Journal of Advances and Scholarly Researches in Allied Education

Vol. IV, Issue VIII, October-2012, ISSN 2230-7540

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Journal of Advances and Scholarly Researches in Allied Education
Vol. IV, Issue VIII, October-2012, ISSN 2230-7540

Analysis of Growth of FDI in India

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Abstract – Considering the large number of motives an individual firm can have to undertake FDI; it is not surprising that there exists no general theory that can comprehensively explain the existence of MNCs and FDI. As a result of this, the FDI literature is diverse and spans over several different disciplines including international economics, economic geography, international business as well as management. There exist several studies providing overviews of FDI theories, for example, Agarwal , Cantwell , Meyer and Markusen. Whereas this thesis primarily focuses on a developing economy, most of the theories described in this section can be applied to all types of economies.

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INTRODUCTION

Most theories of FDI have emerged during the post-war period, when the forces of globalization began to grow. The growing importance of MNC5 and FDI during the fifties and sixties gave an impetus to researchers to find theories able to explain the behavior of MNCs and the existence of international production. The early theories could only explain a limited share of the total FDI flows. These theories were also inadequate because they failed to bring out the fact that FDI is not only a capital flow but also constitutes a package including other components such as management and technology transfer.

Consequently, some of the approaches to develop a theory of FDI failed to incorporate the fundamental difference between portfolio and direct investment. An example is the "Capital Markets Approach" (Aliber, 1970).. These approaches used the already existing theories for flows of portfolio investment to explain flows of FDI. FDI was treated as portfolio investment and accordingly it was considered that FDI should flow to locations where the financial return on investment was the highest.

During the sixties, researchers started to focus more explicitly on MNCs and their activities. Vernon (1966) applied the idea of the product-life-cycle to international trade in order to explain the existence of international production as well as trade. According to Vernon, as a product moves through the product-life-cycle, the characteristics of the product change. These changes imply that the optimal location for production of the product also changes over time. The product-life-cycle begins when innovations are transformed into actual products. Increasing competition eventually forces production to move from higher to lower income economies in order to reduce production costs. As the product and its production process become more standardized, the product moves into the mature stage of its life-cycle. Consequently production in high and average income economies declines as a result of ever fiercer competition. The demand for the product is then met through exports from low income, developing economies to the rest of the world.

Vernon's theory was a contribution since it could explain some of the outflows of FDI from the US during the fifties and sixties. It was also the first theory that treated trade and direct investment as two dynamic alternatives to serve demand in a foreign market. Unfortunately, the theory fails to explain the large flows of FDI between developed economies. The focus on innovations also makes the theory difficult to apply to outflows of FDI from industries which are not innovative.

FIRM-SPECIFIC ADVANTAGES AND THE "OLI" PARADIGM

Stephen Hymer came up with his theory of firm specific advantages approximately at the same time as Vernon's theory. Hymer's dissertation (1960) laid the foundation necessary for "eclectic paradigm" that has had a large impact on FDI theories. The theory of firm-specific advantages was the first theory treating international production explicitly, and the first focusing on the MNC itself.

According to Hymer, firms operating in a foreign location are at a disadvantage compared to the domestic firms. The domestic firms are assumed to have lower costs of operation since they are more familiar with local conditions such as legislation, business culture, language and so on. It therefore becomes imperative for a foreign firm to have an offsetting, firm-specific advantage allowing it to compete with domestic firms. Firm-specific advantages include superior technology, brand name, managerial skills and scale economies. However, this approach could not explain the actual decisions about FDI. This void was filled by John Dunning, who further developed the idea of firm-specific

advantages, resulting "OLI" paradigm of FDI, also known as the "eclectic theory" of FDI.

The "OLI" paradigm (Dunning, 1977) provides a strong framework for a discussion of the motives for FDI. It also allows for a discussion of the choice of an MNC between licensing, exports and FDI in order to serve a foreign market. This choice accordingly, is determined by Ownership advantages, Locational advantages and Internalisation advantages, thus the acronym "OLI".

Ownership advantages are based on the concept of firm-specific advantages. To overcome the disadvantage of operating in a foreign country, a firm must possess an Ownership advantage. The Ownership advantage comes in the form of an asset reducing the firm's production cost and allows it to compete with domestic firms in the foreign economy despite the information disadvantage.

Ownership advantages come in the form of assets such as patents, management or technology and should have the characteristics of 'excludability' and 'transferability'. The foreign firm should be able to exclude competing firms from using the asset. Also to create proper conditions for FDI, the Ownership advantages should be transferable to a foreign country and possible to use simultaneously in more than one Location.

Locational advantages determine how attractive a location is for production. A strong Locational advantage reduces a firm's production costs in that location. Locational advantages can never be transferred to another location but can be used by more than one firm simultaneously. For example, a supply of cheap labour can provide a Locational advantage for several labour-intensive firms. If the home country provides the strongest Locational advantage to the firm, then instead of FDI, production is located in the home country, and the output is exported in order to meet demand in the foreign economy.

The existence or non-existence of an Internalisation advantage is important to determine how the MNC chooses to use its Ownership advantage and also choose between own production and licensing of production to an external firm. Existence of an Internalisation advantage implies that the firm's most efficient alternative of using an Ownership advantage is through exports or FDI. If an internalization advantage is missing, it is more profitable for the firm to exploit its Ownership advantage through selling the right of its use to another firm through licensing. While possession of an Ownership advantage is a prerequisite for a firm to be able to serve demand in a foreign market, it is the existence of Locational and Internalisation advantages that determines how the foreign market is s'erved.

Box : "OLI" advantages and MNC channels for serving a foreign market

Channel of Serving Foreign Market	Ownership Advantage	Internalization Advantage	Locational Advantage of Foreign Country
FDI	Yes	Yes	Yes
Exports	Yes	Yes	No
Licensing	Yes	No	No

FDI only occurs when the MNC possesses both an Ownership and an Internalisation advantage and the foreign country has a Locational advantage. For the case where the MNC lacks an Internalisation advantage, production is licensed to local firms in the foreign market. If the MNC's home country has the strongest Locational advantage, the MNC uses exports to serve the foreign market. The "OLI" paradigm can, therefore, also be used as a framework for a discussion about the relationship between FDI and trade.

Dunning (1981, 1986) use the framework of the "OLI" paradigm as a base for the "Investment Development Path" (IDP) theory. The idea of the "IDP" theory is that there exists a U-shaped relationship between the level of an economy's development and the net outward flows of FDI. In the first low income stage, FDI inflows are small and outflows are zero or close to zero. Domestic firms have not yet acquired Ownership advantages and therefore have no prospects for investing abroad whereas Locational advantages are too weak to attract inward FDI inflows. Economies where significant improvement of the Locational advantages take place (for example, an improvement of the educational level), enter the second stage. Inflows of FDI increase substantially while outward FDI remains very small, resulting in an increasingly negative net outward FDI position. During the third stage, net outward flows are still negative but increasing. There are two possible causes for this. The first possibility is that outward investment is constant and inward investment is failing. Alternatively, the outflow of FDI are rising faster than the inflow due to eroded ownership advantages of the foreign investors or as a result of domestic firms developiing advantages, generating outflow of FDI. During the fourth stage, the outward flow of FDI surpasses the inflow of FDI, implying domestic firms have developed strong ownership advantages. Empirical applications of the "IDP" theory include Barry et al. (2003), who analyse inward and outward FDI flows for ireland. They find that the growing inflows and subsequent outflows of FDI are consistent with the "IDP" theory.

THEORETICAL FRAMEWORK

It is widely agreed that FDI takes place when three sets of determining factors exist simultaneously: the presence of Ownership specific competitive advantages in a transnàtional corporation (MNC), the

presence of Locational advantages in a host country, and the presence of superior commercial benefits in an intra-firm as against an arm's-length relationship between investor and recipient.

- The Ownership-specific advantages (e.g. proprietary technology) of a firm, if exploited optimally, can compensate for the additional costs of establishing production facilities in a foreign environment and can overcome the firm's disadvantages vis-à-vis local firms.

- The Ownership-specific advantages of the firm should be combined with the Locational advantages of host countries (e.g. large markets or lower costs of resources or superior infrastructure).

- Finally, the firm finds greater benefits in exploiting both Ownership-specific and Locational advantages by internalisation, i.e. through FDI rather than arm's-length transactions. This may be the case for several reasons. For one, markets for assets or production inputs (technology, knowledge or management) may be imperfect, and may involve significant transaction costs or time-lags. Also it may be in a firm's interest to retain exclusive rights to assets (e.g. knowledge) which confer upon it a significant competitive advantage (e.g. monopoly rents).

While the first and third conditions are firm specific determinants of FDI, the second is Locational-specific and has a crucial influence on a host country's inflows of FDI. If only the first condition is met, firms will rely on exports, licensing or the sale of patents to service a foreign market. If the third condition is added to the first, FDI becomes the preferred mode of servicing foreign markets, but only in the presence of Locational-specific advantages. Within the trinity of conditions for FOI to occur, Locational determinants are the only ones that host governments can influence directly. (UNCIAD, 2006)

To explain differences in FDI inflows, and to formulate policies to capture inbound investment, it is necessary to understand how Locational factors influence the FDI decisions of a firm.

The objective of this chapter is therefore to review the Locational-specific (host- country) determinants of FDI flows.

Box : Locational determinant of foreign direct investment

Policy Framework for FDI	Economic determinant	Business facilitation factors
Core FDI Policy Regime	Market Seeking FDI	Investment Promotion
• Rules Regarding Entry and • Standards of Treatments of Foreign Enterprise • Policies on Functioning	• Market Size and per capita income • Market Growth • Access of regional and global market • Country specific consumer • Preferences • Structure of Markets	Investment promotion Measures • Investment incentives • Hassie costs (corruption, administrative inefficiency) • Soical amenities • after Investment services

LITERATURE REVIEW

An extensive set of determinants has been analyzed in the literature on the determinants of FDI. Numerous empirical studies (Agarwal, 1980; Gastanaga et. al., 1998; Chakrabarti, 2001; and Moosa, 2002) lead to a set of explanatory variables that are widely used and found to be significant determinants of FDI. Markusen and Maskus (1999), Love and Lage-Hidalgo (2000), Lipsey (2000) and Moosa (2002) highlight how the domestic market size and differences in factor costs can relate to the Locational of FDI. This factor is important to foreign investors who operate in industries characterized by relatively large economies of scale. This is because they can exploit scales economies only after the market attains a certain threshold size. The most widely used measures of market size are GDP, GOP/Capita and growth in GDP. The signs of these coefficients are usually positive.

Discussing the labor cost, which is one of the major components of the cost function, it is found that high nominal wages, other things being equal, deter FDI. This must be particularly true for the firms, which engage in labor-intensive production activities. Therefore, conventionally, the expected sign for this variable is negative. There are studies that find no significant or a negative relationship of wage and FDI (Kravis and Lipsey, 1982; Wheeler and Mody, 1990; Lucas, 1993; Wang and Swain, 1995; and Barrell and Pain, 1996). Nonetheless, there are other researchers who have found out that higher wages do not always deter FDI in all industries and have shown a positive relationship between labor costs and FDI (Moore, 1993; and Love and Lave- Hidalgo, 2000). This is because higher wages indicate higher productivity and hi-tech research oriented industries, in which the quality of labor matters, prefer high-quality labor to cheap labor with low productivity.

HYPOTHESIS

"The push factors determine the flow of outward foreign direct investment from India".

METHODOLOGY

In the present chapter the home country push factors (determinants) of the foreign direct investment outflows are studied. A brief analysis of these variables, set as a background for the empirical analysis of the determinants of FDI from India, has already been given in the previous section. Based on the theory of John Dunning, several variables affecting FDI have been discussed in this present section. The present study is a version of an explanation of the outward flows of FDI from India from 1980-'81 to 2005 based on some important quantifiable policy and economic variables. A process of gradual relaxation of controls and regulations with a view to induce outflows of foreign investments was discernable from the year 1981. In a limited and phased manner market forces were allowed to govern the foreign investment flows during this period. Therefore, this period has been selected for the study. The objective in this chapter is to examine the effects of international trade and investment related macro economic variables, namely, exports, imports, FDI inflows, wages etc on the outflows of FDI from India over 1980 through 2005.

Considering the principal determinants of FDI inflows the equation is specified is as follows:

OFDI = a0+ a1GDP + a2IF1DI + a3WAGE + a4EXJGDP + a5IM!GDP + a6INFR + a7PCl

Where,

1. OFDI: Foreign direct investment net outflows measured as BOP current US$ bn

2. IFDI: Foreign direct investment net inflows measured as BOP current US$ bn

3. GDP: Gross Domestic Product at factor cost measured in current US$ bn

4. WAGE: Total emoluments paid to the workers measured in Rs. Lakhs.

5. INFR: (Infrastructure) Proxied by energy use (in Kg. of oil equivalent per capita)

6. EX/GDP: Exports measured in US$ bn divided by the GDP

7. IM/GDP: Imports measured in US$ bn divided by the GDP

8. PCI: Gross National income per capita (Atlas Method) measured in current US$ bn

EMPIRICAL ANALYSIS

For the purpose of the study, aggregate annual time series data at country level at current prices is used. Aggregate data is normally very useful in establishing long term econometric relationships between the variables.

As it is known that usually economic time series move together, therefore, if all the variables are included simultaneously in the equation there may be possibility of multi-collinearity. To examine the variables which may not be included simultaneously in the equation, a correlation matrix for all the expected explanatory variables and the dependent variable was obtained. Based on the correlation matrix several variables were selected as the possible explanatory variables. The correlation matrix also shows high degree of association between all the explanatory variables.

Box-: Correlation matrix of OFDI flows and the determinants of OFDI flows

	OFDI	IFDI	GDP	PCI	WAGE	INFR	IM/GDP	EX/GDP
OFDI	1	.891	.898	.977	.766	.725	.885	.859
IFDI	.891	1	.933	.878	.932	.889	.929	.930
GDP	.898	.933	1	.977	.927	.911	.963	.956
PCI	.877	.878	.977	12	.856	.854	.926	.903
WAGE	.766	.932	.927	.856	1	.981	.928	.962
INFR	.725	.889	.911	.854	.981	1	.880	.939
IM/GDP	.885	.929	.963	.926	.928	.880	1	.975
EX/GDP	.859	.930	.956	.903	.962	.939	.975	1

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed) Estimates based on appendix tables

Simple correlation between OFDI and GDP is found very high at 0.898. OFDI is also very highly correlated with IFDI at 0.891, with IM/GDP at 0.885, EX/GDP at 0.859 and PCI at 0.877. The correlation of OFDI with wage at 0.76 and energy at 0.725 is at a relatively lower level.

Using Multiple Linear Regression (MLR), the explanatory variables are regressed. In order to estimate the regression model, a statistical package, Statistical Package for Social Sciences (SPSS), is used. In addition, the output shows the t-statistic and p- values for the coefficients which results in either rejecting or failure to reject the hypothesis at a specified level of significance. The p-value is the probability of getting a result that is at least as extreme as the critical value. The null hypothesis is rejected if the p-value is less than or equal to the critical value.

REGRESSION RESULTS

(Estimates based on appendix tables)

Regression Analysis Explanning the variations in OFDI flows

Dependent Variable : OFDI flows

N : 26

Model Summary:

R Square	Adjusted R Square	F-Value
.946	.935	87.198

Coefficients:

Variables	Coeficient	Beta	T
(Constant)	-1017.356	-	-4.949
IFDI	0.301	0.483	5.067*
GDP	3.021	0.609	3.156**
WAGE	-510.510	-1.323	-6.385*
EX/GDP	148.926	0.767	3.188**

Notes: * Significant at 1% Significant**at 5%

Excluded Variables:

Variables	Beta in	t
INFRA	-0.090	-0.311
PCI	-0.363	-1.189
IM/GDP	-0.443	-1.419

c. Predictors in the Model: (Constant), IFDI, GDP, WAGE, EXIGDP

LIMITATION AND SCOPE OF FURTHER RESEARCH LIMITATION

Due to the inherent data constraints of the macro economic time series data, the above results are admittedly tentative. Yet it is true that they reveal certain new facets of the FDI outflows from India that have not been examined earlier. Moreover, India's success in outward FDI is very recent, dating back to the economic reforms of the nineties. With such a short history, it is yet to be seen whether the time series data can sustainably display the relations that the empirical evidence of this study suggests or whether the interaction of the home country and host country economic forces change the prevailing relationship pattern.

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