attention to size of the market and production costs rather than the incentives provided. On the other hand, one country's incentives are often matched by those of competitors in a highly competitive environment. Thus, from hosts' point of view, most effective way to retain the market share while facing stiff competition is to provide more attractive incentives.

The selection of particular site out of many alternatives would depend on many factors. Each MNE firm chooses a potential investment site by evaluating all possibilities in terms of a firm-specific criteria. There are many factors that determine the location decision of a MNE which could be classified into two broader categories, that is, incentive policies and non-incentive factors. Definition of incentives is broad, and includes explicit and implicit incentives, effective protection and incentives to factor use. Non-incentive factors refer to all considerations other than incentive policy and covers broader macroeconomic and socio-political factors. Advantage a country naturally provides for production, marketing and transportation is one such factor. The extent of the domestic competitiveness is decided by the exchange rate and price stability. MNEs also consider quality of the management of monetary and fiscal policies as well as political and social stability in a host country.

Another criterion that determines location of a MNE is the performance requirements set out by the host country. These could be in the form of minimum value of exports, minimum amount of domestic content or minimum level of employment provision. Governments sometimes require firms to increase exports if they wish to maintain their access to domestic market. The linking of trade related performance requirements to continued enjoyment of domestic protection creates an implicit subsidy to exports and import substitution while lowering the firms' protection.

Also, depending on the market for which MNEs produce, that is, domestic or export, the incentives extended by host country might vary and it can induce locational choices. Export oriented firms will be given tax holidays and infrastructure investments while tariff protections are given to import-competing firms.

Nevertheless, economists are skeptical about the benefits of these incentives to the host country, especially if it is a developing country. If MNEs are lured into a small national market by an inefficient tariff, the investment inflow can reduce national welfare, but considerations of raising employment and host country tax revenue can supply reasons for offering such inducements. Although foreign investment does tend to flow from capital-rich toward capital poor countries, the prevalence of two way foreign investment and the importance of a nation's human capital as a factor attracting FDI sharply confine the power of standard trade model. Bilateral affinities of countries too are important in location decisions. Thus, countries in the same income groups, for example, tend to demand similar varieties of goods. In addition, shared languages and cultures among the locations might reduce transaction, communication and coordination costs of the MNEs. Decision of a location is purely influenced by production cost factors only in the case of foreign investments in EPZs (Caves 2007).

In addition, government FDI related policies of discretionary nature will also play a decisive role in investors' location decisions. Oman (2000) observes that global competition for FDI is intensifying since 1980s as barriers to international investment are falling. This encourages governments to strengthen the macroeconomic fundamentals leading to economic development. Form a policy perspective, governments will invest in development of human capital and infrastructure and will endeavor to achieve political and macroeconomic stability. As MNEs look for locations in a particular geographical region, the incentive based locational competition has become an intra regional one. However, governments should also be careful when introducing incentive schemes to attract foreign investors. Incentives, not only create distortions, but also would become a burden to the economy to sustain with. Incentives might also lead to rent-seeking behaviour. At the same time incentives keep governments committed to macroeconomic stability, failure on which will lead to potential investors perceiving incentives as unsustainable.

4. Empirical model and data

Based on this supply-demand framework for investment sites, the empirical model is specified as follows: $(FDI/PI)_t = \beta_0 + \beta_1(FDI_{DC}/FDI_{Global})_t + \beta_2 RGDP_t + \beta_3 TO_t + \beta_4 REER_t + \beta_5 WI + \beta_6 PSTAB + \beta_7 RC_{78\text{-}00} + \beta_8 RC_{01\text{-}09} + \beta_9 RC_{10\text{-}14} + \varepsilon_t$ ----------------------------(1)

Dependent variable is the ratio of FDI to private Investment (PI). PI is represented by the Gross Domestic private fixed capital formation. FDI_{DC}/FDI_{Global} is the ratio of FDI flows to developing countries, excluding China, to total global FDI flows. This variable is included as a proxy to global demand for investment sites in developing countries. Since China has been receiving enormous volumes of FDI during the period under study compared to other developing nations, it was excluded from the developing country sample as it would distort the result. RGDP, the real GDP, indicates market size and economies of scale. TO is the proxy for trade openness of the economy and is the ratio between total of exports and imports to GDP. WI is the real wage index of workers in industrial and commercial sectors. REER, the real effective exchange rate, measures the level of competitiveness and captures the impact of the macroeconomic environment on the competitiveness of tradable goods production in the country. REER is measured as foreign currency price of domestic currency, that is, $REER=NEER*P_d/P_w$, where NEER, P_d and P_w denote the nominal effective exchange rate, the domestic prices and world prices, respectively. Accordingly, an increase (decrease) in the index denotes appreciation (depreciation) of the domestic currency. Central Bank of Sri Lanka compiles the REER index with respect to 24 major trading partners (Central Bank of Sri Lanka 2007).

The dummy variable PSTAB is included to capture political stability. Sri Lanka went through a Civil war from 1983 to 2009 and those years will be considered as politically unstable. Three RC dummies stand for changes of regime related to FDI policy as well as changes in investment climate for periods 1977-2000, 2001-2008 and 2009-2014, that is, since the liberalization in 1978. In the model the dummy for the closed economy era (1970-1976) is the base dummy. Accordingly, the coefficients of the dummy variables would capture the significance of regime shifts in 1977-2000, 2001-2008 and 2009-2014 compared to the base period of 1970-1976.

Sign of coefficient of RGDP would depend on the relative importance of ESFDIs or MSFDIs. If MSFDIs dominate, β_2 will be positive and if ESFDIs dominate β_2 will be negative. β_3 and β_4 would mostly be relevant to ESFDI as openness to trade and competitiveness of the currency are prerequisites for export oriented manufacturing. β_1 and β_6 are expected to be positive while β_5 is expected to be negative. ε_t is the random error term.

Data and Sources

Data for FDI was obtained from the CBSL publications. The dependent variable of the main model is ratio of the FDI inflows to gross domestic private fixed capital formation (PI). Data for PI was obtained from the CBSL annual reports. For the robustness test, FDI flow in 2005 USD was used as the dependent variable. Data for WD was obtained from the UNCTAD site. It provides FDI flow data since 1970 for different regions in the world. Real GDP data was obtained from the world development indicators of the World Bank which provides different series of GDP.

For the purpose of this study, GDP in 2005 USD was used as the real GDP series. REER index and the exports and imports data for the TO index was obtained from the annual reports of the CBSL. Real wage index published by the CBSL for industry and commerce was used as the WI, as the business areas of majority of FDI enterprises are in those sectors. All the variables were tested in the log form. Data and the sources for each variable are summarized in Table 1.

Table 1: Data and the sources

Variable	Data	Source
FDI	FDI inflows in USD	Central Bank of Sri Lanka (CBSL) publications
PI	Gross Domestic Private Capital Formation	CBSL
WD	Ratio of FDI flows to developing countries (excluding China) to total FDI in world	UNCTAD World Investment Report database
RGDP	GDP in 2005 constant USD	World Development Indicators, World Bank
TO	Trade Openness Index-Ratio of total of exports and imports to GDP	CBSL publications
REER	Real Effective Exchange Rate	CBSL publications and literature survey
WI	Real Wage Index for Workers in Industry and Commerce	CBSL publications
PSTAB	Dummy for Political Stability (Civil War)	Based on literature survey
RC1 (70-76), RC2 (77-00), RC3 (01-08) , RC4 (09-14)	Dummies for change in FDI policy regime	Based on literature survey

5. Econometric Analysis

Unit root tests

As a precondition for time series analysis the unit root tests were undertaken on univariate basis in order to identify the order of integration and to ensure that the regression analysis is not spurious. Augmented Dicky-Fuller (ADF) tests were performed as suggested by Engle and Granger (1987) in order to identify the presence of unit roots of the variables. First, tests were done at levels. If a unit root was found for a particular series at level, test was repeated to check whether there is a unit root at first difference. Akaike Information criterion (AIC) is used to determine the lag structure of the series, according to which the number of lags used is equal to zero. An intercept was included in the test equation as it is the most general specification. The results of the ADF test are reported in Table 2.

Table 2: Results of ADF test

	Level		First difference		Order of Integration
	ADF Test Statistic	Critical Value at 5% Level	ADF Test Statistic	Critical Value at 5% Level	
LFDI	-3.592*	-2.930	-7.832*	-2.931	I(0)
LWD	-3.346*	-2.930	-8.684*	-2.931	I(0)
LRGDP	-1.266	-2.930	-4.873*	-2.931	I(1)
LTO	-1.932	-2.930	-4.745*	-2.931	I(1)
LREER	-1.711	-2.930	-5.558*	-2.931	I(1)
LWI	-1.795	-2.930	-6.750*	-2.931	I(1)

Source: Author's estimates using Eviews 6.1.

Note:

Ho: Series has a unit root

Ha: Series is stationary

* Ho is rejected at the 5 per cent level (ADF test statistic < Critical value).

The results show that the dependent variable and one of the independent variable, that is proxy for world demand (WD), is integrated of order zero while all other independent variables are integrated of order one.

Empirical analysis

The estimation of long run relationship can be estimated using a co-integration technique in case all the variables are non-stationary and I(1). However, since the results of unit root testing shows a mix of I(0) and I(1) variables, this study uses the Autoregressive Distributed Lags (ARDL) method developed by Pesaran & Shin (1999) and Pesaran (2001).

There are notable advantages of ARDL process compared to other estimation methods. First, it can be employed when the variables are a mix of I(0) and/or I(1). However, the conventional cointegration techniques need all regressors to be in the same order of integration. So, pre-testing for a unit root is a requirement of ARDL process only to ensure that regressors are not of I(2) or higher order. Second, ARDL supports small and finite samples to deliver statistically significant results while other techniques need to have large sample sizes for not compromising the validity. Third, this technique takes care of any form of endogeneity of the model. Fourth, while other techniques do not provide for variables to have different time lags, ARDL allows it. Fifth, it counters problems of omitted variables and serial correlation and simultaneously estimates both short and long run components of the model. Sixth, ARDL process addresses possible endogeneity problem as it provides unbiased estimates of the long-run model. Finally, contrary to the conventional co-integration methods which estimate long run relationship by employing system of equations, the ARDL procedure employs only a single reduced form equation to estimate both long run and shirt run relationships (Harris & Sollis 2003).

The ARDL specification for the model tested follows the following form with log operators.

$$\Delta \text{LFDI} = C + \beta_1 \text{ LRGDP(-1)} + \beta_2 \text{ } \Delta \text{LREER} + \beta_3 \text{ LREER(-1)} + \beta_4 \text{ } \Delta \text{LTO} + \beta_5 \text{ LTO(-1)} + \beta_6 \Delta \text{LWD} + \beta_7 \text{ LWD(-1)} + \beta_8 \Delta \text{LWI} + \beta_9 \text{ LWI(-1)} + \beta_{10} \Delta \text{LFDI(-1)} + \beta_{11} \text{ LFDI(-1)} + \beta_{12} \text{ RC2} + \beta_{13} \text{ RC3} + \beta_{14} \text{ RC4} + \beta_{15} \text{ PSTAB} + \epsilon_t ....(2)$$

where Δ denotes variables are in the first-difference form, and ϵ_t is the random disturbance term. Coefficients $\beta_1, \beta_3, \beta_5, \beta_7, \beta_9$ and β_{11} show long term dynamics while $\beta_2, \beta_4, \beta_6, \beta_8$ and β_{11} stand for the short term dynamics. Since this study uses annual data only one period lag is used.

Equation (2) is estimated using ordinary least squares (OLS) as the first step. This is to identify whether there is a long term relationship among the variables. After the estimation, a F-test is conducted to identify the joint significance of coefficients of the long run variables. The null hypotheses of the test is $H_0 : \beta_1 = \beta_3 = \beta_5 = \beta_7 = \beta_9 = \beta_{11} = 0$ against the alternative hypothesis: $H_1 : \beta_1 \neq \beta_3 \neq \beta_5 \neq \beta_7 \neq \beta_9 \neq \beta_{11} \neq 0$.

Under the null hypothesis of no co-integration, F-static has non standard asymptotic distribution. F static depends on the number of independent variables used in the regression, the sample size, whether estimated model has a trend and/or intercept and whether regressors are I(0) or I(1). Pesaran (2001) provides tabulations of critical values for comparison of the test value of the F-test with two sets of critical values. One set is for the case where all variables are I(0), that is, the lower critical bound (LCB) and the other is for the case where all variables are I(1), that is, upper critical bound (UCB). Test statistic of the F-test is compared with the tabulated LCB and UCB values for establishing a presence of long run relationship.

Test statistic of this study is 7.72, which lies outside UCB and LCB values and exceeds the UCB critical value. Accordingly, we reject the null in favour of the alternative and conclude that there is a long-run relationship in the model.
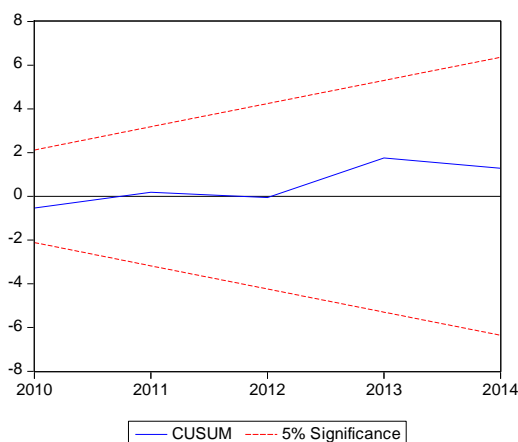
Table 3: Test statistics*: **(at 5% significance level)**

LCB	UCB
2.86	5.03

Source: Pesaran (2001)
 F test static: 7.72: P value: 0.0001***
 *Unrestricted intercept and no trend

Further, the residual was tested for unit root tests and was revealed to be stationary at level. Other residual tests, namely the LM tests for serial correlation showed that there is no serial correlation in the system while the Breusch-Pagan-Godfrey test for heteroskedasticity showed no heteroskedasticity is present. CUSUM test reveals that the system is stable. Figure 2 shows that the plot of the CUSUM statistic falls inside the critical bands of the 5 per cent confidence interval.

Figure 2: CUSUM test result

Source: Author's estimates using Eviews 6.1.

Table 4: Diagnostic tests

Test Statistic	F value	Result
Serial Correlation- LM test	0.002899 (0.9575)	No serial correlation
Heteroskedasticity Test: Breusch-Pagan-Godfrey	1.790989 (0.1232)	No heteroscedasticity

Source: Author's estimates using Eviews 6.1.

Note: values in parenthesis are the p-values

6. Results and discussion

Model was estimated using the E-Views 6.1. software. Having established the validity of the estimation method, this section interprets the results and findings. Results are presented in Table 6 in the Annex. World demand for investment sites in developing countries has a significant but negative effect on FDI flows to Sri Lanka. This confirms that Sri Lanka has failed to capitalise on the increased FDI flows to developing countries during last few decades. This could be due to various factors. Despite the attractive incentives that were extended over the years, investment climate for foreign investments had not been ideal. Other possible reasons are the policy uncertainty, political instability and the inefficiencies in the institutional structure in place for FDI facilitation. In short, Sri Lanka has failed in the international competition for providing FDI sites to MNEs.

Coefficients of all three dummy variables for regime changes of FDI policy are positive and significant. Accordingly, compared to closed economy era, open economic policies have been significantly successful in attracting FDI. Relative sizes of the coefficients show that regime change from 2009 to 2014 has been less successful in attracting FDI compared to 78-2000 era and 2001-2009 era. This is consistent with the literature survey. FDI regime which was in place from 2009-2014 was marked with policy uncertainty due to changes to the legislation related to the FDI. This has discouraged the inflows of FDI into the country.

Further, FDI inflows are significantly and positively impacted by the political stability. The civil war has not only hampered the economic growth but also has been a contributory factor to discourage the FDI inflows. Full scale war was restricted to northern and eastern provinces, despite civilians of the capital Colombo were targeted from time to time. Most of the MNEs were concentrated in the more peaceful provinces and the main EPZs were established in the western, southern and central provinces. However, the overall picture in the world on Sri Lanka was that it is a war ravaged country. This had led to building a negative perception of the country as a possible FDI destination. Nevertheless, results suggest that pre-war and post-war eras, where the peace prevailed, have been favorable for the FDI receipts.

Among the other variables the coefficient of REER is statistically significant but negative. Thus, REER appreciation is found to be discouraging FDI inflows. However, from the investors' point of view appreciation of the REER reduces the real cost of initial investment in the country. Since most of the FDI are export oriented, the competitiveness of the domestic currency is a concern. From the exporters' point of view appreciation of domestic currency is not desirable.

Nevertheless, in the context of Sri Lanka, both the BOI and the non-BOI exporters are permitted to keep their export earnings in the form of foreign currency itself. Since the surrender requirements for exports were abolished in 1994, there is no obligation to convert earnings into local currency. Thus, their exposure to local currency is limited only to domestic payments such as salaries, wages, utilities, fuel and maintenance type of expenses.

Further, market size measured by RGDP has not been a significant factor in determining FDI inflows. This is consistent with the fact that FDI inflows to Sri Lanka have been predominantly efficiency seeking (export-oriented) type instead of market seeking type (Athukorala 2006). So, the FDI enterprises are concerned of comparative advantage of producing in Sri Lanka for the world market rather than the size of domestic market.

Further, trade openness has not been significant for the FDI inflows. So the investors have not seen trade liberalization in Sri Lanka as an important factor when investment site decisions are made. On the other hand, export oriented manufacturing MNEs are given concessions for imports of the raw material and machinery at least at initial stages. So, the overall domestic trade policy may not be of concern for the foreign investors. In addition, real wage is not significant. This may be because Sri Lanka continued to remain a low wage country.

Robustness Tests

The dependent variable of the main model is the ratio between FDI flows and gross domestic private capital formation. This is the common dependent variable we find in the literature. As a robustness test the model is estimated using FDI measured in terms of constant (2005) USD in log form as the dependent variable. This alternative measure of FDI takes care of possible measurement error in the gross domestic capital private formation series (PI) used as the denominator in estimating the FDI/PI ratio. A separate unit root test was undertaken to determine time series properties of the LFDI series. Results are presented in Table 7. It was revealed that the LFDI is stationary in first difference. Accordingly, it qualifies for the estimation under the ARDL process. Same procedure was followed as with the main model. Test for heteroskedasticity and serial correlation provided negative results and the CUSUM test revealed that the system is stable. Robustness test result also proved to be having long run relationship as per the bound test of Pesaran (2001).

Table 5: Results of test of unit roots for LFDI

	Level		**First difference**		**Order of Integration**
	ADF Test Statistic	Critical Value at 5% Level	ADF Test Statistic	Critical Value at 5% Level	
L(FDI/PI)	1.558	-2.930	-7.375*	-2.931	I(1)

Source: Author's estimates using Eviews 6.1.

Note:

    * Ho is rejected at the 5 per cent level.

The alternative estimate of the model is reported in Table 7 in Annex. The signs and the significance of the coefficient estimates are similar except that long run coefficient for world demand is not significant at standard levels of 1%, 5% or 10%. However, it is significant at 20% level. Overall, the findings of the robustness test with an alternative dependent variable further substantiate the findings of the main model.

Conclusion

The purpose of this study was to identify the factors which determine the FDI inflows to Sri Lanka. The renewed interest in the political, academic and policy circles in the country on the FDI makes this an opportune time to study about the FDI related performance of the country. It examines the economic factors during the period from 1970 to 2014. This study employs a supply demand approach to identify the factors which determine the FDI flows to Sri Lanka. In the demand side, there is the global demand for investment sites in developing countries. In the supply side, there are endogenous domestic factors such as the market size, competitiveness, openness and investment climate. Sri Lanka has been liberalizing the economy since 1978 and there are identifiable shifts in the policy regime related to the FDI. As suggested by the time series test results of the data, ARDL technique was used to capture long run dynamics of factors affecting FDI flows. Results show that Sri Lanka has not been able to capture the full benefits of increased flows of FDI to the developing world. Further, economic liberalization and the incentive structure based on EPZs have been successful in attracting more FDI. Political stability and peaceful environment have been favourable for FDI flows to the country.

Appreciation of the real exchange rate has been unfavourable on FDI flows. This suggests that higher value of domestic currency reduces the cost of the initial investment in local currency terms. Results also show that trade openness and real wage index do not have a significant effect on the FDI flows.

Further, market size has not been a significant factor as most of the FDI which came to Sri Lanka during the reform years had been efficiency seeking investments. This study endeavored to capture most of the factors related to the FDI flows to the country.

But there is room to improvement. It would have been better if a relative index of wage of Sri Lanka compared to other Asian peers was used in the analysis. It would have captured the relative advantage of Sri Lanka over the others, if any, being a low wage economy. In addition, use of a liberalization index developed in commensurate with literature survey would have enhanced the validity of the model. In sum, this topic provides further avenues for vivid research.

This study also provides significant insight into the policy related to the FDI in Sri Lanka. Political stability has played a major role in FDI performance in the country. More FDI flows have entered the country when a peaceful economic climate was prevailing. Further, liberalization policies have been successful in Sri Lanka. Accordingly, further efforts in liberalization for removal of existing barriers, policy uncertainties and inefficiencies will be fruitful in the future. The world is becoming more connected through trade and investments. Sri Lanka needs to reap benefits from the increased volume of FDI movements in the world. A commitment to create a stable economy with plausible incentives to foreign investors will help to attract more FDI.

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Annex

Table 6: Results of ARDL estimation

Variable	Coefficient	Long Run Elasticity[1]
Constant	47.734*	
	(1.777)	
LRGDP(-1)	-1.014	2.066
	(-1.067)	(-0.871)
D(LREER)	-3.886*	
	(-1.940)	
LREER(-1)	-4.308**	8.780*
	(-2.550)	(1.756)
D(LTO)	-0.644	
	(-0.395)	
LTO(-1)	-0.694	1.414
	(-0.562)	(-0.768)
D(LWD)	-1.507**	
	(-3.614)	
LWD(-1)	-0.840*	1.711*
	(-1.719)	(-1.645)
D(LWI)	-2.887	
	(-1.623)	
LWI(-1)	-0.591	1.205
	(-0.303)	(-0.435)
RC2	6.007***	12.241**
	(6.042)	(2.601)
RC3	6.578***	-13.406**
	(5.345)	(2.041)
RC4	5.194**	-10.585**
	(3.685)	(3.158)
PSTAB	1.113**	-2.269**
	(2.150)	(2.743)
D(LFDI(-1))	-0.224	
	(-1.385)	
LFDI(-1)	-0.491**	
	(-3.447)	
R-squared	0.827	
Adjusted R-squared	0.731	

Level of statistical significance: *=10%, **=5%, ***=1%

[1] Computed from the long-run (steady-state) solutions to the estimated model

Table 7: Results of robustness test

Variable	Coefficient	Long Run Elasticity[1]
Constant	12.673	
	(0.415)	
LRGDP(-1)	0.614	-1.327
	(0.535)	(0.445)
D(LREER)	-4.228*	
	(-2.002)	
LREER(-1)	-3.753**	8.106*
	(-2.161)	(-1.864)
D(LTO)	-0.144	
	(-0.083)	
LTO(-1)	-0.303	0.655
	(-0.229)	(-0.567)
D(LWD)	-1.484**	
	(-3.361)	
LWD(-1)	-0.734	1.586
	(-1.427)	(-1.048)
D(LWI)	-3.177	
	(-1.681)	
LWI(-1)	-0.570	1.232
	(-0.277)	(-0.177)
RC2	5.806***	12.542**
	(5.730)	(3.652)
RC3	6.258***	-13.517**
	(4.980)	(2.981)
RC4	4.940**	-10.669**
	(3.339)	(2.436)
PSTAB	1.160**	-2.505**
	(2.078)	(2.436)
D(LFDI(-1))	-0.192	
	(-1.212)	
LFDI(-1)	-0.463**	
	(-3.526)	
R-squared	0.814	
Adjusted R-squared	0.711	

Level of statistical significance: *=10%, **=5%, ***=1%
[1] Computed from the long-run (steady-state) solutions to the estimated model