

An empirical analysis of the impact of three important aspects of Eclectic Paradigm on Foreign Direct Investment (FDI)

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Abstract

The main objective of the paper is to empirically examine the impact of three important aspects of Eclectic Paradigm that is ownership, location and internalization on FDI inflows by using different variables for each sub-paradigm. This study examines the relevant variables over the last couple of decades for 196 countries for the period of 1970–2009. The variables of eclectic paradigm are tested first with pooled OLS estimation method and then with panel data analysis by using fixed-effects regressions. This study finds that the variable of trademark, signifying the ownership aspects of investing firms, seems to highly affect FDI inflows. Among location-specific factors, the variable of openness to international trade significantly encourages trade oriented FDI inflows in the country as predicted by earlier empirical literature. The variables of government consumption and gross capital formation both have important implications on FDI inflows. Further, education of the local population has an important influence on direct investments. Similarly, the availability of industrial resources and access to domestic credit resources play a key role in the investment location decisions of multinational corporations. In terms of internalization, countries with English and French legal systems are found significantly affecting inward investments, pointing to the confidence of investors in these systems due to the better quality of intellectual property rights, law enforcement and legal protection of investment rights. This study finds the evidence that if governments want to attract FDI, they need to avoid excessive government spending, as prodigal public expenditure discourage FDI inflows. In order to attract more FDI, governments should invest in the education of the labour force to make human capital more valuable, in the development of infrastructure facilities and set up a legal environment that is conducive to attracting international investors.

1.1 Introduction

In the field of international business, John H. Dunning's eclectic paradigm is the most widely recognized and used theory, which serves as an important mechanism for the analysis of foreign direct investments (FDI). The eclectic paradigm is an all-embracing analytical framework that encompasses diverse theories and contributes towards the understanding of patterns, trends, and determinants of FDI. The main idea of eclectic paradigm is that in order to invest abroad, a firm ought to have important advantages in terms of ownership, location and internalization (Dunning 1977, 1980, 1993, 2000a, 2001). Ownership-specific advantages could be competitive in nature and firms could enjoy monopoly power, "possession of a bundle of scarce, unique and sustainable resources and capabilities, which essentially reflect the superior technical efficiency of a particular firm relative to those of its competitors" (Dunning 2000a:168). Location-specific advantages are the "immobile, natural or created endowments" (Dunning 2000a:164) which become an incentive to invest in a particular country. Last but not the least, the internalization advantage gives international investors incentives to engage in foreign investment activities rather than franchising or licensing (Dunning 2000a).

A substantial body of empirical literature documents the positive spill overs of FDI to host nations and their economies. Such externalities can come in the form of an

increase in national income, savings, financial resources (significant means of funding), higher employment rate, new technology and managerial know-how, improvements in human resources, increases in competition and economic development (Chowdhury and Mavrotas 2006; Moghaddam and Redzuan 2012; Alfaro et al. 2004). Another important advantage of FDI is that it is considered to be less risky in the long run than other forms of investments due to the fixed and long-term nature of incentives (Nunnenkamp 2001). Increase in FDI inflows signals towards liberalization of government policies and improved investment climate.

The main objective of the chapter is to empirically examine the impact of three important aspects of Eclectic Paradigm that is ownership, location and internalization on FDI inflows by using different variables for each sub-paradigm. This study examines the relevant variables over the last couple of decades for 196 countries. The reason for analysing FDI in our sample is that during this era notable changes in global, economic and political arena took place. Recent decades witnessed a rapid globalization, market liberalization, technological developments in production processes, means of communications and distribution systems and growth in international investments worldwide (Dunning 1996).

This chapter is divided into five sections. The next section explains the relevant FDI determinants in connection with OLI sub-paradigms and the main hypotheses for empirical analysis. The following section describes the data and methodology used for the study. Section 5.4 discusses the estimation results. Conclusions of the study are drawn in the final section.

1.2 Literature Review and Hypothesis Development for the Determinants of OLI Paradigm

This section describes the hypothesized relationship between dependent and independent variables and their expected directions on the basis of the existing literature.

1.2.1 Ownership

Ownership advantages are classified into asset ownership advantages, transactional ownership advantages (Dunning 1981; Dunning and Rugman 1985), and institutional assets advantages (Dunning and Lundan 2008). First, asset ownership advantages comprise of the imperfect competition and monopolistic benefits firms enjoy, such as economies of scale, advanced technology, product differentiation, distribution networks, and privileged access to financial capital. The product-specific tangible assets include property and equipment. Ownership intangible assets of the firms can be analysed through intellectual property rights variables such as copyrights, trademarks and patents (da Silva Lopes 2010; Lundan 2010). Second, transaction ownership advantages are efficiency benefits which multi-plant firms acquire during their interaction with local or international plants. These include benefits of common governance, exclusive access to resources, knowledge and relevant markets, capability of organizing and synchronizing value-added activities at various remote plants, competence of obtaining profits through product diversification and reducing transaction costs to the minimum. Lastly, institutional assets advantages imply the organizational environment, culture, rules and regulations, codes of conduct, human resource management policies such as incentive measures and performance appraisal systems (da Silva Lopes 2010).

This study uses trademark to examine the impact of asset ownership advantage i.e. brand name as a valuable intangible asset which differentiates the

products of Multinational Corporation from other competitors. The literature on the effects of ownership variable (trademark) on FDI inflows is sparse. This study presents an effort to test ownership pillar related to the eclectic paradigm. Brands assure consumers about the consistent high quality of product in a way that build strong customer confidence and loyalty for future rapid decisions for purchase of branded product in comparison to other alternatives (de Chernatony and Mc William 1989). Dawar and Parker (1994) in their empirical study report that consumers consider brand name first when purchasing a product, price and physical appearance of the product comes as a secondary consideration.

Multinational companies that have strong brands such as Apple, Coca Cola, Nike and adidas have competitive advantages of operation over the local businesses. People believe that they offer better quality and also become the symbol of status. This may be an important advantage in terms of cross border investments. Alashban et al. (2002) find that international businesses with standardized brand names have the benefits of cost saving (due to economies of scale advantages and decrease in advertising costs) and increase in sales volumes due to good consumer perception about the product. Therefore, for multinational enterprises, the decision of entering new markets may be beneficial from both consumer and business perspective.

Hypothesis 1: FDI inflows are a function of the ownership advantages of MNEs, which represent valuable international brand.

1.2.2 Location

Location-specific variables consist of those country specific aspects, which reflect the macroeconomic environment of the host nations. These variables are the indicators of financial stability and economic prosperity. Openness to trade and GDP growth are among the most commonly investigated gauges for the examination of suitability of location (for detailed studies on the determinants of FDI see Blonigen (2005, 2011), Tsai (1994), Chakrabarti (2001) and Asiedu (2002)). The examination of the degree of openness helps in understanding whether a country's approach towards foreign investors is welcoming. Trade liberalization (imports plus exports divided by GDP) is the most widely used measure of openness in empirical studies (Buckley et al. 2009; Yih Yun Yang et al. 2000; Keller et al. 2007; Asiedu 2002; Asiedu and Esfahani 2001; Asiedu and Lien 2011). Trade liberalization is considered to have a significant impact on FDI in terms of the nature of foreign investments in mostly tradable sector (Chakrabarti 2001). This study intends to verify whether FDI indeed has a positive and direct relationship with the degree of trade openness in the host economy, as high degree of openness implies more investment inflows.

An increase in the host country market size also opens up greater possibilities for foreign investors to effectively utilize available resources and take advantage of the economies of scale and scope (Buckley et al. 2007). The literature on the relationship between FDI and market growth rate (Chakrabarti 2001) confirms their positive association, as market growth shows increase in demand which attracts market seeking horizontal FDI. On the other hand, slow growing economies offer less chances of earning sizeable profits (Buckley et al. 2007). The growth in economy is expected to significantly encourage inward market seeking foreign investments. High GDP growth also implies strong domestic demand for products that the investors want to produce and future market potential (Noorbakhsh and Paloni 2001; Asiedu and Esfahani 2001).

Banga (2003) found that economic growth rate plays an important role for both developing and developed countries.

The empirical studies on FDI inflows generally examine the impact of availability of natural resources by using variables such as the share of fuel and oil in total exports (Asiedu and Esfahani 2001; Asiedu and Lien 2011; Abbott et al. 2012) and ratio of ore and metal exports as a percentage of merchandise exports (Allard 2012). This study analyses this issue from a different perspective. Lack of industrial (primary or intermediate) resources in the host country might be analysed by FDI investors in order to avoid the future perils of productions. This variable is proxied by the ratio of ore and metal imports scaled by merchandise imports (Buckley et al. 2007, 2009). Therefore, FDI is expected to have negative association with the host country imports of resources, as unavailability of important industrial inputs may increase the production costs or even could be the reason of business closure. According to World Bank (2012), this variable includes important industrial natural resource trade items, which are part of the Standard International Trade Classification (SITC) 2-digit sections 27 (crude fertilizers and minerals), 28 (Metalliferous ores and metal scrap); and 68 (non-ferrous metals such as copper, silver, aluminium, platinum, zinc, lead) (for more details of classifications see United Nations Statistics Division 2012).

Borrowing is a very important source of financing for both home and international businesses. The availability of financial resources (domestic credit to private sector as a share of national output) in host country could potentially have a huge impact on FDI inflows in terms of financing working capital. Ease of access to domestic credit offers a great facility and encouragement to international investors, especially in low and middle income countries (Oshikoya 1994). Funding resources falling under the umbrella of domestic credit include trade credits, loans, debt securities and accounts receivables. They are also considered as efficient monetary policy instruments used to control credit availability in order to facilitate or restrict the private investments in the country (Blejer and Khan 1984). This study intends to use this variable as an indicator of financial liberalization proxied to measure financial depth of host country (similar measure has also been used by Noorbakhsh and Paloni 2001; Root and Ahmed 1979).

Gross capital formation is used to measure the impact of government spending on the development of infrastructure facilities (such as land improvements, roads, railways, availability of technology in the country) and the inventories held by firms for immediate use. Gross capital formation represents the spending on fixed assets in the country. These kinds of outlays are expected to have positive relationship with FDI inflows, as improved infrastructure may attract more long-term foreign investments. Earlier studies (Lipsey 2000; Asiedu and Lien 2011) used the variable of gross fixed capital formation for the examination of the relationship between FDI and government spending on infrastructure development.

Government consumption represents non-investment government expenditure, which incur in the process of purchase of goods and services and national defence expenditure. Government consumption is a very sensitive issue and, if in excess, it could slow down the rate of economic growth in the economy (Landau 1983; Grier and Tullock 1989; Barro 1990). Excessive public spending will also lead to tax increases in the future. For these reasons, bloated government consumption may be unwelcomed by international investors.

According to Asiedu (2002), government consumption also represents the size of the government, which if larger deters FDIs.

Finally, this study analyses the impact of educational attainment on FDI inflows, which is becoming an important locational macroeconomic variable for the study of the impact of skill availability on FDI inflows in countries. Plentiful and capable human capital attracts more FDIs. The variable of education is expected to have positive relationship with FDI inflows, as it represents the skilled and unskilled created asset of the country (Jensen 2003; Noorbakhsh et al. 2001). Faria and Mauro (2004) Keller et al. (2007) found positive and significant effects of primary school education on FDI inflows. Gliberman and Shapiro (2002) examine the impact of education on FDI inflows by using an index of primary, secondary and tertiary school enrolment and found the variable highly significant.

1.2.3 Internalization

To examine institutional aspects of FDI, this study uses the variables of legal origin. The legal environment has the potential to be a decisive factor for an investor who is contemplating whether to engage in direct investment or whether to franchise.

1.2.4 Legal Origin

In the process of international investments, legal environment of the host country may play a significant role. The concept of investment friendliness, to a certain extent, involves a code of laws which characterize investment rights and the protection of those rights in the host country (La Porta 1996). The important question here is whether direct investors in a country with a certain legal origin have the same privileges and rights as investors in another country with different origin?

The extent to which investors receive legal protection of their rights and efficiency of law enforcement in the host country establishes the confidence (La Porta 1996) and supports improved performance of bond and stock markets (Levine 1998:597). These types of positive changes affect the decisions of international investors and determine their choice of investment location. There is considerable amount of literature available on the relationship between origin of legal rules or systems and stock markets (Roe 2006). However, only a very limited literature is available on the relationship between FDI and legal origin (Busse and Groizard 2006). The data for legal origin variables is taken from LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998). The data on the legal systems is available for forty-nine countries. According to LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998), nations can be analyzed from the perspective of the legal system they follow (English, French, German and Scandinavian), which is often a result of occupation or colonization.

In this chapter, I aim to examine whether legal origin and the effective enforcement of investment rights account for the direct investment flows. The English legal system or common laws were mainly developed from the decisions of judges over centuries. On the contrary, French, German and Scandinavian legal systems are founded on civil law tradition, which is codified (Levine 1998:602). In the civil law tradition, the laws consist of comprehensive, constantly updated legal codes that enumerate all justiciable disputes, appropriate processes and the apposite penalty or sanction for every crime in keeping with the types of law i.e. substantive, procedural or penal law.

It is the duty of the judge then to examine the credible evidence and to make judicial decision according to due process of law. Legal scholars and legislators are responsible for the formation and progression of codes of law. Civil law is based upon Roman law, which was compiled in the sixth century. Gradually, countries formed their individual legal codes i.e. German, French and Scandinavian legal systems. Further, colonization (as a result of invasions) helped the spread of these legal systems worldwide (Levine 1998). According to Roe (2006), common law traditions are shown in studies to provide more protection to foreign shareholders in comparison to civil law. This partially, justifies why some countries have economically and financially sound capital markets. Thus, these studies report and show countries with common laws are significantly better than civil for the development of the country. Roe (2006), in a convincing manner, criticizes such studies, which asperse the image of civil law tradition.

LHSV (1998) have reported the differences in the implications of these systems. In terms of law and contract enforcement, Scandinavian and German legal systems were leaders, while the French legal tradition countries were found to be those with the lowest quality of contract enforcements and rights of creditors. On the other hand, rights of creditors are much more respected in countries following common law tradition as compared to German, Scandinavian and French origin (Levine 1998). This study uses the data of 48 countries for the analysis of legal origin due to the unavailability of FDI data for the country of Taiwan. The list of countries using French, German, English and Scandinavian legal origins is given in Table 1.

Table 1: List of countries belonging to English, French, German and Scandinavian legal origin

English legal origin	French legal origin	German legal origin	Scandinavian legal origin
Australia	Argentina	Austria	Denmark
Canada	Belgium	Germany	Finland
Hong Kong	Brazil	Japan	Norway
India	Chile	South Korea	Sweden
Ireland	Columbia	Switzerland	
Israel	Ecuador	Taiwan	
Kenya	Egypt		
Malaysia	France		
New Zealand	Greece		
Nigeria	Indonesia		
Pakistan	Italy		
Singapore	Jordon		
South Africa	Mexico		
Sri Lanka	Netherlands		
Thailand	Peru		
United Kingdom	Philippines		
United States	Portugal		
Zimbabwe	Spain		
	Turkey		
	Uruguay		
	Venezuela		

Source (La Porta et al. 1998).

Note: My study includes the sample of 48 (excluding Taiwan due to unavailability of FDI data given in the above table, which makes total available sample of 49 countries).

1.3 Empirical Model, Data and Estimation Methodology

This section briefly describes the empirical model, data sources used for this study and summary statistics. In this chapter, I undertake an empirical examination of multi-country model with data from a sample of 196 countries for the period of 1970–2009. The variables of eclectic paradigm are tested first with pooled OLS estimation method and then with panel data analysis by using fixed-effects regressions. Panel data method is very useful for obtaining more efficient results due to increased sample variability and degrees of freedom compared to cross-section or time-series data. The use of fixed effects panel estimation helps in controlling differences between countries which are not time-varying and not directly observable. Fixed effect panel estimation is robust to omitted variable bias (Hsiao 2006; Noorbakhsh and Paloni 2001).

Following the hypotheses summarized in the previous section, potential explanatory variables include growth rate of economy, openness to trade, government consumption expenditure, gross capital formation, natural resource imports, domestic credit, legal origins, educational attainment, and trademarks registered. This study uses the dependent variable of FDI inflows as percentage of GDP to show the direct investment flows scaled by the size of the economy.

Various sources have been used for data collection: World Development Indicators (World Bank 2011), Penn World Tables PWT 7.0, La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998). The variables employed (main and control) are reported alongside their exact definitions and sources in Table 2.

Table 2: Definitions and sources of variables

Variables	Definitions	Data Sources
<i>FDI_Inflows</i>	Net inflows of foreign direct Investment as a percentage of GDP	World Development Indicators. The World Bank (2011)
<i>GDP_Growth</i>	Annual percentage growth rate of GDP at market prices based on constant local currency.	World Development Indicators. The World Bank (2011)
<i>Openness</i>	Openness to trade at Current Prices (%)	Penn World Tables PWT 7.0
<i>Gov_consumption</i>	General government final consumption expenditure (% of GDP)	World Development Indicators. The World Bank (2011)
<i>Capital_formation</i>	Gross capital formation % of GDP	World Development Indicators. The World Bank (2011)
<i>Resource_imports</i>	Ores and metals imports (% of merchandise imports)	World Development Indicators. The World Bank (2011)
<i>Domestic_credit</i>	Domestic credit to private sector (% of GDP)	World Development Indicators. The World Bank (2011)
<i>English</i>	Binary variable that is equal to one if the legal origin is common law, and zero otherwise	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)
<i>French</i>	Dummy variable that is equal to one if the legal origin is French, and zero otherwise	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)
<i>German</i>	Binary variable that is equal to one if the legal origin is German, and zero otherwise	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)

<i>Scandinavian</i>	Binary variable that is equal to one if the legal origin is Scandinavian, and zero otherwise	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)
<i>Education</i>	Gross Primary School Enrolment	World Development Indicators. The World Bank (2011)
<i>Trademark</i>	Total trademark applications divided by total population and multiplied by 1000.	World Development Indicators. The World Bank (2011)

Table 3: Summary statistics

Va Variables	Number of observations	Mean	Standard deviation	25 th Percentile	Median	75 th Percentile
<i>FDI_inflows</i>	5878	3.8673	18.1716	0.3177	1.3109	3.7615
<i>GDP_Growth</i>	7368	3.8480	6.3869	1.3879	3.9887	6.4956
<i>Openness</i>	7919	78.1596	49.7272	44.2750	68.0000	102.4650
<i>Gov_consumption</i>	6916	15.9720	6.8800	10.9881	15.0984	19.4580
<i>Capital_formation</i>	6829	22.6494	8.7804	17.3769	21.9092	26.9219
<i>Resource_imports</i>	5559	2.3852	2.1200	1.0095	1.7744	3.1484
<i>Domestic_credit</i>	6774	40.8060	236.9759	13.6590	25.3909	47.2677
<i>English</i>	2400	0.3750	0.4842	0.0000	0.0000	1.0000
<i>French</i>	2400	0.4375	0.4962	0.0000	0.0000	1.0000
<i>German</i>	2400	0.1042	0.3055	0.0000	0.0000	0.0000
<i>Scandinavian</i>	2400	0.0833	0.2764	0.0000	0.0000	0.0000
<i>Education</i>	5805	95.5682	24.6193	89.9256	100.7455	108.5202
<i>Trademark</i>	4462	0.9204	1.5238	0.1176	0.4960	1.1445

Table 3 shows the summary statistics for the different variables representing the three pillars of Eclectic Paradigm for the sample of 196 countries for the period of 1970-2009. The net FDI inflows for the sample are on average 3.87 percentage of GDP per annum. Government consumption is found to be on average 16% of GDP. Table 19 shows a good average growth rate of 3.85% for the sample economies. Trade openness, representing the trade liberalization policies is 78%, which illustrate the countries' approach towards promotion of free trade.

Domestic_credit, on average, is approximately 41% of the available funds, which implies that private sector has reasonably good access to capital resources in sample countries. *Resource_imports* show ores and metals imports mostly used as input in industrial production processes account, on average, for 2.39% of merchandise imports to the sample countries. This result shows that sample countries do not import ores and metals in large quantities, attesting to the fact that these countries on average are relatively self-sufficient or rich in industrial resources and international investors have access to the required inputs without mobilizing a great deal of effort.

The mean of *Capital_formation* implies that the fixed assets of country account for about 23% of GDP, which helps in improving location-specific factors and possibly increase direct investments. Education variable indicates that about 96% of the population among the sample countries have basic reading, writing and mathematics

skills, along with introductory or fundamental concepts of subjects (art, geography, history, music, natural science and social science). There are about 920 trademarks registered per 1,000,000 people over the sample period.

Out of the 48 countries belonging to different legal origins, approximately 38% are using English legal system (common law tradition). Around 44% of countries follow the French legal origin, which indicates that the maximum number of countries is of French legal origin. Among the remaining legal systems, German and Scandinavian account for 10% and 8% respectively. Table 4 presents the names of sample countries.

Table 4: Sample of countries

Sample of 196 countries		
Afghanistan	Congo Demo Rep	Iran
Albania	Congo Rep	Iraq
Algeria	Costa Rica	Ireland
Angola	Cote d'Ivoire	Israel
Antigua and Barbuda	Croatia	Italy
Argentina	Cuba	Jamaica
Armenia	Cyprus	Japan
Aruba	Czech Republic	Jordan
Australia	Denmark	Kazakhstan
Austria	Djibouti	Kenya
Azerbaijan	Dominica	Kiribati
Bahamas	Dominican Republic	Korea Rep
Bahrain	Ecuador	Kosovo
Bangladesh	Egypt	Kuwait
Barbados	El Salvador	Kyrgyz Republic
Belarus	Equatorial Guinea	Lao People's Dem. Rep
Belgium	Eritrea	Latvia
Belize	Estonia	Lebanon
Benin	Ethiopia	Lesotho
Bermuda	Fiji	Liberia
Bhutan	Finland	Libya
Bolivia	France	Lithuania
Bosnia & Herzegovina	Gabon	Luxembourg
Botswana	Gambia	Macao Chi-R.P.
Brazil	Georgia	Macedonia
Brunei Darussalam	Germany	Madagascar
Bulgaria	Ghana	Malawi
Burkina Faso	Greece	Malaysia
Burundi	Grenada	Maldives
Cambodia	Guatemala	Mali
Cameroon	Guinea-Bissau	Malta
Canada	Guinea	Marshall Islands
Cape Verde	Guyana	Mauritania
Caribbean small states	Haiti	Mauritius
Central African Republic	Honduras	Mexico
Chad	Hong Kong Chi	Micronesia, Fed. Sts.
Chile	Hungary	Moldova
China	Iceland	Mongolia
Colombia	India	Montenegro
Comoros	Indonesia	Morocco

Mozambique	Samoa	Tanzania
Namibia	Sao Tome & Principe	Thailand
Nepal	Saudi Arabia	Timor-Leste
Netherlands	Senegal	Togo
New Caledonia	Serbia, Republic of	Tonga
New Zealand	Seychelles	Trinidad and Tobago
Nicaragua	Sierra Leone	Tunisia
Nigeria	Singapore	Turkey
Niger	Slovak Republic	Turkmenistan
Norway	Slovenia	Tuvalu
Oman	Small states	Uganda
Other small states	Solomon Islands	Ukraine
Pacific island small states	Somalia	United Arab emirates
Pakistan	South Africa	United Kingdom
Palau	Spain	United States
Panama	Sri Lanka	Uruguay
Papua New Guinea	Saint Kitts and Nevis	Uzbekistan
Paraguay	Saint Lucia	Vanuatu
Peru	Saint Vincent & Grenadines	Venezuela
Philippines	Sudan	Vietnam
Poland	Suriname	West Bank and Gaza
Portugal	Swaziland	Yemen Arab Rep
Qatar	Sweden	Zambia
Romania	Switzerland	Zimbabwe
Russia	Syrian Arab Republic	
Rwanda	Tajikistan	

1.4 Empirical Results

This section reports the results of the study. For this study, I use two estimation techniques – pooled OLS estimation and panel data fixed-effects method to examine the impact of variables pertaining to three important dimensions of Eclectic Paradigm.

In table 5, I present a simple OLS panel regression for one hundred and ninety-six countries from 1970–2009 for 39 years using the net inflows of foreign direct investment percentage of GDP as the dependent variable. In table 6, fixed-effect panel data model is used for the analysis of the same dataset. F-test is used to compute the significance of particular pillars of OLI.

Table 5: Pooled OLS estimation results

		Pooled OLS Regression number				
Eclectic sub-paradigm	Variables	(1)	(2)	(3)	(4)	(5)
	Constant	1.7751*** (0.2743)	-1.7121 (1.0582)	1.8846*** (0.1044)	-1.9426*** (0.6834)	-2.9822*** (1.0935)
Location	<i>GDP_Growth</i>		0.0734*** (0.0244)		0.0484** (0.0202)	0.0703*** (0.0257)
	<i>Openness</i>		0.0370*** (0.0020)		0.0255*** (0.0017)	0.0353*** (0.0020)
	<i>Gov_consumption</i>		-0.0481*** (0.0159)		-0.0578*** (0.0152)	-0.0382** (0.0166)
	<i>Capital_formation</i>		-0.0313* (0.0171)		0.1011*** (0.0140)	-0.0083 (0.0176)

	<i>Resource_ imports</i>		-0.1801*** (0.0523)		-0.3048*** (0.0488)	-0.1194** (0.0535)
	<i>Domestic_ credit</i>		0.0099*** (0.0022)		0.0070*** (0.0021)	0.0026 (0.0023)
	<i>Education</i>		0.01761** (0.0084)		0.0092 (0.0058)	0.0122 (0.0088)
Internalization	<i>English</i>	0.8039*** (0.3050)	0.5608* (0.3142)			1.1833*** (.3156)
	<i>French</i>	0.0806 (0.3016)	0.812477** (0.3172)			1.5151*** (0.3326)
	<i>German</i>	-0.5771 (0.3806)	0.1422 (0.3975)			0.3699 (0.3914)
Ownership	<i>Trademark</i>			1.8846*** (0.0554)	0.5343*** (0.0554)	1.0586*** (0.0996)
R-squared		0.0164	0.3014	0.0741	0.2193	0.3681
Adjusted R-squared		0.0147	0.2964	0.0738	0.2167	0.3626
F-stat total		9.8619	59.7084	275.7005	83.2512	66.1517
P-value		0.0000	0.0000	0.0000	0.0000	0.0000
F-stat Internalization		9.8619	2.9351			8.8964
P-value		0.0000	0.0324			0.0000
F-stat Location			82.0447		58.9326	68.7353
P-value			0.0000		0.0000	0.0000
F-stat Ownership					93.1328	113.0831
P-value					0.0000	0.0000
No. of observations		1778	1395	3449	2380	1261

This table presents results of pooled OLS regression relating Foreign Direct Investment (FDI) net inflows as a percentage of Gross Domestic Product (GDP) to determinants of Eclectic paradigm. The dependent variable is FDI net inflows as a percentage of Gross Domestic Product (GDP), defined as net inflows (investment inflows minus disinvestment) in the countries from foreign investors, divided by country GDP. Standard errors are given in parenthesis. ***, **, * denote statistical significance at 1%, 5% and 10%, respectively.

Table 6: Panel fixed effect estimation results

Eclectic sub-paradigm	Variables	Panel fixed effect estimation number			
		(1)	(2)	(3)	(4)
	<i>Constant</i>	-10.9071*** (0.8679)	-2.0042 (1.5742)	1.9445*** (0.1122)	-6.7292*** (1.0642)
Location	<i>GDP_Growth</i>	0.0203 (0.0373)	0.0412 (0.0293)		0.0248 (0.0186)
	<i>Openness</i>	0.1506*** (0.0102)	0.0175** (0.0073)		0.0415*** (0.0046)
	<i>Gov_consumption</i>		-0.0913** (0.0418)		-0.0488* (0.0269)
	<i>Capital_formation</i>		0.1484*** (0.0251)		0.1281*** (0.0156)
	<i>Resource_imports</i>		-0.4495*** (0.1285)		-0.0999 (0.0784)
	<i>Domestic_credit</i>	0.0612*** (0.0099)	0.0280*** (0.0055)		0.0218*** (0.0032)
	<i>Education</i>		0.0199 (0.0121)		0.0218** (0.0086)
Ownership	<i>Trademark</i>			0.8614*** (0.0815)	0.7157*** (0.0736)
R-squared		0.4688	0.8915	0.3520	0.4819
Adjusted R-squared		0.4487	0.8856	0.3198	0.4500
F-stat total		23.2647	150.2622	10.9469	15.1049
P-value		0.0000	0.0000	0.0000	0.0000
F-stat Location		103.5099	16.0747		42.2353
P-value		0.0000	0.0000		0.0000
F-stat Ownership				111.7385	94.5495
P-value				0.0000	0.0000
No. of observations		4926	3260	3449	2380

Note: This table presents results of fixed effect panel estimations. The dependent variable is FDI net inflows as a percentage of Gross Domestic Product (GDP), defined as net inflows (investment inflows minus disinvestment) in the countries from foreign investors, divided by country GDP. Standard errors are given in parenthesis. ***, **, * denote statistical significance at 1%, 5% and 10%, respectively.

1.4.1 Ownership

The variable of *trademark* is highly significant in all regressions at 1%. The results indicate that FDI seems to be the best choice for firms owning internationally famous brands to internalize the foreign operations rather than licencing. Because due to their popular logo or brand name, it is less complicated for them to enter and acquire a good share in the host market.

For ownership, F-stat results show that the variable used in the study is highly significant and has a very good predictive power for FDI inflows. R-squared results show that trademarks explain around 07.41% (pooled OLS estimates) of variation in FDI inflows.

While not reported, I have attempted to analyse the variable measuring the number of patents granted, but it was not a consistent predictor. Further, I could not find the relationship robust, as the coefficient on patents change signs in different regressions.

1.4.2 Location

The potential growth in market size is significant at 1% level in both regression 2 and 5 and at 5% level in regression 4 in Table 5, showing the highly significant relationship with FDI inflows. The good rate of economic growth importantly influences the development and growth of local market, which lures (horizontal) foreign investments into an economy and indicates good growth prospects (Jensen 2003; Addison and Heshmati 2003; Abbott et al. 2012). On the other hand, the results for *GDP_Growth* do not show significant impact in panel data estimation. While the relationship in the panel models still remains positive, the statistical significance is lost.

Openness to trade is always statistically highly significant in all the regressions both in pooled OLS estimation and fixed effect estimations, showing that liberalization of trade has the greatest influence on FDI inflows (be they trade oriented or not). The governments have long tried to relax economic policies to increase trade. One can clearly see from the results that the trade is complementing rather than being a substitute. This study validates the results of earlier empirical studies showing the highly positive impact of trade liberalization on FDI inflows (Addison and Heshmati 2003; Keller et al. 2007; Asiedu 2002).

Gov_Consumption is usually found with the expected negative sign and has important effects on FDI inflows. These regression results correspond well with the results in the previous chapter on political risk. This shows the negative impact of governments' current expenditure for purchase of goods and services (which also includes expenditure on national defence and security) on foreign investments.

Capital_formation has a unique relationship with FDI inflows. A good ratio of *Capital_formation* shows governments' approach towards building and improving facilities, which also become the reason to attract FDI inflows. Results in Table 6 containing fixed effects panel results show that the coefficients of gross capital formation are found positive, as predicted, and highly significant. The pooled OLS regression results are highly significant in the anticipated direction in the regression excluding legal tradition, but capital formation loses much of its predictive power when legal origin dummies are added.

Education exerts a positive influence on FDI inflows. The more developed the human capital, the more FDI is attracted into the country. The variable of *Education* was expected to have positive relationship with FDI inflows as it measures the level of skills possessed by the workforce (Jensen 2003). This variable is found with expected sign and is significant at 5 percent when tested with legal origin variables. Keller et al. (2007) found primary school education to be a significant factor for East Asian countries.

The coefficient of *Resource_imports* shows that FDI inflows are significantly negatively affected by the imports of resources. The lack of industrial resources in the host country acts as a deterrent for investors. Shortage of resources adds additional pressure on businesses operating within a country. Therefore, it seems highly unlikely that firms prefer those locations where industrial inputs are not easily accessible.

Domestic credit to private sector represents the availability of financial capital in the country. The coefficients on *Domestic_credit* variable are highly significant in almost all regressions using pooled OLS and panel estimation. These results suggest

that the ease of access to financial resources assures credit facilities for international investors, which results in attracting more foreign direct investments into an economy. However, the coefficient in 5th regression is insignificant, even though with expected positive direction. This might be due to the short-term nature of financial resources, as these credit instruments are usually available with three to six months maturity.

F-stat performed for location-specific variable show that the variables used in the study are highly significant for the analysis of FDI inflows. R-squared results of pooled OLS estimates with location specific variables show that model explains around 30.14%, 21.93% and 36.81% variation in FDI inflows. On the other hand, panel fixed effects estimation results cover more variation of dependent variable, possibly due to the inclusion of country dummies.

1.4.3 Internalization

Among the legal systems, the dummy variable of *English* legal origin is statistically significant in all regressions. The results support the theory that common legal origin is more investor friendly when compared to all legal systems. On the other hand, the results show that *German* legal system is not very supportive of FDI inflows and in two regressions show negative relationship with FDI inflows. The coefficient of binary variable of *French* legal origin is 1.52 in the fifth regression significant at 1% level. But in other regressions this variable is less significant. The binary variable of *Scandinavian* is used as benchmark.

The results of F-stat and R-squared performed for internalization give an idea that legal origin dummy variables are significant but they do not explain much variation of the dependent variable. This might be due to the fact that there are many possible variables, which also play an important role in terms of FDI inflows. Legal origin is just among one of the many factors that foreign investors may consider.

1.5 Conclusions

In this study, I investigated the impact of different variables pertaining to the three classifications of OLI paradigm on FDI inflows using an annual panel dataset of 196 countries for the period of 1970-2009. This chapter finds that the variable of trademark, signifying the ownership aspects of investing firms, seems to highly affect FDI inflows. The examination of ownership variable show trademark or branding, which in itself is valuable, gives MNEs an advantage over other businesses (whether local or international) and significantly promotes sales and saves costs.

Among location-specific factors, the variable of openness to international trade significantly encourages trade oriented FDI inflows in the country as predicted by earlier empirical literature. The variables of government consumption and gross capital formation, both have important implications on FDI inflows. Further, education of the local population has an important influence on direct investments. Similarly, the availability of industrial resources and access to domestic credit resources play a key role in the investment location decisions of multinational corporations.

In terms of internalization, countries with English and French legal systems are found significantly affecting inward investments, pointing to the confidence of investors in these systems due to the better quality of intellectual property rights, law enforcement and legal protection of investment rights.

The contribution of this chapter, however, is highlighting the importance of the legal origin of countries in attracting FDI inflows. This chapter also emphasizes the significance of each sub-paradigm individually. It also could provide insights into aspects that are important to international investors and guide governments in formulating policies that are friendly to FDI.

The evaluation of the determinants of FDI inflows suggests that if governments want to attract FDI, they need to avoid excessive government spending, as prodigal public expenditure discourage FDI inflows. In order to attract more FDI, governments should invest in the education of the labour force to make human capital more valuable, in the development of infrastructure facilities and set up a legal environment that is conducive to attracting international investors.

References

- Alashban, A.A., Hayes, L.A., Zinkhan, G.M. and Balazs, A.L., 2002. International Brand-Name Standardization/Adaptation: Antecedents and Consequences. *Journal of International Marketing*, 10 (3), pp. 22-48.
- Alfaro, L., Chanda, A., Kalemli-Ozcan, S. and Sayek, S., 2004. FDI and Economic Growth: The Role of Local Financial Markets. *Journal of International Economics*, 64, pp. 89 – 112.
- Asiedu, E. and Esfahani, H.S., 2001. Ownership Structure in Foreign Direct Investment Projects. *Review of Economics and Statistics*, 83, pp. 647–662.
- Asiedu, E. and Lien, D., 2011. Democracy, Foreign Direct Investment and Natural Resources. *Journal of International Economics*, 84, pp. 99–111.
- Asiedu, E., 2002. On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? *World Development*, 30 (1), pp. 107-119.
- Asiedu, E., 2002. On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? *World Development*, 30 (1), pp. 107-119.
- Asiedu, E., 2006. Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability. *World Economy*, 29 (1), pp. 63–77.
- Banga, R., 2003. Impact of Government Policies and Investment Agreements on FDI Inflows. *ICRIER*, 116, pp. 1-43.
- Blonigen, B.A., 1997. Firm-Specific Assets and the Link between Exchange Rates and Foreign Direct Investment. *The American Economic Review*, 87 (3), pp. 447-465.
- Blonigen, B.A., 2005. A Review of the Empirical Literature on FDI Determinants. *Atlantic Economic Journal*, 33, pp.383–403.
- Buckley, P.J., Clegg, L.J., Cross, A.R., Liu, X., Voss, H. and Zheng, P., 2007. The Determinants of Chinese Outward Foreign Direct Investment. *Journal of Business Studies*, 38, pp. 499-518.
- Chakrabarti, A., 2001. The Determinants of Foreign Direct Investment: Sensitivity Analysis of Cross-Country Regressions. *Kyklos*, 54 (1), pp. 89-114.
- Chowdhury, A. and Mavrotas, G., 2006. FDI and Growth: What Causes What? *The World Economy*, 29 (1), pp. 9-19.
- da Silva Lopes, T., 2010. The Entrepreneur, Ownership Advantages and the Eclectic Paradigm. *Multinational Business Review*, 18 (2), pp.71-88.
- Dawar, N. and Parker, P., 1994. Marketing Universals: Consumers' Use of Brand Name, Price, Physical Appearance, and Retailer Reputation as Signals of Product Quality. *Journal of Marketing*, 58 (2), pp. 81-95.
- deChernatony, L. and McWilliam, G., 1989. The Varying Nature Of Brands As Assets: Theory And Practice Compared. *School Working Paper*, SWP38/89, pp. 1-18.
- Dunning, J. H. 1977. Trade, Location of Economic Activity and the MNE: A Search for an Eclectic Approach. In: Ohlin, B., Hesselborn, P. O. & Wijkman, P. M., *The International Allocation of Economic Activity*, London: Macmillan. pp. 395–418

- Dunning, J.H. and Lundan, S.M., 2008. *Multinational Enterprises and the Global Economy*. 2nd Edition, Northampton, MA: Edward Elgar Publishing.
- Dunning, J.H. and Rugman, A.M., 1985. The Influence of Hymer's Dissertation on the Theory of Foreign Direct Investment. *American Economic Review*, 75 (2), pp. 228-232.
- Dunning, J.H., 1980. Toward an Eclectic Theory of International Production: Some Empirical Tests. *Journal of International Business Studies*, 26 (3), pp. 9-31.
- Dunning, J.H., 1981a. Explaining the International Direct Investment Position of Countries: Towards a Dynamic or Developmental Approach. *Review of World Economics*, 117 (1), pp. 30-64.
- Dunning, J.H., 1981b. *International Production and the Multinational Enterprise*. London: Allen and Unwin.
- Dunning, J.H., 1993. *Multinational Enterprises and the Global Economy*. Wokingham: Addison-Wesley Publishing Company.
- Dunning, J.H., 1996. Re-evaluating the Benefits of FDI. In: UNCTAD., *Companies Without Borders – Transnational Corporations in the 1990s*. London: International Thomson Press.
- Dunning, J.H., 1996. Re-evaluating the Benefits of FDI. In: UNCTAD., *Companies Without Borders – Transnational Corporations in the 1990s*. London: International Thomson Press.
- Dunning, J.H., 2000a. The Eclectic Paradigm as an Envelope for Economic and Business Theories of MNE Activity. *International Business Review*, 9, pp. 163–190.
- Dunning, J.H., 2000b. A Rose By Any Other Name.....? FDI Theory in Retrospect and Prospect. Mimeo, University of Reading and Rutgers University,
- Dunning, J.H., 2001. The Eclectic (OLI) Paradigm of International Production: Past, Present and Future. *International Journal of the Economics of Business*, 8 (2), pp. 173-190.
- Keller, K., Gilbert, A. and Stankiewicz, A., 2007. An Empirical Analysis of the Determinants of Foreign Direct Investment with a Focus on Asia. *NABET 2007 Proceedings*, pp. 241-254.
- Lundan, S.M., 2010. What are Ownership Advantages? *Multinational Business Review*, 18 (2), pp. 51–70.
- Moghaddam, A.A. and Redzuan, M., 2012. Globalization and Economic Growth: A Case Study in a Few Developing Countries (1980-2010). *Research in World Economy*, 3 (1), pp. 54-62.
- Noorbakhsh, F., Paloni, A. and Youssef, A., 2001. Human Capital and FDI Inflows to Developing countries: New Empirical Evidence. *World Development*, 29 (9), pp. 1593-1610.
- Nunnenkamp, P., 2001. Foreign Direct Investment in Developing Countries: What Policymakers Should not do and What Economists Don't Know. *Kieler Diskussionsbeiträge*, 380, pp. 1-19. Downloadable at <http://www.econstor.eu/handle/10419/2616>
- Tsai, P-L., 1994. Determinants of Foreign Direct Investment and its Impact on Economic Growth. *Journal of Economic Development*, 19 (1), pp. 137-163.
- Yih Yun Yang, J., Groenewold, N. and Tcha, M., 2000. The Determinants of Foreign Direct Investment in Australia. *The Economic Record*, 76, pp. 45-54.