Determinants of Foreign Direct Investment for OECD Countries: Evidence from Dynamic Panel Data Analysis

Melek AKDOĞAN GEDİK
Çukurova University
Faculty of Economics and Administrative Sciences
Adana /Turkiye
e-mail: makdogan@cu.edu.tr
Tel : 90 322 338 72 54 ext :213

Abstract

Foreign Direct Investment has great importance for both developed and developing countries on the purpose of economic growth and development. In this paper it is aimed to investigate factors that determine foreign direct investment inflows in the framework of fiscal, economic, political and institutional dimensions. In terms of empirical search, the factors that effect FDI are investigated for the 11 OECD countries between 1995-2008 period , by using Dynamic Panel Data Model and GMM Estimation Technique of Arellono-Bover (1995) and Blundell and Bond (1998). It has been observed that political and institutional factors also have great importance to be considered beside economic and fiscal factors.

Keywords : Foreign Direct Investment, Taxation, Dynamic Panel Data
Jel: C23,F21,H24,H25,H30,

1.Introduction

The phenomenon of globalization is identified as procuring interaction and integration worldwide in varied disciplines (including economical, financial, social, technological, cultural, political and ecological areas) is evaluated from different perspectives in studies Thus, based on the interaction between disciplines, it is getting hard to specify the precise borders for defining globalization.

When evaluated from financial perspective, globalization integrates separate national economies to become one economy worldwide. This is recognized by means of more investment and commercial flow, mobility of labor and rapid transfer of technology, deregulation of financial markets, impairment of commercial and investment obstacles, diminishing costs in communication and transportation cause this tendency to increase. As commercial and investment limitations disappear, investors are able to take advantage of increasing investment opportunities (Edwards and Rugy, 2002:43, Mc Gee, 2004, 1).

By integrating the parts it can be structured a more dynamic global economy. This dynamic structure, causes restriction of money control and public finance management where government has the sovereignty right, helps production to take place beyond national borders and consumption concept to internationalization. The previous term of globalization (can be called as in1890-1914), capital and also labor were not mobile. After 1914, by taxation, migration was restricted in developed countries. While complementariness was the prevailing opinion until 1950's, it gave way to competition concept during subsequent years. Therefore, globalization expressed a long process. This process was the follow-up of the tendency of infinite savings which was the final goal of the economic system that was formed by merchant unions in Mediterranean a thousand years ago. The crisis in 1970's, which was mentioned with money shortages and oil shocks, was cited together with globalization process. In order to give a global

characteristics to any product , it is necessary to increase production integration in terms of worldwide scale by combining capital and service markets. In this manner , competition substitutes organization and integration. This change makes itself felt irruptive in commercial, financial and fiscal areas. Capital controls were relaxed during 1980. In the recent term of globalization, capital and also labor were much more mobile than before by the impact of technological changes as fund transfers through internet banking and flexibility of exchange controls were recognized (Yonah, 2000, 1-40, Adda, 2008, 11, 220, Asher and Rajan, 2001,119).

With the globalization process, variation and competition conditions in world economies increase the efforts of countries to close the factor deficit. Recently, the reason of structural problems experienced/observed in all national economies is shown as factor deficit. In other words, structural problems in national economies result from inadequate capital investment. One of the alternative solutions to overcome this problem is to increase of international fixed capital inflow.

The reason of this cutthroat competition[i] experienced between countries and sometimes even regions can not be limited with the positive effect of foreign capital in countries' economic growth. Foreign direct investment is also important in terms of providing benefits in countries where it flows such as new technology, know how, management skills, marketing contribution and export opportunity.

Because of the importance of the issue, both developed and developing countries get into cutthroat competition to draw the opportunities provided by foreign direct capital investments. In this competition, countries increase the quality of environment and policies of investment, apply reforms for investment environments and try to improve the most efficient tools for investments.

In this paper, it is aimed to analyze the relation between fiscal,economic, political and institutional variables and FDI for 11 countries OECD between 1995-2008 period by using Dynamic Panel Data Model and GMM estimation technique of Arrelono –Bover (1995) and Blundell –Bond (1998).

2. The Importance of Foreign Direct Capital Investments

The most important problem for developing countries are facing to reach their development goal, is capital inadequacy. It is crucial for these countries to bring foreign direct capital investments into the economy for promoting policies which can come over the obstacles to capital inadequacy.

Foreign direct capital investments are described in IMF (1993) and OECD (1999) reports as a settled natural entity or corporate body's acquiring equity shares of settled entity in an economy other than the economy the investor is participating in a way they can be active in entity's management in the long run.

Duce and Espana (1994) summarized the components of foreign direct capital investment transactions in terms of three basic issue : (i) Equity capital: comprising equity in branches, all shares in subsidiaries and associates (except non-participating, preferred shares that are treated as debt securities and are included under other direct investment capital) and other capital contributions such as provisions of machinery, etc. (ii) Reinvested earnings: consisting of the direct investor's share (in proportion to direct equity participation) of earnings not distributed, as dividends by subsidiaries or associates and earnings of branches not remitted to the direct investor. If such earnings are not identified, all branches' earnings are considered, by convention, to be distributed. (iii) Other direct investment capital (or inter-company debt transactions): covering the borrowing and lending of funds, including debt securities and trade credits, between direct investors and direct investment enterprises and between two direct investment enterprises that share the same direct investor. As it has been mentioned before, deposits and

loans between affiliated deposit institutions are recorded as *other investment* rather than as *direct investment*.

With globalization, some differences in the structure of foreign direct capital investments appear. Dunning (1994, 3) evaluates this issue in country and firm scale. Renaissance of market system, globalization of economic activity, enhanced mobility of wealth creating assets, increasing number of developing countries, convergence of economic structures among developed countries and some newly industrializing economies, changing criteria by which governments evaluate cost and benefits of FDI take place in the changing world of foreign direct investment from a country's view. In addition to this increasing need to exploit global markets, competitive pressure to procure inputs from the cheapest possible sources, more efficiency seeking investment by regional integration, reduction of transfer costs, developing communication opportunities, oligopolistic competition among leading firms, new territorial opportunities for FDI, the need to tap into foreign sources of technology and organizational capabilities take place in the changing world of foreign direct investment from a firm's view.

Providing economic growth, raising investments, raising export share in world market, raising employment opportunities, providing technologic improvement, etc are among the development goals of the developing countries. From this point of view, foreign direct capital investments are important for both developed and developing countries. Such countries having progress goal try to reach their development aim attracting foreign direct capital investments. Besides, foreign direct capital investments must be evaluated as a factor assuring the market economy to operate efficiently as well as meeting the source requirement of countries. The effects of foreign direct capital investments on employment, technology, balance of payment, tax revenues, capital, saving and investment decisions are the most frequently met titles in literature.

In addition to all these positive effects, some negative effects of foreign direct capital investments on national economy should also be discussed. Foreign direct capital investments, causing the progress of import against export, might have a corruptive effect on balance of payments. In this way, they cause domestic fertility advantage to vanish, prices of capital goods to increase and domestic investments to decrease. Since foreign companies have, technologically, competition superiority, they often cause domestic investors to suffer. In an environment where incomplete competition exists, where there are high technologic differences between foreign and domestic companies or where host country does not have a qualified labor force, market share of national companies might decline based on foreign direct capital and many of them might have to pull out of market. Foreign direct capital investments cause prices and rates of domestic supplied goods to increase, employment and number of domestic companies to decrease. Foreign direct capital investments also cause savings and investments to be excluded based on conditions to reach loan opportunities (Ghazali, 2010, 125, Fry, 1992, 25, 26, Agosin and Mayer, 2000, 14, Borenszkein et al. 1998, 133, Bartels and Crombrugghe, 2009,20-21).

3. Economic Determinants of Foreign Direct Investment

It is observed that economies are in search of improving their skills to use their dynamics for bringing foreign direct capital investments into the country. International investors enter into an economy through merger, privatization, joint ventures, license and patent agreements, new investments and improving current business. Some of the main factors affecting foreign direct capital investments inflow are legal factors, political, administrative and institutional factors, economic conditions, host country policies, multinational economic strategies and strategies related to investment environment. Market structure, sources and competitiveness take place among economic factors specifying foreign direct capital investments. Macroeconomic policies are entitled as private sector, commerce and industrial

structure, host country policies. Foreign direct investment policies, risk ability, location, source and transfer integration take place among multi-national economic strategies (Sanjara, 1999, Tran.Cho, 2003, 100). On the other hand, ownership structure, constitution and laws refer to legal factors. The existence of an effective public administration is the most important indicator of administrative and institutional factors.

Market orientation, source / strategic asset orientation and efficiency orientation are investment strategies which take place in economic factors. Market size, progress of market, the opportunity for entering regional and global markets, consumer preferences and market structure are seen as indicators related to markets in investment place preference. Raw materials, low wage, unqualified labor, qualified labor, hard infrastructure, R&D, technological, innovative and created assets are factors providing competitive advantage economically. Cost of sources and efficiency of labor, cost of other inputs, membership to regional integration agreement and scale economy are mentioned as the factors determining the economic efficiency of investments. Investment promotion, investment incentives, costs, after investment service and social factors can be reflected as elements taking part in specifying investment environment (UNCTAD, 1998, 9, Dunning, 2006, 206).

Economic, political and social stabilization are important indicators for bringing foreign investments into national economy. The biggest task of the government is to create a democratic political environment for foreign direct capital acquisition. Investors who do not like risks prefer economies in which less political ambiguity is observed. Foreign investors often prefer to strengthen capital structure by means of mutual agreements rather than multilateral commercial agreements that are so difficult to implement. Tax policies, trade policies, privatization policies, and policies related to market structure and operation are accepted as factors procuring political stabilization (UNCTAD, 1998, 91, Asiedu, 2006, 74).

Foreign investors prefer economies of developed countries for infrastructure investment. Strong countries, procuring cost advantages, provide a competitive advantage with regards to such infrastructure investments as transportation, communication, human capital, law and energy.

Privatization practices, which are carried out for bringing idle public funding into force, support the formation of efficiency throughout the economy procuring the opportunity of introducing management experience and "know how".

Chakrabarti (20012003), Clegg and Green (1999), Banga (2003), Blonigen (2004, 4-19), Assunçao et al. (2011) summarize the factors assuring foreign direct capital investments' bringing in national economy and their importance as follow technology, labor costs, openness, trade deficit, exchange rate, inflation rate, taxes, trade barriers, growth rate, market size, infrastructure investments and instability. By following this path, we will explain these factors in a detailed manner.

3.1 Technology

Transfer of technology recognized together with foreign direct capital investments plays an important role in economic progress. Technology, technical equipment and labor force transferred with capital to the country where investment is materialized support the progress of production. Multinational companies accelerate the spread of technology with their investments in different countries. Many countries have the chance to practice the success to increase their technological progress and R&D activities by means of foreign direct capital investment. On the other hand, foreign direct capital investments, providing externality in technological level, support the domestic productivity increase of host country by causing the reduction in production costs (Driffield and Love, 2003, 659-660, Blomström and Kokko, 1998, 24-25, Fosfuri and Motta, 1999, 617, Siotis, 1999, 251). By means of having R&D

activities in international level, the view that technology sourcing will encourage the foreign direct capital investments is prevailing (Pearce, 1999, 157, Cantwell and Janne, 1999, 119)

Technology and saving-investment balances must not be ignored during the analyze of the effects of foreign direct capital investments on development. It is possible to procure long range growth opportunity with the existence of multi-national companies, technical progress, physical capital formation, improving management skills and formation of marketing network (Dees, 1998, 186, Kukeli, 2006, 302).

3.2 Labor Costs

The most important factor among the indicators of foreign direct capital investments is the labor costs. In developing countries, based on rapid increase in population, labor costs are relatively low. Foreign investors prefer investment areas where labor is cheap to save or increase the market share. With globalization, the formation of new employment opportunities based on the integration of labor markets is a matter of debate. Increasing trade environment, international technology transfer and foreign direct capital investments are, based on globalization, the factors affecting labor force. It is observed that while the interaction of labor force and increasing commerce environment are subjects to the analyses, relation of foreign direct capital investments are ignored. The effects of foreign direct capital investments differ based on the development levels of countries. Since labor intensive production technique is used in developing countries, providing employment effect of foreign direct capital investments is discussed. Whereas in developed countries, when technological and capital intensive production techniques are rather used, foreign capital investments affect employment conditions adversely. On the other hand, foreign direct capital investments cause the employment and wage levels to change also in sectoral impact context (Jenkins, 2006, 116, Baldwin, 1995, 49).

Swedenborg (1979) , Wheeler and Mody (1992), Schneider and Frey (1985) , Vijayakumar et al. (2010) provides positive relationship between FDI inflows and labor cost.On the other hand empirical studies of Goldbrough (1979),Saunders (1982),Flamm (1984),Schneider &Frey (1985), Culem (1988), Shamsuddin (1994), Pistoresi (2000),Woodward and Rolfe (1993)and Botric and Skuflic (2006) states negative relationsip between FDI inflows and labor costs . Owen (1982),Gupta (1983),Lucas (1990), Sader (1993), Tsai (1994) and Biswas (2002) empirical research emphasizes no significant relationship FDI inflows and labor costs. So, it is difficult to determine the direction of the relationship based on empirical studies.

3.3 Openness

The ratio of foreign trade volume (import+export) to Gross National Product (GNP) is an important indicator in determining the point of openness of a country. The more the national economy is engaged in open economic activity, the more it will succeed to attract foreign direct capital investment. The existence of tariffs, dumping, licensing and endorsement operations in foreign trade in a country obstructs foreign trade business, and therefore causes foreign investors to choose another economy. Kravis&Lipsey (1982), Culem (1988),Edward (1990), Pistoresi (1990), Cleeve (2008), Mhlanga et al. (2010), Botric &Skuflie (2006) and Asideu (2006) reported a strong positive effect of openness on FDI. Schmitz and Bieri (1972), Wheeler and Mody (1992), Mohamed and Sidiropoulos (2010) and Vijayakumar et al. (2010) obtained an insignificant link between openness and FDI.

3.4 Trade Deficit

The net effect of foreign direct capital investments on balance of payments depends on import-export balances and capital inflows and outflows. Competition advantages of multi-national companies

might cause export proceeds to increase. Depending on the increase of export, progress might be observed in countries where shortage of foreign currency is experienced. The capital, which is included in national economy for the purpose of investment, causes export proceeds to increase depending on production. However, this progress might affect production factor and intermediate goods' import balance of payments of multi-national companies negatively. The impacts of foreign capital investments on balance of payments, at the same time, depend on economies of scale and transfer costs (Blomström ve Kokko, 1998, 24, Fontagne, 1999, 6-14). Torissi (1985), Schneider and Frey (1985), Pistoresi (2000), and Lucas (1993) observed a strong negative correlation between trade surpluses and FDI. Culem (1988), Tsai (1994) and Shamsuddin (1994), on the other hand , reported a significantly positive effect of trade deficit on FDI.

3.5 Exchange Rate

Mobility and ambiguity of foreign exchange rates affect both profitability and location preferences of preceding companies. Permanent rise in value of one country's money against the money of another country causes costs and prices to increase in the country whose money rises in value. Impacts of foreign exchange rates on foreign direct capital investments are analyzed under two main titles as income and cost. In case of rise in value of foreign exchange rate, that an investor's, who produces for the purpose of export, raising his use of national inputs in production and that an investor's providing opportunity to increase his export and profit are known as income effect. On the other hand, with regards to the rise in foreign exchange rate, that an investor's, who produces for the purpose of export, using imported input is known as cost effect since it might cause his export and profit to decline.

Goldberg and Klein (1998) , Trevino et al. (2002), Froot and Stein (1989, 1991), Blonigen (1995) and Blonigen and Feenstra (1996) observed strong negative correlation between a country's exchange rate (foreign currency per domestic currency) and FDI. Edwards (1990) reported a significantly positive effect of the exchange rate on FDI. Blonigen (1997), and Tuman and Emmert (1999) observed that the exchange rate has an insignificant effect on FDI.

3.6 Inflation Rate

One of most important indicator of economic stabilization is inflation rate. Since countries which have high inflation rate are considered risky with regards to investors, they are not preferred. On the other hand, because anti inflationarypolicies have demand contractionary effect, they obstruct companies' income generation opportunities. Therefore, with regards to the investor, that price stability is provided in the country where investment is made has great importance. Empirical studies of Schneider & Frey (1985),Mohamed & Sidiropoulos (2010) and Asiedu (2006) provides a negative relation between inflation and FDI inflows.On the other hand, Schneider & Frey (1985), Vijayakumar et al. (2010) and Mhlanga et al. (2010) obderved the relationship insignificant .

3.7 Taxes

Another element affecting foreign direct capital investments is taxes. Taxation takes a critical role in comparative political economy named as globalization. Due to globalization, internationalization of production factors and competition increase. Eventually, tax systems of the countries become an important issue for economists and politicians. While restructuring tax system, constraints faced by politicians and economists are concerned as increasing demand for social protection on the basis of competition (Steinmo,2002, 839).

In case of tax competition, governments must compel tax distribution and public service in a more efficient and disciplined manner. Capital has critical role for the countries which are suffering from

unemployment. By providing tax advantages to capital, employment opportunities can be improved. Because of tax competition that yields to purchase more goods and services with high quality and low price, higher welfare level can be achieved. By lowering tax rates, countries can improve their growth and development process. Performance of private sector can be positively affected by increasing amount of funds that are gained by competition. Governments are motivated to fulfill voter's preferences due to tax competition. Improvement of investment environment, competition conditions, changing investment conditions, increasing national income, employment, exports, foreign direct investments, technology transfer and decreasing government borrowing requirements can be summarized as the other benefits of tax competition (Edwards and Rugy, 2002, McGee, 2004, Wilson, 1999, Dwyer, 2000, James, 1999, Goodspeed, 2002).

Literature that is the impact of taxes on foreign direct investment does not exhibit a a consensus. Hartman (1984), Grubert and Mutti (1991), Hines and Rice (1994), Loree and Guisinger (1995), Guisinger (1985), Cassou (1997), Kemsley (1998), Barrel and Pain(1998) and Billington (1999) observed that host country taxes (corporate and income) have a significant negative effect on FDI flows. Root and Ahmed (1978), Lim (1983), Wheeler and Mody (1992), Jackson and Markowski (1995), Yulin and Reed (1995), and Porcano and Price (1996) have reported that taxes do not have a significant effect on FDI. Swenson (1994) observed a positive correlation between taxes and FDI.

3.8 Trade Barriers

Banga (2003.17) suggests that earlier literature provides that in the case of tariff-hopping investment or intra firm trade FDI and trade are either substitute or complementary to each other. However, the relationship between FDI and trade is not clear in the WTO regime that several developing countries have initiated import liberalisation process that has drastically reduced trading costs and encouraged international vertical integration and intra industry trade.

There is no consensus in literature about the effects of trade barriers on FDI. Trade barriers which have great importance on the protection of national industry be substituted by trade liberalization in terms of globalization. Schmitz and Bieri (1972) and Lunn (1980) found a significantly positive effect of trade barriers on FDI. Culem (1988) stated a significantly negative correlation between trade barriers and FDI. Beaurdeau (1987) and Blonigen and Feenstra (1996) observed that trade barriers play an insignificant role in attracting FDI

3.9 Growth Rate

UNCTAD (1999, 156) summarizes the role of direct foreign capital investments on economic growth as follows:

-increasing domestic financial resources for development, supplementing domestic savings and investment and, more basically, fostering enterprise development, as the creation of an efficient domestic supply capacity requires competitive economic agents;

-enhancing the technology, skill and knowledge base, given that these intangible resources are increasingly at the heart of the development effort;

- boosting trade competitiveness, as internationally competitive firms can contribute better to development by reaping the benefits of economies of specialization and scale, by broadening the demand base;

- maintaining competitive markets, ensuring that former statutory obstacles to investment and trade are not replaced by anticompetitive practices of firms; and

- protecting the natural environment, maintaining the basis for future growth and development.

Bandera and White (1968), Lunn (1980), Schneider and Frey (1985), Culem (1988), Cleeve (2008), Mohammed and Sidiropoulos (2010) and Billington (1999) reported a significantly positive effect of growth on FDI. Tsai (1994), Nigh (1985) Mhlanga et al. (2010) and Vijayakumar et al. (2010) achieved inconclusive results.

3.10 Market Size

Market size which defined as host country's per capita Gross Domestic Product (GDP) is an other important determinant of FDI. It is accepted that the size of the market is significant in terms of scale economies due to resource utilization and exploitation (Chakrabarti , 2001,96). Bandera &White (1968), Schmitz & Bieri (1975), Swedenborg (1979), Lunn (1980), Dunning (1980), Root & Ahmet (1979), Kravis &Lipsey (1982), Nigh (1985), Schneider &Frey (1985), Culem (1988), Papanastassiou & Pearce (1990), Wheeler & Mody (1992), Sader (1993), Tsai (1994), Shamsuddin (1994), Billington (1999), Pistoresi (2000), Cleeve (2008), Mhlanga et al. (2010), Asiedu (2006), Mohamed and Sidiropoulos (2010), Vijayakumar et al. (2010), Bhattacharya et al. (1996), Asafu (2000), Berthelemy & Demurger (2000), Fan & Dickie (2000), Zhang (2002) and Chen and Khan (1997) are the empirical studies that indicate the positive relation between FDI and market size.

3.11 Infrastructure Investments

Foreign investor prefers economies of developed countries for infrastructure investment. Strong countries, procuring cost advantages, provide a competitive advantage with regards to infrastructure investments as transportation, communication, human capital, law and energy.Privatization practices, which are carried out for bringing idle public funding into force, support the formation of efficiency throughout the economy procuring the opportunity of introducing management experience and "know how". Beside theory there is no common result in empirical researches. Bende-Nabende, et al. (2000), Asiedu (2006), Mhlanga et al. (2010), Vijayakumar et al. (2010) and Biswas (2002) observed positive link between FDI AND infrastructure investments. Boltic and Skuflic (2006) reported negative correlation between each other. Cleve (2008), Mohamed and Sidiropoulos (2010)'s empirical researches indicates that there is no significant effects of infrastructure investments on FDI.

3.12 Instability

FDI has a close relationship within many social and economic indicator.But FDI is more sensitive to the stability of social ,politic and economic prosperity of host countries.

Investors does not prefer risk and uncertainity in terms of profitability.Unemployments rate , inflation, budget deficit, etc. can be evaluated as the economic stability indicators.On the other hand variables such as corruption, political instability and weak institutional quality are included in the political and institutional dimension, and they are expected to have a negative effect on FDI determinants.

In terms of economic stability Botric &Skuflie (2006)and Cleeve (2008) observed positive effect on FDI due to their empirical research. Schneider & Frey (1985), Trevino et al. (2002),Mhlanga et al. (2010)'s researches indicates negative relation .On the other hand, Mohamed & Sidiropoulos (2010) and Vijayakumar et al. (2010) reported no significant relation between economic stability and FDI. Schneider and Frey (1985), Biswas (2002), Cleeve (2008), Mohamed and Sidiropoulos (2010), Asiedu (2006) investigated the political instability and FDI relation empirically. Excluding the studies of Schneider and

Frey (1985 and Biswas (2002), empirical results that political instability, corruption and low institutional quality causes FDI outflows as the theory predicts.

4. Empirical Analysis

In the study, the indicators of foreign direct capital investments of 11 OECD countries related years between 1995 and 2008 are analyzed with Dynamic Panel Data Models. The basic reason of the study's including 11 OECD countries and years between 1995 and 2008 is the accessibility of data belonging to diverse variables for each country and for each year. The variables inclosed in the model for practicing Dynamic Panel Data Analysis for OECD countries discussed in the study show consistency with the variables in empirical studies done in literature. However, no sooner than inclosing the indicators related to election and political stability in the model, it is aimed to contribute in literature.

4.1 Dynamic Panel Data Models and GMM Estimator Technique

Because many economic relations have a dynamic structure, they are believed to be explained better by means of dynamic models. Besides, dynamic panel data models are used very often in various studies.

We consider an autoregressive panel data model of the form,

$\gamma_{it=} \alpha\gamma_{i,t-1} + \beta_{1\chi it}^{'} + \beta_{2\chi it-1}^{'} + \eta_i + v_{it}$ for i=1,……,N and t= 2,……,T, where $u_{it} \equiv \eta_{it} + v_{it}$ is the usual "fixed effects" decomposition of the error term; N is large , t is fixed and $|\alpha|<1$[ii]. This has the corresponding "common factor" restricted ($\beta_2 = -\alpha\beta_1$) form

$y_{it} = \beta_i^{'}\chi_{it} + f_i + \xi_{it}$ with $\xi_{it} = \alpha\xi_{i,t-1} + v_{it}$ and η_i=(1-α)f_i.

In our application to panel data employment equations presented we allow for the inclusion of x_{it} regressors, but for the evaluation of the evaluation of the various estimators we use an AR(1) model with unobserved individual specific effects $\gamma_{it=} \alpha\gamma_{i,t-1} + \eta_i + v_{it}$ for i= 1,…..,N and t = 2,…..,T. Since our focus is on the role of initial conditions we will assume that η_i and v_{it} are independently distributed across I and have the familiar error components structure in which

$E(\eta_j) = 0, E(v_{it}\ n_{it}) = 0\ for\ i = 1, \ldots\ldots\ldots, N\ and\ T = 2, \ldots\ldots\ldots T$

and

$E(v_{it}\ v_{it}) = 0$ for i =1,……..,N and $\vee t \neq s$.

In addition there is the standard assumption concerning the initial conditions y_{i1}

$E(y_{i1}\ v_{it}) = 0\ for\ i = 1, \ldots\ldots\ldots, N\ and\ T = 2, \ldots\ldots\ldots T$

These conditions imply moment restrictions that are sufficient to (identify and) estimate α for $T \geq 3$.

In the absence of any further restrictions on the process generating the initial conditions, the auto regressive error components model implies the following m= 0,5(T-1)(t-2) orthogonality conditions which are linear in the α parameter

$E(y_{i,t-s}\Delta v_{it})$=0 for t= 3,……..,T and s≥2 where

$\Delta v_{it} = v_{it} - v_{i,t-1}$. These depend only on the assumed absence of serial correlation in the time –varying disturbances v_{it}, together with the equation

$E(y_{i1}\ v_{it}) = 0\ for\ i = 1, \ldots\ldots\ldots, N\ and\ T = 2, \ldots\ldots\ldots T$

The moment restrictions in $E(y_{i,t-s}\Delta v_{it})=0$ can be expressed more compactly as $E(Z_i'\bar{u}_i)= 0$ where Z_i is the (T-2) × m matrix given by

$$\boldsymbol{Z}_i = \begin{bmatrix} y_1 & 0 & 0 & \dots & 0 & \dots & 0 \\ 0 & y_1 & y_2 & \dots & 0 & \dots & 0 \\ . & . & . & \dots & . & \dots & . \\ 0 & 0 & 0 & \dots & y_1 & \dots & y_{T-2} \end{bmatrix},$$

and $\bar{u}_i$ is the (T-2) vector $(\Delta v_{i3}, \Delta v_{i4}, \dots\dots\dots, \Delta v_{iT})$.

The generalized method of moments estimator based on these moment conditions minimizes the quadratic distance $(\bar{u}_i Z A_N Z' \bar{u})$ for some metric A_N, where Z' is the $m \times N(T-2)$ matrix $(Z_1', Z_2', \dots\dots\dots, Z_N')$ and $\bar{u}'$ is the $N(T-2)$ vector $(\bar{u}_1', \bar{u}_2', \dots \bar{u}_N',)$. This gives the GMM estimator for α as

$\widehat{\alpha_{dif}} = (\bar{y}'_{-1} Z A_N Z' \bar{y}_{-1})^{-1} \bar{y}'_{-1} Z A_N Z' \bar{y}$.

Where $\bar{y}'_i$ is the (T-2) vector $(\Delta y_{i3}, \Delta y_{i4}, \dots\dots\dots\dots, \Delta y_{iT})$, $\bar{y}'_{i,-1}$ is the (T-2) vector $(\Delta y_{i3}, \Delta y_{i4}, \dots\dots\dots\dots, \Delta y_{iT-1})$, and $\bar{y}$ and $\bar{y}_{-1}$ are stacked across individuals in the same way as $\bar{u}$.

Alternative choices for the weights A_N give rise to a set of GMM estimators based on the moment conditions in Equation ;

$E(\eta_i) = 0, E(v_{it}\, n_{it}) = 0 \; for \; i = 1, \dots\dots\dots, N \; and \; T = 2, \dots\dots\dots T$

, all of which are consistent for large N and finite T, but which differ in their asymptotic efficiency. In general the optimal weights are given by

$A_N = \left(N^{-1} \sum_{i=1}^{n} Z'_i \widehat{\bar{u}_i}\, \widehat{\bar{u}'_i}\, Z_i \right)^{-1}$,

Where $\widehat{\bar{u}_i}$ are residuals from an initial consistent estimator. We refer to this as the two step GMM estimator[iii].In the absence of any additional knowledge about the process for the initial conditions, this estimator is asymptotically efficient in the class of estimators based othe linear moment conditions (Hansen, 1982, 1039, Blundell&Bond, 1998, 119, Blundell, Bond & Windmeijer, 2000,7).

$\mathcal{P}$ lags of the dependent variable as covariates and contain unobserved panel level effects, fixed and random are figured out in Linear Dynamic panel data models .Making standard estimators consistent The unobserved panel level effects are correlated with the lagged dependent variables during construction. A consistent generalized method of moments (GMM) estimator is derived by Arrelano and Bond (1991) for this model. Incase of following two condition Arellano and Bond estimator can perform poorly i) autoregressive parameters are too large ii) the ratio of variance of the panel-level effect to the variance of idiosyncratic error is too large. Blundell and Bond (1998) developed a system estimator that uses additional moment conditions by developing Arrelano and Bover (1995)'s study.This estimator is designed for datasets with many panels and few periods. Main assumption of this method is that there is no autocorrelation in the idiosyncratic errors and requires the initial condition that the panel level effects be uncorrelated with the difference of the first observation of the dependent variable (Stata,2009,96).

In the estimation of panel data model, the generalized method of moments (GMM) of Arellano and Bond (1991) is frequently used. Arellano and Bond (1991), in order to make an estimation of the

related parameters, create moment conditions under the assumption that the explanatory variables of the future values of the error have no correlation with current values.
The term "error" carries no serial correlation and holds a homoscedastic feature. As for the explanatory variables, they have no correlation with the effect special to unobservable countries. In the event that the term error is heteroskedastic, Arellano and Bond (1991) suggest a two-stage GMM estimator. Error terms of the estimation are assumed to be independent and homoscedastic with the country against time. This assumption is flexed in the first stage when the steady estimation of the variance-covariance matrix is created. It is seen that two-stage GMM estimator is more effective when the term error is heteroskedastic.

Hsiao (2007: 3), summarizes the advantages of panel data as follows; (i) more accurate influence of model parameters (ii) greater capacity for capturing the complexity for capturing the complexity of human behavior than a single cross-section or time series data (iii) simplifying computation and statistical inference.

4.2 Data and Model

In this study, factors specifying FDI for 11 OECD countries are evaluated empirically. The data involves the interval between 1995 and 2008 and is arranged making use of OECD statistics and world development indicators[iv].

In our research where factors which are believed to have an active role in bringing in foreign direct capital investments into economy are aimed to be evaluated, the ratio of FDI inflows over GDP takes place in the model as a dependent variable. While the independent variables used in this study follow a parallel course to the existing literature, they differ from other studies in literature in terms of investigating how political stability has an effect on foreign direct capital investments. For this reason, the analysis is attempted to be gathered around 3 main models. The first model is built to evaluate the relationship between variables pertaining to taxes and FDI, the second is fictionalized to analyze financial variables over FDI and the third is set to investigate the connection of political variables with FDI.

Model 1: $FDI_{it}=\alpha_0 FDI_{i,t-1} +\alpha_1 CORP_{i,t-1} + \alpha_2 EMPEE_{i,t-1} + \alpha_3 EMP_{i,t-1}+\alpha_3 TAXINC_{i,t-1}+\epsilon_{i,t}$

Model 2: $FDI_{it}=\alpha_0 FDI_{i,t-1} +\alpha_1 INF_{i,t-1} + \alpha_2 TOTGOV_{i,t-1} + \alpha_3 LAB_{i,t-1}+\epsilon_{i,t}$

Model 3 : $FDI_{it}=\alpha_0 FDI_{i,t-1} +\alpha_1 ELECT_{i,t-1} + \alpha_2 GOVCHAN_{i,t-1} + \alpha_3 GOVPARTY_{i,t-1}+\epsilon_{i,t}$

$FDI_{i,t-1}$: FDI Inflows percentage of GDP

$CORP_{i,t-1}$: Corporate Tax Revenue as percentage of GDP

$EMPEE_{i,t-1}$: Tax Revenue as percentage of GDP on employee

$EMP_{i,t-1}$: Tax Revenue as percentage of GDP on employer

$TAXINC_{i,t-1}$: Average tax rate on household income[v]

$INF_{i,t-1}$: Consumer Prices, Percentage change on the same period of the previous year

$TOTGOV_{i,t-1}$:Total Government Debt, stock percentage of GDP

$LAB_{i,t-1}$: Unit Labor Cost (Index OECD Base Year 2005=100)

$ELECT_{i,t-1}$: Election Frequency (Closeness)

$GOVCHAN_{i,t-1}$: Government Variation Frequency

$GOVPARTY_{i,t-1}$: Number of coalition party in the government

The first model is built to evaluate the relationship between indicators pertaining to taxes and FDI. The literature supports the idea that foreign direct capital investments show awareness on taxes. As tax rates increase, foreign direct capital investments are expected to leave the economies of countries. The most important indicator of all is the rate of corporation tax. On the other hand, the relation of household income and tax burden on labour and management with foreign direct capital investments shows importance.

The second model is fictionalized to evaluate financial indicators over foreign direct capital investments. In this sense, inflation, government debt, unit labor costs, market size, exchange rate and openness rate are some of the financial variables figured in the model. Inflation rate is an important indicator pertaining to economic stabilization. The increase in inflation rates may be the indicator of the failure of monetary and fiscal policies. Since inflation is expected to cause an economically instable situation, it is thought to have a counterclockwise relation over foreign direct capital investments. On the other hand, when the increase in outstanding public debt can not be financed with public revenues, it will cause fiscal deficits and will have effects on increase in inflation. Hence, a counterclockwise relationship between the increase in outstanding public debt and foreign direct capital investments is also expected. Low labour cost is another issue attracting foreign direct capital investments.

The third model is set to evaluate the effects of indicators regarding political stability over FDI. Number of political parties in the government, frequency of elections and change intervals of the government are important indicators of political stability. Foreign capital shows attention to the political stability in the country where it intends to make investments. Therefore, a stable environment will provide foreign capital investments to increase. While there are multiple studies researching the connection of economic and financial indicators with FDI in the existing literature, studies evaluating the relationship between political stability and FDI are not common. Our study is aiming to contribute to the literature in this respect.

5. Empirical Findings

In this study where the indicators of foreign direct capital investments are intended to be specified, two-stage estimation results of GMM are shown on below Table 1:

Wald Test Statistics shows that independent variables in the model become significant in explaining the dependent variable. With Sargan Test, instrumental variables used in the model are concluded not to have any endogenity problems. Thus, test statistics contingent on the model are parellel with the results predicted in the theory.

With regard to GMM estimation results, while FDI has a negative relation with CORP, EMPE, EMP, TAXINC, INF, TOTGOV, LAB, GOVCHAN, GOVPARTY variables, it has a positive relationship with ELECT variable. When we evaluate the variables in terms of significance, it is predicted that all coefficients used in the model are statistically significant.

Table 1: GMM Estimation Results (1995-2008)

Variables		Coefficients		
		Model 1	Model 2	Model 3
	FDI(-1)	0.00629 (0.927)	0.0331991 (0.624)	0.3594673 (0.000)
Fiscal Variables	CORP	-1.222019 (0.013)		
	EMPE	-1.77516 (0.000)		
	EMP	-1,95342 (0.000)		
	TAXINC	-0.05173906 (0.004)		
Economic Variables	INF		-0.0807467 (0.346)	
	TOTGOV		-2.037849 (0.000)	
	LAB		-3.636569 (0.000)	
and Political Institutional Variables	ELECT			0.3359556 (0.020)
	GOVCHAN			-0.6166606 (0,000)
	GOVPARTY			-1.305124 (0.0000)
GMM Tests				
Wald Test		76.13 (0.000)	85.04 (0.000)	71.85 (0.000)
Sargan Test		77.17456 (0.4730)	70.29228 (0.6925)	169.2489 (0.1226)

Number of Observations	129	129	129

Note: Values in parentheses are probability values ($p > 0.005$)

One of the incentives offered by developing countries to attract FDI inflows is the fiscal incentive, i.e., policies that are designed to reduce tax burden of a particular firm. Fiscal incentives include tax concessions, in the form of reduction of the standard corporate income-tax rate; tax holidays; accelerated depreciation allowances on capital taxes; exemption from import duties; and duty drawbacks on exports (Banga , 2003, 18). Similar to these data, corporate income-tax rates, individual income tax, tax burden on labour and management are the variables used in our analysis to determine the relationship between fiscal indicators and FDI. Since high tax rates considered to be cost element for foreign investors, these rates will block out capital inflow. Corporate income-tax rate, in particular, is mentioned as the most important identifier of FDI. Tax burden on employers is a significant factor for the investor making production in international markets. Countries having tax rates in a level that does not increase labour costs are preferred by foreign investors. It is determined that there is a negative relationship between fiscal indicators and FDI used in our study. Coefficient of tax revenue as percentage of GDP on employee is the most determinant indicator of FDI through fiscal variables.

Current market size, potential market size, cost of labour, availability of skilled labour, cost of capital, availability of infrastructure, exchange rate stability, rate of inflation, financial stability are the main economic determinants of FDI take place in the literature. Within the scope of our study, inflation, total public debt stock and unit labour cost are the economic indicators that we are trying to present their relation with FDI. Volatility of macroeconomic policy is resulted in not only problems but also opportunities for international firms. It requires such firms to manage the risk inherent in volatile countries, but on the other hand presents the opportunity of moving production to lower cost facilities. The financial stance of the host economy is captured by budget deficit. Budget deficit gives detailed information about host countries fiscal stability. Ratio of total government debt to GDP is one of the fiscal policy tools used for finance budget deficit. It is expected that lower this ratio is, higher the probability of economic stability in the country will be. Country Credit ratings provided by various institutions have been used by studies as an indicator of overall economic stability including political and macroeconomic stability. However, the question of subjectivity in these ratings arises since it is found that the ranking of countries based on these ratings differs across estimates provided by different agencies. To avoid the problem of subjectivity, it is preferred to use budget deficit as a ratio of GDP in the host countries as an indicator of overall economic stability. Higher chances of economic instability in the host country may be caused by a large and continuous deficit in budget in the economy therefore we expect it to have a negative impact on FDI inflows (Banga, 2003,15). Also negative coefficient values of estimators that we obtain from our empirical research support the theory that stresses there must be a negative relation between economic variables and FDI, coefficient of unit labor cost is the most crucial determinant indicator of economic variables.

Factors causing investment cost differentials across countries are classified under cost of labour, cost of capital and infrastructure costs. The choice of an investment location for the resourceseeking and efficiency-seeking FDI may be significantly influenced by cost factors. To capture cost of labour and availability of skilled labour, we use real wage rates. We expect with lower real wages in the host country cause inward FDI to attract. The variable of secondary school enrollment rate and productivity of labour where productivity of labour is defined as value added per unit of labour capture the availability of skilled labour (Banga, 2003, 13). With regard to the findings of our study, a negative relationship between

labour costs and FDI is determided. This evidence stresses on very important insight : Foreign investors tend to choose investment possibilities of countries having low unit labour cost.

Since late 1990s, institutional quality as the chief factor explaining the differences in development between countries has been focused on by the literature on economic development, being the low levels of corruption related with greater prosperity. Thus, variables such as corruption, political instability and weak institutional quality are included in the 'institutional' dimension, and they are expected to have a negative effect on FDI determinants (Bénassy-Quéré *et al.*, 2007, Assuncato, 2009, 10). Corruption index, type of regime, duration of regime, political freedom index, number of coups, number of associations, number of strikes and insurrections, protection of copyright index, effectiveness of lawfare rule are such variables taking place in literature which are related with FDI and political & institutional stability. Besides these indicators, we choose election frequency, government variation frequency and the number of coalition parties in the government as political & institutional stability indicators of a country. According to the findings of our research, a counterclockwise relation between the number of coalition parties in the government and government variation frequency is discussed. The coefficient of election frequency indicator is expected to be negative. However, since our year of analysis is limited, this coefficient is observed as positive. Number of coalition parties in the government is much more determinant than government variation frequency indicator along political and institutional variables.

Conclusion

With the widespread globalization environment, the increase in capital movements at an international level causes countries to compete for bringing in foreign capital into their countries' economies. The capital needed for economic growth and development has importance for many countries. More investment and commercial flow, mobility of labor and rapid transfer of technology, deregulation of financial markets, impairment of commercial and investment obstacles, diminishing costs in communication and transportation cause globalization to increase. Investment opportunities between countries take attraction.

In this study, factors specifying FDI are tried to be analyzed with Dynamic Panel Data Model for 11 OECD countries related years between 1995 and 2008. Besides, factors determining direct foreign capital investments are studied under three main titles as fiscal, economic and political & institutional indicators. The model is attempted to be estimated using Dynamic Panel Data Model and GMM Estimation Technique of Arrelono Bover (1995) and Blundell and Bond (1998).

Regarding the findings of the first model where the relation of corporate tax, individual income tax and tax burden on labour and management with FDI is aimed to be determined, FDI does not prefer high tax environments. High tax rates are evaluated as a cost component for foreign investors.

In the second model, inflation, total public debt stock and unit labour cost are reviewed as the indicators of economic stability and their relation with FDI is attempted to be determined. The existence of an economic stability makes the country an investable one at an international level. Retrogression of mentioned indicators, in other words, the increase in debt stock and inflation makes the country a risky one in terms of investments. In addition, since high labour costs will increase expenditures, such an environment is not preferable for the investor. The coefficient of these three indicators found as a result of our analysis has a negative value, which is at the same time parallel to the theorical predictors.

Indicators in the third model include the variables having role in the preference of the country in terms of political and institutional stability. Frequent elections in the country, the frequency of the change of the government and the number of coalition parties in the government are theoretically the indicators causing political instability. Countries having such a political atmosphere are not preferable for foreign investors. Hence, FDI does not prefer an instable political and institutional environment. The coefficient

values obtained as a result of our study are in a counterclockwise relationship which, at the same time, supports the theory pertaining to the frequency of elections and the change of the government.

Although the effects of fiscal and economic variables on FDI has been studied in literature in many ways, studies which include political and institutional variables are so limited. We aimed to contribute literature by investigating the relationhip between FDI and frequent elections in the country, the frequency of the change of the government and the number of coalition parties in the government. For further studies, new indicators also be included as an explanatory variable of FDI to enhanced literature in terms of political and institutional dimension.

References

Adda, J. (2008), Globalization of Economy, İletişim Publications, Cağaloğlu, İstanbul.

Asher , Mukul and G.Rajan R.S. (2001) Gloabalization and Tax Systems" ASEAN Economic Bulletin , Volume 18, No.1

Agosin, M.R., Mayer R.(2000) " Foreign Investment in Developing Countries: Does it Crowd in Domestic Investment?" Discussion Paper No.146 United Nations Conference on Trade and Development

Arellano M. and S. Bond. (1991) , "Some Tests of Specification for Panel Data : Monte Carlo Evidence and an Application to Employment Equations" Review of Economic Studies 58 : 277-297.

Arellano,M. ve O.Bover (1995), " Another Look at the Instrumental Variable Estimation of Error Components Models" Journal of Econometrics 68: 29-51

Armingeon, K., M. Gerber, P. Leimgruber and Beyeler (2008), Comparative Political Data Set 1960-2006, Institute of Political Science, University of Berne

Asafu-Adjaye, John (2000) "The Effects of Foreign Direct Investment on Indonesian Economic Growth, 1970-1996" Economic Analysis & Policy Vol.30 No.1 March,pp.49-61

Asiedu, Elizabeth (2006) "Foreign Direct Investment in Africa: The Role of Natural Sources, Market Size, Government Policy, Institutions and Political Instability" The World Economy, Vol.29, Issue 1 pp.63-77

Assunçao, Susana, Rosa Forte and Aurora A.C. Teixeira (2011) "Location Determinants of FDI: A Literature Review" Faculdade de Economia, Universidade do Porto, FEB Working Papers No.433

Baldwin, Robert E. (1995) "The Effect of Trade and Foreign Direct Investment on Employment and Relative Wages" NBER Working Paper Series No.5037

Bandera, V. N. and J. T. White (1968). U.S. Direct Investments and Domestic Markets in Europe,*Economia Internazionale*. 21: 117–133.

Banga, Rashmi (2003) "Impact of Government Policies and Investment Aggreements on FDI Inflows" Indian Council For Research on International Economic Relations Working Paper No.116Barrell, R., & Pain, N. (1999). Trade restraints and Japanese direct investment flows. European Economic Review,43, 29–45.

Bartel, Farnk L., and S.A.de Crombrugghe (2009) "FDI Policy Insturments: Advantages and Disadventages" United Nations Industrial Development Organization, Research and Statistic Branch Working Paper 01/2009,Vienna

Beaurdraeu, B. C. (1987). "Managers, Learning and the Multinational Firm: Theory and Evidence, Unpublished Ph. D. Dissertation", University of Western Ontario.

Bende-Nabende, A. & Ford, J.L. & Sen, S. & Slater, J. (2000), "FDI locational

determinants and the linkage between FDI and other macro-economic factors: Long-run dynamics in Pacific Asia", Discussion paper, 00-11, Department of Economics, University of Birmingham

Berthelemy, Jean –Claude ve Sylvie Demurger (2000), " Foreign Direct Investment and Economic Growth: Theory and Application to China" Review of Development Economics, 4 (2), pp.140-155

Bhattacharya, A. Montiel, P.J. and Sharma, S., (1996) Private Capital Flows to Sub-Saharan Africa: An Overview of Trends and Determinants, Unpublished Paper,World Bank, Washington DC

Billington, N. (1999). The Location of Foreign Direct Investment: An Empirical Analysis, *Applied Economics*. 31: 65–76.

Biswas, R. (2002), "Determinants of foreign direct investment", *Review of Development Economics*, 6 (3), 492-504.

Blomström, M. and Kokko, A. (1998). 'Multinational Corporations and Spillovers', *Journal of Economic Surveys*, Vol. 12, Issue 3 pp.1-31.

Blonigen, Bruce A. (2004) " A Review of the Empirical Literature on FDI Determinants" NBER Working Paper Series No.11299

Blonigen, B. A. (1997). Firm-specific Assets and the Link Between Exchange Rates and Foreign Direct Investment, *American Economic Review*. 87: 447–465.

Blonigen, B. A. and R. C. Feenstra (1996). Effects of U. S. Trade Protection and promotion Policies,National Bureau of Economic Research (Cambridge, M. A.) Working Paper No. 5285

Blonigen, B. A. (1995). Explaining Japanese Foreign Direct Investment in the United States, Unpublished Ph. D. Dissertation, University of California, Davis.lundell,R. ve S. Bond (1998) "Initial Conditions and Moment Restrictions in Dynamic Panel Data Models" Journal Of Econometrics 87:115-143

Blundell, R. S. Bond and F. Windmeijer (2000) "Estimation in Dynamic Panel Data Models: Improving on the Performance of the Standard GMM Estimators"

Borensztein, E. De Gregorio, J.,Lee, J.W.,(1998) "How does Foreign Direct Investment Affect Economic Growth?" Journal of International Economics,45,pp.115-135

Botrić, V.; Škuflić, L. (2006), "Main determinants of foreign direct investment in the Southeast European countries", *Transition Studies Review*, 13 (2), 359-377.

Cantwell, J. and Janne, O. (1999). 'Technological Globalisation and Innovation Centees: the Role of Technological Leadership and Location Hierarchy', *Research Policy*, Vol. 28, pp. 119–144.

Cassou, S. P. (1997). The Link Between Tax Rates and Foreign Direct Investment, *Applied Economics*.29: 1295–1301

Chakrabarti, Avik (2003) "A Theory of the Spatial Distribution of Foreign Direct Investment", International Review of Economics and Finance, 12(2): 149 – 169

Chakrabarti, Avik (2001) "The Determinants of Foreign Direct Investment and Sensitivity Analyses of Cross Country Regressions" KYKLOS, Vol.54 pp.89-114

Chen, Zhaohui and Mohsin Khan (1997) Patterns of Capital Flows to Emerging Markets: A Theoretical Perspective, IMF Working Paper WP/97/13. International Monetary Fund, Washington DC.

Cho, Joong-Wan (2003) "Foreign Direct Investment: Determinants, Trends in Flows and Promotion Policies" Investment, Promotion and Enterprise Bulletin For Asia and The Pasific" No.1 United Nations, New York, pp.99-110

Cleeve, E. (2008), "How effective are fiscal incentives to attract FDI to Sub-Saharan Africa?", *The Journal of Developing Areas*, 42 (1), 135-153.

Clegg, Jeremy and S. Scott-Green (1999) "The Determinants of New FDI Capital Flows into the EC: A Statistical Comparison of the USA and Japan" Journal of Common Market Studies Vol.37 No. 4 pp.597-616

Culem, C. G. (1988). The Locational Determinants of Direct Investments Among Industrialized Countries, *European Economic Review*. 32: 885–904.

Dees, Stephane, (1998), "Foreign Direct Investment In China: Determinants and Effects",
Economics of Planning, Springerlink, 31(2-3), s. 175-194, Netherlands.

Driffield, N., and J.H. Love (2003), "Foreign Direct Investment, Technology , Sourcing and Reverse Spillovers" The Manchester School Vol.71 ,1463-6786, pp.659-672

Duce, Maitena and Banco de Espana (2003) "Definition of Foreign Direct Investment (FDI) : A Methodological Note" https://www.bis.org/publ/cgfs22bde3.pdf

Dunning, J. H. (1980). Toward an Eclectic Theory of International Production: Some Empirical Tests,*Journal of International Business Studies*. 11: 9–31.

Dunning, John H. (1994) "Re-evaluating the Benefits of Foreign Direct Investment" http://unctad.org/en/docs/iteiitv3n1a3_en.pdf

Dunning, John H. (2006) "Towards a New Paradigm of Development: Implications For the Determinants of International Business" Transnational Corporations, Vol.15 Number 1 pp.173-230

Dwyer, T. (2000), "Harmful Tax Competition and the Future of Offshore Financial Centres, Such as Vanuatu" , Pasific Economic Bulletin, Vol:15 Issue:1, 48-69

Edwards, C. ve Rugy, V. D. (2002), International Tax Competition, Economic Freedom of The World : 2002 Annual Report , Chapter 3.

Edwards, S. (1990). Capital Flows, Foreign Direct Investment, and Debt-Equity Swaps in Developing Countries, National Bureau of Economic Research (Cambridge, M. A.), Working Paper No. 3497.

Fan, Xiaoqin ve Paul. M. Dickie (2000) "The Contribution of Foreign Direct Investment to Growth and Stability: A Post- Crisis Asean-5 Review" Asean Economic Bulletin Vol.17 No.3 pp.312-323.

Flamm, K. (1984). The Volatility of Offshore Investment, *Journal of Development Economics*. 16:231–248.

Fontagne, Lionel (1999), "Foreign Direct Investment and International Trade: Complements and Substitution?" OECD Science, Technology and Industry Working Papers 1999/3

Fosfuri, A. and Motta, M. (1999). 'Multinationals Without Advantages', *Scandinavian Journal of Economics*, Vol. 101, pp. 617–630.

Froot, K. A. and J. C. Stein (1991). Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach, *Quarterly Journal of Economics*. 106: 1191–1217.

Froot, K. A. and J. C. Stein (1989). Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach, National Bureau of Economic Research (Cambridge, M. A.), Working Paper No. 2914.

Fry, M.J. (1992)"Foreign Direct Investment in a Macroeconomic Framework: Finance, Efficiency, Incentives and Distortions" Policy Research Working Paper series Debt and International Finance WPS1141

Ghazali, Ahmad (2010) "Analyzing the Relationship between Foreign Direct Investment Domestic Investment and Economic Growth for Pakistan" International Research Journal of Finance and Economics, Issue, 47, pp.123-131

Goldberg, L., and Klein, M., (1998), Foreign Direct Investment, Trade and Real Exchange Rate Linkages in Developing Countries, in Glick, R. (ed.), Managing Capital Flows and Exchange Rates, Cambridge.

Goldsbrough, D. G. (1979). The Role of Foreign Direct Investment in the External Adjustment Process,*International Monetary Fund Staff Papers*. 26: 725–754.

Goodspeed, Timothy J.(2002) "Tax Competition and Tax Structure in Open Federal Economies: Evidence from OECD Countries with Implications for the European Union" European Economic Review 46, pp.357-374

Grubert, Harry, and John Mutti. (1991) "Taxes, Tariffs and Transfer Pricing in Multinational Corporate Decision Making," *Review of Economics and Statistics*, 73(2): 285-293.

Guisinger, S. (1985). *Investment Incentives and Performance Requirements*: *Patterns of International Trade, Production, and Investment*. New York: Praeger.

Gupta, V. K. (1983). A Simultaneous Determination of Structure, Conduct and Performance in Canadian Manufacturing, *Oxford Economic Papers*. 35: 281–301.

Hansen, L.P., 1982. "Large Sample Properties of Generalised Method of Moment Estimators". Econometrica 50, 1029-1054"

Hartman, David G. (1984) "Tax Policy and Foreign Direct Investment in the United States,"*National Tax Journal*, 37(4): 475-87.

Hines, J. R. and E. M. Rice (1994). Fiscal Paradise: Foreign Tax Havens and American Business, *The Quarterly Journal of Economics*. 109:149–182.

Hsiao,C. (2007) " Panel Data Analysis Advantages and Challenges" http://download.springer.com/static/pdf/171/art%253A10.1007%252Fs11749-007046.pdf?auth66=1355049179_9bcd0e6ce9d80a59b968bd63901bae01&ext=.pdf 10.10.2012

IMF (International Monetary Fund) 1993, Balance of Payments Manual 5th Edition, Washington DC.

Jackson, S. and S. Markowski (1995). The Attractiveness of Countries to Foreign Direct Investment, *Journal of World Trade*. 29: 159–180.

James, S. (1999), "The Future of International Tax Enviroment and European Tax Harmonization: A Personel View", the European Accounting Review , Vol:8, No:4, 731-747.

Jenkins, Rhys (2006), "Globalization, FDI and Employment in Viet Nam" Transnational Corporations Vol.15 Number 1, United Nations New York

Kemsley, D. (1998). The Effect of Taxes on Production Location, *Journal of Accounting Research*. 36: 321–341.

Kukeli Agim, Chuen-Mei, Fan, Liang-Shing Fan, (2006), "FDI and Growth In Transition Economies: Does The Mode Of Transition Make A Difference?", *RISEC,*Vol: 53, No:3, p.302-322

Kravis, I. B. and R. E. Lipsey (1982). The Location of Overseas Production and Production for Export by U. S. Multinational Firms, *Journal of International Economics*. 12: 201– 223.

Lim, D. (1983). Fiscal Incentive and Direct Foreign Investment in Less Developed Countries, *The Journal of Development Studies*. 19: 207– 212

Loree, D.W.; Guisinger, S.E. (1995), "Policy and non-policy determinants of U.S. equity foreign direct investment", *Journal of International Business Studies*, 26 (2), 281–299.

Lucas, R. (1993). On the Determinants of Direct Foreign Investment: Evidence from East and South Asia, *World Development*. 21: 391–406.

Lunn, J. (1980). Determinants of U. S. Direct Investment in the E. E. C.: Further Evidence, *European Economic Review*. 13: 93–101.

McGee, R. (2004) "Is Tax Competition Harmful?" Andreas School of Business Working Paper Seties, Barry University, Miami, USA

Mhlanga, N.; Blalock, G.; Christy, R. (2010), "Understanding foreign direct investment in the southern African development community: an analysis based on project-level data", *Agricultural Economics*, 41 (3-4), 337-347.

Mohamed, S.E; Sidiropoulos, M.G. (2010), "Another Look at the Determinants of Foreign Direct Investment in MENA Countries: an Empirical Investigation", *Journal of Economic Development*, 35 (2), 75-95.Nair-Reichert, Usha and Diana Weinhold (2001) "Causality Tests for Cross Country Panels: A New Look at FDI and Economic Growth in Developing Countries" Oxford Bulletin of Economics and Statistics 63,2, pp.153-171

Nigh, D. (1985). "The Effect of Political Events on United States Direct Foreign Investment: A Pooled Time-series Cross-sectional Analysis", *Journal of International Business Studies*. 16: 1–17.

OECD (Organisation for Economic Cooperation and Development) 1999, Benchmark Definition of Foreign Direct Investment, 3rd Edition, Paris.

Owen, R. F. (1982). Inter-industry Determinants of Foreign Direct Investments: A Canadian Perspective, in A. M. Rugman (ed.), *New Theories of Multinational Enterprise*. London: Croom Helm.

Pappanaatassiou, M. and R. D. Pearce (1990). Host Country Characteristics and the Sourcing Behavior of the UK Manufacturing Industry, Discussion Paper, University of Reading

Pearce, R. D. (1999). 'Decentralised R&D and Strategic Competitiveness: Globalised Approaches to Generation and Use of Technology in Multinational Enterprises (MNEs)', *Research Policy*, Vol. 28, pp. 157–178

Pistoresi, B. (2000). Investimenti diretti esteri e fattori di localizzazione: L'America Latina e il SudEst asiatico, *Rivista di Politica Economica*. 90: 27– 44.

Porcano, T. M. and C. E. Price (1996). The Effects of Government Tax and Non-tax Incentives on Foreign Direct Investment, *Multinational Business Review*. 4: 9–20.

Root, F.R.; Ahmed, A.A. (1978), "The influence of policy instruments on manufacturing direct foreign investment in developing countries", *Journal of International Business Studies*, 9 (3), 81-93.

Root, F. and A. Ahmed (1979). "Empirical Determinants of Manufacturing Direct Foreign Investment Developing Countries", *Economic Development and Cultural Change*. 27: 751–767

Sader, F. (1993). "Privatization and Foreign Investment in the Developing World", World Bank Working Paper No. 1202.

Sanjara, Lall (1999) *Attracting Foreign Direct Investment, New Trends, Sources and Policies* Economic Papers 31, Commonwealth Secreariat

Saunders, R. S. (1982). The Determinants of Foreign Direct Investment, *Canadian Journal of Economics*.15: 77– 84.

Schmitz, A. and J. Bieri (1972). EEC Tariffs and U. S. Direct Investment, *European Economic Review*.3: 259–270.

Schneider F.; Frey B.S. (1985), "Economic and political determinants of foreign direct investment", *World Development,* 13 (2), 161-175

Shamsuddin, A. F. (1994). Economic Determinants of Foreign Direct Investment in Less Developed Countries, *The Pakistan Development Review*. 33: 41– 51.

Siotis, G. (1999). 'Foreign Direct Investment Strategies and Firms' Capabilities', *Journal of Economics and Management Strategy*, Vol. 8, pp. 251–270.

StataCorp. (2009) Release 11. Statistical Sotware , College Station , TX : Stata Corp LP.

Steinmo, Sven (2002) "Globalization and Taxation: Challenges to the Swedish Welfare State" Comparative Political Studies,Vol.35 No.7 September,839-862

Swedenborg, B. (1979). The Multinational Operations of Swedish Firms: Analysis of Determinants and Effects, Working Paper, Industrial Institute of Economic and Social Research, Stockholm

Swenson, Deborah L. (1994) "The Impact of U.S. Tax Reform on Foreign Direct Investment in the United States," *Journal of Public Economics*, 54(2): 243-66.

Trevino, L.J., J.D. Daniels and H. Arbelaez (2002), "Market Reform and FDI in Latin America : An Empirical Investigation", Transnational Corporations, Vol. 11, No.1

Tsai, P. (1994). Determinants of Foreign Direct Investment and Its Impact on Economic Growth, *Journal of Economic Development*. 19: 137–163

Torrisi, C. R. (1985). The Determinants of Direct Foreign Investment in a Small LDC, *Journal of Economic Development*, 10: 29–45.

Tuman, J. P. and C. F. Emmert (1999). Explaining Japanese Foreign Direct Investment in Latin America, 1979–1992, *Social Science Quarterly*. 80: 539–555.

UNCTAD (1999) World Investment Report 1999: United Nations, New York and Geneva

UNCTAD (1998) World Investment Report 1998: Trends and Determinants, New York, Geneva

Vijayakumar, N.; Sridharan, P.; Rao, K.C.S. (2010), "Determinants of FDI in BRICS Countries: A Panel Analysis", *International Journal of Business Science and Applied Management*, 5 (3), 1-13.

Woodward D. and R.J. Rolfe (1993), "The Location of Export Oriented Foreign direct investment in the Caribbean Basin", Journal of International Business Studies, 24 (1): 121-44.

Wheeler D. and A. Mody (1992). International Investment Location Decisions: The Case for U.S. Firms, *Journal of International Economics*. 33: 57–76.

Wilson, J. D. (1999), "Theories of Tax Competition", National Tax Journal, 52, 269-304

Yonah, Reuven S. Avi (2000) " Globalization, Tax Competition and the Fiscal Crisis of The Welfare State" Harward Law School Public Law and Legal Working Paper Series Working Paper No.004

Yulin, N. and M. R. Reed (1995). Locational Determinants of U. S. Direct Foreign Investment in Food and Kindered Products, *Agrobusiness*. 11: 77– 86.

Zhang, Zhaoyong (2002) "Productivity and Economic Growth: An Empirical Assessment of the Contribution on FDI to the Chinese Economy" Journal of Economic Development Vol.27 Num.2 pp.81-95

Endnotes

[i] Kind of destructive competition refers to situations when competition results especially in prices by taxation due to costs.

[ii] All the estimators discussed below and their properties extend in an obvious fashion to higher-order autoregressive models.

[iii] For more details see Arrelano and Bond (1991).

[iv] Data pertaining to political indicators is compiled from Armingeon et al (2008)

[v] Obtained from McDaniel Tax Series. http://www.caramcdaniel.com/researchpapers