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DOKUZ EYLUL UNIVERSITY
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MASTER'S THESIS

**DETERMINANTS OF FOREIGN DIRECT
INVESTMENTS IN LATIN AMERICA COUNTRIES**

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DECLARATION

I hereby declare that this master's thesis titled as "Determinants of Foreign Direct Investments in Latin America Countries" has been written by myself in accordance with the academic rules and ethical conduct. I also declare that all materials benefited in this thesis consist of the mentioned resources in the reference list. I verify all these with my honour.

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ABSTRACT

Master's Thesis

Determinants of Foreign Direct Investment In Latin America Countries

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In this study, foreign direct investments, which are one of the most important phenomenon shaping the world economy in the last 20 years, are examined. In this study, the datas of Argentina Bolivia Brazil Chile Colombia Ecuador Paraguay Peru Uruguay Venezuela were examined. The most important reason for the selection of Latin American countries is that these countries have great potential both in terms of labor and natural resources, and limited number of studies have been conducted in the literature. The study includes datas between 2010 and 2017. In this study, the determinants affecting the flow levels and stock levels of foreign direct investments GDP, GDPper capita, inflation, trade openness were tested by using Panel Data Analsys models. The results of the study indicated that the most important determinant was trade openness.

Keywords: Foreign direct investment, Latin America, determinants

ÖZET

Yüksek Lisans Tezi

Latin Amerika'da Doğrudan Yabancı Yatırım Belirleyicileri

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Bu çalışmada son 20 yılda dünya ekonomisini şekillendiren en önemli olgulardan biri olan doğrudan yabancı yatırımlar incelenmiştir. Çalışmada Arjantin bolivya Brazilya Şili Kolombiya Ekvator Paraguay Peru Uruguay Venezüella ülke verileri incelenmiştir. Latin Amerika ülkelerinin seçilmesinin en önemli nedeni bu ülkelerin hem işgücü açısından hem doğal kaynak açısından büyük bir potansiyele sahip olması ve literatürde bu konuda sınırlı sayıda çalışma yapılmış olmasıdır. Çalışma 2010-2017 yılları arasındaki verileri kapsamaktadır. Yapılan bu çalışmada doğrudan yabancı yatırımların akış seviyesi ve stok seviyelerini etkileyen belirleyiciler, gayri safi yurtiçi hasıla kişi başı milli gelir dışa açıklık enflasyon panel veri analizi kullanılarak test edilmiştir. Çalışmanın sonuçları en önemli belirleyicinin dışa açıklık olduğu sonucunu vermiştir.

Anahtar kelime: Doğrudan yabancı yatırım, Latin Amerika, belirleyiciler

**DETERMINANTS OF FOREIGN DIRECT INVESTMENTS IN LATIN
AMERICA COUNTRIES**

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ABBREVIATIONS

EU	European Union
FDI	Foreign Direct Investment
HKC	Hymer- Kindleberger- Caves
IMF	International Monetary Fund
MIGA	The Multilateral Investment Guarantee Agency
OECD	Organisation for Economic Co-operation and Development
OLI	Ownership, Location, Internalization
R&D	Research and development
UNCTAD	United Nations Conference on Trade and Development
WTO	The World Trade Organization

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CHAPTER ONE

FOREIGN DIRECT INVESTMENT

1.1 Definition of Foreign Direct Investment

The concept of capital is one of the four production factors in economic science and is considered as a fixed part of wealth. This concept expresses monetary aggregate and also represents economically a real aggregate (Ünsal, 2005:9). The concept of investment is defined as the additions to the physical capital stock (Makins, M. 1991:258). Activities to increase production capacity are defined as investment (Yıldırım, et all. 2012:183). In order to replace the depreciation in the capital stock or to keep up with the developing technology, it is necessary to renew the machinery and equipment. The investments made increase the production capacity.

FDI is defined as the transfer of capital directly to a foreign country in order to increase the production capacity in the country and to increase the production. This capital transfer is defined as portfolio investment if it involves short-term and cash movements. FDI is the long-term benefit and income of the investors in another economy. This long-term benefit is also defined as a cross-border investment. Acquisition is defined as buying 10% or more of voting rights (shares). However, the right to manage and control together with the shares should be obtained (OECD,2003:102). FDI generally requires the permanent or long-term transportation of manufacturing facilities abroad. This may be in the form of a new establishment, or in the form of joint ventures or the purchase of an organization abroad (cross-border mergers and acquisitions).

1.2 Differences Between Fdi and Portfolio Investment

Portfolio investments; monetary investments of individuals or institutions to a foreign country (Çeken, 2003:102). These investments are made in order to earn interest income or earn income from increase in value of a stock. In order to obtain interest or dividends in portfolio investments, capital transfers to a foreign country are made through the purchase of bonds or shares through the intermediary institutions (Arıkan, 2006:63). This transfer is not a direct cash transfer; the

acquisition of shares or bonds of an existing company. These investment activities are also called indirect investment.

Table 1: Differences Between PI and FDI

Portfolio Investment	FDI
Portfolio investment is made only by real persons.	FDI investors are generally multinational companies.
There is no possibility to interfere with the management of the invested company and to control its movements..	It has the right to intervene in the supervision and management of the companies established in the invested country or the partner company.
The investor transfers only cash capital.	With the investment made, the existing company has transferred the knowledge of technological knowledge and management used in the production process together with a certain size of capital.
As a result of gaining income in portfolio investments, the transfer of this are determined.	The transfer of profits from the multinational company to the headquarters may be prevented or restricted by legal reasons.

The FDI is usually managed by multinational corporations, whose management center is gathered at a single point and controlled by this center. Portfolio investments are investments made by real persons. These companies can operate in different countries within a continuous control mechanism (Seyidoğlu, 2007:641). These investments can be made with an existing company, but only a new company can be established for investment purposes. The investment objectives of these

companies are widespread over the years. Therefore, unlike the individual investor, they act with management plans and realization targets (Tiryakioğlu, 2003:92).

Portfolio investments and FDI also have differences subject to market transactions. Transferred FDI without any market transaction is also separated from portfolio investment in terms of management of the investment and right to control it. In fact, even if the share of portfolio investments on any asset is made through stock, the company has no right to participate in a management and an audit mechanism. The company that sells the stock only has an international source.

Unlike portfolio investments, where only cash capital is transferred, FDI brings together technological knowledge and business knowledge with capital. In this respect, it is possible to learn new technologies and business information in a fast way for the country invested and make a positive contribution to the national economy.

The limits of the market volume on the world and the races to maximize the profits of the companies (especially with the technological developments in the last 20 years) make the economies of the countries much closer to each other. In this respect, it is seen that FDI has a much greater impact on globalization. In particular, the rate of increase in FDI rates given in the following table is above the world export growth rates.

Table 2: Export and FDI increase rates 1980-2016(%)

Rates/Years	1980- 1990	1991- 2000	2001- 2010	2011- 2016
FDI Increase Rate	17,58	24,51	9,29	4,86
Export Increase Rate	4,7	6,43	4,38	3,67
Portfolio Investment Increase Rate	637,73	1.203,57	127,90	13,11

Reference: World bank Datas

Considering the extraordinary periods of the economy (crisis, recession etc.); It can be seen that portfolio investments can move much more easily and faster than FDI. FDI's mobility is limited and difficult, which reduces inflow FDI of developing economies that are much more affected by economic problems(UNCTAD,1998). It is observed that the increase in the FDIs has shown a slowing tendency over the years. This is due to the decrease in economic growth, the insufficient speed of restructuring of a number of different industries, the decrease in the company's profitability ratios and the increasing debt structure of the companies (UNCTAD, 2003). When the increase rates in the above table are compared, it is seen that the change in portfolio investments is very big after 90s, however, it is observed that the increases tend to decrease in both portfolio investments and direct investments depending on the reasons mentioned above.

1.3 Features of Foreign Direct Investment

The most common definition used in the classification relative to the FDI features was made by the International Monetary Fund (IMF). According to this definition, while preparing the balance of payments, currents and inventories are distinguished. In this distinction, two different balance of payments are used, namely the Balance of Payments Flows and Foreign Financial Assets and Liabilities Stock (IMF,2010). There is a capital-flow in FDI. Although there is a flow of capital from one country to another, there is no transfer by state. The entity that provide capital-flow is investing through an existing company in the host country or through a company that to be re-established within the country.

1.4 Types of Foreign Direct Investment

FDI does not have a standard structure in every country. Entry into a country market can take place in many different ways. When the investor companies decide to invest in the country, they try to determine the most appropriate way for them. The host country is evaluated by the investor firm primarily in the domestic market and then in the size of the export market. This evaluation is also concerned with the advantage of the market to invest in regional markets.

It is appropriate to examine FDI in three main groups according to their types. The first is the classification based on the status of the property right on the investment. This investment may take the form of a joint venture, merger or acquisition, strategic partnership or license agreements. The second classification is based on the definition of the work area of the new business established as a result of the investment. In the literature, green and brown field investments are considered. Finally, there are classifications based on the position of the investment in the production line. Such investments are analyzed in two sub-groups as vertical or horizontal investments.

1.4.1 Partnership Status

FDI differs according to the property of the investment. Investments may arise as a joint venture or strategic partnership or through the purchase of a firm. If the joint venture with the investment will be established; The investor firm is making a deal with a domestic investor to establish joint enterprise. In this partnership, owner of the capital may be one or more companies and partnered with one or more companies in host country. The acquisition of the whole of the company in question represents the full ownership right.

Merger or acquisition method is one of the ways in which foreign investors can enter the market easily and quickly. In this way, beyond the difficulties of establishing a new company, the infrastructure and experience of the existing company (including the patents) will be under the control of the investor company. Especially in recent years, examples of this in the IT sector are quite common. In the world's most widely used social media applications, Facebook has acquired the technology and experience of the company with customers who use the current application by purchasing an application called WhatsApp (European Union, 2014).

Mergers are seen as a way of reducing the research and development expenditure for the investor. In this way, more companies represent each other in the market. In order to achieve this advantage, a strategic partnership is usually established by reciprocally exchanging some of the shares. However, it is possible to

establish a strategic partnership by making joint marketing or service agreements without exchange of shares.

1.4.2 Investment Area

If a new business opportunity arises as a result of FDI, such investments are called greenfield investment. the term a new business opportunity refers to the foreign investor's use of the technology and method of production to operate a business with its own management approach. Investments in operation are fully controlled by the investor. Because the investor can start the entire system starting from the production facility. Before the company starts production, employees can receive in-service training according to their service standards. This enables the standards and product quality of the same workplace to continue without deteriorating.

Table 3: Greenfiel Investment in EU (European Commission)

COUNTRY	BILLION € (%)	INVESTMENT OPPORTUNITIES(%)
England	4.1 (24.1)	9684 (19.0)
Holland	2.4 (14.0)	1248 (2.5)
Germany	2.0 (12.0)	4153 (8.2)
France	2.0 (11.8)	6853 (13.5)
Íreland	1.8 (10.6)	4245 (8.3)

Reference (European Commission 2017:2)

Green area investments decreased by 3% in 2017 worldwide. Green area investments in developed countries and North America are increasing, while all other regions are declining.

In the other type of investment called brownfield investment, firms want to avoid the cost of establishing a new business. The reason for this may be the obstacles in the country to be invested, as it is easier to convert similar firms operating in the field of investment and to be trained in terms of human resources. In such investments, the investor tries to adapt its own production system by buying or renting an existing company. In addition to carrying the missing technology, it aims to educate existing staff in their own quality standards.

1.4.3 Production Line Location

According to this distinction FDI; horizontal and vertical. Vertical FDI refers to the fact that the multinational corporation decided to invest in certain parts of the production process (benefits of the cost advantage) to be directed to other countries where the relative costs are lower. The company makes a comparison of fixed and variable costs before the decision of the FDI. As a result of this comparison, it is decided which one of the vertical or horizontal investment routes will be preferred. (Kargı, and Meder, 2005:55).

The primary target of a company that reaches sufficient size in the domestic market is to export to the international market. The fact that the company instead of exporting prefer FDI is determined by the total cost of production in the country and the export transportation costs. If cost minimization of transport costs is required to produce in another country, then it is a matter of course. Thus, the company will be able to enter the foreign markets easily with foreign direct investment. Such investments are referred to as horizontal FDI. Horizontal direct investments account for the majority of FDI worldwide (Markusen, 2002:189).

1.5 The Aims of Foreign Direct Investment

In addition to capital, foreign investments brought technological developments and increase in employment after the investment caused the country to be affected positively in economic and social fields. Countries that want to attract foreign investors and use these advantages have entered a race among themselves. For foreign investors, investing in another country can have many different objectives. The foreign investor is in search of a market and can make investments, in search of resources or activities and in this country the investment decision can be taken.

Table 4: Direction of FDI

Aims	Basic Features in Host Country
Market Research	Market size and per capita income Market growth Access to regional and global markets Country specific consumer preference Structure of markets
Source Research	Raw materials Fund seeking Low-cost labor Skilled workers Technology Structure
Efficiency Research	Cost of sources Cost of intermediate goods Regional trade agreements

Reference: (UNCTAD, 1998:91)

According to the objectives of FDI, are evaluated in three section as market, resource and activity investments. The reason for this distinction is that the investor would prefer different ways of targeting profit maximization. For example; The

company that makes an investment decision may be in search of market for a new product it will produce, or a company that wants to determine the investment position to meet the raw material needs. Except these two; In order to reduce the costs with the investment, companies are able to make investment decisions.

The company, which is in search of the market, interests the size of the market it targets and the per capita income of its consumers. Not only the current size of the market but also the potential growth rate is very important for the investor. At the same time, the proximity of the targeted market to other markets, the preferences of consumers and the structure of the current market have an impact on decision making.

The conditions of infrastructure for an investor seeking resources is one of the key factors for FDI. Roads and ports for products to be shipped to the market by road or sea, for example, and their level of development are very important. Apart from these, labor costs are considered as another factor. Although the low labor force is very important for unskilled workers, the need for skilled workers should also be met.

An investor who is in search of an activity, firstly, looks at the costs in order to use the resources effectively. Other costs such as the cost of intermediate goods to be used in production, transportation and communication are very important. Another issue that investors pay attention to in terms of efficiency is the fact that the market has some advantages provided by regional trade agreements. In the presence of such a treaty; The product planned to be produced as a result of FDI has a great advantage in the market (BACEI, 2017).

1.6 Reasons for Preference of Foreign Direct Investment

Companies can prefer to do FDI for many reasons. These; (Seyidoglu, 2015:678)

Proximity to Raw Material Sources

Transport of raw materials to the country of production is a serious cost factor for all firms. This cost can sometimes make the investment abroad and make production in the region close to the raw material more profitable. Instead of using some mines imported from abroad; In order to be able to produce at lower costs within the country, it is preferable to choose the installation road and a serious impact on profitability.

Vertical - Horizontal Mergers

Firms may want to gather all stages of production under one roof. In such a case, the period from the acquisition of raw material to the sales phase is called as horizontal merger. In vertical mergers, certain stages of the production process can coexist. Companies can change their investment decisions between the horizontal and vertical investment options affecting the cost of production. horizontal merger implies that merger of companies with same customer portfolio. For example, the merger of a motor vehicle manufacturing company with an engine factory corresponds to a vertical merger, and the merger of two motor vehicle companies address the horizontal merger. According to Hymer, these integrations cause externality (Hymer, 1970:441). As a result of the FDI, because of a vertical or horizontal merger, investor provide a positive externality for the different investors in the same region.

Protection of Brand

Many MNCs want to serve the same quality with the same product at every point of the world without disturbing the quality of the brand. In such cases, the company has to open its own business to each country. For example, a company serving in the food sector will be able to offer the same quality to its customers in the branches that will be opened in every country and maintain its competitive advantage. McDonalds's effort to offer the BigMac product at the same standard throughout the world is to protect its brand.

In some cases, companies that have gained experience in licensing and patent agreements do not want to sell these. In the presence of such situations, production in another country may become compulsory for these firms. In such cases, the company has to make an investment decision to carry the production. In some cases, the company may not want to share the company's private secrets as a result of future partnership or license agreements with the investment. Because the information, telecommunication and technology sold by the license agreement can not be protected as meticulously as the company owner today. The Firm makes its own investment to avoid this.

Satisfaction of the internal market

This is based on Vernon's product life cycle hypothesis. When the company develops and launches a new product and reaches the highest level in the domestic market, it will have to search for new markets and this will lead to FDI. For this reason, according to this theory the main reason of firstly emergence of new products in developed countries is the availability of demand structure.(Vernon, 1966:190).

Existence of the oligopolistic market structure

The existence of oligopolistic firms is a situation related to the functioning of the market. There are several sovereign firms in the sector in the presence of oligopoly markets. In order to avoid losing certain customer and profit potential, these firms are obliged to take DYSY decision. Because the number of buyers is quite large, but there are a few companies engaged in production.

Avoiding Tariffs and Quotas

The biggest risk for the company exporting to a foreign country is to taken measures to protect the domestic market in the country where it invests. In such a case, the tariff and tax rates will affect the investment decision. Companies can decide to invest in different countries in order to maintain their markets and sustain their profitability. On the contrary, if the company that manufacture in the own country does not allow the production of laws in the country or restricts the production, it can carry the production line to a different country. Such situations are usually caused by environmental factors. In particular, sanctions, in developed countries make necessary that manufacture in underdeveloped countries in many sectors (Terzi, and Suren, 2016:22)

This cost advantage explains focusing on areas where labor factor is cheap. The wage of workers corresponding to a large part of the production costs often forces companies to invest to countries with low labor costs.

Property

The ownership factor of the investment is an important factor in the investment decision. Instead of establishing a firm with full ownership, a firm may be established by get into a partnership. Due to the excess of disadvantages of being a partner nowadays, companies prefer the structure where they can hold their right to take decisions and implement the right of ownership and do not have to divide the profit (Seyidoğlu, 2007:679).

New business needs

In particular, it is seen that in the trade partnerships such as the European Union (EU), the companies in the same sector are united in order to combine their market shares and keep their competitiveness in their hands. In this case, a new company is emerging or one of the existing companies is annexed to another. It is possible to list the important advantages of this as follows (Seyidoğlu, 2007:679):

- The time to operate in the targeted market is significantly shortened.
- With the growth in production volume, a return from the scale economy can be achieved.
- There is a significant increase in market value.

Production Chain Position

At what stages of the investment will be used is another issue that will determine the type of investment. Producing a certain part of the production in a foreign country and producing all of it in a foreign country can have very different results. For example, in the case of a mobile phone manufacturing, the outer casing of the phone can be invested in A country and the electronics in other country. The goods produced during the assembly process can be prepared by being shipped to the factory to be established in the country of C.

1.7 Positive and Negative Effects of FDI

The FDI are activities that are expected to have a positive result like every economic investment. However, there are many positive aspects of these investments as well as negative consequences for the host country or the investing country.

1.7.1 Positive Effects of Foreign Direct Investment

Since the FDI will lead to an increase in production in the economy of the host country, production capacity will also increase. The foreign investor makes a positive contribution to the existing capital stock with this investment and thus increases the production capacity.

FDI will provide new employment opportunities thanks to the new production facility to be established together with the production process and it will contribute to reducing unemployment, which is one of the biggest economic problems of underdeveloped countries. The investment will bring new technology transfer and will enable the use of new technologies in many areas within the country, it will lead to positive effects on the increase of competition environment and unemployment.

The country that make investment is defined as the country of origin. In terms of firms, investments have a certain risk. The country of origin is the country that has this risk. Therefore, prior to the investment decision, the necessary preliminary research and risk assessment is important. The importance of the benefits gained by FDI makes it force countries to create a more attractive environment in order to attract FDI worldwide. The most important part of this competition is to make various indicators such as economic, social and political indicators in their countries suitable for investment (Emen et al., 2007: 14).

Since FDI were predominant in manufacturing industry, the existence of natural resources was seen as the main reason for investments. Later, shifted to technology intensive sectors, FDI gained importance in services sector. The political and economic factors of the countries have become very important in investments. The investment decisions taken according to the risk factors of the countries have started to be based on the political and economic stability in these countries (Emsen and Değer, 2005).

In addition to the qualified labor force that comes with the investment made in the host country, it is inevitable for companies to train available staff and teach them to use new technology. As the knowledge in question brings with it the obligation to move together with the technology by the domestic competitors who want to implement the new technology, they may want to transfer these people by paying high wages. In such a case, existing investors are willing to pay high wages in order to prevent this mobility (Glass and Saggi, 2002:495).

I. Effect on Balance of Payments

The concept of balance of payments refers to the systematic recording of all economic affairs that are carried out by real persons, firms or corporations with other foreign countries living within the borders of the country. Balance of Payments; records of income received from other countries in a given period and all payments made to a country with a certain system are recorded in accounting records. (Ünsal, 2007:88).

Although the capital of the balance of payments balance sheet accounts can be processed immediately in cash in the country, it is possible to observe the effects of FDI in the medium and long term. When a deficit occurs in the balance of payments, in other words, when the savings made within the country are insufficient, one of the biggest opportunities especially in the underdeveloped countries is FDI.

A foreign-dependent country needs to benefit from foreign investments in order to produce products that are constantly imported. In this way, the foreign currency payments item in the balance of payments will be reduced. Because foreign currency payments are the result of purchases made with imports. If the market advantage will be used, it will benefit the closing of the deficit in the balance of payments, since an increase in export revenues will be achieved by selling the current product to the nearby markets (Değer and Ay, 2013:5).

II. Impact on Employment

Although FDI has many effects on host country, the most important of these effects is its effect on employment. With the investment decision, capital is not only transferred from one country to another, but also the country's know-how and technological infrastructure have been transferred to the other country. In addition, trained labor force using that technology is transferred. For example, when a new factory is established, trained personnel are sent from the company center to operate machinery and equipment and to provide in-service training.

The new technology, which has entered the host country, enables the non-qualified workforce working in the country to specialize with the new technology. At the same time, since a new plant is built and started to operate, it creates labor force in the current market. Therefore, in terms of both specialization of unskilled workforce and the creation of new labor force, FDI is of great importance.

The fact that investments are made in labor-intensive sector affects the factor demand of the country of origin and accordingly the factor prices. Thanks to the cheap labor force in the Far East, the production lines of the goods, which are produced labor-intensive, have been shifted to these countries through the FDI channel. Although these firms choose the far east for the production of labor intensive goods, they can leave the capital intensive production lines in their own countries (Amirahmadi and Wu, 1994:170-171).

III. Impact on Wages

In regions where labor wages are low, firms that want to produce labor-intensive goods take investment decision. One of the biggest items in production costs is the payment of wages. In the same way, it is inevitable that the increase in wages may result in an investment decision or even result in shifting the existing investment to the regions with cheap labor.

The abundance of labor in a region that attracts constant investment will decrease with the increase of employment resources and the amount of wages paid to labor will increase. This will be cause to lose meaning of cheap labor costs which are quite effective in investment decisions after a certain period.

1.7.2 Negative Effects of FDI

Administrative Authorities

The proliferation of DYSYs within the economy may cause that strengthened foreign companies gain controls on the overall economy. Taking hold majority of main sectors to foreign companies causes that some administrative rights abused by these companies. An example of this is the cancellation of a recent US sale. The acquisition of the US-based Qualcomm company by the Singapore-based Broadcom firm was canceled by a decision made by President Trump, citing the change in management as against national interests (Mc Laughling, 2018).

Monopolization

Companies that have the power to take an active role in the economy will be able to carry out some pressure on domestic investors and companies and to go towards monopolization (Deng, 2011).

III.Foreign Dependency

In the final stage of production, the fact that the raw materials and intermediate goods are imported from abroad in the investments made on the assembly industry brings with it an increasing dependence on foreign countries. This situation may cause some problems due to the volatility in the foreign exchange market (Soysa, 2003).

IV.Employment decrease

The new technology that comes with the investment can be less labor intensive. The use of automated system robots, in particular for the assembly industry, can lead to a decrease in the employment. FDI's increasing across the country indirectly have a constricting effect on employment.

V. Transfer Pricing

FDI can lead to tax loss through transfer pricing. in such cases by determining prices between branches and center and by transferring profits to countries that have tax advantages, it causes serious tax loses on host country. (Seyidođlu, 2015:679).



CHAPTER TWO

THEORIES OF FOREIGN DIRECT INVESTMENT

As a result of the increase in the importance of foreign direct investments there are different theories on the motives of multinational corporations to invest in foreign direct investments, the choice of countries to invest in, and entry strategies. In addition, the factors that played a role in attracting foreign direct investments and the differences between countries in attracting foreign direct investments were also investigated by various studies.

The first studies on foreign direct investment have emerged within the neoclassical theory of economics. Explaining the foreign direct investments according to the differences between the countries is used by the neo-classical economic theory until the 1960s. Zebregs (1998) used neo-classical economics models to investigate the distribution of foreign direct investments between countries. Investments in countries with low income levels are lower than investments in middle income countries. In the neo-classical model, where capital and workforce are used as inputs and there are no technology differences between countries, it is expected that the poorest countries will attract the highest level of foreign direct investments if the capital moves freely between countries. In addition to this most stringent interpretation of the neoclassical model, situations in which technology differs by country have also been tested. Because of the reasons that the countries with the lowest income levels have less capital intensive technology compared to the rich countries and have low factor reproductivity, it was observed that it could not benefit from foreign direct investments. Zebregs (1998: 23) argues that the neo-classical model is insufficient even in the light of the external technology differences between countries in explaining the foreign direct investments in developed countries.

The fact that the neo-classical approach is insufficient to explain foreign direct investments become clear when host countries and home countries have similar economic structure. when in particularly marginal efficiency and capital intensity are similar between countries neo-classical theory is inadequate to explain the flow of investments from one country to another.

The thesis *The International Operations of National Firms: A Study of Foreign Direct Investment* written by Hymer (1976) gives a new perspective to foreign direct investments and multinational companies based on the assumption that there are incomplete competition conditions in the markets. Lizondo (1990: 2) classified the theories of foreign direct investment as theories based on the assumption of perfect competitive market, imperfect market conditions and other theories of foreign direct investment. Foreign direct investment theories can also be classified according to whether the factors that determine foreign direct investment are micro-macro or strategic. Firstly, theories based on the assumption of perfect competition market will be examined and then the theories of foreign direct investment based on the assumption of imperfect market will be discussed. When the theories based on the assumption of imperfect competition market are considered in the historical framework, it consists of theories which are developed later than the theories based on the assumption of perfect competition market and the power to explain foreign direct investments is higher.

2.1 Theories Based on Perfect Competition Market Assumption:

The theories based on the assumption of a fully competitive market were developed within the neo-classical economic theory and before 1960. One of the theories to be examined within the scope of this study is the theory of difference in the rate of return, the second one is portfolio theory, the third is output and market size theory.

2.1.1 Difference in the Rate of Return

In general, the foundations of economics and in particular the theory of international trade were laid by the publication of the *Wealth of Nations* by A. Smith (1776; Bayraktutan, 2003). One of the most important contributions of Smith (1776; Kibritçioğlu, 1994) to foreign trade theory is that he uses the concept of market scale as a cause of international trade. According to Smith (1776; Kibritçioğlu, 1994), the principle of free trade is the application of the principles of specialization and division of labor to a global scale.

According to this approach, direct foreign capital investments are the result of capital transfers from countries with low return rates to countries with high return rates. The fact that capital has a higher rate of return in a country than in another country is related to relative factor equipment of countries. In the weaker capital equipment, the return on capital is higher and therefore it is thought that foreign direct investments will flow to this country. While evaluating investment decisions, firms equate the expected marginal return to the marginal cost of capital. Under the assumption that the marginal cost is equal in the country and abroad, the company tends to invest abroad when the expected marginal return is higher in other countries than in domestic countries (Lizondo, 1990: 2).

The concept of difference in return rates is a foreign capital hypothesis that has become very popular in the 1950s and 60s when foreign capital investments among developed countries showed an upward trend (Öztürk, 2004). According to this hypothesis, foreign direct investment is a type of investment that emerges as a result of international capital return differences. While a firm makes a decision to invest abroad, it compares the expected return of the investment abroad with the return of the same investment in the country and makes an investment with a higher return on profit (Öztürk, 2004). In addition to the disadvantages of the domestic economic, social and political factors in the decision to invest in foreign countries with high return rates, the advantages to be provided to the firm in the country where the investment is realized are also effective. Foreign investors, by having cost advantages, make return rate more profitable than in their country investment and trying to realize the principle of profit maximization which is the purpose of the company.

One of the criticisms brought to this theory, which tries to explain the capital movements according to the differences in the rates of return, is that a country makes both foreign direct investment and acquires these investments at the same time. If the difference in rates of returns hypothesis was correct, the flows in foreign direct investment for each country would have to be unidirectional. In addition, an assumption that the sole purpose of companies that perform foreign direct investments is to maximize profit is not true (Moosa and Cardak 2002). In terms of

multinational companies, the aim of direct foreign investment is to enter the market, to maximize sales or to overcome trade barriers.

2.1.2 Portfolio Theory:

The theoretical framework for this approach, which was developed to explain international capital movements in the post-Great Depression in the 1930s, was created by Tobin and Markowitz (Öztürk, 2004). The preference made according to this hypothesis is affected by the expected return on investment and risk. Since the expected return theory cannot fully explain the reason for foreign direct investments, the role of risk is also included in the analysis. While choosing from a variety of investment alternatives, firms aimed to increase expected return and reduce risk. Since the returns of investments in different countries do not have an excellent correlation, the firm tries to reduce its total risk by investing in more than one country. According to this theory, foreign direct investment can be considered as an international portfolio diversification at institutional level (Lizondo, 1990).

The basis of portfolio theory is interest rates (Hymer, 1976: 6). Every investor wants to maximize his profit by investing where the return is the highest. In the absence of obstacles to risk, uncertainty and capital movements, the capital will move towards the countries with the interest rates high from countries with lower interest rates until the interest rates are equal. When the barriers to risk, uncertainty and capital movement are added to this simplest form of theory, the theory loses its clarity.

When the risk is included in the analysis, it is difficult to predict the direction of capital movements. Due to differences in risk perceptions and diversification requests of investors, capital movements may be in the direction of both entry and exit to a country, ie bilateral movements (Hymer, 1976). When uncertainty is included in the theory, there will be different evaluations regarding the level of risk involved in a certain securities. As a result of these different evaluations, capital movements may be bilateral. Exchange rate changes are an obstacle to capital movements. When the future exchange rate is uncertain, the return on investment in a country is different for domestic and foreign firms. The foreign investor should take

into account the future status of the exchange rate when making the calculations. This leads to changes in the investor's risk level. In cases where the cost of obtaining information is high, it may be an obstacle for capital movements. Similar securities can be sold at different prices in different countries. Given the risk, uncertainty, barriers to capital movements and market failures, portfolio theory does not provide definitive answers in terms of understanding capital movements (Hymer, 1976: 8-10).

2.1.3 Market Size Theory:

According to this theory, the amount of investment in the host country depends on market size or country's Gross Domestic Product (GDP). When a country's market size reaches the level of scale economies, this country is targeted for foreign direct investment. According to Balassa, there is a specialization in production factors in a sufficiently large market and cost minimization is reached (cited in Moosa, 2002: 27).

The relationship between foreign direct investment and output is based on the neoclassical models of domestic investment. GDP is frequently used in empirical studies related to foreign direct investment. According to Agarwal (1980), market size may affect foreign direct investments in that country. However, it is difficult to record the foreign direct investments made in order to serve to the domestic market or to export. Besides, although the correlation between GDP and foreign direct investments is high, the causality relation between these two cannot be mentioned (Moosa, 2002).

2.2 Theories Based On Imperfect Competition Market Assumption

In this section, the theories will be examined under the assumption of imperfect competition in the goods and factor markets. In this section, the theories will be examined under the assumption of imperfect competition in the goods and factor markets. His doctoral dissertation, *The International Operations of National Firms:*

A Study of Foreign Direct Investment published by Stephen Herbert Hymer in 1960 and published in 1976 is the first study which suggests that market structure and firm characteristics have an important role in explaining foreign direct investments. Later, on lead by Hymer's theory, approaches such as internalization theory, OLI (Ownership, Location, Internalization) paradigm, product life phase theory, oligopolistic reaction theory were proposed by various economists to explain foreign capital investments.

2.2.1 Hymer- Theory of Industrial Organization:

According to Hymer (1976), portfolio theory is insufficient to explain capital movements from one country to another because it does not take into account the company's decisions on ownership. Foreign direct investments are capital movements resulting from international operations of companies.

According to Hymer (1976), there are two types of direct investment. The first type of direct investments is related to the cautious (risk-free) use of capital. Such direct capital investments are preferred when the distrust of the host countries is high, there is expropriation probability and risk of exchange rate. These investments are affected by changes in interest rates. According to Hymer (1976), in the second type of direct investments, the motivation of the investment is not the higher interest rate, but the profits to be obtained by controlling the foreign company. There are two main reasons why a firm wants to control an enterprise in a foreign country: it may be profitable to control the enterprise in more than one country and eliminate the competition between them and some firms want to turn their advantage that they have in their activities into profits by establishing firms in foreign countries.

According to this theory, when a company opens a branch in another country, it has many disadvantages in competing with local firms. Difficulties in managing remote activities, legal system, differences in language, culture, technical standards and consumer preferences and exchange rate risk are among these disadvantages (Hymer, 1976). in spite of these disadvantages of companies in foreign countries,

Hymer (1976) mentioned that companies thought profitable to invest in foreign countries and the reasons of this in his study.

According to Hymer (1976), firms may turn to international operations to eliminate conflicts. Companies operating in different countries are connected to each other through markets. These companies may sell as competitors in the same market or sell goods and services to each other. In the case of such a connection, it may be more profitable for a firm to control all undertakings rather than having different firms in each country. In other words, centralized decision-making processes may be more profitable than decentralized decision-making.

The realization of this situation depends on whether the markets are perfect. Considering the horizontal competitiveness with two countries where a single firm operates in each, the status of duopoly occurs when international trade is possible, and agreements between firms may be profitable. In the case of the merger of two firms, the competition between the two different undertakings ends and the total profit increases. If there are more than two countries or more than two firms, if there is competition between firms and new firms are difficult to enter into the market, companies may choose merger. In a market with a small number of buyers and sellers, if a country's companies are selling to firms of another country, a dual monopoly situation occurs. Mergers are, though not essential, a way for firms to increase their profits. This is one of the reasons why firms prefer to focus on international operations, especially in the case of raw materials.

In his study, Hymer (1976) also stated that the companies are engaged in international activities with the desire to make their investments in a wide range of companies. According to Hymer (1976), the profitability of some firms in their activities may be inversely related to their profitability in other operations. Hymer (1976) states that aluminum plants need high amounts of electrical energy, and that if an aluminum plant operates in region where electric energy is cheap, the region will evolve over time, electrical energy prices will increase and the aluminum producer's profits will be reduced. In such cases, especially in the case of raw materials, such inverse relations are likely to come into the agenda. In this case, there is a high probability for diversification. In case of high negative correlation, the investor tries

to reduce the total risk of investments made by investing in both aluminum factory and electrical energy. The total risk reduction effort is one of the reasons for the company's role in both activities. However, the company does not have to control both companies in this case. The shareholders of the company can stabilize their profits by purchasing the shares of both companies.

Hymer (1976) argues that the international activities of the firms are due to their advantages. Companies operating in an industry have different skills. Some companies have important advantages in some activities. Having these advantages can lead firms to have various international activities. In some cases, the company will have the right to license the advantages to local firms or to operate the foreign enterprise itself.

The advantages of the companies are very diverse. The advantage of the company is that it purchases cheaper production factors than other firms, knows and implements a more efficient production method, distribution channels are more common, or produce differentiated products. If these advantages can overcome the above mentioned disadvantages, firms prefer to make foreign direct investment.

The company's advantage in a certain activity does not always mean that the firm will establish its own firm in foreign countries. The Firm may choose the way to export its goods to the market it has the advantage of, and may license or rent its advantage. In his study, Hymer (1976) tried to explain why firms prefer to make foreign direct investment instead of licensing. Hymer (1976) stated that firms may prefer to internalize their operations due to market failures. Each company considers its own interests and common profit maximization may not be seen. This can be solved by centralized control and ownership. Under common ownership, each branch endeavors to maximize the profits of the parent company.

Hymer (1976) also mentions the problems that the firm that prefer to use the way of licensing, may encounter when there are few companies operating in the market. The firm will license the companies that have monopoly power in the market and this will lead to monopolization problems. The second problem of licensing is the difficulty in controlling price and output. To maximize profit, the Firm must

determine the terms of use for each licensee, but this will not be possible if antitrust legislation are applicable. When the company allows its licensing companies to compete, they may face declines in profit. If the company has advantages, it would be easier to reach the profit maximization if it prefers to operate instead of licensing.

Beyond market failures, the uncertainties in the market and the fear of losing the company's advantage are the reasons for the foreign direct investment rather than licensing firms. Uncertainties in the market are an obstacle for buyers and sellers to make licensing agreements that satisfy both sides. When there are strict conditions in the agreements, changing conditions can harm one of the parties and lead to the benefit of the other. Another reason why firms prefer not to enter the market through licensing is that it may lead to the loss of advantage due to the nature of the agreements. The firm that makes production through licensing can learn the advantage itself and establish customer relations that will give it an advantage. For these reasons, companies may prefer to invest in foreign direct investments instead of licensing agreements.

To summarize the views of Hymer (1976), the reasons why companies prefer to be multinational according to Hymer (1976) are: the advantages that it has, the desire to eliminate conflicts and the diversification with the desire to prevent market failures.

The industrial organization theory proposed by Hymer (1976) was developed by Kindleberger (1969) and Caves (1982) in the following years. According to Kindleberger (1969) and Caves (1982), companies need to have some advantages compared to local firms to invest in a new market. According to this theory, also called HKC (Hymer- Kindleberger- Caves) school, foreign capital investments are made because of the oligopolistic industrial structures in the markets. The investor has some monopoly advantages compared to the host local firms. In spite of these advantages, foreign firms have the disadvantages arising from risk and uncertainty in establishing a production plant in a country and in operation compared to domestic firms. For this reason, in order for the foreign firms to realize their investments, the they must obtain some important advantages arising from the market structure of host country. According to Kindleberger (1969), companies need to have some

advantages to invest abroad. Kindleberger (1969) emphasized that any activity that would undermine the conditions of perfect competition in the country's goods and services markets would lead to investor firms gaining oligopolistic power and dominating the market. When investors 'patent rights, the ability to provide easy capital, managers' knowledge and skills, detract invested country's market structure from the competitive conditions, investing companies can provide significant advantages from the oligopolistic structure formed. In addition, practices that facilitate government transfers to foreign markets and facilitate the transfer of revenues from firms play a role in encouraging firms' investments. The advantages provided by the governments of the host country arising from market structures are the most important reasons for firms to realize foreign direct investment. Thanks to these advantages, companies can maximize their profits by providing superiority to the firms of the host country.

2.2.2 Internalization Theory:

The concept of internalization was first introduced by Coase in 1937. Coase (1937:386) defined the concept of firm by associating it with the market. According to Coase (1937), the reason for the existence of firms is to reduce transaction costs by using the price mechanism. Transaction costs are the costs that companies encounter and undertake in determining the product prices and preparing and negotiating the contracts to be executed for each operation. These costs are tried to be reduced by establishing an organization and by the appointment of an authority to the management of resources (Coase, 1937). Internalization is the control of the firm's activities with its client, collecting these activities under common ownership and expanding the firm's operations (Buckley and Casson, 1976). Firms try to reduce transaction costs through internalization.

The basis of the internalization theory is the acknowledgment that there are deficiencies and failures in the international trade and investment areas that prevent the full and perfect operation and effectiveness of the markets. Deficiencies and failures are the result of external variables in the goods and services markets. Multinational companies try to deal with these externalities by internalizing their activities. Buckley (1988) argued that firms prefer the lowest-cost geographic

locations for each activity they will undertake, and that companies will continue to grow until benefits resulting from internalization activities are equal to the costs.

The internalization theory of foreign direct investment is closely related to the theory of the firm. According to the internalization theory, direct foreign capital investments are the result of the efforts of the companies to change their transactions in the market through internal transactions. Companies integrate their activities in the markets through vertical integration. Companies operate in imperfect competition markets. When the markets of intermediate goods are under competitive markets, firms try to prevent market failures by creating internal markets and incorporating activities carried out in the market. When the internalization activities of firms go beyond national boundaries, multinational companies emerge.

In the presence of transaction costs, firms use their internal processes instead of the processes performed in the market and internalize their activities. In addition to the production of goods and services, company activities such as marketing, research development, training of labor force are connected to each other through the flow of intermediate products. Market failures prevent the pricing out of intermediate goods. In addition, products such as leased technology can be used by other companies in the market without the permission of the manufacturer. These reasons include the use of technology in the company without spreading to the market; may lead to the formation of internal markets. Factors playing a role in internalization decision by internalization theory include: (i) industry-specific factors: factors related to the nature of the product and the structure of the foreign market, (ii) regional factors: geographical and social characteristics of the regions that form the market, (iii) national factors: international political and financial relations of the country, (iv) company specific factors: the ability of managers to organize domestic markets. One of the reasons that firms prefer internalization is that the markets abroad have many irregularities and risks. In control of delays; internalization is important in preventing uncertainties arising from buyers in the market and bargaining. Externalities in goods and factor markets lead to internalization. If there are imperfect competition in intermediate markets, companies tend to avoid these imperfection by creating internal markets through joint ownership and control. This theory tries to explain

why some firms prefer direct investments instead of export, import and license. Due to the labor costs that arise in market trading, and time pressure, companies start to realize some market activities within the company. Moreover, they can reduce this uncertainty (Buckley and Casson, 1976).

The theory of internalization is in fact a general theory of foreign direct investments. According to Rugman (1980), although not all of the theories on direct foreign capital investments, most of them are special cases of this general theory.

2.2.3 Location Theory:

According to this hypothesis, the reason for the foreign direct investments is the lack of international mobility of some production factors such as labor and natural resources. Lack of mobility leads to differences in the costs of production factors by region. Horst (1972) used this hypothesis to explain US foreign direct investment in Canada.

According to the trade theory, the location of international production depends on factor costs. Firms prefer countries where production costs are low when they invest in order to reduce costs. Transportation and telecommunication infrastructure, quality and quantity of labor force, reliability of local suppliers, existence of natural resources affect foreign direct investments (Meyer, 1998:59).

The fact that the labor force wages in the host country is lower than the labor force wages in the home country can be effective on the foreign direct investments. Labor-intensive production processes are shifted to countries such as India and China due to low labor costs. However, when high wages indicate high-quality labor, the relationship between low wages and foreign direct investments loses its validity. Investments in activities such as finance and R & D (research and development) in a country are not made when the salaries of those working in these areas are relatively low (Moosa, 2002). Besides, the extent of unionization in a country is also important. Multinational companies prefer flexible, unorganized labor markets. This is due to the idea that unionization leads to higher labor costs.

In addition to labor, other production factors may also have geographical location advantages. Building a factory in a location close to copper mines or where it is cheaper to produce hydroelectric energy may be one of the factors that investors consider when choosing a location. By establishing a factory close to the natural resource, investors are trying to reduce transportation costs. In addition to this cost savings, investors may prefer to make production in close to the source of raw materials due to possible difficulties in the transfer of goods (time, durability, etc.).

Capital can also be important in terms of geographic location in foreign direct investments as a production factor. Foreign direct investments will be made to countries with low capital costs. The protectionist obstacles such as tariffs, quota and non-tariff barriers through direct foreign capital investments are tried to be overcome. Foreign direct investments are also carried out when the production and consumption activities cannot be separated as in the service industry.

2.2.4 OLI (Ownership, Location, Internalization) Paradigm-Eclectic Theory:

Dunning (1988) developed the eclectic theory by presenting a synthesis of industrial organization, internalization and geography. According to this theory, there are three conditions for a firm to invest in foreign direct investment. These are the advantages of ownership, internalization and geographic location.

Unlike other companies, the firm that will make direct foreign capital investment should have some specific advantages that arising from ownership and to compete in the foreign markets. These advantages are tangible and intangible. These benefits can be used anywhere, even if the company is operating in the industry or the country in which it first emerged. These advantages are the advantages that a company has superior to other companies operating in the same location. Having access to market and raw material resources, reaching economies of scale, possessing intangible assets such as patents, trademarks, management skills; size and monopoly power are examples of these advantages. In addition, a production facility opened in another country can benefit from the support of the parent company such as cheap

inputs, market knowledge, management skills, and research and development (Dunning 1977).

Another important element of the international competition of multinational companies is that these advantages are internalized as well as having these advantages. Instead of using the mechanism of the market, companies that control their resource allocation through their own internal processes can keep their costs under control. These advantages are achieved by vertical and horizontal integration of firms. The reason why companies prefer to internalize their activities is to prevent disruption in resource allocation. Firms prefer to internalize companies in order to eliminate the difficulty of developing and controlling interconnected activities that occur in the competitive markets. Government policies and uncertainties stemming from suppliers in the market are another reason for pushing firms to internalize. Dunning (1977) explains that firms prefer to internalize technology in the last two decades, particularly in the direction of increasing importance, in order to continue to have the right to make innovations and use them.

Geographical location advantages, only the resources that companies in a particular region can have; costs such as non-transferable, irrevocable taxes, and the cost of transport to and from the place of production. According to Dunning (1977), multinational firms prefer to invest in foreign direct investments due to differences in the reasons of market failures and the possibility of taking advantage of exchange rate differences through transfer pricing, maintaining oligopolistic behaviors, controlling uncertainty in the behaviors of local consumers.

Dunning (2000) stated that the companies that will make investments are affected by the economic and political environment of their countries, the economic and political environment of the country they will invest in and the industry in which the firm operates. In addition, Dunning (2000) classifies the reasons why the firm wants to invest in other countries:

Market-seeking, demand-driven foreign direct investments: investments made by the firm to meet the demand in a particular market or various markets,

Source seeking, supply-oriented foreign direct investments: investments made by companies that want to reach natural resources and unskilled labor force,

Foreign direct investments seeking efficiency: foreign direct investments aimed at making the division of labor more effective or specialized,

Foreign direct investments seeking strategic assets: investments made by companies that want to protect and increase their ownership advantages and / or want to reduce the ownership advantages of their competitors.

2.2.5 Product Life Cycle Theory:

This theory, which tries to reveal the relationship between foreign trade and foreign direct investments, moves from the point of the emergence and spread of innovations. According to this model developed by Vernon (1966), the main determinant of the trade structure is the timing of innovations, the effects of economies of scale and uncertainty. According to this hypothesis, most products follow a certain life cycle. The stages of this cycle are: the new product period, the growth product period and the maturity product period. Foreign direct investment emerges when the product matures, with companies expanding across the border to react to market loss and product development efforts. Vernon (1966) tried to explain this hypothesis, especially the dissemination of the post-World War II United States multinational companies.

According to Vernon (1966) 's theory, firms react to intense competition or innovate as a result of new profit opportunities. New products have been developed and produced locally in the United States primarily due to the fact that the US consumer has high income in those years and the unit labor costs are high in this country. Since the product is not standardized in the first stage of the product, the inputs, production process and product characteristics are constantly changing. Therefore, investors consider input costs as well as flexibility to change inputs. Moreover, due to the low demand elasticity of the product for firms and the importance of communication with customers, suppliers and competitors, the

production is made within the national boundaries at this stage. During the growth stage of the product, a certain standardization occurs, the cost of the product starts to gain importance. After the establishment of the first production facility in the home country, the demand arising in the foreign markets is tried to be met primarily through export. As a result of the emergence of competitors in foreign markets, which can make production less expensive due to low distribution costs, the innovative company begins to consider the option of establishing a production facility in the foreign country. Products based on labor intensive production, high demand elasticity and standard properties can be preferred in order to be produced in foreign countries. Where conditions are appropriate, the innovative company invests in foreign direct investment. Firms that first applied inventions and innovations first export their products, then open establishments / branches in other countries and realize production abroad (Vernon, 1966).

2.2.6 Oligopolistic Reaction Theory

According to oligopolistic reaction theory, firms in an oligopoly they have to react to decisions such as production, sales and investment (Knickerbocker: 1973). According to Knickerbocker (1973), foreign direct investment by a firm in the oligopoly market structure leads to similar investments by other leading firms in the sector. Knickerbocker (1973) examined US firms investing in direct foreign capital. The industries in which these firms operate have oligopolistic structure. The investments of these firms are concentrated in certain regions geographically and in certain industries. The fact that the leader in the oligopolistic industry invests in foreign direct investment often leads competitors to invest in the same region and sector in order not to lose their foreign markets and to maintain competitive advantages arising from economies of scale. According to Knickerbocker (1973), the higher the degree of concentration in an industry, the higher the tendency of competing firms to follow each other. According to Knickerbocker (1973), market size is one of the factors that affect American firms' foreign direct investment. It is important for the first investor that the size of the market will allow them to reach economies of scale, but it is a variable that the followers do not consider. Besides,

the growth rate of the market and the general political stability determine the intensity of the oligopolistic reaction.

According to Graham (1978), horizontal foreign direct investment companies operate in oligopolistic industries. The presence of barriers to entry and the high opportunity cost of owning intangible assets emerge oligopolistic industries. In his study, Graham (1978) tried to explain the reasons of the foreign direct investments of European firms in the USA in the 1960s and 1970s. According to Graham (1978), European companies invest in the United States for defense purposes. The Firm may disrupt the existing oligopolistic structure in the market when it brings intangible assets to the market. Competition is transferred to foreign markets if local firms have intangible assets that can make a profit in the markets of the host country and the stability of the market structure in these markets may be disrupted. In his study, Graham (1998) showed that the reason for the European companies to invest in foreign direct investment in the USA is the competition in oligopolistic markets.

CHAPTER THREE

3.1 CURRENT STATUS OF FDI IN WORLD ECONOMY

The effects of the global financial crisis started in 2008 and continued until 2014. In 2015, FDI increased by 38% due to the increasing uncertainty and risk environments in the global economy and reached approximately USD 1.77 trillion. The company's restructuring, which had no effect on the balance of payments items other than the foreign investments made through mergers and acquisitions, was effective in these increases. As a result of this 38% increase, FDI increases for 2015 are approximately 15% (T.C.Ekonomi Bakanlığı, 2016). In 2016, the weakening of global economic growth and the decrease in investments by MNCs due to the increasing risk factor led to USD 1.74 trillion FDI. This indicates a decrease of approximately 2% compared to 2015 (Ministry of Economy, 2017).

As a result of the decrease in asset prices after the crisis periods and the investment advantages arising from the restructuring, the increase in FDI appears to be particularly pronounced worldwide (İpek and Biniş, 2010:15). For example, the majority of the changes in the amount of FDI occurring in the People's Republic of China are due to changes arising from this restructuring. Another development in the world economy is the decline in investments made by MNCs. When the first 5,000 companies are analyzed according to the amount of investment worldwide, there is a loss of more than 5% in 2015 compared to the previous year (UNCTAD, 2016: 17).

FDI has continued to increase in general over the years. Worldwide, FDI inflows amounted to USD 1,324 in 2014, 1,774 in 2015 and 1,746 billion in 2016. According to 2019 forecasts, a FDI of 1.670 to 1.870 billion is expected. When analyzed by country groups emerging countries are less affected by these crises than developed countries. Another important point is that FDI could not recover to the pre-crisis level in the transition economies after the 2007 crisis and decreased even more in the last two years (UNCTAD, 2018).

Table 5: FDI in the world's top 15 host countries (2014-2016) (\$ Million)

2014		2015		2016	
USA	17 1.601	USA	3 48.402	USA	3 91.104
China	12 8.500	Ireland	1 88.327	United Kingdom	2 53.826
Hong Kong	11 3.038	Hong Kong	1 74.353	China	1 33.700
Singapore	73 .987	China	1 35.610	Hong Kong	1 08.126
Brazil	73 .086	Singapore	7 0.579	Holland	9 1.956
Canada	59 .062	Switzerland	7 0.400	Singapore	6 1.597
Holland	53 .307	Holland	6 8.751	English virgin Isleland	5 9.097
United Kingdom	44 .821	Brazil	6 4.267	Brazil	5 8.680
Australia	40 .328	Cayman Island	6 3.448	Austaralia	4 8.190
English virgin Isleland	38 .414	France	4 6.991	Cayman Island	4 4.968
Ireland	37 .415	India	4 4.064	India	4 4.486
India	34 .582	Canada	4 1.512	Rusia	3 7.668
Rusia	29 .152	Germany	3 3.312	Canada	3 3.721
Mexico	27 .508	Mexico	3 3.181	Belgium	3 3.103
Spain	25 .655	United Kingdom	3 3.003	Italy	2 8.955

FDI inflows realized in the USA in 2014 increased from USD 171 billion to USD 391 billion in 2016. The United Kingdom followed the United States with approximately 253 billion dollars and the People's Republic of China with 133 billion dollars. When the table is analyzed, it is seen that the USA, People's Republic of China and Hong Kong are the countries which do not change in the first 15 countries within the three years. The US has maintained its leadership in FDI inflows over the three years.

3.2 DETERMINANTS OF FOREIGN DIRECT INVESTMENT

FDI mainly contributes to the capital stock in the host country. Thanks to this contribution, the production capacity of the host country is increased. Increasing the production capacity will contribute to the opening of new business opportunities and increase the foreign exchange inflow to the country. In addition to the fact that the new companies to be established provide tax increases for governments and have a positive effect on reducing unemployment, learning the technological developments brought by the investor within the country has a long-term positive effect.

Although there are many studies in the literature on the main determinants of FDI, one of the pioneering studies in the theoretical framework is the study by B. Ohlin on the main reason of investments. According to Ohlin, high rates of profitability in developing countries and relatively low interest rates used in financing investments are among the main reasons for investments (Ohlin, 1933).

Table 6: Factors Affecting FD

Economic structure	Markets	Market size Income level of consumer Urbanization, Perception of growth,
	Source	Raw material
	Competition	Work force, Cost advantage, Skilled worker Technological support
Policies of host country	Macro policy	Management of macro variables Easy of cash flow, Easy of access to foreign currency
	Private sectors	Private ownership Open policies, Easy of entry polices, Effective financial markets, Other incentives
	Trade and industries	Trade strategies, Regional agreements, Access to markets, Cost controls, Rivalry policies,

Factors affecting FDI are discussed in three main groups in the literature. These are economic structure, the policies implemented by the countries where the investments will be made and the strategies developed by the investor firms. When looking at the economic structure, investors first examine the current situation of the market. The size of the market and the income levels of the consumers addressed by this market play an important role in investment decisions. In addition, the availability of resources and having a competitive advantage provide an advantage in terms of economy, which is effective in investors' decision for FDI.

The urbanization situation and economic stability in the country where investment is planned are the variables carefully monitored by investors. Apart from these, economic growth forecasts and especially future forecasts are taken into consideration. Access to these markets, apart from the demand for the product planned to be produced in the domestic and foreign markets, has an impact on investment decisions (Zeren and Ergun, 2010; Gao and Shao, 2016; Koyuncu, 2017).

The existence of natural resources is very important for FDI. The fact that raw materials, which are very important for the manufacturing industry, can be procured from within the invested country gives investors a significant cost advantage. The existence of natural resources as well as the reserves of these resources is another issue to be considered. Since the investments will be planned to continue for a very long time, there should be no shortage of reserves in the raw material resource that will be used throughout the economic life of the investment. Also, the availability of these raw materials in the market during the production period will make the price relatively inexpensive. Therefore, the status of natural resources under the economic structure is another important factor after the market state.

On the other hand, the competition factor is another factor that affects the decisions of FDI with the availability and cost of labor supply in the market. The level of labor's educatability and skill and the qualification of technological support used in production are accepted from economic factor determinants. In today's economic structure, companies make great efforts to obtain and maintain competitive advantage. Especially the opportunities offered by developing technology can provide great advantages to companies from production to sales and marketing.

The policies of the host countries are another factor that the investor pays attention after the economic structure in FDI. It is possible to examine these policies under four main groups as Macro Policies, Private Sector Policies, Trade and Industrial Policies and FDI Policies.

Macro policies refers to the management of particularly critical macro variables. For example, variables that may have an impact on investment decisions

such as unemployment, inflation, growth and interest rate are among the macro policies that affect the FDI. Within these policies, the ease of money transfer and the ease of access to foreign currency allows the investor to easily manage post-investment money movements. For FDI investors, it is preferred that money transfer can be made quickly and easily and that there is no problem in accessing foreign currency (ISMMO, 2007).

In the policies of the host country related to the private sector, it is preferable that there are no obstacles to private ownership and entry and exit. Under the existence of open and stable economic policies and effective financial market conditions, foreign investors will be able to invest comfortably. Apart from these, the existence of domestic government supports and incentives after investment decisions is another important issue. For example, if private government incentives and grant schemes are implemented for the sector that is planned to be invested in the country, this will make the investment more profitable and competitive advantage.

In trade and industrial policies, the country's trade strategy, regional integrations, access to markets and competition policies are important. In general, FDI policies are primarily related to ease of entry. The investors, who will make FDI, will first look at how easily the investment is made in the country, investigate the existence of the incentives offered for them and want to obtain advantages regarding the property rights. The transparency and stability of the country's FDI policies and the ease of access to inputs after entering the market are the subjects that were initially investigated by investors (Drabek and Payne, 2002).

The strategies developed by the investor firms basically change inversely with the risk perception in the country. As the risk factor increases, there is a significant decrease in the amount of investment. The risks arising from the structure of the financial system in the host country as well as the risk of political factors are important for investment decisions. These risks are linked to political stability. Risk perception decreases in economies with political stability.

Another important part of investor firm strategies is location selection. Companies prefer the region they will invest in accordance with the company

strategy and are interested in the compatibility of domestic subsidiaries, if any. Compliance of affiliates and ease of inter-firm input exchange constitute an important part of FDI's investor firm strategies.

3.2.1 Determinants of Host Country

One of the most important factors in developing countries' need for FDI is the insufficient basic physical infrastructure. In such cases, it is not possible for markets to operate effectively and efficiently. This situation leads to the continuation of production with uneducated labor force and entering into a spiral connected to the political structure which cannot provide financial discipline. According to the criteria set by UNCTAD established by the UN to support the development of countries, FDIs are grouped under three main headings: political determinants, economic determinants, facilitation of commercial activities.

Table 7: Determinant Distinction

<p>Determinants of political structure</p>	<p>Economic Social Stability Law of Capital Inflow Fiscal Policies Privatization Policies Transaction of Bureaucracy Regional Agreements</p>
<p>Determinants of economic and financial structure</p>	<p>Market Size Currency Rates Inflation Cost of Labor Trade Openness Economic Growth</p>
<p>Determinants of Investment</p>	<p>Investment Structure Investment Incentives Economic Freedom Competitive Advantage Transparency, Intellectual Property Right</p>

Source: (UNCTAD,1998)

3.2.1.1 Policy Determinants

The first point in determining the investment location for a firm that will make FDI will undoubtedly be the political structure of the country where the investment is planned. The lack of basic principles of the rule of law of the country is considered as the most important prerequisite for attracting foreign investment.

In the literature, it is determined that political stability has a positive and significant relationship on FDI inflows. Levis (1979), Wei (2000), Brada et al. (2003), Asiedu (2006), Gani (2007), Choi (2009), Dutta and Roy (2011), Jadhav (2012), Durnev et al. (2015) demonstrated the existence of this relationship in their studies.

3.2.1.2 Economic, Political and Social Stability

In order for a country to attract international capital, it must first be a state of law. Policy and political structure is meant to show consistency and continuity in the policies implemented by the state (Batmaz and Tekeli, 2009). Stable political power is of great importance for foreign investors. Investors are looking for a coherent and continuous economic policy as well as a political infrastructure as it becomes increasingly difficult to make a definitive decision on the future of long-term investments within a constantly changing political structure.

Since a political crisis that may occur in the country will affect the economy, any developments that may bring some social problems will make the investments risky. Developments such as domestic turmoil and civil war, or frequently repeated elections, make it difficult to maintain the constitutional order and make investment decisions very risky. In addition, investors prefer liberal regimes when investing because it provides economic freedoms and lift the trade barriers (Türksoy, 2007).

It is also possible to define political risk as sovereignty in relation to the power held by governments. In general, the sovereign risk is the fact that even though the companies want to make payments in the repayment terms of the loans used for the realization of foreign investments, be prevented the payments by the governments (Korkmaz and Ceylan, 2007: 36).

3.2.1.3 Laws on Capital Inflows and Transactions

Existing laws in the target country regarding capital inflows and transactions are a very important factor for the investment preferences of foreign investors. The foreign investor takes into account factors such as the length of the judicial process not only before and after the investment. For example, in France, the arbitration procedure is completed in 36 days, while in the Philippines it is 943 days (www.doingbusiness.org). The duration of these and similar legal processes affects the FDI.

In today's economy, foreign trade is now made within the rules as WTO member countries control negative factors such as protective policies and dumping. Particularly with the membership of the People's Republic of China, the global control of the world trade volume and the open policies made global trade and foreign investment more attractive and widespread. In addition, the US president imposed additional taxes on imports of iron and steel and aluminum in 2018, which brought about the questioning of the WTO and foreign trade policies again. It is expected that by 2020, sectors such as automotive and beverage cans, which are the final product for the US economy, will close 100,000 businesses (NERA, 2017).

3.2.1.4 Fiscal Policies

Countries are trying to influence the amount of FDI through the fiscal policies implemented on the functioning of the markets. The fiscal policies implemented by countries in the liberal economy are of great importance for foreign investors. Since tax exemptions and deductions have an impact on investment costs, companies make investment decisions according to their tax policies (OECD, 2008).

Tax policies, which is one of the most important elements of public finance in terms of countries, are aimed to be carried out in an effective and fair order. In this case, countries want to attract FDI with tax incentives in order to provide the capital and technology infrastructure they need.

In order to attract FDI, countries often cut tax rates. These reductions lead to competition among developing countries in a similar position. In this competitive

environment, there are much greater discounts and exemptions to attract more FDI. This increased competition may in some cases result in FDI movement and transfer of resources to more advantageous countries (Sun et al., 2002:83-84).

In the last two decades, global barriers to FDI have declined considerably. Tax deductions and exemptions are of great importance for companies that want to provide cost advantages in today's market conditions. This is because the increasing production volume and the steady growth of the target markets show that even small tax cuts provide a great advantage. On the other hand, investments, together with the other advantages of free trade agreements and their global formations such as the European Union, mean not only production for the domestic market but also for foreign markets (OECD, 2003).

In case of an advantage in terms of tax burden, companies can make two different choices. First of all, they want to provide competitive advantage in the global market by shifting the production line to the tax advantage country and capturing the cost advantage that the deduction will provide. Secondly, companies that are branched in more than one country spread their raw material supply to different countries taking into account their tax advantages. In this way, even if there is no tax advantage in the host country, they want to have a chance to compete by decreasing their costs by supplying cheap raw materials (Tanzi, 2006).

In particular, developing countries are implementing various incentives and tax deductions to attract FDI. These incentives and deductions are as follows (Emen, 2007):

- Various reductions in corporate income tax rates,
- Applications of tax holiday periods,
- Special incentives and credit policies for investments,
- Accelerated depreciation method
- Deduction on withholding taxes
- Deduction on income taxes
- Advantages provided on insurance charges
- Deductions on customs duty

3.2.1.5 Operation of Administrative and Bureaucratic Mechanisms

FDI investors are interested in the bureaucratic structure of the country where the investment will be made. The reason for this is that the bureaucracy and transaction process that take place in the stages of incorporation and commissioning after the investment decision causes the investment to start late. This is a negative process for the investor and leads the investment decision towards countries or regions where there are few or no bureaucratic obstacles.

Over time, countries have begun to compete to attract foreign investment and reduce bureaucratic barriers. Every year there is a statistic on the issue of countries ranking by the World Bank on the ease of starting a new business.

Table 8: Starting a New Business Convenience Ranking (2017)

Countries	Score	Rank
New Zealand	99,96	1
Canada	98,23	2
Hong Kong	98,20	3
Macedonia, Senegal	98,14	4
Azerbaijan	97,74	5
Singapore	96,49	6
Australia	96,47	7
Georgia	96,13	8
Armenia	96,07	9
Íreland	95,91	10
South Korea	95,83	11
Jamaica	95,61	12
Kosova	95,54	13
Estonia	95,13	14
Swedish	94,64	15
United Kingdom	94,58	16
Belgium	94,49	17
Burundi	94,45	18
Taiwan	94,42	19
Ukraine	94,4	20

Source: <https://data.worldbank.org/indicator/IC.BUS.NREG?view=chart>

3.2.1.6 Regional Trade Agreements

Another factor that affects investment decisions is the bilateral free trade agreements made by the country to be invested or the economic integration it is a member of. The reason that investment decisions are affected is that countries want to evaluate the market advantages provided by these agreements and their economic memberships and foreign trade advantages.

The MIGA (Multilateral Investment Guarantee Agency), which is a kind of insurance aiming to protect the FDI made to the developing countries within the World Bank, was initiated. The main purpose of such a formation is to make FDI safer to developing countries and to pave the way for foreign investments (Samur, 2013). MIGA secures the investments of FDI investors and lenders in the event that certain conditions occur between 15 and 20 years. This is stated by the WTO as follows:

- If the currency cannot be converted,
- In case of transfer restriction,
- In the presence of extraordinary circumstances, like war,
- If the sustainability of the investment is lost due to reasons such as terrorism,
- In cases of social turmoil
- In case of breach of contract

In the event that one or more of these basic articles exist, if the investment made by one of the member states of MIGA, which is among the main organs of the World Bank, the loss of the investor or company is covered by insurance and covered by the fund.

Another agreement to protect foreign investors is the Agreement on Trade-Related Investment Measures implemented by the World Trade Organization. It has been determined by the WTO that some of the investment measures taken by countries in international trade may restrict or disrupt international trade. The WTO accords the right to Member States not to take any measures that discriminate or restriction on foreign products (Gelir İdaresi Başkanlığı, 2009).

3.3 Determinants of Financial and Economic Structure

3.3.1 Market Size and Per Capita Income

One of the most important factors for FDI that developing countries want to attract is the market volume of the host country. In one aspect of the market volume, the domestic market has a sufficient demand volume and in a way provides benefits directly proportional to the size of the markets around it. As a result, the size and volume of both domestic and foreign markets are of great importance for the decision making companies.

For example, instead of exporting to a country with a huge market volume, moving the production line to the country means establishing a direct control over this market. This option should be preferred in cases where the average cost of exports exceeds the costs of production in the market and consequently loses its competitive advantage or the profit rates remain very low.

The existing potential of the market is directly related to the population of the country. Since the population affects the national income per capita, the crowded country will be proportional to the higher sales potential. However, the income of the population will also be related to the product or service to be sold in terms of purchasing power. In general, per capita income indicates whether the purchasing power is low or high. If the population in a country is small and the national income per capita is low, it will reduce the chances of the goods being sold in the domestic market. This will reduce the likelihood of foreign capital to make an investment decision under these conditions (Özalp, 1998).

The concept of market size is evaluated in two parts as sales volume and strategic importance for the investor who wants to make investment decision. If the cost advantage is achieved by carrying the production line, investment decision can be taken. In terms of relations with the foreign market, due to the country's geopolitical position, the easy and low cost transfer of goods produced to other markets and the size structure of these markets may result in investment decision if

the foreign market potential is sufficiently large even if the internal market is insufficient.

3.3.2 Exchange rate

Examples from around the world show that foreign companies diversify FDI across more than one country. In such a case, companies have to invest in more than one foreign currency. Although worldwide payments are made in US Dollars, raw material supply and domestic payments continue to be made in local currency.

The volatility in exchange rates and some uncertainties in the investments of the companies have an impact on the investment decisions of the companies. Because these imbalances and uncertainties are directly influential factors on profitability. A stable exchange rate reduces the risk. However, if the investment is being made on a closed economy, since the targeted domestic market will be in this case, the fact that the local currency is kept in excess value with protective policies will make the trade more profitable. In such a case, foreign investment may result in an increase in FDI inflows due to the increasing purchasing power of consumers (Batmaz and Tunca, 2005).

3.3.3 Inflation

FDI creates new jobs, creating employment in the economy and consequently an increase in income level. Unless there is a fundamental change in the market supply conditions due to increased consumption due to increased income due to general economic principles, prices will cause an increase in general level.

High inflation is an unwanted negativity in an economy in general. Since uncontrolled inflation means a continuous increase and uncertainty in input prices for manufacturing firms, they will consider it risky to invest in high or unstable inflation in the economy when making investment decisions. In such cases, the investment will have to carry a much higher return than usual or have other cost advantages. Therefore, countries attach great importance to ensuring price stability in the financial system in order to attract foreign investment (Kiat, 2008).

3.3.4 Labor Costs

Today, labor costs vary greatly from country to country. Particularly in the Far East countries, low hourly wage practices and proximity to raw materials, depending on the density of the population, provide one of the most important opportunities for foreign investors in order to minimize costs. Especially in recent years, the current high labor costs in western countries have far exceeded the low labor costs in eastern countries. In other words, since the high labor force will mean that the prices of all products are relatively high as well, the high prices of the products produced will mean that the competitive advantage in the foreign market will be lost (Açıklım et al. 2006).

3.3.5 Openness

The fact that the economy is open to the outside is that the commercial structure of the country can move together with the international market, that is to say, the developments in the world economy and changes in the commercial structure (Kazgan, 1985). Since the concept of openness is defined as the ratio of the sum of the import and export figures to the gross national product, it is a projection of foreign trade. This concept is important in terms of showing us how effective the economic policies it is implementing at this stage, how the country in which it deals with the other countries in which it has commercial relations. In order to define this concept of openness, the economy should be in a liberal structure (Saçık, 2009).

3.3.6 Economic Growth

It is defined as the increase in the amount of goods and services in a country within a certain period of time. Economic growth is an increase in national income compared to the previous year. However, investment can be defined as an increase in capital stock compared to the previous year. The main reason for growth is the increase in capital accumulation and an increase in the amount of labor force. In the neoclassical growth model, changes in technology are added. Some of the national income of a country in a certain period is used to create savings. However, the increase in savings alone is not enough to move economic growth forward. Savings must be turned into investments within a certain period of time and new production

facilities should be operational. These new investments may be domestic or foreign. The increase in these investments will lead to an increase in production capacity throughout the economy and will allow production to increase and economic growth to occur (Ağayev, 2010).

3.4 Determinants for Facilitation of Investments

3.4.1 Infrastructure

One of the most important factors for foreign investors is the current state of infrastructure investments in the country where they will invest. For a country that supports infrastructure investments as a government policy, the existence of an advanced infrastructure will have a direct impact on firm profitability as it will reduce costs. Apart from the increase in profitability, the amount, availability and quality of production and trade supporting infrastructure are necessary for the smooth functioning of the production and trade activities of multinational companies (Rehman et al., 2011).

Today, countries prepare detailed infrastructure investment reports for foreign investors. These reports show all planned and ongoing infrastructure projects and financial resources within the country. Particularly energy efficiency, communication technologies and transportation infrastructure are followed by foreign investors.

3.4.2 Investment Incentives

As FDI started to spread rapidly with the increase in liberalization around the world, developing countries started to improve the investment environment within the foreign investors in order to attract these investments to their own countries. They have begun to develop incentive policies and instruments to make their countries a center of attraction for investments.

Although incentive policies have been used to attract new investments to the country, another aspect has been the effort to prevent the existing foreign investors from losing their competitive advantages in the current conditions. Countries can apply these incentives by applying various discounts, granting specific exemptions to companies on certain issues or by introducing exception rules. In addition, other

ways are used such as applying special discount rates in customs duties and providing special interest rates and financing incentives for loans extended (Candemir, 2006).

3.4.3 Economic Freedom

The term economic freedom, in its broadest sense, refers to the equal possession of individual freedom by all in the commercial and economic sphere. Another expression of being free in commercial and economic terms is that the profits obtained through commercial activities can be saved freely without any pressure and intervention. Today, many countries around the world have switched to a free market economy and this concept has an equivalent meaning with economic freedom (Yayla, 2000).

3.4.4 Competitive Advantage

In the case of inter-country trade, the first condition for a more profitable trade is to produce goods or services at the same or more profitable price to the consumer at a cheaper price than the production costs of competing manufacturers. At this stage, competition between competing firms and similar products will come into play. Companies are trying to gain competitive advantage by using brand names and features such as consumer trust and quality standards.

In theoretical terms, the first theory put forward by Adam Smith in the Theory of Absolute Advantages iştir states that a country that produces a product at a lower price should specialize in the production of this product and leave the production of other goods to other countries according to the specialization dimension (Seyidođlu, 2015). The theory is that the country, which has started to produce in the field of specialization, is an exporter of the goods in the sector where it can produce at a lower cost compared to the competing countries, while it will be in an importing position in other goods and product groups (Bekmez, 2008).

3.4.5 Transparency

Investors who wish to make FDI expect that the statistical data, especially economic indicators, of the host country will be obtained in accordance with the rules and regulations. During the investment process, it expects to be aware of the decisions taken by the government and the decisions taken to be understandable. The main purpose of this transparency is to ensure that information and documents can be obtained by everyone without any problems. Transparency has become one of the main determinants of investments since the governments will assume that corruption and risks will increase as the governments move away from transparency (Candemir, 2006).

The most fundamental problem in the concept of transparency is corruption. Fundamentally, in the economic literature, corruption is defined as the sale of a particular state property for the sake of personal interests (Shleifer and Vishny, 1993). Corruption, on the other hand, presents a difficult cost for foreign investors. Because, under a transparent market economy, while all expenditures are fixed and certain, bribery must be bribed in order to proceed with corruption, which in most cases depends on an arbitrary amount. The more the investment grows, the more the amount will be given, and corruption acts as an additional tax on FDI (Aydoğuş et al., 2005).

3.4.6 Intellectual Property Rights

One of the important problems in commercial life is the protection of intellectual property rights. With the increasing technological advances, companies are continuously engaged in research and development activities in order to develop their market shares and achieve customer potential globally. In some cases, these activities may be the result of years of accumulation and work. In this case, it is very important to ensure that these rights are guaranteed and that the investing country guarantees these rights, since the imitation or replication of the new product will result in substantial financial losses. If the new product to be obtained as a result of

its investment can be deprived of such protection, that investment will never be realized (Branstetter and Saggi, 2009).



CHAPTER FOUR

4.ECONOMETRIC ANALYSIS

4.1Literature Review

Trevino et al. (2002) conducted an econometric analysis with the error correction model for the determination of FDI in this study conducted for 7 Latin American countries for the period between 1988-1992. According to the results of the study, there is a positive relationship between FDI and GDP. In addition, a negative relationship was found between current account deficit, inflation and real exchange rate and FDI.

Lall et al. (2003) conducted a regression analysis with the Generalized IPQM Model for the determination of FDI in this study conducted between 1983 and 1994 for Latin America and Caribbean countries. According to the results of the study, there is a positive relationship between FDI and per capita income, money supply, GDP, GDP and tax share in imports. In addition, a negative relationship was found between FDI and exchange rate, taxes, fees and tax share in exports.

In this study conducted by Tuman and Emmert (2004) for 15 Latin American and Caribbean countries between 1979 and 1996, an analysis was performed with OLI model for the determination of FDI. According to the results of the study, there is a positive relationship between FDI and per capita income, FDI national income ratio, foreign trade, real exchange rate, openness, inflation and growth.

In this study conducted by Nasser (2007) for 19 Latin American and Asian countries between 1990 and 2010, panel data analysis was conducted to determine FDI. According to the results of the study, there is a positive relationship between FDI and per capita income, current account deficit and growth.

In this study conducted by Gani (2007) for 17 Latin American and Asian countries for the period 1996-2002, panel data analysis was performed to determine FDI. According to the results of the study, there is a positive relationship between FDI and openness and growth.

In the study conducted by Montero (2008) for 15 Latin American and Asian countries for the period 1985-2003, panel data method was used to analyze the determinants of FDI. According to the results of the study, there is a positive relationship between FDI and per capita income, inflation, openness, current account deficit and GDP. Besides, a negative relationship was found between exchange rate, budget deficit export and FDI.

Amal et al. (2010) in the study conducted for 8 Latin American countries for the period between 1996 and 2008 was analyzed with panel data model for the determinants of FDI. According to the results of the study, there is a positive relationship between FDI and per capita income and openness. In addition, a negative relationship was found between inflation, nominal interest, real exchange rate and growth and FDI.

In the study conducted by Grubaugh (2013) for 74 countries including Latin American countries for the period between 1980 and 2008, the analysis was performed with the dynamic panel estimation method for the determination of FDI. According to the results of the study, there is a positive relationship between FDI and real GDP, openness, growth and delayed FDI. In addition, a negative relationship was found between per capita income and bank loans and FDI.

4.2 Panel Data Analysis

Various data types are used in economic researches. They can be in the form of a horizontal section, time series or panel data. Appropriate models are used according to each data type. In this study, panel data analysis and consequently fixed effects and random effects models will be examined and therefore, the model specific to panel data type will be examined. The following model is used according to the panel data type.

$$y_{it} = \beta_1 i_t + \beta_2 i_t + \dots + \beta_{k_i} X_{k_i} + \epsilon_{it}$$

One way to incorporate the variation in or between units in the studies using panel data or differences in units and over time; it assumes that the present change leads to change in some or all of the coefficients of the regression model. The models

where coefficients are assumed to vary with units or with units are called “Fixed Effect Models”. The general formulation of the model assumes that differences between units can be captured in differences in the fixed term.

4.3 Fixed Effects Model

Fixed effects model; is a linear regression model of constant term that varies across units. The fixed effects regression model has n different fixed terms, one for each existing unit. These fixed terms can be represented by indicator variables. These indicator variables include the effects of all excluded variables that vary from one unit to another but are fixed over time.

It is possible to mention about two basic approaches used in panel data regressions. These are: Fixed Effects Model (FEM) and Random Effects Model (REM). Panel data regression model will be examined before moving to these models. As described in Model 1, panel k “is a panel data regression model;

$$y_{it} = \beta_{1it} + \beta_{2it} + \dots + \beta_{kit} X_{kit} + \epsilon_{it}$$

Here, $i = 1, 2, \dots$ indicates the cross-sectional unit G and $t = 1, 2, \dots, n$ indicates the time period. Y is the explained variable, X is the descriptive variable and k is the number. ϵ is the error term with zero mean and constant variance.

Furthermore, the mean of the non-probability error ϵ is assumed to be zero and constant variance. However, when estimating the model, various assumptions are made about the constant term, slope coefficients and error term of the model. It is possible to estimate five different models depending on the assumptions made about them.

Both constant and slope coefficients do not change with respect to both units and time, and the term error can represent differences in time and units.

While the slope coefficients are constant, the fixed term varies by units, but may remain constant over time.

While the slope coefficients are constant, the fixed term may vary according to units and time.

Both constant and slope coefficients may vary by units.

All coefficients can vary according to both time and units.

As mentioned in Judge et al. (1985) and Gujarati (2003), in b-d models, it is possible to classify separately depending on whether the coefficients are constant or random.

Fixed effects regression model; it is used to control neglected variables that vary between events but are constant over time.

Assuming that all behavioral differences between units are captured by the constant, this characteristic model is called the unit-specific fixed effects model and the constants are called unit constant effects. In both combined and panel models, errors are assumed to be both in-units and between-units with constant variance and serially independent.

4.4 Random Effect Model

Since there are too many parameters in the fixed effects model, the degree of freedom decreases. However, this problem can be avoided if model μ_{it} “is assumed to be random in the model. In this case, U_{it} and μ_{it} have zero mean and constant variance and μ_{it} is independent of U_{it} . If units are to be withdrawn by chance from a large population, it is appropriate to use the random effects model.

The random effects model is the same as the fixed effects model in terms of defining a separate number of sections to each individual, but this approach assumes that they can be regarded as random as perceived as drawn from a bag containing fixed terms (section coefficients) and can be considered as part of the error term. As a result, a determination is made of an integral cross-sectional coefficient, a set of independent variables and a combined error term, of which we are concerned. This compound error consists of two parts. Part of it shows how different the number of sections of this unit is for a given individual and for a given time period from the whole section coefficient. The other part is the known random error which shows the random deviations of the individual in the relevant time period.

In the studies conducted with panel data, the change arising from the differences between units or units and time can be examined by using Etkili Fixed Effect Models gibi or by using Etkili Random Effect Models incel. In random-effect models, changes in units or units and over time are included in the model as a component of the term error. The main reason for this is that it is desired to prevent loss of degree of freedom encountered in fixed effect models.

If the data to be used in the model is randomly selected or selected as representative from the population, the Random Effects Model is preferred over the Fixed Effects Model (Baldemir and Keskiner, 2004). The main advantage of the Random Effects Model is that the degree of freedom encountered in Fixed Effect Models prevents the risk of loss.

Assumptions of Random Effects Model;

Panel data model is defined correctly

A random sample is taken from the horizontal section.

μ_i is rigid external due to unit and / or time effects and is not correlated with μ_i .

The panel data model does not have a full multi linear connection problem.

Unit error variable μ_i and residual error variable u_{it} have constant variance.

Error terms are autocorrelated.

The validity of the hypothesis that the coefficients representing the unit or unit and time differences, that is, the error term components of the random effect model are unrelated to the independent variables in the model, can be examined with the test statistics proposed by Hausman (1978).

In this case, it is necessary to examine whether the difference between the parameter estimators of the fixed effect model and the parameter estimators of the random effect model is statistically significant. Hausman test statistic is used to choose between two models. The Hausman test statistic shows the distribution of the degree of freedom k k under the null hypothesis that the random effects estimator is correct. If it happens, it can be decided that the error terms components of the

random effect model are not related to independent variables. In this case the constant model will be preferred.

Basic hypothesis;

H₀: There is no correlation between the explanatory variables and the unit (specific) effect.

In this case, since both estimators are consistent, the difference between fixed and random effects estimators is expected to be very small. Since the random effects estimator is more efficient, its use will be appropriate.

Alternative hypothesis;

H₁: There is a correlation between the explanatory variables and the unit (specific) effect.

In this case the random effects estimator should deviate and the difference between the estimators is expected to be large. Therefore, the fixed effects model should be preferred because it is consistent.

If the Hausman test informs that fixed effects and explanatory variable are unrelated, random effects should be used as a more effective estimator.

In the Hausman test, if the null hypothesis is rejected, it is concluded that the use of the random effects model is more appropriate.

The Hausman test tests the basic hypothesis that the random effects estimator is valid with the help of statistics that correspond to the chi-square distribution with degrees of freedom. When calculating the Hausman test statistic, H statistic is calculated by using the difference between the variance covariant matrices of the generalized least squares estimator and the in-group estimator.

4.5 Dataset

In this study, the foreign direct investment flows and the existing foreign direct investment stocks of the Latin American countries were examined separately as independent variables. These countries are Argentina Bolivia Brazil Chile Colombia Ecuador Paraguay Peru Uruguay and Venezuela. Six data of these countries were examined as dependent variables. These are FDI stock inflation gdp trade openness percapita for FDI flows, FDI flow inflation gdp trade openness and GDP percapita for FDI stocks.

Panel data analysis results of this study are as follows;



Figure:1 Pool estimation model

Dependet variable: FLOW
 Metod: Pooled Least Squares
 Sample:2010-2017
 Included Observations:8
 Cross-sections included:10
 Total pool (balanced)
 observations:80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
STOCK	0.213912	0.044201	4.839514	0.0000
PERCAPITA	-131058.1	1579270.	-0.082987	0.9341
GDP	7.28E-08	6.33E-07	0.115009	0.9087
INFLATION	-4528918.	65324216	-0.069330	0.9449
OPENNES	-42381063	2.38E+08	-0.177718	0.8594

R-squared	0.264927	Mean dependet var.	2.52E+10
Adjusted R-squared	0.225723	S.D. dependet var.	8.44E+10
S.E of Regression	7.43E+10	Akaike info criterion	52.96125
Sum squered resid	4.14E+23	Schwarz criterion	53.11013
Log likelihood	-2113.450	Hannan-Quinn Crter.	53.02094
Durbin-Watson stat	2.500125		

Figure:2 Fixed effect model

Dependet variable: FLOW
 Metod: Pooled Least Squares
 Sample:2010-2017
 Included Observations:8
 Cross-sections included:10
 Total pool (balanced)
 observations:80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.24E+1	1.20E+11	-1.036882	0.3036
STOCK	0.291583	0.368577	0.791106	0.4318
PERCAPITA	10661676	8838312.	1.206302	0.2321
GDP	7.74E-08	1.80E-06	0.042891	0.9659
INFLATION	49030548	94386796	0.519464	0.6052
OPENNES	2.50E+08	1.34E+09	0.185676	0.8533

Fixed Effects (cross)

AGENTINA	-2.77E+10
BOLIVA	7.54E+10
BRAZIL	-5.01E+10
CHILE	-9.44E+10
COLOMBIA	1.46E+10
ECUADOR	4.51E+10
PARAGUAY	5.68E+10
PERU	5.90E+10
URUGUAY	-5.62E+10
VENEZUELA	-2.26E+10

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.303720	Mean dependet var.	2.52E+10
Adjusted R-squared	0.153752	S.D. dependet var.	8.44E+10
S.E of Regression	7.77E+10	Akaike info criterion	53.15703
Sum squered resid	3.92E+23	Schwarz criterion	53.60366
Log likelihood	-2111.281	Hannan-Quinn Crter.	53.33610
F-Statistic	2.025235	Durbin-Watson stat	2.482839
Prob (F-statistic)	0.029120		

Figure:3 Random effect model

Dependet variable: FLOW
 Metod: Pooled EGLS(Cross-section random effects)
 Sample:2010-2017
 Included Observations:8
 Cross-sections included:10
 Total pool (balanced) observations:80
 Swam and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.24E+10	6.13E+10	1.181063	0.2413
PERCAPITA	1232740.	3352923.	0.367661	0.7142
GDP	-6.99E-07	1.02E-06	-0.687825	0.4937
INFLATION	-45216614	76337321	-0.592326	0.5554
OPENNES	-1.02E+09	7.19E+08	-1.419057	0.1600

Randomv Effects (cross)

AGENTINA	-2.18E+10
BOLIVA	-2.37E+09
BRAZIL	5.77E+10
CHILE	-6.11E+09
COLOMBIA	-8.11E+09
ECUADOR	-1.37E+10
PARAGUAY	1.24E+10
PERU	9.91E+09
URUGUAY	-1.98E+10
VENEZUELA	-8.12E+09

Effects Specifiication

	S.D.	Rho.
Cross-section Random	3.56E+10	0.1741
	7.75E+10	0.8259

Weighted Statistics

R-squared	0.41919	Mean dependet var.	1.54E+10
Adjusted R-squared	-0.009179	S.D. dependet var.	7.68E+10
S.E of Regression	7.71E10	Sumsqured resid.	4.46E+10
F-Statistic	0.820372	Durbin-Watson stat	2.412458
Prob (F-statistic)	0.516235		

Figure:4 Hausman Test Result

Correlated Random Effects – Hausman Test
Pool:DETE
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.394303	4	0.4941

Cross-section random effects test comparison:	Variable	Fixed	Random	Var(Diff.)	Prob.
	PERCAPITA	120682...	1232739.8...	63287654...	0.1732
	GDP	0.000000	-0.000001	0.000000	0.5923
	INFLATION	475508...	-45216613...	30274985	0.0918
	OPENNES	1195743...	-10199870	125433721	0.3089

Cross-section random effects test equation:
Dependent variable: FLOW
Method:Panel Least Squares
Sample:2010-2017
Included observations:8
Cross-section included:10
Total pool (balanced)observation:80

	Variable	Coefficient	Std. Error	t-Statistic	Prob.
	C	-9.3E+10	1.13E+11	-0.823768	0.4130
	PERCAPITA	12068220	8633061.	11.397907	0.1668
	GDP	9.56E-08	180E-06	0.053155	0.9578
	INFLATION	47550822	94100396	0.505320	0.6150
	OPPENNES	1.20E+08	1.33E+09	0089853	0.9287

Effects Specification

Cross- section fixed (dummy variables)			
R-squared	0.297016	Mean dependet var.	2.52E+10
Adjusted R-squared	0.158550	S.D. dependet var.	8.44E+10
S.E of Regression	7.75E+10	Akaike info criterion	53.14161
Sum squared resid	3.96E+23	Schwarz criterion	53.55847
Log likelihood	-2111.665	Hannan-Quinn criter.	53.30874
F-Statistic	2.145040	Durbin-Watson stat.	2.593640
Prob (F-statistic)	0.022345		

Figure:5 Pool estimation model

Dependet variable: STOCK
Metod: Pooled Least Squares
Sample:2010-2017
Included Observations:8
Cross-sections included:10
Total pool (balanced) observations:80

Variable	Coefficie nt	Std. Error	t-Statistic	Prob.
FLOW	1.112451	0.229868	4.839514	0.0000
PERCAPITA	15178769	33146399.	4.824174	0.0000
GDP	-1.28E-06	1.44E-06	-0.889725	0.3765
INFLATION	-85625008	1.49E+08	-0.576034	0.5663
OPENNES	-7.72E+08	5.37E+08	-1.438857	0.1544

R-squared	0.341686	Mean dependet var.	1.30E+11
Adjusted R-squared	0.306576	S.D. dependet var.	2.03E+11
S.E of Regression	1.69E+11	Akaike info criterion	54.61001
Sum squered resid	2.15E+24	Schwarz criterion	54.75888
Log likelihood	-2179.400	Hannan-Quinn Crter.	54.66970
Durbin-Watson stat	0.580011		

Figure:6 Fixed effect model

Dependet variable: STOCK
 Metod: Pooled Least Squares
 Sample:2010-2017
 Included Observations:8
 Cross-sections included:10
 Total pool (balanced)
 observations:80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.11E+11	3.81E+10	2.904988	0.0050
FLOW	0.032706	0.041343	0.791106	0.4318
PERCAPITA	4429107.	2942186.	1.505380	0.1371
GDP	5.94E-08	6.04E-07	0.098338	0.9220
INFLATION	-6630012.	31666441	-0.209370	0.8348
OPENNES	-4.50E+08	4.47E+8	-1.006921	0.3177

Fixed Effects (cross)

AGENTINA	-7.19E+10
BOLIVA	-8.21E+10
BRAZIL	5.47E+11
CHILE	6.95E+10
COLOMBIA	4.85E+09
ECUADOR	-9.79E+10
PARAGUAY	-8.20E+10
PERU	-4.58E+10
URUGUAY	-1.28E+11
VENEZUELA	-1.13E+11

Effects Specifiication

Cross-section fixed (dummy variables)

R-squared	0.986550	Mean dependet var.	1.30E+11
Adjusted R-squared	0.983654	S.D. dependet var.	2.03E+11
S.E of Regression	2.60E+10	Akaike info criterion	50.96928
Sum squered resid	4.40E+22	Schwarz criterion	51.41591
Log likelihood	-2023.771	Hannan-Quinn Crter.	51.14834
F-Statistic	340.561	Durbin-Watson stat	1.159165
Prob (F-statistic)	-		

Figure:7 Random effect model

Dependet variable: STOCK
 Metod: Pooled EGLS(Cross-section random effects)
 Sample:2010-2017
 Included Observations:8
 Cross-sections included:10
 Total pool (balanced) observations:80
 Swam and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.31E+11	4.31E+10	3.045912	0.0032
FLOW	0.52575	4.041133	1.278164	0.2052
PERCAPITA	5299698.	2623399	2.020165	0.0470
GDP	-3.25E-07	5.76E-07	-0.564439	0.5242
INFLATION	-22797642	30977690	-0.735937	0.4641
OPENNES	-9.52E+08	4.25E+08	-2.241516	0.0280

Randomv Effects (cross)

AGENTINA	-8.80E+10
BOLIVA	-6.93E+10
BRAZIL	5.18E+11
CHILE	6.68E+10
COLOMBIA	5.82E+09
ECUADOR	-9.39E+10
PARAGUAY	-5.79E+10
PERU	-4.08E+10
URUGUAY	-1.33E+11
VENEZUELA	-1.08E+11

Effects Specifiication

	S.D.	Rho.
Cross-section Random	7.56E+10	0.8941
Idiosyncratic random	2.60E+10	0.1059

Weighted Statistics

R-squared	0.103169	Mean dependet var.	1.56E+10
Adjusted R-squared	0.042573	S.D. dependet var.	3.46E+10
S.E of Regression	3.39E+10	Sumsqured resid.	8.49E+22
F-Statistic	1.702560	Durbin-Watson stat	0.592509
Prob (F-statistic)	0.144607		

Unweighted Statistic

R-squared	0.157488	Mean dependet var.	1.30E+11
Sum squared resid	2.76E+24	S.D. dependet var	0.018261

Figure:8 Hausman Test Result

Correlated Random Effects – Hausman Test
Pool:DETE
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.		
Cross-section random	56.493337	5	-		
Cross-section random effects test comparison:	Variable	Fixed	Random	Var(Diff.)	Prob.
	FLOW	0.032706	0.05575	0.000014	-
	PERCAPITA	4429106	5299697.6	17442380	0.5134
	GDP	-	-	-	0.3337
	INFLATION	-6630012..	-22797642	43146210	0.0138
	OPENNES	-4500883	65204684	19405959	0.0003

Cross-section random effects test equation:
Dependent variable: STOCK
Method:Panel Least Squares
Sample:2010-2017
Included observations:8
Cross-section included:10
Total pool (balanced)observation:80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.11E+11	3.81E+10	2.904988	0.0050
FLOW	0.032706	0.041343	0.791106	0.4318
PERCAPITA	4429107	2942186.	1.505380	0.1371
GDP	5.94E-08	60.04E-07	0.098338	0.9220
INFLATION	-6630012	31666441	0.209320	0.8348
OPPENNES	-4.50E+08	4.47E+08	1.006921	0.3180

Effects Specification

Cross- section fixed (dummy variables)			
R-squared	0.986550	Mean dependet var.	1.30E+11
Adjusted R-squared	0.983654	S.D. dependet var.	2.03E+11
S.E of Regression	2.60E+10	Akaike info criterion	50.96928
Sum squared resid	4.40E+22	Schwarz criterion	51.41591
Log likelihood	-2023	Hannan-Quinn criter.	51.14834
F-Statistic	340.5610	Durbin-Watson stat.	1.159165
Prob (F-statistic)			

When Hausman test results are examined, it is seen that probability values are greater than 0.05. Since the probability values of all three models are greater than 0.05, it can be said that the random effects model and the associated estimators will give more consistent results in the panel data analysis compared to the fixed effects model and related estimators.

When the panel data analysis results of the models are evaluated as a whole, it can be interpreted that there are relations and / or relationships between variables and fdi values for all three models. H1 hypothesis, which states that there is a relationship between variables and FDI amounts, was accepted for all three models.

CONCLUSION

Today, in the current economic conjuncture of the globalized world, foreign direct investments have become the most important determinants of the real investment and production levels of the national economies, and they have become more important for the developing national economies that have difficulty in attracting portfolio investments to their countries.

According to the results of the analysis, which reflects the main purpose of this study, the most obvious macroeconomic determinant of foreign direct investment has been the openness variable in the models of national economies. From this result, it can be concluded that foreign investors have made their investments for foreign trade. In addition, another important macroeconomic determinant of foreign direct investment is inflation variable. This shows that economic stability is an important criterion for foreign investors. In summary, according to the regression results, Chilean regression model was the most effective model of inflation and openness on FDI, while Argentina was the least effective model.

As a result of this study, it was seen that the size of the foreign trade volume of the national economy was particularly important for attracting foreign direct investments to their own countries. It is understood here that the government

authorities should prioritize export-promoting policies in these countries' economies. Subsequently, another important result for government officials is that they can take measures to eliminate economic instability. Anti-inflationary policies should be implemented to prevent the rise of low inflation, which is an important indicator of economic stability. At this point, it is important that the government officials and central banks can make decisions to prevent inflation in implementing monetary and fiscal policies.



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