DOKUZ EYLUL UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF BUSINESS ADMINISTRATION
MS in FINANCE PROGRAM
MASTER THESIS

THE EFFECTS OF MACROECONOMIC FACTORS ON FOREIGN DIRECT INVESTMENTS: A SECTORAL APPROACH

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İZMİR-2012

MASTER THESIS/PROJECT
APPROVAL PAGE

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Defence Date	: 23.01.2012
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DECLARATION

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ÖZET

Yüksek Lisans Tezi

Makroekonomik Faktörlerin Doğrudan Yabancı Yatırımlar Üzerindeki Etkileri: Sektörel Bir Yaklaşım

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Uzun zamandır süregelen bir kanıya göre doğrudan yabancı yatırım (DYY) akımları ülkelerin daha ileri seviyelerde gelişim kaydetmelerine olanak tanımaktadır. Son on yılda, bu kanı hızlı büyüyen ekonomilerin daha fazla DYY çekiyor olduğu gerçeği ile güçlenmiştir. Her ne kadar büyüme ve DYY ilişkisinin yönü henüz netleşmemişse de, DYY'ların teknoloji transferi veya istihdam yaratımı gibi pozitif etkileri politikacılar için yeterince çekicidir. Bu nedenle DYY'ları ülke içinde çeken faktörlerin belirlenmesi literatürde oldukça önemli bir konu haline gelmiştir. Her ne kadar DYY'ların belirleyicilerinin etkilerini araştırmaya odaklanmış oldukça geniş bir literatür olmasına rağmen, halen DYY'ların ilgili olduğu sektörleri göz önünde bulunduran çalışmalar kısıtlıdır.

Bu tezin ana amacı ilgili sektörleri göz önüne alarak DYY'ların konumlanmasında makro ekonomik faktörlerin etkilerini araştırmaktır. Bu amaca uygun olarak, DYY teorileri çerçevesinde bazı önemli makro ekonomik faktörler belirlenmiş ve daha sonra deneysel olarak bu faktörler PLS yöntemi kullanılarak DYY'ları birincil, üretim ve hizmet sektörleri olarak ayıran panel veri seti üzerinde test edilmiştir. Çalışmanın deneysel bölümünde kullanılan veri seti 1999 ile 2010 yılları arasındaki 11 yıllık süre zarfında, 24 OECD üyesi ülkeyi kapsamaktadır.

Çalışmanın ana bulgusu, birincil, üretim ve hizmet sektörü doğrudan yabancı yatırımlarının makro ekonomik faktörlerden farklı seviyelerde ve şekillerde etkilendiği yönündedir. Ayıca birincil sektör kapsamında yapılan DYY'ların çalışmada kullanılan makro ekonomik faktörle bağlantısının diğer sektörlerle karşılaştırıldığında düşük olduğu gözlemlenmiştir.

Anahtar Kelimeler: Doğrudan Yabancı Yatırımlar, Sektörsel Uygulama, Çokuluslu Şirketler, Makroekonomik Belirleyiciler, Panel Veri Modeli

ABSTRACT

Master Thesis

The Effects Of Macroeconomic Factors on Foreign Direct Invesments: A Sectoral Approach

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There is a long standing belief that foreign direct investment (FDI) inflows help the countries to have the opportunity to make further improvements. In recent decade, this belief strengthened by the fact that faster growing economies tend to attract more FDI. Even if the direction of causality between FDI and growth is not absolute yet, positive impacts of FDI such as transferring technology or creating employment are enough attractive for policymakers. Consequently, investigating factors that pull FDI into country became a crucial topic in International Business and Economics literature. Even though there is a huge scale of written literature focuses on investigating effects of these factors on FDI location, there is still lack of studies taking related sectors into consideration.

The main purpose of this dissertation is to investigate the influence of the macroeconomic factors on FDI location by taking related sectors into account. Consistent with this purpose, some important macroeconomic FDI determinants are identified based on theoretical framework of FDI and then these factors are tested empirically through PLS method by using a panel data set which breaks down FDI flows into primary, manufacturing and services sector investments. The data set employed in empirical part of the dissertation covers 24 OECD member countries, over eleven years period between 1999 and 2010.

The main finding of the study is that primary, manufacturing and services sector FDI affected in different levels and ways from macro economic

factors. Moreover, it is observed that FDI decisions related to primary sector show low linkages with macroeconomic factors compared to the other sector sectors investigated.

Key Words: Foreign Direct Investment, Sectorial Approach, Multinational Enterprises, Macroeconomic Determinants, Panel Data Models

THE EFFECTS OF MACROECONOMIC FACTORS ON FOREIGN DIRECT INVESMENTS: A SECTORAL APPROACH

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CONTRIBUTIONS, LIMITATIONS AND FUTURE RESEARCH

LIST OF ABBREVIATONS

CEE	Central and Eastern Europe
EEC	European Economic Community
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GDP p.c.	Gross Domestic Product Per Capita
PLS	Panel Least Squares
GNP	Gross National Product
IMF	International Monetary Fund
M&A	Mergers and Acquisitions
MNE	Multinational Enterprise
NEER	Nominal Effective Exchange Rate
OECD	Organization for Economic Cooperation and Development
OLI	Ownership, Location and Internalization
PLC	Product Life Cycle
R&D	Research and Development
REER	Real Effective Exchange Rate
SEE	Southern and Eastern Europe
UNCTAD	United Nations Conference on Trade and Development
US	United States of America

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INTRODUCTION

According to the World Bank data explanations, foreign direct investment (FDI) refers to the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor (World Bank, 2011). Total FDI volumes increased from 13 billion US dollars to 58 billion US dollars between 1970 and 1985. After 1990's, it has dramatically risen more than 20 times to a level of approximately 1,300 billion US$ until 2005. (UNCTAD World Investment Report, 2009:97) The rise of FDI flows after early 90's indicates that multinational firms have progressively considered profitable investment locations. At the same time, many economists' interests were attracted to the facts and consequences of FDI. It has often been observed that, FDI has positive effects on the economic development of the host country, which consequently attracted the attention of the policy makers. This belief is strengthened by the fact that FDI absorbing economies tend to grow faster, though the direction of causality remained uncertain.

The most fundamental perk of FDI to a host country is the benefit of an enduring transfer of capital to the country along with technology and skills. FDI carried out by multinational firms to a country is believed to be one of the most crucial means for international transfer of technology. If we take the fact that a significant portion of world's total research and development is carried out by multinational corporations into account the benefits of FDI stand is incontestable. FDI also provides indirect benefits to the host economy through its influence on domestic firms. As a consequence of increasing competition within a host economy, domestic firms are forced to make improvements about investing in their present capital, human capital, training of management and labor, training of local suppliers of intermediate goods and transfer of knowledge (Blomstrom, Magnus, 1991:30).

Since, FDI inflows help the countries to have the opportunity to make further improvements, getting to the bottom of the FDI attracting determinants become crucial for many economies. No matter how these determinants vary within the factors that motivate a firm to invest in a foreign country, the external factors about

the location and magnitude of FDI regarding multinational firms are more likely to be evaluated from the point of view of host countries and their policymakers. Therefore, a substantial interest of international economics literature is focused on investigating FDI attracting macroeconomic factors which make a host economy more attractive for Multinational Enterprises. Earlier studies typically examined factors such as market size, labor costs, exchange rate movements, taxes, international trade openness and political stability.

Even though there is a huge scale of written literature on FDI determinants, most of these studies investigate 'aggregate' FDI flows due to data limitations. But FDI flows are far from homogenous and factors attracting FDI might differ between sectors (UNCTAD, 2001:35). In this point, it seems there is an absence in literature regarding the various sectors in which FDI is involved. Apart from the existing literature some macroeconomic determinants of FDI flows throughout different sectors are investigated in the empirical part of this thesis.

This thesis demonstrates a line of progress as follows. The first chapter begins with some general terms regarding FDI in order to provide a more comprehensible structure for the followers. Then in the second part of the first chapter, main theories and their background about existence of MNEs have been revisited to provide a broader perspective. The second chapter consists of a broad literature review based on the FDI theories presented in the first chapter. Chapter 3 consists of empirical part of thesis undertaking a cross-sectional data, econometric estimation, testing the relevance of selected FDI determinants on a sample of 24 OECD member countries over a period of 11 years. Finally conclusions, the implications, limitations of the research and some avenues for future research are presented in fourth chapter.

CHAPTER 1
FOREIGN DIRECT INVESTMENT

1.1. DEFINITION OF FOREIGN DIRECT INVESTMENT

Foreign direct investment (FDI) can be determined in its classic form as a firm from one country making a concrete investment into setting up a facility in a foreign country. In other words, it is the building up of a firm by a foreigner. We can also extend this definition by including investments made to merge or acquire with foreign firms operating except investor's home country. The FDI basically consist of a parent company and a foreign affiliate which together form a MNE.

Foreign investments can be qualified as FDI only if the parent company has adequate control over its foreign affiliate. According to the IMF definition, the adequate level of control is owning 10% or more of the ordinary shares or voting power of an incorporated firm or its equivalent for an unincorporated firm; lower ownership shares are known as portfolio investment. (IMF, 1992-93)

- **Vertical and Horizontal Direct Investments**

Vertical integration can be determined as the degree to which a company owns its upstream suppliers and its downstream buyers. In comparison with horizontal integration, which is an acquisition of many companies that conduct the identical part of the production process, vertical integration is classified by single firm engaged in different stages of production.

Vertical direct investment across industries that are engaged to different parts of production of a particular good provides a substitution of production and distribution systems for inefficient economies. On the other hand, vertical integration may let a company to establish facilities that supply each other in different locations without worrying about the risk that facilities may be encountered by disagreements with unrelated companies.

It is a more common case that MNEs execute horizontal FDI activities in order to increase their operations in foreign markets. A Turkish retailer that establishes a store in Azerbaijan is trying to raise its profits by exploiting the Azerbaijani market would be good example for a horizontal FDI.

On the other hand a vertical FDI occurs when MNEs acquire or set up a facility that either fulfills the role of a supplier which is called backward vertical FDI or the role of a distributor which is determined as forward vertical FDI. Companies that decide to enter into a backward vertical FDI usually trying to reduce the cost of raw materials or secure the supply of certain production components. In order to give a concrete example, one of the major components used for electronics industry is copper. A Turkish computer manufacturer would demand that copper as cheap as possible, but the price of copper can volatile dramatically depending on total copper supply and demand. Thus, the foreign copper producer would like to sell copper for highest possible price in order to satisfy its owners or shareholders. If the computer manufacturer owns the foreign copper supplier, the computer manufacturer would no longer need to worry about the copper supplier and its volatile prices.

In addition, the need for a downstream forward vertical FDI stems from the issue of finding distributors for a specific market. We can assume that the before-mentioned Turkish computer manufacturer wants to sell its products in the German market. Since there are many German computer sellers do not prefer to carry foreign brand computers, the Turkish computer manufacturer may face with some difficulties about finding a distributor in Germany. In this case, the manufacturer would set up its own sales or distribution network in a foreign country in order to solve this problem.

- **Greenfield Investment**

Greenfield investments could be defined as investments that are made in a physical structure like an office or a factory that has a relation with the firm and in an area which has never had a similar facility before. As we can understand from the term Greenfield, the plant had to take place on an open field like a forest or a farmland. As the time passed the term, Greenfield, became more metaphoric.

A Greenfield investment is often considered as an alternative to other forms of investments like M&A s, licensing agreements or joint ventures and it is offered in the content of FDI. Nowadays Brownfield Investment is becoming a commonly accepted term as a related term to Greenfield Investment. This term is used for converting a relatively polluted area such as an oil refinery or a steel mill, to a less polluting facility like a commercial office space or a shopping mall.

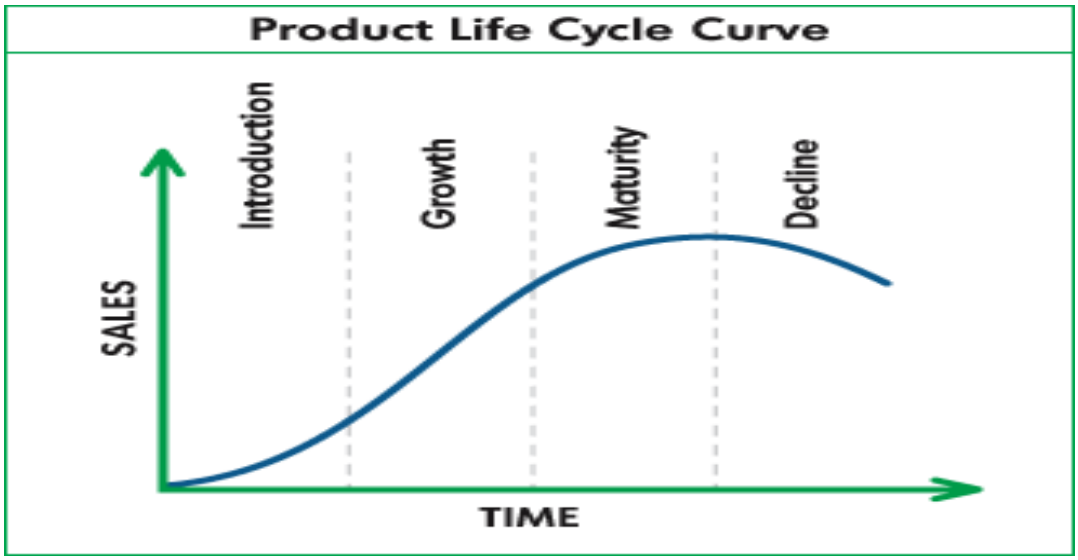
1.2. THEORETICAL ORIGINS OF FDI

In this section of the study, main theories and their background about FDI have been revisited to provide a broader perspective. Since FDI s create MNE s, it is hard to make a distinct discrimination between FDI and MNE theories. Therefore, this crowded literature revisited as a whole body in this section.

1.2.1. Product Life Cycle Theory

Product Life Cycle (PLC) Theory is one of the earlier attempts to explain patterns of international trade. Vernon (1966) observed that the dispersal of a new technology is made gradually and cause temporary differences between countries. By combining this concept with David Ricardo's comparative advantage theory he hypothesized this trade stimulating effect of process between countries in different production technology stages. Basically, the theory refers to the fact that the matured products and production technologies in a host market are exported to other markets. Vernon's PLC theory identifies four main stages that the trade cycle goes through.

Figure 1: Product Life Cycle



Source: own elaboration based on Vernon (1966)

- **Introduction Stage**

This the stage in which a product is introduced to the market. From the perspective of developed countries, basic market conditions can be drown up as high unit labor costs, high average income and high competition. It is obvious that these competitive conditions stimulate research and development (R&D) activities in a relatively developed market. According to theory "location considerations extend beyond simple factor cost analysis because of transport considerations'' at this stage (Vernon, 1966:196). Principally companies choose the home country as location of production due to its advantages such as ease of communication, specialized labor and flexibility. Therefore at this stage no internationalization takes place usually and the production being sold only on home market.

- **Growth Stage**

While demand rises in a host country at this stage, the demand abroad appears and companies in host country start exporting. But the product is still expensive and not affordable for low income consumers.

Slowly standardization takes place while the need for flexibility and uncertainty falls. Due to monopolistic conditions and high profits new companies enter the home or export market. Capable firms begin to consider investing in foreign markets but usually the investment is limited with developed countries. Because at this stage manufacturing process still needs specific inputs which can be supplied only form developed economies. While production technologies mature, the initial advantages are slowly vanishing. First, imitation products as substitutes appear in developed markets and then companies in developing economies fallow.

- **Maturing Stage**

According to the theory, this is stage where FDI takes place. A product or production technology gets standardized while output volume rise. Offshore production facilities start to serve local markets with local production. Since transportation costs are not involved anymore and mass production is feasible, the price of the product declines. Low income customers in less developed countries will be able to afford to buy the product. Therefore the market expands and firms start to consider investment opportunities in less developed countries which cannot be served well from the home country. Another reason of foreign investment is comparative advantages offered by less developed countries at this stage.

- **Decline Stage**

This last stage of the cycle was added by marketing scholars (Kotler,1980). The production is located in less developed in order to lower costs, profits are very low due to high competition in the market. More innovative or substitute products are introduced to the market. Even if the price is discounted, the product is not able to satisfy customer expectations.

PLC theory can be considered developed version of David Ricardo's Comparative Advantage theory. While Ricardo aims to explain international trade from a countries point of view, Vernon placed the product to the center of theory and

interpreted the process as a cycle. PLC theory partly explains FDI especially if it is market seeking.

According to the theory FDI should flow gradually from developed countries to less developed countries. In other words, the first country which attracts FDI should be relatively most developed country and then matured products and production technologies should be moved to less developed locations.

1.2.2. Clustering Theory

Regionally clustering of MNE s can be observed in developing Asian countries. A sallow explanation of this structure might be government policies or intensives related to FDI in Asian countries, but clustering of economic activities can be observed all around the world. The main motivation behind this clustered structure is the cost saving and productivity increasing effect of economic agglomeration. By establishing their activities close to each other, MNEs gain some advantages such as;

- benefiting from deep labor markets
- availability of developed intermediate goods suppliers
- availability of infrastructure

The agglomeration term defined for the first time by Marshall, as ‘’A spatial concentration of firms that magnifies the initial advantages of the location’’ (Marshall, 1890:17). According to Marshall’s view, regional agglomeration of firms leads to an increase in other firms’ learning skills due to the information exchange. Agglomeration effects or clustering effects are often used synonymously, but there is a minor difference between these terms. While the term clustering represents group of interconnected firms, specialized service providers and suppliers, agglomeration based upon regional concentration.

Another view that gives importance to agglomeration effects is oligopolistic reaction theory which is introduced by Knickbocker (1973) in order to explain the motivation of firms that are following leader firms. According to Kickbocker ’s view, firms in an oligopolistic industry follow each other’s investment location. This behavior is also known as follow the leader.

1.2.3. Internalization Theory

The roots of Internalization theory can be traced to Coase (1937) and Willamson (1975). Coase (1937) attributed the existence of organizations with market imperfections. According to Coase's view firms are continuously considering costs of the market and hierarchy models. In other words firms are weighing the total cost of self production and other types of hierarchy models such as contracting or franchising.

Williamson (1975) contributed to this concept by identifying some variables such as uncertainty or asset specifications that affect the transaction costs for various organization structures. The term transaction cost can be described as ''cost of arranging a contract ex-ante and monitoring and enforcing it ex-post'' (Matthews, 1986:906) or as 'costs of running the whole economic system'' (Arrow, 1969:48). The transaction cost is a common used term in literature. For example transactions cost used in analysis of organizational structure in order to determine whether contracting or vertical integration is preferable.

Some specific types of transaction costs are determined by Dahlman, (1979).

- Costs related to searching and gathering information. These costs can be explained as expenses made to find a suitable business partner.
- Costs related to bargaining. Travel expenses, prepayments etc.
- Costs related to monitoring and policing. Expenses made to monitor business and the other party in order to control process.

Even if the roots of internalisation concept can be traced to older researchers, Buckley and Casson (1976) gave its shape as a full theory. Since their attempts, multinational organization literature was growing with country specific analysis. Buckley and Casson looked to the concept from a MNE' aspect and concentrated on firm specific advantages (FSA). According to their view a MNE build its activities internally in order to be able to develop and exploit its advantages in knowledge and products. The ownership of such FSA's helps to protect permanency of the firm. In presence of imperfect markets, performing activities inside the firm, acts a management mechanism to exploit and develop FSA. In other words, Buckley and

Casson demonstrate that market failures can push a MNE in to internalization. The theory on internalization has three main assumptions.

- Every company tries to maximize profits in a world of imperfect markets.
- In presence of market failures for intermediate products, the activities that are linked are controlled by creating internal markets.
- This internalization process across boundaries shapes the organization of multinationals.

Buckley and Casson (1976), analyzed two different types of markets, namely intermediate products market with multistage production processes and knowledge market. Their first conclusion was about the motivation to internalize. According to their research the motivation depends on firm specific, region specific, nation specific and industry specific factors. Some of their observations are listed below;

- Increasing scale of production result in increasing distance between production stages and reorganization of network of trade.
- New business activities such as R&D and marketing differ from routine production because of their costs. These high cost production activities affect location decisions.
- Advantages of ownership are important in type of investment.
- Taxes, tariffs and other government regulations are crucial in location decisions.
- In many cases market competition is imperfect. Therefore MNEs can affect market price of intermediate products.

According to research of Buckley and Casson (1976), because of market imperfections optimal location of production cannot be chosen by only considering the regional production costs.

Another contribution to MNEs existence belongs to Rugman (1981). He added information variable to the internalization literature and Casson (1998) brought his idea one step further by determining the information flow as important as material flow.

One of the explanations for the existence of multinationals relies on the theory of industrial organization, which also focuses on imperfect product and factor markets. Industrial organization theory points to certain general circumstances under

which each approach exporting, licensing or local production will be preferred alternative for exploiting foreign markets.

The theory, states that multinationals have intangible capital in the form of trademarks, patents, general marketing skills and other organizational abilities (Caves, 1971:23). If this intangible capital can be embodied in the form of products without adaptation, then exporting generally will be the preferred mode of market penetration. Where the firm's knowledge takes the form of specific product or process technologies that can be written down and transmitted objectively, and then foreign expansion usually will take the licensing route.

However this intangible capital takes the form of organizational skills that are inseparable from the firm itself. A basic skill involves knowing how to best to service a market through new product development and adaptation, quality control, advertising, distribution, after sales service, and the general ability to read changing market desires and translate them into marketable products. Because it would be difficult, to unbundle these services and sell them apart from the firm, this form of market imperfection often leads to corporate attempts to exert control directly via the establishment of foreign affiliates.

Internalization theory tries to explain FDI location decisions in case of market failures, but doesn't answer the question ''Why overseas activities are considered as most attractive way of using a firm's advantage?'' In this point the eclectic paradigm of Dunning (1977) tires to answer this question.

1.2.4. The Eclectic Paradigm

The ownership location internalization paradigm was developed by Professor John Dunning (1977) at the University of Reading (UK) and Rutgers University (US). The eclectic paradigm or OLI paradigm is a combination of different theories related to existence of MNEs.

The eclectic framework combines ownership factors, location factors and internalization factors in order to explain the structural choice of foreign market entry. According to Dunning's view, these three specific conditions are considered

together when MNEs making decisions between different modes of foreign market entry such as exporting, licensing or investing directly.

Table 1 The OLI Paradigm

Ownership of Specific Advantages (O)	**Location Advantages (L)**	**Internalization Advantages (I)**
Ownership rights, tangible or intangible	Inputs price	Control over markets
Innovation capacity	Quality and productivity	Internalization of Externalities
Accumulated experience	Transporting costs	Passing the government barriers
Exclusive access to specific inputs	Infrastructure	
	Legislation	

Source: Own elaboration based on Dunning & Lundan (2008: 101-102)

- **Firm Specific Advantages (The O Factor)**

In case of foreign investment, being a foreigner means competitive disadvantages for MNEs and these disadvantages charge additional costs to MNEs. Zaheer defines these costs as ‘’all additional costs a company operation in a market overseas incurs that a local company would not incur’’(Zaheer,1995:342). In order to overcome these costs MNEs needs to have some special abilities which are not owned by the other companies in the host county. These firm specific advantages or ownership advantages help a company to overcome the costs of operating in a different country. Ownership advantages either generate higher profits or lower costs relative to local firms that can offset the additional costs of operating at a distance in a foreign country. Ownership advantages are usually unique and intangible and thus can be transferred within the multinational company at low cost. These advantages can be classified as technology, brand name or benefits of economies. The roots of

ownership advantages idea can be traced to Bain's (1956) work about competition barriers for foreigners in domestic market.

It is obvious that ownership advantages are more crucial in case of market seeking-horizontal FDI because market seeking MNEs needs to compete with local companies in order to get share in the local market (Zaheer, 1995).

- **Location Advantages (The L Factor)**

Location factors answer the question of where the overseas operations should locate in order to maximize the firms revenue. These factors are external to firm and usually arise from differences in costs, productivity and distance. The impetus to move foreign country is to use the firm specific advantages in combination with factors in a foreign country. By combining these factors such as cheap labor or land, the multinational companies make profits on its firm specific advantages. Therefore the choice of investment location depends on complex factors such as economic, social and political factors. Some of these factors are listed below;

- Incentives for foreign investment,
- Input prices (labor, intermediate goods),
- Transport and communication costs,
- Taxations,
- Cultural differences,

- **Internalization Advantages (The I Factor)**

According to Dunning's view, internalization factors determine whether overseas transactions will be controlled by markets (exporting) or hierarchies (FDI). MNEs have different choices of entry mode, ranging from exporting to directly investing to the host market. When MNEs are making their entry mode chose, they also consider various market imperfections such as uncertainties or risks available on that market. Internalization is a way of avoiding these market imperfections and MNE internalize market imperfections by choosing different entry modes.

For an example in a market which contains high risks and uncertainties, high level of internalization such as direct investment is preferred by MNEs. Higher level of internalization provides better control over the market imperfections for MNEs.

- **The typology of FDI in OLI Paradigm**

In accordance with OLI Paradigm, the typology of FDI was developed by Behrman (1972) and Dunning (1993) in order to explain the different objectives of FDI such as resource seeking FDI, market seeking FDI, efficiency seeking (global sourcing FDI), strategic asset/capabilities seeking FDI.

- **Resource seeking FDI**

The firms in competitive industries should continually seek new resources in order to reduce costs and provide the permanence of production. Therefore the MNEs seek nonproprietary natural resources or lower labor costs all around the world for the investing. A Turkish car manufacturer investing in steel mine in France to produce and re-export to Turkey would be appropriate example for a resource seeking FDI. This kind of FDI usually arises from immobility of resources or high transportation costs.

- **Market seeking FDI**

Many firms invest overseas in order to identify and exploit new markets for the firms` finished products. This type of FDI can also be called as horizontal FDI. Myrdal (1957) pointed that, MNEs aim to avoid the import barriers or take the advantage of growing markets by making horizontal investments. The investment choice gets intense for some type of services for which production and distribution have to be contemporaneous (such as telecommunication, water supply and energy supply)

- **Efficiency seeking FDI**

Some firms investing overseas restructure its existing operations in order to allocate the firm's international economic activity efficiently. International specialization whereby companies diversifying their risk and provide benefit from differences in product and factor prices. Global sourcing firms improve their efficiency by rationalizing the structure of their global activities. Efficiency seeking FDI undertaken primarily by network based MNEs with global sourcing operations.

- **Strategic asset/capabilities seeking FDI**

MNEs execute strategic operations through the purchase of existing companies and/or assets in order to protect firm specific advantages. Thus these firms sustain or advance their global competitive position. For example; acquisition of key established local firms, acquisition of local capabilities including R&D, knowledge and human capital, acquisition of market knowledge, pre empting market entrance by competitors, pre empting the acquisition by local firms by competitors. According to Dunning (1998), strategic asset seeking investments rapidly increased in 90's.

Table 2 Host Country Determinants of FDI

Host country determinants
1. Policy framework for FDI • economic, political and social stability • rules regarding entry and operations • standards of treatment of foreign affliates • policies on functioning and structure of markets (especially competition and M&A policies) • international agreements on FDI privatisation policy • trade policy (tariffs and NBTs) and coherence of FDI and trade policies • tax policy
2. Economic determinants
3. Business facilitation • investment promotion (including image-building and investment-facilitation services) • investment incentives • hassle costs (related to corruption, administrative efficiency, etc.) • social amenities (bilingual schools, quality of life, etc.) • after-investment services

Type of FDI classified by motives of MNEs	Principal economic determinants in host countries
A. Market seeking	• market size and per capita income • market growth • access to regional and global markets • country-specific consumer preferences • structure of markets
B. Resource seeking	• raw materials • low-cost unskilled labour • skilled labour • physical infrastructure (ports, road, power, telecommunication)
C. Efficiency seeking	• costs of resources listed under B and knowledge-based assets, and technology and innovative capacity • other input costs, e.g. transport and communication costs and costs of other intermediate products • spatial clusters and membership of a regional integration agreement conducive to the establishment of regional corporate networks
D. Strategic asset seeking	• knowledge-based assets, including localised tacit knowledge and interactive learning • synergistic assets to MNEs, technological and innovative capacity and other created assets (e.g. brand names) • different cultures, institutions and systems

Source: Adapted from host country determinants of FDI in UNCTAD (1998) and variables influencing the location of value-added activities by MNEs in Dunning (2001)

CHAPTER 2
REVIEW OF EMPIRICAL LITERATURE ON THE DETERMINANTS OF FDI

Empirical studies those attempt to estimate the importance of the different determinants of FDI concentrate more on attraction factors based on the theories represented, i.e., location specific factors, since available data make it difficult to identify which countries the investments come from, unless a large set of countries and years are analyzed.

The capital propriety advantages are more difficult to be observed, and depend on research involving firms. Therefore, most of the variables used in order to explain FDI inflows, selected according to their availability and efficiency. In addition, there is no consensus yet on all the important determinants of FDI in the empirical literature. The main reason of this conflict is the existence of different types of FDI, which are affected by different factors. The main determinants considered in this paper follow past studies and include the following factors.

2.1. MARKET SIZE

The market size hypothesis suggests that larger host markets attract higher FDI due to larger demand potential and economies of scale. Especially, in case of market seeking FDI flows, it is clear that larger market size will encourage FDI flows. Indeed, a major part of the past studies using GDP per capita or real GDP as a proxy for the market size concluded that market size determinants had significant and positive impact on FDI flows (Lim 2001).

The paper of Schneider and Frey (1985) is an early study including market size as FDI determinant. In their paper, they looked into FDI determinants in 80 less developed countries; by using four different models, concluded that countries with larger GDP per capita tend to attract more FDI.

Another study confirming the market size hypothesis in transition context is Bevan and Estrin (2000). Authors examined the determinants of FDI in central and Eastern Europe by using panel data and found the evidence that market size has significant positive impact on FDI flows.

Nunnenkamp (2002) in his research on 28 developing countries, observed the changes on FDI determinants during globalization process. He also found that market size was still one of the most important factors on determining FDI flows.

Research work by Erdal and Tatoğlu (2002) examining the importance of location factors on Turkey was another research which concluded that market size was considered as positive determinant by foreign investors.

Table 3 Summary of empirical literature on FDI including market size as a determinant (A)

Authors	Estimation Technique	Dependent Variable	Sample	Proxy	Effect	Location
Lim (1983)	Least squares regression	Average of the annual per capita total direct investment	(1965-1973) 27 host countries	Annual growth rate of real GDP	Insignificant	Developing countries
Schneider and Frey (1985)	Least squares regression	FDI stocks	(1969-1980) 80 host countries	GDP per capita	Positive Significant	Less developed countries
Culem (1988)	GLS	Share of FDI flows in the US GNP	(1969-1982) 5 host countries	Lagged real GNP	Insignificant	US investments in EEC
Wheeler and Moody (1992)	Panel estimation, Fixed effects	relative FDI flows	(1982-1988) 42 host countries	GDP	Positive Significant	Mixed
Clegg (1995)	Multiple regressions	Annual percentage change in FDI Flows	(1951-1990) 6 host countries	GDP	Positive Significant	US investments in EEC
Jun an Singh (1996)	Standart regression analysis	FDI stocks	(1970-1993) 31 host countries	GDP per capita Growth rate of GDP	Positive Significant	Developing Countries

Source: Own elaboration

Table 3 Summary of empirical literature on FDI including market size as a determinant (B)

Authors	Estimation Technique	Dependent Variable	Sample	Proxy	Effect	Location
Barrel and Pain (1999)	Panel estimation, Fixed effects	FDI stocks	(1978-1994) 6 EU host countries	EU output in the sector	Positive Significant	EU
Resmini (2000)	Panel data, GLS at sector level	FDI stocks	(1990-1995) 10 host countries	GDP per capita	Positive Significant	CEE
Bevan and Estrin (2000)	Panel estimation	FDI stocks	(1990-1998) 12 host countries	GDP per capita	Positive Significant	CEE
Nunnenkamp (2002)	Panel estimation, Fixed effects	FDI stocks	(1990-2000) 27 host countries	GDP	Positive Significant	Developing Countries
Kinoshita and Campos (2002)	Panel estimation, GMM	FDI stock per capita	(1990-1997) 25 host countries	GDP per capita	Positive Significant	CEE
Walsh and Yu (2010)	GMM at sector level	FDI flow as a share of nominal GDP	(1985-2008) 27 host countries	GDP growth	Positive Significant	Emerging Markets

Source: Own elaboration

However, the results regarding previous studies may be proof that major part of the World's total FDI flow are market seeking. In case of vertical or efficiency seeking FDI flows, there is no direct linkage between FDI and market size. Therefore efficiency seeking FDI flows may be indifferent or less dependent to the host market's size. Consistent with this view, there is also conflicting results in literature. One of these studies belongs to Lim (1983). He investigated 27 developing countries and concluded that significance of economic performance determinants were higher than determinants related to market potential.

Moreover, there is a lack in literature examining FDI flows into different sectors. For example, FDI flows into services sector may be more dependent to the market size determinant due to its market seeking nature, while FDI flows into manufacturing sector less dependent. Consistent with this assumption, Walsh and Yu (2010) found mixed results to the existing literature by regressing GDP per capita determinant on FDI flows into different sectors. They also concluded that primary sector FDI had no strong linkages to macroeconomic factors such as market size or GDP growth.

Table 4 Summary of Qualitative Variables' Impact on FDI inflows

	Primary Sector FDI	**Secondary Sector FDI**	**Tertiary Sector FDI**
Macroeconomic Determinants			
Openness	…	…	+
Real Exchange Rate	…	-	+
GDP Growth	…	…	+
FDI Stock	…	+	+
Average Inflation	…	…	…
GDP per capita	…	…	-
'+"represents significantly positive, "-" represents significantly negative			
Source: Adapted from Walsh and Yu (2010)			

Another research in sectoral patterns of FDI belongs to Resmini (1999). She investigated EU FDI flows into manufacturing sector of 10 Central and East European (CEE) Countries at sectoral level for the period (1990-1995) and found a statistically significant relation between FDI and market size, wage differential, the stage of the transition process and the degree of openness.

Majority of the empirical literature shows that market related factors are significantly related with inward FDI flows. Reviewed studies, both at sectoral and country level, suggested that MNEs invest more in relatively bigger markets or markets with bigger growth opportunities. Therefore, a positive relation between market size variable and FDI is expected.

Hypothesis 1
Inward FDI flow into primary / manufacturing / services sector is positively affected by market size.

2.2. LABOR COSTS

In general, labor cost defined as the cost of wages during an accounting period plus payroll and related taxes and benefits. Basic assumption behind the relation between labor cost and FDI decision is that the MNEs change the location of production to low labor cost countries due to the low mobility of employment.

However, existing literature investigating the effects of labor costs on FDI decisions is rather confusing. Some studies find labor cost related (see for example Bevan and Estrin, 2000) while some others find it irrelevant (see for example Culem 1988; Johnson, 2006).

Among the studies concluded that labor cost is a relevant determinant of FDI decisions, some find it negative (such as Barrel an Pain, 1999; Bevan, 2004) while others find that labor costs affect FDI positively (such as Walkenhorst, 2004; Boudier and Bensebaa, 2005).

Part of the empirical findings show that the effect of labor costs on FDI differs due to the type of sector, to the level of host countries development (see for

example Castro, 2000) and to the type of investment (see for example Agarwal, 1997).

Using panel data, Bevan and Estrin (2000) reached the conclusion that unit labor cost is a crucial variable in choosing FDI location. Evidence related to the significance of negative relation between unit labor costs and FDI location found by Carstensen and Toubal (2004). They investigated the effects of unit labor costs on bilateral FDI outflows between 1993-1999 on 7 host and 10 home CEE countries and concluded that labor costs affect FDI significantly negatively.

Contrary to these results, Boudie and Bensebaa (2005), investigated 20 Hungarian counties by applying panel estimation and stated that unit labor cost affected FDI stock positively. An explanation related to positive linkage between labor cost and FDI made by Cieslik, (2005). In his research, he concluded that the industries with higher wages attracted more FDI.

As can be observed there are different findings about the influence of labor costs upon FDI location, but following OLI framework we assume the following hypothesizes.

Hypothesis 2

Inward FDI flow into primary / manufacturing / services sector is negatively affected by unit labor costs.

Table 5 Summary of Empirical Literature on FDI Including Labor Costs as a Determinant

Authors	Estimation Technique	Dependent Variable	Sample	Proxy	Effect	Location
Culem (1988)	GLS	Share of FDI flows in the US GNP	(1969-1982) 5 host countries	Unit Labor Costs	Insignificant	US investments in EEC
Barrel and Pain (1999)	Panel estimation, Fixed effects	FDI stocks	(1978-1994) 6 EU host countries	Unit Labor Costs	Negative Significant	EU
Bevan an Estrin (2000)	Panel gravity model, random effect	Bilateral FDI flows	(1994-2000) 11 host, 18 home countries	Unit Labor Costs	Negative Significant	CEE
Bevan (2004)	Cross section reggresion	Bilateral FDI flows	(1994-1998) 12 host, 18 home countries	Unit Labor Costs	Negative Significant	CEE
Carstensen and Toubal (2004)	Dynamic panel data	Bilateral FDI outflows	(1993-1999) 7 host countries, 10 home countries	Unit Labor Costs	Negative Significant	CEE
Walkenhorst (2004)	Tobit model	Cumulative FDI flows data, manufacturing sector	(1991-1999) 11 Polish sectors	Unit Labor Costs	Positive Significant	Poland

Source : Own elaboration

2.3. TRADE OPENNESS

The term 'trade openness' refers to the degree, of which an economy allows to conduct or has already been conducting trade transitions with other economies. The degree of a country's openness can influence FDI in various ways depending on theories and common perception. On these grounds the evidence of openness as a determinant of FDI is controversial in literature.

Lower import barriers discourage tariff-jumping FDI but may stimulate vertical FDI by facilitating the imports of inputs and machinery. Lower export barriers tend to stimulate vertical FDI by facilitating the re-export of processed goods, and other (non-tariff-jumping) horizontal FDI by expanding the effective market size and leading to an improved business climate and expectations of better long-term economic growth. The evidence of openness may differ depending on the type of FDI considered, however it is more than fair to state that on balance the evidence points out to a positive effect of openness on FDI.

Some of the fundamental researches are revised and stated below regarding their essence and evidence. Exports or imports to GDP ratios are the measures that are commonly used as a proxy for openness of an economy (see for example Dees, 1998; Singh and Jun, 1995; Kravis and Lipsay, 1982). Another common measure of openness is regarded as average tariffs (see for example Branard, 1997). Surprisingly, Branard (1997) found that higher average tariffs increases the FDI flow in to U.S. However, most of the studies employed exports or imports to GDP ratio, concluded that these variables were positively correlated with FDI inflows.

As one of the sectoral studies that was carried by Resmini (1999), the FDI stock was found positively associated with trade openness. In her study she investigated 10 CEE countries, by implying panel data. She used GLS method and has chosen ratio of trade over GDP as openness determinant. Consequently she has discovered that the openness to trade has positively significant effect on FDI stock.

According to studies reviewed, a country with higher degree of trade openness, attract more FDI. Consistent with the literature positive relation between trade openness and FDI inflow is expected.

Hypothesis 3

Inward FDI flow into primary / manufacturing / services sector is positively affected by trade openness.

Table 6 Summary of Empirical Literature on FDI Including Trade Openness as a Determinant (A)

Authors	Estimation Technique	Dependent Variable	Sample	Proxy	Effect	Location
Schmitz and Bieri (1972)	Least squares regression	Share of US direct investment in EEC	1952-1966 Host countries:EEC	Annual EEC share of USA exports	Insignificant	EEC
Wheeler and Mody(1992)	Panel estimation,fixed effects	FDI in country "i" relative to FDIin some comparison country "j"	1982-1988 Host countries:42	Composite variable	Insignificant	
Lansbury et al. (1996)	Panel estimation,no specific country effects	FDI bilateral flows	1991-1993 3 host countries,14 investing countries	Host imports plus exports accounted for by the tradewith the investing country	Positive Significant	CEE
Jun and Singh (1996)	Pooled cross country and time series	FDI stocks	1970-1993 Host countries:31	Exports	Positive Significant	
Holland and Pain (1998)	Panel data	FDI inflows/GDP	1992-1996 11 host countries	Host imports plus exports accounted for by the trade with EU	Positive Significant	CEE
Culem (1998)	Generalised least squares Generalised least squares	Share of FDI flows in the US GNP	1969-1982 Host countries:5 EEC	Exports from source to host country divided by nominal GDP of source country, lagged one period	Positive Significant	EEC
Resmini(1999)	Paneldata,generalised least squares at sector	FDI stocks	1990-1995 10 host countries	Ratio of trade over GDP	Positive Significant	CEE

Source: Own elaboration

Authors	Estimation Technique	Dependent Variable	Sample	Proxy	Effect	Location
Kinoshita and Campos (2002)	Panel estimation,fixed effects and GMM	Per capita FDI stock	1990-1998 Host countries:25	Trade dependence as share of GDP	Positive Significant	CIS
Kinoshita and Campos (2002)	Panel estimation,fixed effects and GMM	Per capita FDI stock	1990-1998 Host countries:25	Trade liberalization index	Positive Significant	CEE
Addison and Heshmati (2003)	Pooled ordinary least squares	FDI/GDP	1992-1999 Host countries:39	Ratio of trade over GDP	Positive Significant	
Akinkunge (2003)	Probit estimation Panel data,random effects	FDI/GDP	1970-2000;five years averages for all variables Host countries:89 developing countries	Ratio of trade over GDP	Positive Significant Positive Significant	
Brada et al. (2003)	Panel estimation, generalised least squares	FDI inflows	1993-2001 Host countries:7	Ratio of trade over GDP	Positive Significant	CEE
Galego et al. (2004)	Panel estimation, generalised least squares	FDI bilateral flows	1993-1999 Host countries:27	Ratio of trade over GDP	Positive Significant	CEE
Botric and suflic (2005)	Generalised least squares	FDI inflows	1996-2002 Host countries:7	Ratio of trade over GDP	Positive Significant	SEE
Walsh and Yu (2010)	GMM at sector level	FDI flow as a share of nominal GDP	(1985-2008) 27 host countries	GDP growth	Positive Significant	Emerging Markets

2.4. AGGLOMERATION

Oligopolistic reaction effects might be playing an important role in determining FDI inflows. Not surprisingly, most of the foreign investors get influenced by the other foreign investors because the presence of other firms signals favorable national conditions for FDI. The lagged value of the stock of FDI is one possible measure of the agglomeration effect on FDI inflows.

Resmini (1999) used proportion of manufacturing sector in total GDP as proxy for clustering effect. She concluded that FDI clustering had a significant negative effect on FDI stock in CEE countries. Controversy to this study, Lansbury (1996) took electric consumption per capita as independent variable and found evidence for a significant positive effect on FDI flows. In spite of similar time period and locations choose, these studies resulted adversely.

Logit models are also used in investigation of clustering effects. Basile (2003) employed a nested logit model in order to find evidence of clustering effect. One of the empirical evidence for agglomeration effects is the study of Wheeler and Mody (1992). They used the stock of FDI as an agglomeration related variable in their study and concluded that the variable had a positive effect on FDI inflows.

Hypothesis 4

The stock of primary / manufacturing / services FDI is positively affected by agglomeration.

Table 7 Summary of Empirical Literature on FDI Including Agglomeration Effect as a Determinant (A)

Authors	Estimation Technique	Dependent Variable	Sample	Proxy	Effect	Location
Wheeler and Mody (1992)	Panel estimation ,fixed effects	FDI in country "i" relative to FDI in some comparison country "i"	1982-1988 Host countries:42	infrastructure quality Manufacturing/mining as percent of GDP Level of FDI	Positive significant	
Head et al. (1994)	Conditional logit model	Country selection	1980-1992 34 states	A count of US establishments A count of Japanese establishments	Positive significant	US
Lansbury et al. (1996)	Panel estimation ,fixed effects	Inward FDI flows	1991-1993 Host countries:3 Homecountries:14	Electricity consumption p.p.	Positive significant	CEE
Resmini (1999)	Panel data, generalized least squares at sector level	The Stock of FDI	1990-1995 Host countries:10	Proportion of manufacturing sector in total GDP	Negative significant	CEE
Barrel and pain (1999)	Panel estimation, fixed effects	The Stock of FDI	1978-1994 Host countries:6 EU	Relative scale of production; the relative size of the research base	Positive significant	EEC
Akinkubke(2003)	Panel estimation, random effects and probit estimation	FDI flow as a share of nominal GDP	Host countries:71	Phones per 1000 inhabitants	Positive significant	

Source: Own elaboration

Table 7 Summary of Empirical Literature on FDI Including Agglomeration Effect as a Determinant (B)

Authors	Estimation Technique	Dependent Variable	Sample	Proxy	Effect	Location
Disdier and Mayer (2003)	Conditional logit model	Country selection	1980-1999 Host countries:13 EU countries and 6CEEC-1843 location decisions	Sum of one plus the cumulated number of home firms of the same industry	Positive significant for both EU and CEEC	EU and CEE
Basile et al.(2003)	Nested Logit model	Profit	1991-1999 Host countries:8 EU countries - 5761 plants in 51 regions	Log of number of manufacturing plants in same industry in same region	Positive significant	EU
Choi (2003)	OLS and generalised least squares Tobit	Average of FDI between 1994-1996	1995 Host countries:53 Host countries:14	Number of internet users per country Number of internet hosts per country	Positive significant	
Walsh and Yu (2010)	GMM at sector level	FDI flow as a share of nominal GDP	(1985-2008) 27 host countries	The Stock of FDI	Positive Significant	Emg. Markets

Source: Own elaboration

2.5. EXCHANGE RATE

One might expect that a lower exchange rate provides fire sale opportunity for investing firms. In case of a weaker real exchange rate, firms take the advantage of relatively low prices in host countries to buy existing firms. A weaker exchange rate can also cause to a FDI motivating effect if production is re-exported. MNEs can increase their profits on goods sent to third market by taking the advantage of lower currencies.

One of the studies about FDI motivating effect of relatively lower real exchange rate belongs to Froot and Stein (1991). They concluded that a weaker host country exchange rate caused to increase in inward FDI within imperfect capital market model as depreciation made the value of host country firms cheaper relative to those firms in the home country.

Another study investigating exchange rate and FDI relation belongs to Bolingen (1997). Bolingen has found the evidence that exchange rate depreciation in host countries tended to increase inward FDI.

Controversy of this aspect, a stronger relative exchange rate might be expected to motivate foreign companies to product domestically. In other words, a stronger exchange rate might act as a barrier to entry in the host market and that could lead foreign firms to invest horizontally.

Hypothesis 5

Inward FDI flow into primary / manufacturing / services sector is positively affected by reel effective exchange rate.

CHAPTER 3
REVIEW OF DATA

3.1. OVERVIEW

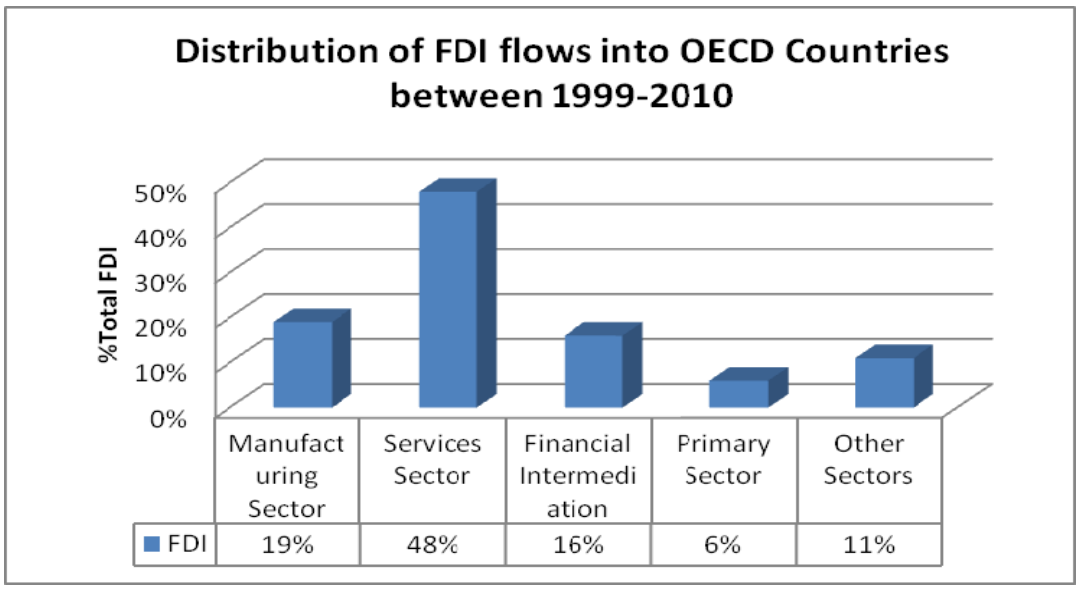
This chapter provides detailed information about the data and empirical methodology that is used to test the hypotheses. The main objective of this section is to examine the factors that might affect FDI decisions into various sectors. In order to test the relation of selected variables (market size, labor cost openness to trade, exchange rate and agglomeration) with FDI, a random effects model is employed to an unbalanced panel of relevant data.

3.2. DATA AND EMPIRICAL CONTEXT

Majority of FDI related empirical literature consist of two different approaches. First category of researches based on firm level data, which is generally limited with data availability. The second type of approach implies macroeconomic determinants and mostly uses FDI amount or it's derivations as dependent variable. Even if some authors suggest that firm-level analyzes provide more significant results compared to the country level analysis, consistent with the aim of the research we preferred country level analysis.

This study tries to address some poor results related to FDI determinants in the literature. Main idea of this research is heterogeneous structure of FDI flows, which might be reason of poor results in literature related to macroeconomic FDI determinants. Most of the studies in the literature use total FDI flows as dependent variable in order to investigate factors affecting these flows. But FDI flows are far from being homogenous and their determinants might show differences depending on related sectors

Figure 2: Distribution of FDI inflows



Source: Own elaboration based on OECD Data (2011)

Figure 3.1 represents the distribution of FDI flows into different sectors between 1999 and 2010 which are used as dependent variables in following regressions. It is obvious that a major part of FDI related with services sector in OECD member countries. The next biggest portion consists of manufacturing sector FDI which might have different connections with the macro economic data compared to services sector. These analyzes supports the main assumption of heterogeneous FDI structure.

In accordance with this aim we used sectoral level FDI flows data which is obtained from OECD database. Therefore, the choice of host countries limited with OECD member countries and the time period are restricted by data availability. All the data related to FDI obtained from OECD Statistics Database and macroeconomic variables obtained from World Bank Database. The data used below covers yearly observations from 1999 to 2010 for 24 OECD countries.

3.2.1. Review of Dependent Variables

FDI proxies used in existing literature are mainly FDI flows or FDI stocks. In absence of direct measures, foreign production is more properly measured at national level by outward and inward FDI stocks (Bellak and Cantwell, 2004).

In accordance with relevant literature, the present study uses inward FDI stock classified by industry as a dependent variable for 24 OECD member countries considered for the years 1999 to 2010. The data related to FDI stocks obtained from OECD International direct investment database which is presented in national currencies and US dollars.

The OECD benchmark definition recommends market value as the conceptual basis for valuation. Market valuation places all assets at current price rather than when purchased or last revalued, and allows comparability of assets of different vintages. It allows for consistency between flows and stocks of assets of different enterprises, industries and countries, as well as over time. However, in practice book values from the balance sheets of direct investment enterprises are generally utilized to determine the value of stocks of direct investment. This approach reflects the fact that enterprise balance sheet values, (whether they regularly revalued on a current market value basis reported on a historical cost basis or are based on some interim but not current revaluation) represent the only source of valuation of assets and liabilities readily available in most countries.

In the first case the balance sheet value is in fact the market value. Therefore the collection of data from enterprises on current market value basis is to be encouraged, to narrow the gap between principle and practice.

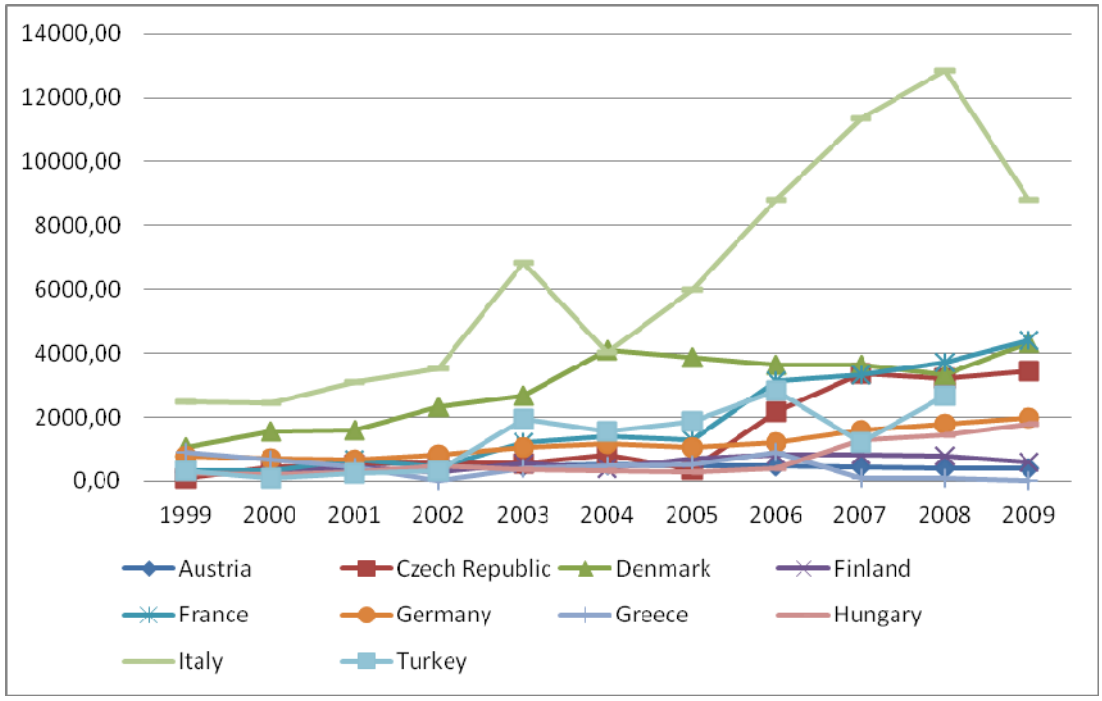
The recommended industry classification is according to the industry of direct investment enterprise. In other words for inward investment the industry of resident enterprise and for outward investment the industry of the non-resident enterprise. Nevertheless, in practice most countries record industry classification of inward and outward investments.

Broad industries investigated in this study are;

- **Primary Sector**

Primary sector is defined as the sector of an economy making direct use of natural resources. This includes agriculture, forestry and fishing, mining, and extraction of oil and gas. This is contrasted with the secondary sector, producing manufactures and other processed goods, and the tertiary sector, producing services. The primary sector is usually most important in less developed countries, and typically less important in industrial countries.

Figure 3: Primary Sector FDI Stocks in Selected Countries, 1999-2009 (Millions of USD dollars)



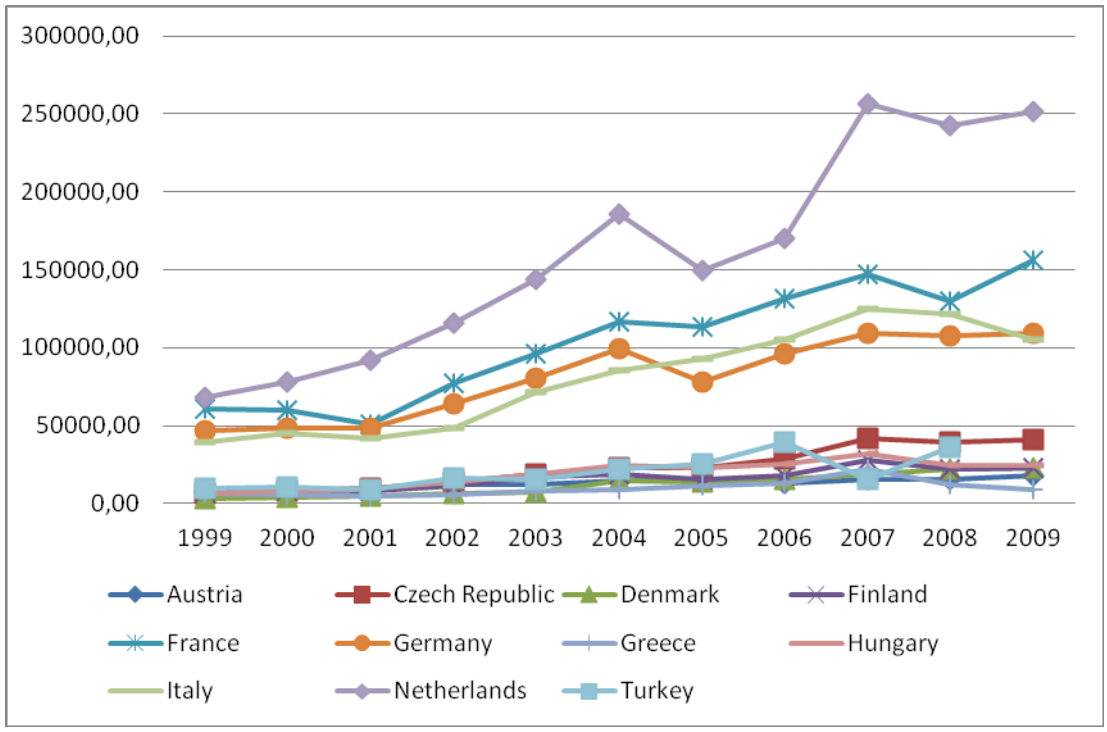
Source: Own elaboration based on data from OECD 2011

- **Manufacturing Sector**

The manufacturing sector of the economy or secondary sector includes those economic sectors that create a finished, tangible product: production and construction.

This sector generally takes the output of the primary sector and manufactures finished goods. These products are then either exported or sold to domestic consumers and to places where they are suitable for use by other businesses. This sector is often divided into light industry and heavy industry. Many of these industries consume large quantities of energy and require factories and machinery to convert the raw materials into goods and products.

Figure 4: Manufacturing Sector FDI Stocks in Selected Countries, 1999-2009 (Millions of USD dollars)



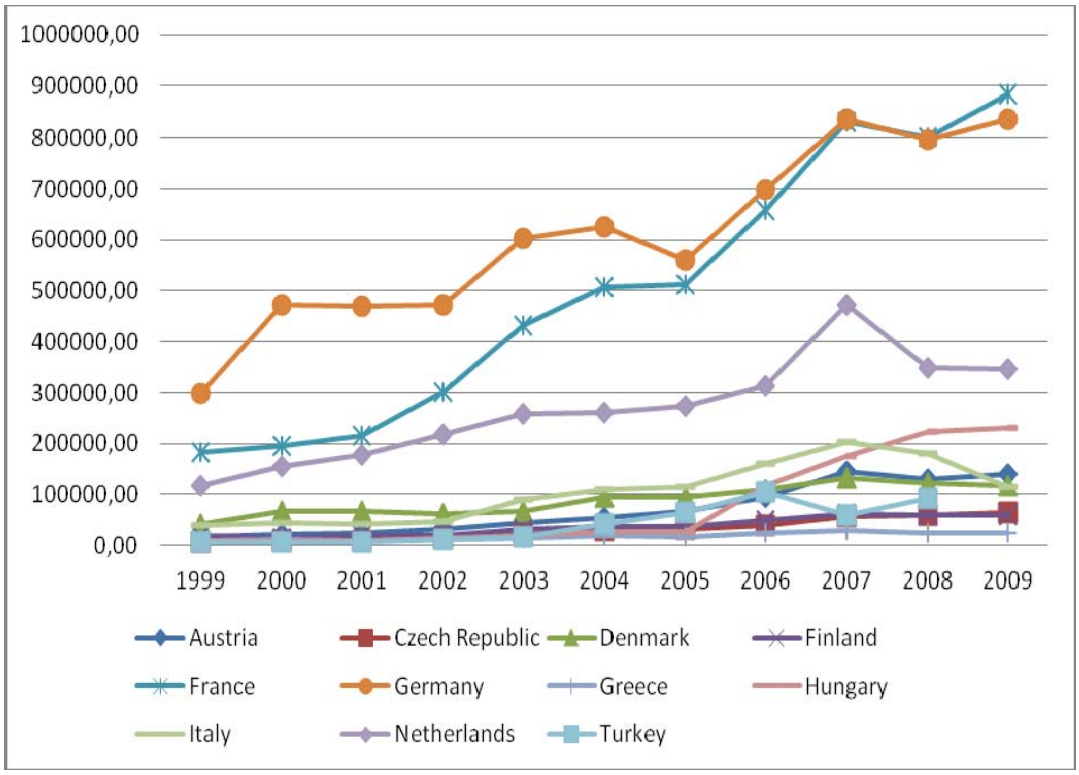
Source: Own elaboration based on data from OECD 2011

- **Total Services**

The services sector of the economy which is also known as the tertiary sector or the service industry.

The service sector consists of the "soft" parts of the economy, i.e. activities where people offer their knowledge and time to improve productivity, performance, potential, and sustainability. The basic characteristic of this sector is the production of services instead of end products. Services (also known as "intangible goods") include attention, advice, experience, and discussion. The services sector of industry involves the provision of services to other businesses as well as final consumers. Services may involve the transport, distribution and sale of goods from producer to a consumer, as might occur in wholesaling and retailing, or might involve the provision of a service, such as in pest control or entertainment. The goods may be transformed in the process of providing the service, such as occurs in the restaurant industry. However, the focus is on people interacting with people and serving the customer rather than transforming physical goods.

Figure 5: Services Sector FDI Stocks in Selected Countries, 1999-2009 (Millions of USD dollars)



Source: Own elaboration based on data from OECD 2011

As we mentioned before all these sectors are decomposed from each other with their main characteristics which might cause different macroeconomic linkages. Consistent with this assumption, the effects of major macroeconomic determinants on FDI decisions into these sectors and are investigated in this study.

3.2.2. Review of Independent Variables

- **Market Size**

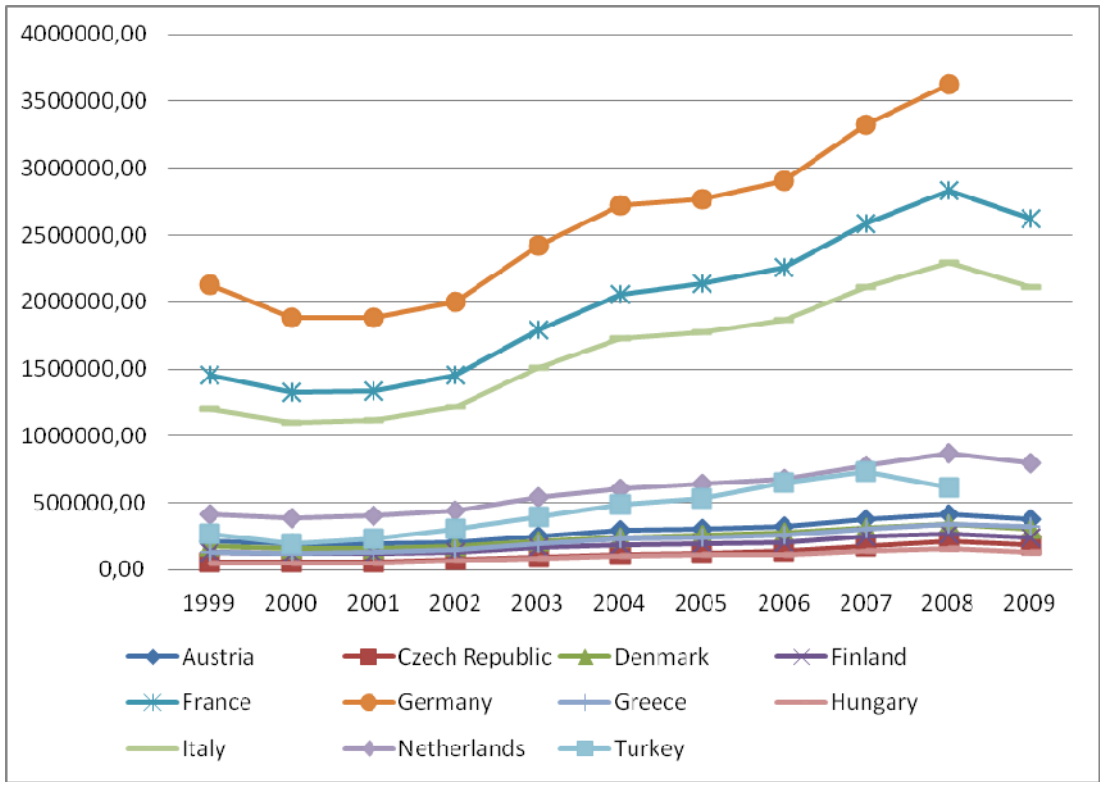
The market seeking component of FDI is estimated by measuring the importance of the local market as a FDI determinant. Market seeking FDI is attracted by large or fast growing markets, usually estimated by population or income (UNCTAD, 2005).

According to the past studies reviewed for this research, the most robust determinant is the size of the host market. GDP per capita or real GDP used as proxy for the market size in past studies and they all concluded that these determinants are highly significant and positive effect on FDI inflows.(see for example, Shatz and Venables, 2000; Billington,1999; Branard, 1997; Loree and Guisinger 1994; Wheeler and Mody, 1992). Hence, GDP was considered a better proxy for the potential of host market.

The data related to GDP obtained from World Bank National Accounts Database which is provided also in current millions of US dollars. GDP at current prices is the sum of gross value added by all resident producers in the economy plus product taxes and minus any subsides not included in the value of products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation on natural sources. Dollar figures for GDP converted from domestic currencies using single year official exchange rates (World Bank, 2011).

Figure 6: GDP in selected countries, 1999-2009

(Millions of USD dollars)



Source: Own elaboration based on data from OECD 2011

- **Labor Costs**

The cost of labor has a robust effect upon the location decision, especially for MNEs in labor intensive manufacturing sector. Considered on the reviewed literature on Chapter 2, according to the studies including Kinoshita and Campos, 2006; Bevan and Estrin, 2000; Holland and Pain, 1998 cost of labor has significant effect on FDI decisions. However, it is important to relate it with different sectors. While labor cost might have major effect FDI into labor intensive sectors, results are blurring in productivity related sectors.

Unit Labor Costs **(ULCOST)** are used in this study as a proxy for efficiency related indicator and obtained from OECD data base. ULC measure the average cost of labor per unit of output. They are calculated as the ratio of total labor costs to real output, or equivalently, as the ratio of average labor costs per hour to labor

productivity (output per hour). As such, a unit labor cost represents a link between productivity and the cost of labor in producing output. The data presented in this dataset are an output of the OECD System of Unit Labor Cost and Related Indicators which produces annual and quarterly unit labor cost measures according to a specific methodology to ensure data are comparable across OECD countries. Annual time series are presented in this dataset and detailed metadata are provided for each variable and country in regards to the methodology and data sources used (OECD, 2011).

- **Trade Openness**

It is also believed that a country with a greater degree of trade openness that is more directed towards the external market would also be more open to foreign capital. Thus, exports of goods plus imports of goods to GDP ratios (**OPENNES)** are employed in our model as a proxy for degree of openness.

(**OPENNES_1) = (Exports of goods + Imports of goods) / GDP**

- **Exchange Rate**

As mentioned before a lower exchange rate provides fire sale opportunity for investing firms. In case of a weaker real exchange rate, firms take the advantage of relatively low prices in host countries to buy existing firms. A weaker exchange rate can also cause to a FDI motivating effect if production is re-exported. MNEs can increase their profits on goods which are sent to third market by taking the advantage of lower currencies.

A real effective exchange rate **(REER)** adjusts nominal effective exchange rate (NEER) by appropriate foreign price level and deflates by the home country price level. Compared to NEER, a GDP weighted effective exchange rate might be more appropriate considering the global investment phenomenon. In order to catch exchange rate effects, the log level of the multilateral REER based on year 2005 is used in this study.

- **Agglomeration Effect**

Most of the foreign investors get influenced by the other foreign investors because the presence of other firms signals favorable national conditions for FDI. Density of foreign companies in a host country is one possible measure of the agglomeration effect on FDI inflows. Therefore the number of listed foreign companies **(AGGLOM)** stands to catch agglomeration effect in FDI.

3.3. DESCRIPTIVE ANALYSIS

Table 3.1 reports the descriptive statistics. The descriptive statistics and correlation matrix presented in this section were calculated using the absolute values of the variables. Reel effective exchange rate and Unit Labor Cost data are level indexes based on US dollars in year 2005. Unit Labor Cost index which obtained from OECD data base also allows to compare unit labor costs in OECD countries investigated.

Table 8 Descriptive Statistics

	ULCOST	REER	OPENNESS	GDP	AGGLOM	FDI_STOCK MANUF	FDI_STOCK PRIMARY	FDI_STOCK SERVC	FDI_STOCK TOTAL
Mean	99,99	175,31	0,67	1462263,00	876,46	85090,37	13200,43	217809,10	334131,40
Median	100,00	100,00	0,60	412815,00	270,00	26539,22	1159334,00	96046,36	125595,60
Maximum	151,29	1290,41	1,44	14296900,00	5685,00	665178,00	191170,80	1290210,00	2114501,00
Minimum	50,63	0,62	0,18	46385,59	16,00	6511,44	88,22	7262,00	18792,00
Std. Dev.	19,39	281,66	0,32	2899123,00	1333,14	130034,70	31329,62	289455,90	444768,30
Skewness	0,16	3,20	0,68	3436822,00	2,20	2918232,00	3763546,00	1898341,00	2145562,00
Kurtosis	3,07	11,49	2,57	1408513,00	7,18	1167716,00	1883433,00	6073756,00	7513532,00
Jarque-Bera	0,63	668,60	12,03	1006,59	218,19	647,03	1818,68	141,19	229,48
Probability	0,73	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Sum	14198,60	24894,58	94,89	2.08E+08	124457,00	12082832,00	1874462,00	30928889,00	47446653,00
Sum Sq. Dev.	53005,81	11186042,00	14,03	1.19E+15	2.51E+08	2.38E+12	1.38E+11	1.18E+13	2.79E+13
Observations	142	142	142	142	142	142	142	142	142

The correlation between the investigated determinants is presented in (Table 3.2). The openness and agglomeration variable shows relatively high and negative

correlation (-0.467174), which signifies that agglomeration affects international trade negatively. Another relatively high correlation is between GDP and Agglomeration variable. As mentioned before we used number of listed foreign companies in order to catch agglomeration effects. It is clear that more companies would cause more production in a host country.

Table 9 Correlation Matrix

	AGGLOM	GDP	OPENNESS	REER	ULCOST
AGGLOM	1				
GDP	0.419339	1			
OPENNESS	-0.467174	-0.406742	1		
REER	-0.149143	-0.037079	0.050960	1	
ULCOST	0.057470	0.117739	0.144701	-0.037288	1

In general, one expects that the correlation between variables lower than 0.50 in order to minimize the possibility of multi correlation. Moreover, the influence of possible multicollinearity is minimized through the conversation of the data into first differences (Clegg, 1995).

3.4. MODEL SPECIFICATIONS

The objective of this section is to outline the model that is used to empirically test the influences of variables on direct foreign investment empirically. The panel data methodology was used, which combines information on the variation of the individual units, in this case developing countries, with information taking place over time.

There are some benefits of using panel data. The most important is that the combination of time series with cross sections can improve the quality and quantity of data in ways that would be impossible using only one of these two dimensions (Gujarati, 2003: 683).

Another advantage is that panel data controls for individual heterogeneity (Baltagi, 1995). The variables that area used differ from one country to another and

vary with time; by using the data it is possible to control the existence of individual variable effects that are common to a country across time but may vary across countries at any period.

In other words, panel data set find acceptance due to its advantages such as; providing more variability, less co linearity among variables, more degrees of freedom and more efficiency (Baltagi, 1995).

The data constitutes an unbalanced panel data set that covers the period from 1999 to 2010 for twenty four OECD member countries, totalizing approximately 200 observations (There are also some missing observations).

Few different models will be tested but the main general equation is presented below.

- **Equation 1**

STOCK FDI it = β_0 + β_1 (GDP)it + β_2 (OPENNES)it + β_3 (ULCOST)it + β_4 (AGGLOM)it + β_5 (REER)it + Uit

Where;

- **STOCK FDI it** is FDI stocks in related sectors (primary, manufacturing, services, total) for host country I at time t
- **(GDP)it** is the gross domestic product of each host country i at time t
- **(OPENNES)it** represents the degree of openness for country i at time t
- **(ULCOST)it** represents the unit labor cost for country i at time t
- **(AGGLOM)it** represents the agglomeration and it will be expressed with the number of listed foreign companies
- **(REER)it** is reel effective exchange rate for country i time t
- **Uit** is the error term and **Uit** = **μi** + **Vit** where **μi** denotes the unobservable specific effect and **Vit** denotes the reminder disturbances; **μi** is time invariant and it accounts for any individual specific effect that is not included in the regression (Baltagi, 1995).

The first differences form of the variables is used. As a result we lose one year of observations for each country, the total number of observations is reduced by 10 and the equation becomes as follows;

- **Equation 2**

$$\Delta STOCK\ FDI_{it} = \beta_0 + \beta_1 (\Delta GDP)_{it} + \beta_2 (\Delta OPENNES)_{it} + \beta_3 (\Delta LCOST)_{it} + \beta_4 (\Delta AGGLOM)_{it} + \beta_5 (\Delta REER)_{it} + U_{it})$$

The estimation strategy is to test PLS, fixed and random effects and choose the one that gives more efficient estimate and that is the most relevant to the study.

In our application the FE specification is arguably superior to the RE specification, because it does not require the assumption of no correlation between the country-specific effects and regressors. From an applied perspective, there is little justification for treating the individual effects as uncorrelated with the other regressors when almost no macroeconomic variables can be said to be truly exogenous.

The heteroscedasticity implies that the random variables have different variances, and if the heteroscedasticity is not corrected, the estimators are no longer efficient and the best estimators (Gurajati, 1995). The probable heteroscedastcity problem is solved by estimating with period SUR method. Period SUR method corrects for both period heteroscedasticity and general correlations of observations within a given cross-section.

The Durbin-Watson test statistic tests the presence of autocorrelation in the residuals from a regression analysis. The Durbin-Watson statistic ranges in value from 0 to 4. A value near 2 indicates non-autocorrelation, a value toward 0 indicates positive autocorrelation, a value toward 4 indicates negative autocorrelation. All estimations pass the Durbin-Watson test which indicates no-autocorrelation.

3.5. ESTIMATION RESULTS

The baseline macroeconomic specification used across the regressions includes GDP, unit labor costs, and the number of listed foreign companies (to

estimate agglomeration effects), foreign trade openness and the real effective exchange rate. As specified in our model all variables regressed with their annual percentage change. Running the same specification with slightly different versions of dependent variables did not change the main results. Similar results can be drawn from regressions using the ratio of FDI to GDP or regressions using the log of FDI.

Before interpreting the following regression results the statistical significance should be determined. A probability value of less than 10% percent is generally accepted point at which the null hypothesis can be rejected. In consistence with this assumption, variables with p value less than 10% accepted as significant.

The R-square values related to regressions are also presented in next section. The coefficient of determination is a summary measure that tells how well the sample regression line fits the data (Gujarati, 1995). The closer R-square is to 1, the more variation in dependent variable is explained with independent variables. In our case considering all regressions at least 18 percent (primary FDI stock) of FDI stocks variation is explained by differences of the chosen independent variables.

- **Estimation Results for Aggregate FDI Stock**

For aggregate FDI stock, the results are quite strong which represents linkage between macroeconomic variables and aggregate FDI (Table 3.3). The positive significant effects of GDP noted in variety of other studies are also visible here with the coefficient on GDP. A rise of GDP with 1 percent increases aggregate FDI stock with 97 percent. Unit labor costs have significant negative effect on aggregate FDI stock, which an expected result. It seems agglomeration variable is only insignificant variable in our aggregate FDI regression. Probable reasons of this result will be discussed in fallowing section. The influence of openness variable on FDI stock is positive and significant at 1% level. The coefficient of REER variable is also found significant and positively correlated with aggregate FDI stock. The regression results show that a rise of 1 percent in reel effective exchange rate cause an increase 25% in aggregate FDI stock.

Table 10: Estimation Results for Aggregate FDI Stock

Dependent Variable: TOTAL FDI **Method: Panel Least Squares (Fixed Effects)** **Sample (adjusted): 2000 2010** **Periods included: 11** **Cross-sections included: 23** **Total panel (unbalanced) observations: 208**		
Variable	**Coefficient**	**Prob.**
GDP	**0,978067**	0,0000
	(0,209914)	
ULCOST	**-0,434867**	0,0305
	(0,199475)	
AGGLOM	**0,153306**	0,1954
	(0,117985)	
OPENNESS	**1,033054**	0,0003
	(0,283222)	
REER	**0,253113**	0,0131
	(0,101069)	
C	**0,083682**	0,0001
	(0,020990)	
R-squared	0,434218	
S.E. of regression	0,164698	
F-statistic	9,823567	
Prob(F-statistic)	0,000000	

- **Estimation Results for Manufacturing Sector FDI Stock**

Table 3.4 presents the regressions representing the relation between macro economic variables and manufacturing sector FDI stock. GDP and unit labor cost coefficients are statistically significant at 1% level. The negative effect of unit labor cost on manufacturing sector FDI stock is particularly strong. The predicted equation shows that the manufacturing FDI stock increases with approximately one percent when the labor cost goes down by one. The influence of GDP is positive as predicted. Another meaningful result is the positive significant coefficient of REER which is used in few studies.

Table 11: Estimation Results for Manufacturing Sector FDI Stock

Dependent Variable: MANUFACTURING FDI **Method: Panel Least Squares (Fixed Effects)** **Sample (adjusted): 2000 2010** **Periods included: 11** **Cross-sections included: 23** **Total panel (unbalanced) observations: 198**		
Variable	**Coefficient**	**Prob.**
GDP	**1,027194**	0,0002
	(0,271635)	
ULCOST	**-1,071501**	0,0001
	(0,273240)	
AGGLOM	**0,078626**	0,5334
	(0,126003)	
OPENNESS	**-0,271645**	0,5839
	(0,495139)	
REER	**0,187857**	0,0773
	(0,138704)	
C	**0,049432**	0,0942
	(0,030256)	
R-squared	0,283962	
S.E. of regression	0,241731	
F-statistic	4,811763	
Prob(F-statistic)	0,000000	

- **Estimation Results for Services Sector FDI Stock**

Table 3.5 depicts the results for Services sector FDI stock. According to estimation results, services sector FDI stock has a weak linkage with those macroeconomic variables. This result can also be observed on lower R-square value. GDP and openness variables are the only significant variables in services sector regression. As expected, GDP affect services sector FDI stock positively. The regression results show the positive correlation between services FDI stock and foreign trade openness. The other variables are insignificant at 10% level.

Table 12: Estimation Results for Services Sector FDI Stock

Dependent Variable: SERVICES FDI **Method: Panel Least Squares (Fixed Effects)** **Sample (adjusted): 2000 2010** **Periods included: 11** **Cross-sections included: 22** **Total panel (unbalanced) observations: 169**		
Variable	**Coefficient**	**Prob.**
GDP	**0,936090**	0,0059
	(0,335112)	
ULCOST	**-0,490577**	0,1528
	(0,431431)	
AGGLOM	**-0,022414**	0,9109
	(0,199854)	
OPENNESS	**1,593881**	0,0304
	(0,729409)	
REER	**-0,125802**	0,4375
	(0,161601)	
C	**0,079050**	0,0595
	(0,041630)	
R-squared	0,267668	
S.E. of regression	0,296696	
F-statistic	3,728106	
Prob(F-statistic)	0,000014	

- **Estimation Results for Primary Sector FDI Stock**

Finally, the relationship between the observed macroeconomic variables and primary sector FDI stock is low. Possible reasons of this result will be discussed in next section. According to table 3.6, the coefficient of GDP is statistically significant at 1% level. The influence of GDP is positive as expected. The relationship between the macroeconomic variables here and primary sector FDI is quite low. R-square value shows that only 18 percent of primary sector FDI is explained by regressed

variables. Except GDP and unit labor cost all other variables are statistically insignificant.

Table 13: Estimation Results for Primary Sector FDI Stock

Dependent Variable: PRIMARY FDI		
Method: Panel Least Squares (Fixed Effects)		
Sample (adjusted): 2000 2010		
Periods included: 11		
Cross-sections included: 23		
Total panel (unbalanced) observations: 179		
Variable	**Coefficient**	**Prob.**
GDP	**1,23833**	0,0004
	(3,695151)	
ULCOST	**-1,61660**	0,0413
	(3,989812)	
AGGLOM	**-0,004452**	0,9961
	(0,0920586)	
OPENNESS	**-0,261718**	0,9484
	(4,036946)	
REER	**1,365443**	0,3920
	(1,591056)	
C	**-0,688503**	0,0618
	(0,366189)	
R-squared	0,181566	
S.E. of regression	2,369320	
F-statistic	2,410722	
Prob(F-statistic)	0,003485	

In conclusion, GDP is the only variable that influences the FDI stocks in all sectors. Depending on sample sectors, all other variables show different effect on FDI stocks with different significance levels. While explanatory power of variables, which is interpreted by R-square, is strong in aggregate FDI stock, it declines in specific sector regressions. The obtained results are discussed more detailed in next section.

3.6. DISCUSSION OF RESULTS

The results obtained from the estimations above are summarized in table 3.7 below. The results contrary to the expectations or the literature are also discussed with their possible reasons in this section.

- **Total FDI**

For total FDI estimation, the results are particularly strong. Market size effect noted in variety of other studies are also visible here with the coefficient on GDP variable, and this result tends to hold up broadly in other cases. For openness and the reel effective exchange rate results appear significant and positive as expected.

A surprising result for total FDI and across all three sectors is that agglomeration, which previous studies have found that it has some impact on FDI, does not appear to have an effect in any sector. It is possible that the reason for these poor results for agglomeration is the measure (the annual percentage change in listed foreign companies) used in this study. However, establishing a company in a foreign country might take more than one year. Contrary to this assumption, closing a business especially in primary and manufacturing sector might also take more than one year.

- **Primary Sector FDI**

As mentioned before, the relationship between the macroeconomic variables used in this study and primary sector FDI is minimal. This is not surprising that resource seeking investments have little connection to broader macroeconomic factors. In most countries in the sample, agriculture and mining account for the largest share of primary sector FDI stock. Due to relatively little domestic labor content or relation with host country's financial system in primary sector, macroeconomic factors are secondary to the location of resources in determining FDI location. Even if in some special cases such a country with no centralized political control or fundamental macroeconomic problems level of these factors will matter in

primary sector investment, our sample countries seems above this threshold. In conclusion estimation results show that macroeconomic factors have little influence on primary sector FDI stock.

- **Manufacturing Sector FDI**

Manufacturing sector FDI, on the other hand, has more macroeconomic linkages. As anticipated countries with higher GDP growth attract more manufacturing sector FDI and rise in labor costs affect manufacturing sector FDI negatively. As mentioned before agglomeration effect is insignificant which might be related to the choice of measure. The openness variable, which is generally measured as measured in this study, is more difficult to dismiss. The reason might be that some manufacturing sector FDI intended to supply domestic markets while other flows are aimed at export markets, this may not be surprising. Considering the data sample used in this study, few Asian and Eastern countries are included which are known as especially export oriented FDI attracting countries.

The real effective exchange rate is also important for manufacturing sector. Manufacturing sector FDI appears to be drawn into countries with appreciated real exchange rates. The reason for this result is not obvious, but it could be that manufacturing sector investment is attracted by export revenues.

- **Services Sector FDI**

Finally, FDI into services sector has a linkage with the macroeconomic variables, but have a somewhat different set of determinants. While unit labor cost did not appear to matter for services sector FDI, trade openness has positively significant coefficient. The market size is also important for services sector FDI. Since most services sector FDI is likely to be horizontal rather than vertical, both obtained results are not surprising.

Table 14: Summarized Estimation Results

Summarized Results					
	Primary FDI	**Manufact. FDI**	**Services FDI**	**Total FDI**	**Expected Signs**
GDP	+***	+***	+***	+***	+
ULCOST	-**	-***	-	-**	-
AGGLOM	-	+	-	+	+
OPENNES	-	-	+**	+***	+
REER	+	+*	-	+**	+
"+" positive relation, "-" negative relation significance ***p ≤ 0,01, **p ≤ 0,05, *p ≤ 0,10					

The salient point is that determinants of inward FDI differ across sector. While decrease in unit labor cost is associated with higher manufacturing sector FDI, the results are not clear in services sector FDI. Openness determinant found important only for services sector FDI and market size found significant in all sectors. Another meaningful result is that manufacturing sector FDI appears to be drawn into countries with appreciated real exchange rates. Finally, primary sector FDI appear not to be strongly tied to macroeconomic factors.

CHAPTER 4
CONTRIBUTIONS, LIMITATIONS AND FUTURE RESEARCH

The present chapter presents the main contributions and the limitations of the study as well as some suggestions for future research.

4.1. MAIN CONTRIBUTIONS

The dissertation contributes to deepen the knowledge regarding location determinants of FDI into various sectors. In order to assess FDI motivations properly, the theoretical approaches are combined to the research question providing a better comprehension of the investments motivation.

Another contribution is made through review of the empirical literature regarding FDI determinants. In order to provide a detailed survey for the most important FDI location determinants, more than fourty-five papers dealing FDI determinants were reviewed. The main findings of these papers can be summarized as; the motivations of FDI are mainly based on market, cost, agglomeration and trade openness related factors, especially in the sectoral analysis.

In terms of methodology, in order to test hypotheses regarding validity of the main location determinants, an unbalanced panel data econometric estimation was conducted by applying a fixed effect model to the first differences of the variables. Since panel data can enhance the quality and quantity of data through the combination of time series and cross-sections, proper methodology applied to answer the research hypothesizes.

Finally, the dissertation provides a different point of view to the FDI determinants by decomposing FDI flows into sectors. Even there are some studies investigating FDI determinants by decomposing FDI into sectors, they are very limited. Therefore, the dissertation enhances the knowledge regarding sectoral FDI determinants.

4.2. LIMITATIONS OF THE EMPIRICAL RESEARCH

Most of important limitation of this study is abundance of FDI data related to the sectors invested. As mentioned before, all FDI data used in empirical analysis obtained from OECD data base. OECD data which decomposing FDI flows and stocks into related sectors is quite new and covers only OECD countries for ten years.

Exclusion of some location factors due to lack of meaningful data, is considered as another limitation. A proper country risk variable that could express the political and economic environment is a necessary aspect for FDI determinants investigation.

Privatization variable is also excluded in our research. Recent literature suggests that privatization become an important determinant of FDI. The index of private share in total economy is a typical proxy used in similar studies. This type of proxy would decrease the degrees of freedom due to use of dummy variables. Therefore this variable is excluded in our study.

The number of listed foreign companies considered to represent agglomeration effects. However this variable represents mainly the so called follow the leader effect. In order to catch regional clustering or agglomeration a different variable is needed such as number of firms located in specific location.

4.3. FUTURE RESEARCH

Before making further suggestions, all the above mentioned limitations can be considered as an improvement for future studies. Moreover, regarding the level of analysis and data source improvements could be made.

The results of this study suggest that FDI into primary has weaker macroeconomic linkages than FDI into other sectors. However, the number of observations decreased due to missing data which might cause blurred results Therefore, further work related to primary sector would be necessary to make a clearer assessment.

The data base used in this study covers only OECD countries which do not allow making regional distinction. Moreover most of the studies investigating FDI determinants focus on specific regions, in order to get clearer results. A viable future analysis would be to analyze specific regions such as CEE.

Since 1980's many researches related to FDI determinants were conducted. However, accelerating globalization process during last decade has changed the investment conditions. As a result of these changes, some of the factors affecting FDI decisions might have lost their validity while some other factors gaining importance. Consequently, comparing the findings about FDI determinants in former studies with present results, in order to catch globalization effect on FDI determinants, would be an interesting research topic.

CONCLUSION

This dissertation addresses a problem that might explain some blurring results observed in previous studies related to FDI location determinants. A considerable part of existing empirical studies investigate ‘‘aggregate’’ FDI flows as dependent variable. However, FDI flows are far from being homogenous and factors attracting FDI might differ among related sectors. If decomposed FDI flows into related sectors would be used, some blurred results regarding FDI determinants in previous studies might be clarified. In order to examine this assumption, FDI data covering 24 OECD member countries for 10 year period, decomposed into primary, manufacturing, sector investments and then validity of some selected macroeconomic determinants tested on FDI into related sectors.

The theoretical background considered in the first chapter helped to identify main factors and lead to the points that should be taken into account when analyzing the empirical literature. The literature review provided knowledge in formulating research hypothesis. Finally, the empirical investigation tested the hypotheses previously formulated and provided tangible proof in order to make assessments.

The theoretical part of the dissertation explains why MNE invest in overseas. The gradual relocation of FDI can be explained by product life cycle. While, OLI paradigm and agglomeration theory address location advantages and strategic location of FDI, internalization theory explains FDI location due to market imperfections. Based on these theories and reviewed literature, some important macro economic factors, which might differ among sectors selected and tested.

The estimations in empirical part of the dissertation provide a number of quantitative knowledge about attracting FDI**,** but chief among these is only visible from the results above. All estimation results together show that the effects of macroeconomic factors differ between primary, manufacturing and services sector investments, which might cause some blurred results in studies using aggregate FDI flows.

Moreover, it is also observed that FDI flows into primary sector show less dependence on macroeconomic factors compared to manufacturing and services sector.

A surprising result across all estimations is the effect of agglomeration; in contrast to the previous studies we do not observe a strong effect of it in all sectors.

Finally, manufacturing sector FDI appears to be drawn into countries with more appreciated real exchange rates. It is also found that international trade openness has significant positive effect on services sector FDI stock.

In conclusion, the dissertation contributes to deepen the knowledge regarding location determinants and provides a different point of view for the researchers, academics and policymakers, in order to asses FDI motivations properly. It is expected that the findings of this dissertation to be useful for further FDI research.

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APPENDIX

Appendix 1. List of Countries included in Empirical Study

- Australia
- Austria
- Canada
- Chile
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Korea
- Netherlands
- Norway
- Poland
- Portugal
- Slovak Republic
- Spain
- Turkey
- United Kingdom
- United States