THE EFFECT OF EUROPEAN ACCESSION PROSPECTS ON FOREIGN DIRECT INVESTMENT FLOWS INTO EUROPEAN TRANSITION ECONOMIES

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THE EFFECT OF EUROPEAN ACCESSION PROSPECTS ON FOREIGN DIRECT INVESTMENT FLOWS INTO EUROPEAN TRANSITION ECONOMIES

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I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science/Doctor of Philosophy.

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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

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ABSTRACT

THE EFFECT OF EUROPEAN ACCESSION PROSPECTS ON FOREIGN DIRECT INVESTMENT FLOWS INTO EUROPEAN TRANSITION ECONOMIES

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This thesis analyzes the impact of EU accession prospects on FDI flows into Central and Eastern European Countries and Turkey. We perform ARDL panel model and employ dynamic panel data approach by using generalized method of moments (GMM) technique developed by Arrenalo and Bond (1991) to get empirical results of the determinants of FDI flows into CEECs and Turkey. The data used in this study covers a pool of 11 countries, including CEECs and Turkey between 1990 and 2009. The empirical results suggest that as agglomeration effects and trade openness are significant determinants of MNCs' cross-border activity during the period, traditional determinants, i.e., risk factors, labor cost, and market size are found to be insignificant. Our empirical work also indicates that the effect of EU accession prospects increase FDI flows into transition countries significantly.

Keywords: Foreign direct investment, EU accession, GMM estimator

ÖZET

AVRUPA BİRLİĞİ'NE GİRİŞ SÜRECİNİN AVRUPA BİRLİĞİ GEÇİŞ ÜLKELERİ'NDEKİ DOĞRUDAN YABANCI YATIRIMLARA ETKİSİ

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Bu çalışmada Avrupa Birliği'ne giriş sürecinin Orta ve Doğu Avrupa ülkeleri ve Türkiye'ye doğrudan yabancı yatırımlara olan etkisi incelenmektedir. Yaptığımız ARDL panel modeli Arrelano ve Bond (1991) tarafından geliştirilen GMM yöntemi ile tahminlenmiştir. Ekonometrik tahminlemede kullanılan ülke sayısı 11 olup zaman verisi aralığı 1990 ve 2009 yılları arasını kapsamaktadır. Ampirik bulgular pazar büyüklüğü, işçi ücretleri ve risk etkenlerini istatistiksel olarak doğrudan yabancı yatırım akımları üzerinde etkisiz bulurken, yabancı şirket yoğunluğu, dış ticaret serbestliği ve Avrupa Birliği'ne giriş süreci istatistiksel olarak açıklayıcı olarak bulunmuştur

Anahtar Kelimeler: Doğrudan yabancı yatırım, Avrupa Birliği'ne giriş, GMM tahminleyicisi

To My Parents

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1 Introduction

Multinational investment is one of the striking features of the global economy. Multinational enterprise (MNE) activity has increased at a faster rate than any other international transaction in last two decade. In general terms, foreign direct investment (FDI) can be defined as capital flows resulting from the activities of these enterprises. In fact, Central and Eastern European Countries (CEECs) have been receiving large amount of FDI inflows during the last 20 years, covering the process of transition from socialism to capitalism. FDI activity has facilitated the integration of these countries to the world economy. Moreover, multinational investment has positive implications over economic growth, technical innovation, enterprise restructuring for the host countries (Campos and Kinoshita, 2003).

Effective corporate governance and enterprise restructuring are important factors for CEEC countries aiming to accelerate transition processes. According to Barrel and Pain (1999) high levels of R&D expenditure, innovation, and company performance may be attributed to multinational enterprises. In addition, FDI is important for CEECs because it serves as to deviate from their communist policies adopted before the transition period. In particular, FDI can be considered as a tool which provides the introduction of new managerial and technological techniques to these countries (Barrel and Holland, 2000). However, FDI inflows are highly dispersed across CEEC countries. If we look at FDI inflows for the last 20 years, the largest recipients are Hungary, Poland, and Czech Republic. The unequal distribution of FDI inflows shows that determinants of FDI are different across the transition countries. For instance, after Hungary and Poland began to implement liberal economic policies in 1989, FDI inflows increased by large amounts compared to other countries in the region. However, the determinants of FDI in Czech

Republic are mainly originated from favorable initial conditions[1] (DeMelo et al., 1997). Moreover, many of the Commonwealth Independent States (CIS) such as Russia and Ukraine has been attracting multinational investment due to their abundance of natural resources such as oil and gas.

Large amount of FDI flows into CEECs is also driven by the process of their integration to the European Union (EU). In fact, good performance of countries during the accession process to EU signifies abolishment of the barriers of all forms of international economic activity including FDI and acceleration of the transition process. The accessing countries have to harmonize their various aspects of political, economic, environmental considerations according to EU regulations, thus speed up the accession process, and maximize the benefits from EU instruments, such as regional development funds. Therefore, investment preferences of multinational companies (MNCs) are positively driven by EU accession phases of these countries. In particular political announcements concerning timetables for admission to the EU affects FDI inflows positively and significantly. Specially, establishment of regional corporate networks originated from prospective membership attract efficiency–seeking FDI, whose motivation depends on the common governance of geographically dispersed activities with the advantage of economies of scale and scope and risk diversification (Campos and Kinoshita, 2003)

These trends have originated a substantial interest in the international economic literature to empirically investigate the motives of FDI flows into CEEC countries. However, empirical investigations mainly concentrated on the traditional FDI determinants, such as market size, labor cost, and risk considerations, of CEECs. Moreover, Turkey, whose economic, political, and financial transformation from

[1]Initial conditions refer to important characteristics of the former planned economies prior to beginning of their transition such higher GDP per capita, well-educated population, and well-developed infrastructure.

mid-1980s is similar to that of transition countries in Europe, has not been included to the empirical panel analyses of CEECs and CIS in the economic literature. Our aim is to analyze empirically determinants of FDI inflows into CEECs and Turkey by focusing on the European Union accession prospects of these countries. We figure out this effect by testing the announcement effects on FDI flows into CEECs by using panel data on FDI flows into 11 transition countries (Poland, Hungary, Czech Republic, Estonia, Slovakia, Romania, Bulgaria, Croatia, Turkey, Macedonia, and Ukraine) for the period of 1990-2009. Following the literature, we include proxy variables to our model for FDI determinants; agglomeration economies, market size, labor cost, risk factors, and degree of trade liberalization and EU accession prospects.

The thesis is organized as follows. In the next chapter, we provides a general overview of definitions, general trends and types of foreign direct investment. Chapter 3 reviews the theoretical and empirical literature regarding the determinants of FDI. Chapter 4 outlines traditional and transition-specific determinants of FDI. The impact of EU Accession prospects on FDI inflows into transition countries is explained in chapter 5. Chapter 6 and 7 focus on econometric methodology, analysis and the discussion of results. The final chapter provides conclusions and suggestions for future research.

2 Foreign Direct Investment: Definitions, General Trends, and Types

Multinational investment activity speeds up in the last two decades in which many countries began to adapt the market economy regulations and liberalization policies. During this process the largest amount of international investment is composed of foreign direct investment, which has various positive implications in terms of different economic, social, and political aspects. In this chapter, we will introduce the definitions of FDI from different perspectives and outline trends of multinational investment activity during the last three decades. The rationale for foreign investment and types of FDI will be investigated afterwards.

2.1 What is FDI?

Foreign direct investment is a particular form of international investment that capital moves from home countries to host countries, measured in balance of payment statistics (Lipsey, 2001). The movement of capital into the host country constitutes an accumulated form of investment in corporations owned by the home country or provides acquisition of the interest of at least 10% in an enterprise in the host country. Investment can take the form of establishment of entirely new enterprise, Greenfield investment. Complete or partial purchase of an existing firm through mergers and acquisitions (M&As) in the host country is another form of foreign direct investment.

International Monetary Fund defined FDI as "*the category of international investment that reflects the objective of a resident entity in one economy obtaining a lasting interest in an enterprise resident in another economy*"[2]. In this definition "*resident entity*" refers to foreign investor and "*enterprise*" refers to direct investment enterprise. The "*lasting enterprise"* is concerning long-term relationship

[2] International Monetary Fund (1993), Balance of Payments Manual

between the foreign investor and multinational enterprise (Lipsey, 2001). Here, the foreign investor has significant degree of influence on the management of the enterprise located in the other economy.

Foreign direct investment has numerous effects on the economy of host country. Mainly, it affects main macroeconomic variables such as production, employment, income, prices, exports, economic growth and balance of payments of the host country. Also, it has a positive effect regarding the globalization of the international economy. The links between industrialized countries and developing countries become stronger due to the FDI flows. The boom of FDI since 1990s demonstrates that multinational companies prefer regionally diversified activities for investment originated from different motives. At the same time, many economists consider that the motives of FDI have been changed and diversified in the process of globalization. For instance, Carstensen and Toubal (2004) empirically found that apart from traditional factors, transition-specific factors such as level and method of privatization and the country risk play important roles in determining FDI flows into the CEECs between 1990 and 2000. From this point of view, traditional determinants of FDI, such as promising markets of the host countries, are not the only factors affecting MNCs' preferences for their investment decisions.

These trends have originated a substantial interest in the international economic literature to empirically investigate the motives of FDI flows. In particular, many of the researches has been tried to analyze the causality between FDI and economic developments because FDI is considered to be a source of combination of capital, technology, marketing, entrepreneurship and human resources management. Romer (1993) signifies the importance of FDI by stating the contributory effects of FDI such as diffusion of knowledge and assimilation of technologies and ideas. Generally,

foreign capital in the form of FDI is transferred from the parent company to its foreign affiliate. This multinational investment activity is composed of:

- Transferring technical factors from a region to another
- Substituting capital movement with labor mobility in host regions
- Capitalizing domestic markets and decreasing their imperfections

MNCs have two special features. Firstly, they involve in accession, organization, and coordination of various value-added activities from home country to the host country. Secondly, it internalizes at least some of the cross-border markets for the intermediate goods originated from these activities (Dunning and Lundan, 2008). These companies may be privately or publicly owned and managed. Generally, home country nationals are responsible from the management. However, the shareholders of MNCs may from diversified regions across the world. For instance, ICI is known as a British company, Ford as a US company, NEC as a Japanese company, Siemens as a German company, and Nokia as a Finnish company. However, the stock shares of these companies are dispersed throughout the world. Board of directors is composed of from multinational people whereas high proportion of their value-added activity is performed outside their home county.

If a foreign citizen buys assets from the home country, FDI is said to be inward. If the foreigners purchase assets from the home country, FDI is said to be outward.

2.2 Trends in Foreign Direct Investment

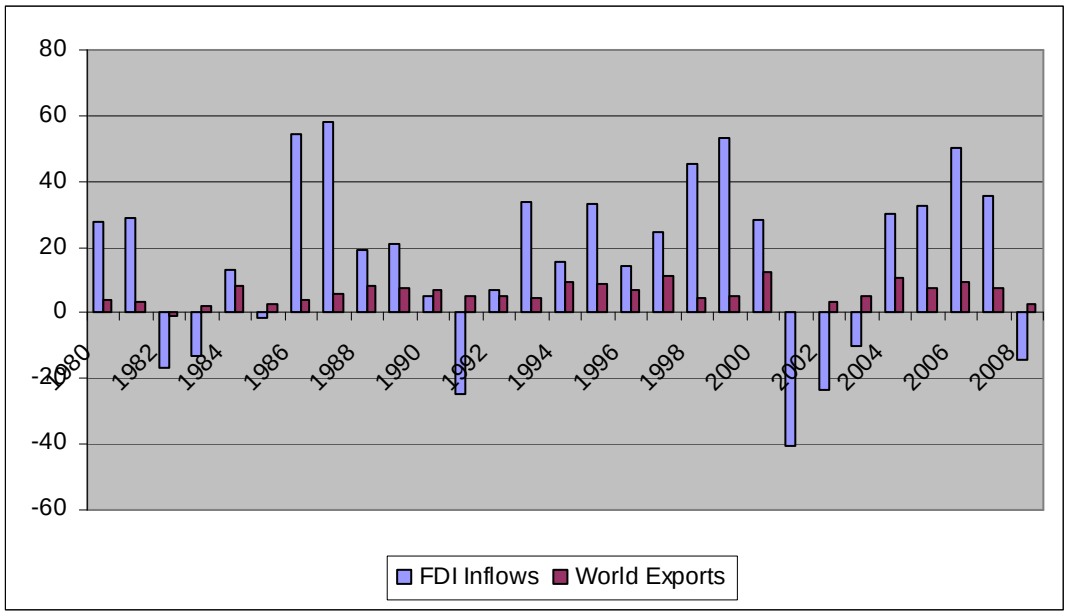
In fact, many of the developing countries carried concerns concerning FDI before 1980s. It was assumed that the presence of multinational companies might have threatened national sovereignty and security. That is, negative perceptions existed associated with MNCs because of their capacity to effects economic and political structure of the host country. Negative perceptions mostly originated from the

colonial experience of developing countries. They consider FDI is the modern form of economic colonialism and exploitation. In addition, there were concerns whether MNCs performed business practices unfairly (Brooks et al., 2003).

After 1980s, however, the perceptions changed as a result of neo-liberal policies imposed by the international economic institutions such as IMF and World Bank. Thus, FDI restrictions were removed dramatically. In fact, technological development, emergence of globally integrated production and new marketing opportunities, and prescriptions from multilateral development banks speed up the process of FDI activity. Therefore, most of developing countries began to adopt open door policies concerning multinational investment in the form of FDI. In addition, debt crises that many developing countries exposed to forced them to reform their investment policies to attract foreign capital because FDI was perceived as an alternative source for bank loans (Brooks et al., 2003). Thus, countries implemented incentives and subsidies to MNCs to attract multinational investment. Whereas world FDI inflows were amounted $53.7 billion in 1980, they reached to 2.3$ trillion in 2007.

The dramatic increase of FDI in this process reshapes international economic landscape. The volume of worldwide FDI inflows exceeds total world exports to a large extent. That is, the growth of world FDI inflows has overtaken the growth of world export in good and services.

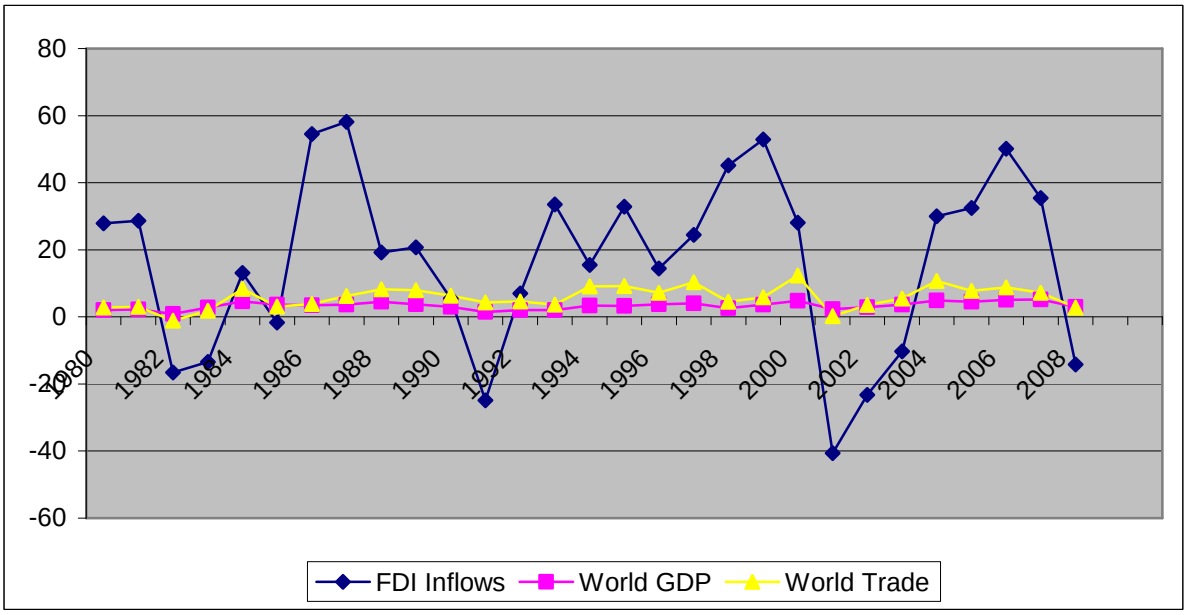
Figure 2.1 Growth of World Exports and FDI Inflows (average annual growth rate)



Sources: Exports: IMF (2009), FDI Inflows: UNCTAD (2009)

Figure 2.1 demonstrates both growth of world exports and FDI inflows. From the figure it is clear that FDI outflows have overcome world exports. Especially, the expansion of FDI is evident during 1985-1990, in which most of developing countries began to implement trade and capital account liberalization policies, and 1995-2000, in which companies gained mergers and acquisitions (M&As) resulting from Asian financial Crisis and privatization programs in Latin America (UNCTAD, 2002). In addition, FDI maintained its expansion during 2005-2008 periods. The decline in FDI activity between 2001 and 2003 can be attributed to the global economic slowdown mainly originated from stock market decline, the events of September 11, 2001, and decrease of M&A projects. FDI inflows decreased by 38% compared to the two years of this period.

Figure 2.2 Annual Growth of World Trade[3], World GDP, and FDI Flows



Sources: FDI flows: UNCTAD (2009), Trade and GDP: IMF (2009)

Figure 2.2 demonstrates annual growth rates of world trade, world GDP and FDI growth. Positive correlation of 0.406 exists between the growth of FDI inflows and world GDP. It is evident that the changes in FDI flows are larger than the change in both GDP and trade. On the other hand, the change in GDP and trade seems to be highly correlated. In addition, it can be inferred that FDI activity is more sensitive to the economic and political dynamics because the series follows a volatile pattern. In fact, the standard deviation of FDI flow during this period is 26.09 whereas it is 1.11 and 3.22 for GDP and trade growth respectively.

2.3 Geographical Distribution of FDI inflows

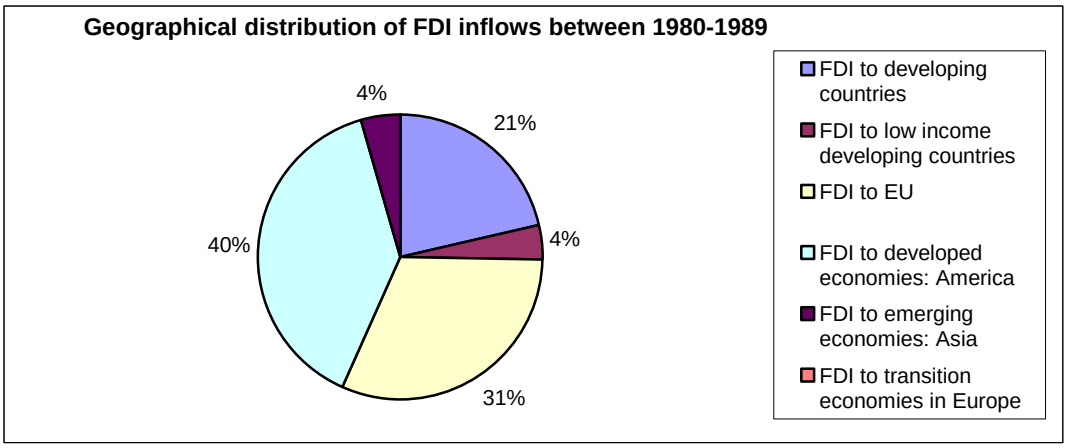
The geographical pattern of FDI inflows has somewhat changed since 1990s. In fact, the shares of Europe and developing countries have increased throughout the

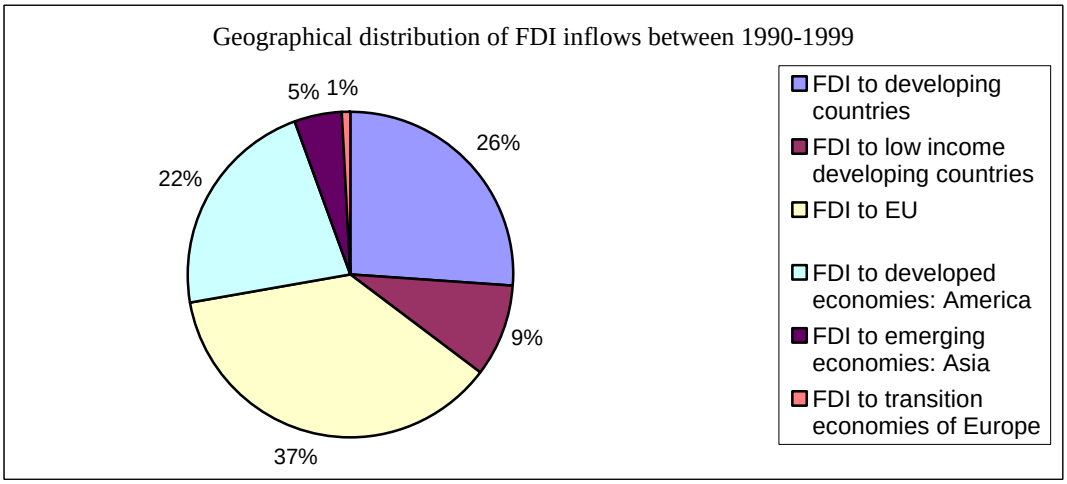
[3] World Trade is defined as the sum of exports and imports, FDI flows as the sum of inflows and outflows

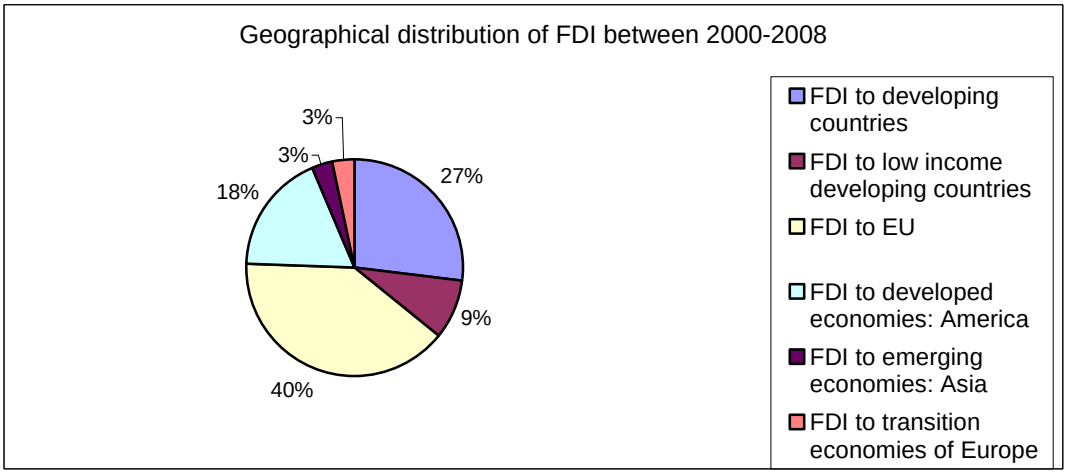
period. EU has become the region, flowing in the largest share of global FDI. On the other hand, MNCs activities into US decreased gradually. In addition, Asian and Pacific economies have been receiving large amounts of FDI since the beginning of 1990s. However, Asian Crisis in 1997 stopped this trend for a few years. Then, upward trend in FDI inflows came into existence again as a result of mergers and acquisitions after the crisis.

In addition, FDI inflow to the developing countries increased significantly throughout the period. In fact, MNCs' parents and all of their affiliates constituted 9% and 58% respective global shares in 1994 whereas these ratios rose to 22% and 60% for both MNCs' parents and their affiliates respectively in 2002. Although relatively small in global comparison, the amount of FDI flow into CEECs increased at a very fast rate after 1990.

Figure 2.3: Geographical Distribution of FDI Inflows





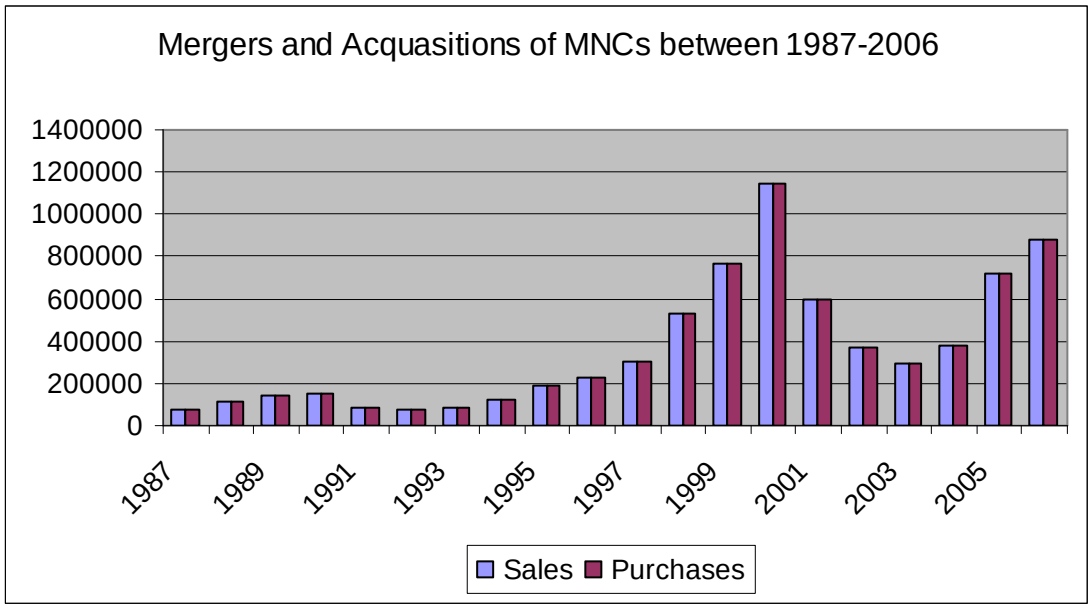


Source: UNCTAD (2010)

In addition, MNCs' preferences for their investment on country level have changed in the past decades. For instance, Malaysia, Singapore, and Thailand were among the 20 countries receiving the largest amount of FDI between 1991 and 1993. However,

FDI inflows of Brazil, Finland, and Ireland exceeded these countries between 1998 and 2005. In addition, Japan and Republic of Korea have been attracting the attention of MNCs for investment after the Asian Crisis.

Figure 2.4: Mergers and Acquisitions of MNCs during 1987-2006 Period



Source: UNCTAD (2010)

From the figure 2.4, it is seen that M&A activities of foreign firms are correlated with FDI inflows. Mainly, the composition of FDI flows changed throughout the period. For instance, M&As got their peak both in 1999-2001 period and 2005-2007 period (UNCTAD, 2007). Both peaks contributed the total amount of FDI inflows to a considerable extent while the weight of Greenfield investments to the multinational decreased in comparison to mergers and acquisitions[4]. In particular, M&As in the service sector- mainly finance service sector- form two-thirds of total M&A projects since 2000. In addition considerable amount of M&A projects comes into being in the mining and petroleum sector since 2003.

[4] Greenfield investment refers to case where MNC locates a new factory or assemly plant in the host country. Such investments are particularly encouraged because it provides new financial, tecnological, and management resources to the host country.

2.4 Rationale for Foreign Investment

Capital flows occurs as a result of companies' desire to earn higher return. The motive of MNCs is driven by the interest of the stakeholders of MNC. Stakeholders consist of manager, employers, and shareholders. According to firm theory, the opportunity cost of the resources and capacities provided by stakeholders to the production process must be recompensed. From this perspective, these companies desire to find locations in which they can increase their productivity and diversify risk.

A large body of theoretical and empirical literature signifies the positive effect of international capital movements in world output and welfare. From the perspective of host country, a foreign-owned affiliate may contribute better to improvement of the quality of labor, R&D and productivity than a domestic company (Dunning and Lundan, 2008). For instance, more than one-third of Taiwan's trade surplus with US originated from FDI activities of US firms in Taiwan. In addition, it is estimated that the contribution of US MNCs to the improvement of R&D effort increases from 11.5% to 13.2% between 1994 and 2002 whereas the respective proportions for Swedish MNCs are 21.8% and 42.5% for 1995 and 2003 respectively.

From the theoretical perspective, McKinnon-Shaw hypothesis states that financial liberalization would stimulate saving and investment behavior in the economy and contribute to the economic growth and development. In addition, financial liberalization has positive effects when markets are imperfect. Financing constraints make external finance more difficult compared to internal finance. When financing constraints are removed, access to foreign capital becomes easier. Moreover, foreign investors would demand improved corporate governance, as in the case of EU regulations, after the capital account liberalization. This would indirectly decreases

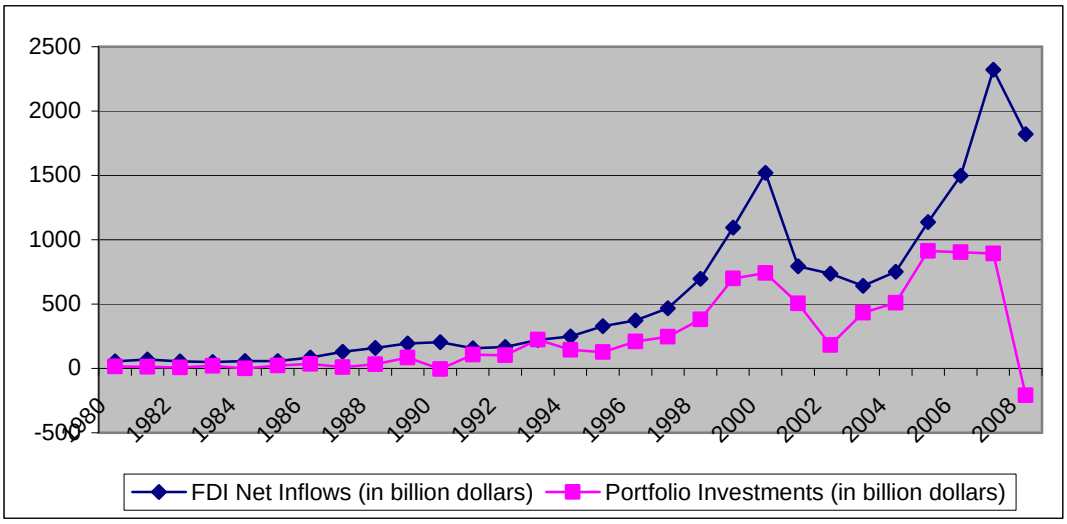
the cost of capital originated from both internal and external finance (Stiglitz, 2000). In short, improved corporate governance and investor protection contribute to the financial development, which further stimulates economic growth.

International capital enters into the host country either in the form of private capital flows or public capital flows. Private capital flows are composed of portfolio investment and FDI whereas public capital flows are generally loans and aid. The characteristics of portfolio investments, also known as short term capital flows, is somewhat different that of FDI. Portfolio investments are short term investments and they are highly speculative particularly for developing countries in which economic, financial, and political infrastructure are not well-developed. Thus, they may have no positive effect on the host country's economic growth. Moreover, some economists argue their effect on the growth can be even negative because sudden outflow of hot money in case of lack of confidence in both real and financial sector of the economy may lead severe depressions and economic crises. The financial crises that many developing economies experienced during 1990s exemplify this process.

In addition, short-term capital makes foreign direct investment less attractive because of the changeable dynamics of an economy. On the other hand, FDI inflows are more stable and long term investments. Their effect on the real economy is more pronounced in terms of production and employment. As mentioned, short-term capital flows increase economic volatility and fluctuations. The volatile economic environment is not preferable for longer-term investments. Therefore, short-term capital account liberalization contradicts with the increase of FDI (Stiglitz, 2000). This situation puts an obstacle for the economic growth. On the other hand, restrictions on short-term capital flows attract the FDI because an economy is said to

be “more disciplined” with restrictions on short-term capital flows. For instance, China puts some of these restrictions for speculative capital flows and has received higher longer-term investments. As a matter of course, it could obtain an average growth rate of 8%, which was higher, the growth rates of the countries adopting capital account liberalization (Stiglitz, 2000).

Figure 2.5: FDI Inflows and Portfolio Investment Inflows



Source: World Development Indicators (2010)

Figure 2.5 shows the change of FDI and portfolio investment inflows since 1980. We can see that both series are highly correlated. They have increasing trend and react to the global economic dynamics in the same manner. For instance, the global slowdown and stock market decline at beginning of 2000s caused rapid decline in both form of capital flows due to the lack of confidence. Also, the global financial crises which came into beginning at the beginning of 2008 influenced both FDI and portfolio flows negatively.

2.4.1 Advantages of FDI for the host Economy

In theory, FDI has a positive effect over income and growth (Romer, 1993). Also, there are other advantages to host county receiving FDI:

1. Technological Spillover: Host County benefits from the technology that multinational firm use in the production process. Innovations may be transferred to the other sectors where they can increase efficiency and productivity.
2. Competition: Multinational investment increases competition in the host county. Domestic price decreases as result of increase of industry output.
3. Domestic investment: FDI has a positive impact on domestic investment. Bosworth and Collins (1999) show that foreign resource transfer equals 53-69% of the inflow of the financial capital. The remaining part is composed of either reserve accumulation or capital outflows. However, if the inflow of financial capital takes e form of financial capital FDI contributes to the domestic investment.
4. Export Market: Export of the host country increases as a result of foreign investment because of economies of scale and new marketing opportunities that foreign companies provide. For instance, Aitken et al. (1997) found that domestic firms' exporting activities increase in relation to their proximity to multinational firms.

2.4.2 Disadvantages of FDI:

FDI may have a negative effect on the economy of the host country. For instance, if a multinational company in a specific sector has monopoly power in the world market, output level increases originated from new competition. The price of export goods in the sector declines, thus decreasing the welfare of the host country. In

addition, multinational investment is considered to be absorbed without significant decreases in its rate of capital. On the other hand, the growth of capital exceeds the productivity of capital, the productivity of labor starts to decline, which may decrease its rate of return (Brooks et al., 2003).

Also, FDI inflow may result in high income disparity within the host country. Generally, multinational company in host countries import value added products and export after the production process is completed. Although, this type of foreign investment creates employment and increases wages, capital stock of the host country does not increase by a large amount. In addition, wages increases only for workers employed by the foreign investors. Thus, income disparity may enlarge as a result of the increase of wages of this favored group.

Multinational investment may affect the environment, health and food security of host country. One of the attraction factors of FDI is abundant natural resources of host country with low-quality institutions. If the speed of extraction of natural resources is greater than required sustainable development that the foreign investment would provide, the main source of livelihood of the host country is influenced negatively. Environmental destruction may come into the existence. Also, multinational investment may trigger westernization, which may affect the cultural identity of the host country negatively.

2. 5 Types of FDI:

Types of FDI change according to the motives of foreign investors. Four types of MNC activity, with different strategic objectives, exist in the economic literature.

2.5.1 Market-Seeking FDI

Market-seeking FDI's motive is driven by the aim of accession into the host market. Large and fast growing markets are attraction factor for foreign investments.

In this case, horizontal efficiency, involving replication of production facilities, takes place. Tariff-jumping and export substitution may exemplify this king of FDI. Market size and economic growth are main motives for foreign investors because the aim of horizontal FDI is to better serve to local market by local production (Dunning and Lundan, 2008). That is, MNCs perform multinational investment to supply good or service to the host countries. Generally, market-seeking company has performed export activities previously, either because of obstacles to accessing local domestic markets such as tariff and transportation costs, imposed by the host county. Greenfield investment is mainly driven by market-seeking motives.

Apart from the motive driven by the market size, there are four other reasons for MNCs performing in market-seeking FDI. Firstly, their main suppliers and customer may set up foreign-production facilities. Therefore, they need to follow them in the regions where these facilities are set up. Secondly, they need to learn how to adapt the preferences, tastes, and needs of target costumers in the host country. Thirdly, the cost of exportation may exceed multinational production in the host country. Fourthly, and more importantly, MNC may consider locating the production facilities in the host country is necessary to compete with the other MNCs serving to the host country. For instance, international oligopolies come into existence in many sectors such as oil, autos, pharmaceuticals and advertising over the last two decades.

2.5.2 Resource-Seeking FDI

The second type of FDI is resource-seeking FDI. The main motive encouraging foreign investment is to getting resources not available in their country, such as natural resources, raw materials, and labor, at a lower cost than could be obtained in the home country (Dunning and Lundan, 2008). The motivation of MNCs performing resource-seeking FDI is driven by the desire to increase the profitability

and competitiveness of the enterprise. Most of the goods of the affiliates of resource seekers are exported to developed industrialized countries such as US and EU. Therefore, this is also called export oriented FDI. Specially, low-cost labor is crucial attraction. Generally, more advanced industrializing countries such as Mexico, Taiwan, and Malaysia and CEECs has received this kind of FDI. However, as wages in these countries has increased, natural-seekers tend to perform investment in China, Turkey, and Vietnam. In addition, resource-seeking investor will be attracted to a country abundant in physical natural resources such as mineral fuels and industrial minerals. For instance, MNCs' activities in CIS and Africa are mainly driven by resource-seeking motive. Vertical FDI involves relocating parts of production chain to the host country in contrast to market-seeking FDI. Moreover, MNC may desire to benefit the technological infrastructure, management, and marketing skills of the host country. For instance, M&As of Korean and Taiwanese firms with EU and US firms in the high-technology industry may exemplify this kind of investment.

2.5.3 Efficiency-Seeking FDI

The third type of FDI is efficiency- seeking FDI**.** In this case, foreign firms have economies of scale and scope. Because of these advantages, foreign firms can increase profit levels from the common governance of geographically dispersed activities. The benefits are originated from cross-border products, learning experiences, gotten by performing in different cultures, and opportunities of price differentials across exchanges. The efficiency- seeking MNCs try to get benefit from different factor endowments, cultures, and institutional regulations, demand patterns, economic policies, and market structures by performing investment activities in a few numbers of locations to supply many markets. For instance, FDI inflows from EU-15 to Czech Republic, Estonia, Hungary, and Slovenia exemplify this kind after

the initial announcement of the progress of EU accession because of the establishment of the regional corporate networks (Bevan and Estrin, 2000).

Efficiency investors search for well-developed and open host economies. Regionally integrated markets such as that of EU guarantee these factors that efficiency-seeking MNCs look for. In addition, World investment report states that CEEC countries would attract more efficiency-seeking FDI and the intensity of FDI flows into these countries would increase during the progress of EU accession

2.5.4 Strategic Asset-Seeking FDI

The strategic asset seekers' aim is to get the assets of foreign corporations to strengthen their long-term strategic objectives such as enforcing their global competitiveness. The main focus is increasing the company's global portfolio of physical assets and human competences. They will retain their ownership-specific advantages in comparison to their competitors. This kind of investment is increasingly performed by emerging economies. For instance, Chinese firm Leveno acquires IBM's PC business in 2005 with this strategic objective (UNCTAD, 2006).

3 Literature Review

Studies concerning determinants of FDC have been investigated in two branches, i.e., theoretical background and empirical background.

3.1 Theoretical Background

Studies in the theoretical literature of the determinants of FDI have diversified in particular after 1960s. As shall be seen, many of these studies focus on the factors specific to multinational firms with less attention to the host economy.

3.1.1 Prior to 1960s

One of the first experts examined the issue is Ohlin (1933). In his research, he argues that FDI flows are originated from the high profitability in growing markets. In addition, the necessity to diminish trade restrictions and the motive in gaining sources of raw materials are the other determinants.

Mundel (1957) also attempted to explain determinants of FDI by focusing relative factor endowments and relative factor costs. He argues that capital flows increase if restrictions of both trade and migration exist. In addition, big gap between capital-rich and capital poor countries intensifies capital flows. However, geographical distribution of new investments implies that FDI is directed not only to less developed countries in terms of their low GDP and low wages, but also to developed market economies. For instance, 4,5% of EU GDP was composed of intra EU FDI flows in 1995. From this perspective, determinants of FDI are multi-dimensional and vary across regions and time.

3.1.2 The contribution of Hymer:

Hymer (1960) develops a new way to study multinational firms MNCs. If MNCs are superior to the domestic firms in host country in terms of better knowledge of the local and market environment, MNCs have some compensatory advantages. One of

these advantages is imperfect competition in goods market. The imperfect competition is mainly originated from product differentiation. Another compensatory advantage is imperfect competition in the factor market. Discrimination in terms of access to capital or skill advantages may be examples of this case. Also, internal or external economies of scale originated from the vertical integration is another advantage. Finally, the interventions of the governments such as restrictions of imports might be another cause. Because of these advantages MNCs choose to supply the foreign economy in terms of FDI rather than exporting.

Kindleberger (1969) slightly changes Hymer's research. According to the author, the market structure determines the behavior of MNCs. Similarly, FDI will be channeled to basically in sectors dominated by oligopolies according to Caves (1971).

A second line of studies of the determinants of FDI is concerning transaction cost of firms. Buckley and Casson (1976) and (1981) and Buckley (1985) mainly asserts that intermediate product markets are imperfect. When these markets managed by different firms, high transaction costs come into being. When markets are integrated by MNCs, these costs would be minimized.

3.1.3 The Product Cycle Model:

Vernon (1966) developed the product cycle model for FDI. According to this model innovations come into being in countries whose production are capital-intensive because innovations are labor savers. Gradually, the firms in these countries produce in other countries, mostly developing countries, whose production is less capital intensive. In addition, foreign firms produce in these countries to incorporate innovations and products. This model exemplifies the set of studies in which foreign direct investment sequentially taking places. Firstly, foreign firms

export their products to markets of host countries. Then, they set up trade representatives. Finally, they set up their production in these markets.

3.1.4 Eclectic - OLI Paradigm:

The most important contribution to the literature of FDI determinants belongs to Dunning It is the extension of theory of internalization. Dunning (1981) develops a framework, in which identified three conditions which are necessary before a firm will perform direct investment abroad, to clarify the determinants of FDI. He states that one of the factors that lead to the existence of multinational firms is dissimilar assets. His paradigm is known as OLI (ownership, location, internationalition). This paradigm may be described as follows:

a) Ownership: Multinational firms retain advantage over domestic firms in a given sector concerning the privileged ownership of a certain tangible or intangible asset, such as a product, natural endowment, a process, a reputation for quality, technology or superior management (O). These ownership advantages mainly are originated from the common governance and coordination of related cross-border-value added activities. These advantages are considered to increase the wealth-creating capacity of the firm. Once the firm retains ownership advantage, it will either internalize the ownership or sell it.

b) Internationalition: If it decides to internalize, it will gain internalizing advantage (I). MNCs decide internalization in which transactional market deficiencies exists so that transaction cost in the market are higher than internal cost.

c) Location: If it decides to internalize, foreign firm chooses to operate in the host country if it has sufficient locational advantages for production (L).

Locational advantage should encourage the firm to produce the product, or supply the service in the host country rather than producing at home. Restrictions of trade, abundance of natural resources used in the production process, cheap factors of production, and high demand in the local market of the host country exemplify principal location advantages.

d) In addition, the fourth condition for foreign investment is that foreign investment should be compatible with firm's long term strategy of the firm.

Therefore, according to Dunning Paradigm, four reasons for a firm to make foreign investments are the search for resources, markets, efficiency, and new strategic assets. In particular, the compatibility of knowledge assets and locational factors leads to the increase in FDI.

Based on Dunning's OLI paradigm, one of the recent theoretical approach to clarify determinants of FDI is the study of Cantwell (2000). His approach states that the ownership of technology and innovations is the main factor enabling firms to compete with each other. Technological accumulation is cumulative and internal process. Firms can spread their technological potential and knowledge in host countries by the internalization of production. Therefore, they gain specific advantages such as adaptation and more technological improvement. In other words, they spread the technology that they have thorough multinational production and acquire to the new innovation advantages.

3.2 Empirical Background

Empirical literature of FDI determinants mainly focus on attraction factors, locational factors because the MNCs performing FDI are difficult to determine unless a large panel data set obtained. Generally, push-factors are difficult to identify because of the non-availability of data of firms involving in multinational

investments. The traditional explanatory variables used in econometric analyses are market size, GNP growth, labor cost, exchange rate, and the degree of trade openness. In addition, the recent literature takes into account transition- specific factors such as agglomeration, economic stability, the degree of trade openness and some other institutional factors.

In particular, the relation between FDI and economic growth attract special attention in the empirical studies. In fact, economic growth attracts foreign investment because it is one of main positive macroeconomic indicators and indicates new marketing opportunities. On the other hand, the increase in FDI also stimulates economic growth because it adds the existing capital stock in the host country. In particular, Greenfield investment projects directly contribute the capital stock in the host country. From this perspective, FDI activity and economic growth affect each other simultaneously. Therefore, there is an endogeneity problem between FDI and economic growth. Various econometric techniques, such as 2-stage least squares and Generalized Methods of Moments (GMM) have been used in the empirical literature of FDI determinants.

In addition FDI determinants differ whether both foreign and host countries are developing or only host country is developing. In the former case, Dunning (2002) states that the main motivation is strategic asset seeking. In this case, horizontal efficiency takes place. On the other hand, if firms involve in multinational investments for mergers and acquisitions, vertical efficiency is the main motivation. That is, FDI is made to acquire new markets and resources.

According to Campos and Kinoshita (2002) human capital is one of the most important factors concerning FDI attraction. The labor that the foreign company employed should have adequate skills, experience and education to use the

technology that the MNC transfers. The economic growth can be achieved in this way. One of the empirical studies confirms this hypothesis is Borenztein, De Gregorio and Lee (1998). In their study, the effect of FDI on economic growth is statistically only if they include the interaction term between FDI and human capital in their model. However, Campos and Kinoshita (2002) performed the model developed by Borenztein, De Gregorio and Lee (1998) for 25 transition countries in Europe and they found that FDI is independent from the level of human capital in these countries. In fact, the technology levels of these countries were exceeding threshold level at the beginning of the transition. When they perform regressions with both interaction term and without interaction term, they found statistical significance of FDI. Therefore, FDI does not necessarily depend on the minimum threshold level for transition economies. In addition, the insignificant coefficients of human capital in the models performed in their paper imply that the effect of human capital on economic growth is less than expected.

Campos and Kinoshita (2003) try to answer how important are institutions and the agglomeration effect in comparison to other factors in host countries regarding the attraction of FDI. They tried to differentiate traditional (e.g., market size and labor cost), newer (e.g., institutions), and transition- specific determining factors (e.g., initial conditions). Using a panel data set covering 25 transition countries (the CEECs and the CIS) between 1990 and 1998, they found the effects of institutions, agglomeration, and trade openness are significant on FDI inflows. Firstly, they perform fixed effect and GMM models for pool of 25 transition countries. They found agglomeration effect statistically significant whereas market size is found to be insignificant. Therefore, market seeking motives may not be robust in these countries. Also, significant effect of trade openness imply that trade openness and

FDI are complementary. The effect of education is found to be insignificant. One of the possible explanations for this result is that FDI mainly does not flow in to technologically sophisticated sectors, in which high quality of human capital is needed.

Secondly, the authors perform models for CEECs and CIS countries separately. They found that natural resources and infrastructure are the main determinants for CIS countries whereas agglomeration matters for the Eastern European and Baltic countries. Also, proximity to host country is found to be statistically significant for both groups of countries. Finally, restriction on FDI has is negative and significant effect, implying capital controls for direct investment inhibit FDI.

In summary, market size, labor cost, availability of natural resources, and proximity to major western markets are main determinants of FDI inflows. Thus, FDI would be directed to countries whose initial conditions are favorable. However, empirical research signifies other factors would be important.

Janicki and Wunnova (2004) examined determinants of FDI into eight central and eastern European countries, announced for accession into European Union. They performed a cross-sectional model for 1997 for these countries. The countries used in the model consist of Bulgaria, Czech Republic, Estonia, Hungary, Poland, Romania, Slovak Republic and Slovenia. The empirical results suggest that size of the host economy, host country risk, labor cost in the host country, and openness to trade have significant effects on FDI flows into these countries.

Bevan and Estrin (2004) analyzed determinants of FDI inflows into 11 transition countries, including Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia, and Ukraine, during 1994-2000 period. The authors exclude Russia, much of the CIS countries and countries

from former Yugoslavia because it argued that these countries constitute special cases requiring country specific explanations. The explanatory variables they used in their model are GDP of the host country, unit labor cost in the host country, interest rate differential between source and host countries, distance between capital cities of host country and source country, the openness of the host economy, risk index, and a dummy variable reflecting positive announcements about prospective EU membership of the host country. In addition, the authors consider FDI reacts to these explanatory variables with a lag because it would take some time for occurrence of FDI flows as a response to explanatory effects. Therefore, they estimate two models, with both contemporaneous form and with one-year lag for the independent variables. They estimate regression equations with random effects model. The significant effects that they found are unit labor cost, host and source country size, and proximity. Country risk is an insignificant determinant, implying that the risk of default is usually considered by portfolio investors or currency speculators. The effect of interest rate is insignificant, indicating that foreign investors prefer to use their own financial resources or capital markets in their own countries. Trade is found significant only for the lagged specification, indicating the FDI decisions focus on the information of trade activity in the past. In addition, the effect the EU accession prospects is found to be positive and significant, showing that FDI flows into transition countries, whose accession prospects are enhanced, increase even after controlling proximity and labor cost. The overall fit is better in the lagged specification, implying that the current FDI flows take into account past information rather than contemporaneous information.

Carstensen and Toubal (2004) examine determinants of FDI into CEECs by using dynamic panel GMM estimation technique within the framework of dynamic panel

data. The model includes both traditional determinants such as, market size, labor cost, relative endowments, and transition-specific factors such as the level and method of privatization and country risk. Here, level of privatization is used as a proxy for the quality of corporate governance. They found that both traditional explanatory variables and transition-specific factor have significant effects on FDI. They include corporate tax rates and relative endowments of the host country an explanatory variables in the model and found that these variables also have statistical significance in terms explaining FDI activity in CEECs. Education is found to be significant implying that MNCs prefer labor force that can easily adapt to innovative production technologies and Western Business culture. Moreover they imply that FDI and trade are complementary originated from the negative impact of trade cost on FDI.

Nunnenkamp (2002) modeled FDI determinants for 28 developing countries for the period 1987-2000. He found significant correlations between FDI flows and GNP per capita, risk, years of education, openness to foreign trade complementary production factors such as local raw materials, administrative obstacles, and cost factors such as taxation. Population, GNP growth, firm entry restrictions and technological infrastructure is insignificant to attract FDI. However, if the model includes only for non-traditional factors as explanatory variables, that is when traditional factors such as population and per capita growth are controlled, the variable representing cost factors is found to be statistically significant.

Holland and others (2000) studied the determinants of FDI for Eastern and Central Europe and analyzed the importance of market size and economic growth. Tsai (1994) used simultaneous equation system to examine the endogenity between FDI and economic growth for decades 1970 and 1980(Sample?). In this study, FDI

was measured both as a flow and as a stock. The results of the study show that market size is more important than economic growth to attract FDI. Also, trade surplus is negatively statistically significant for FDI. Nominal wage has a positive effect and is statistically significant. In contrary, the effect of FDI on economic growth is unclear.

Garibaldi and others (2001) used dynamic panel model for 26 transition countries for 1990-1999 period. The variables that they used are macroeconomic factors, structural reforms, instutional and legal frameworks, initial conditions and risk factor. They found that market size, budget deficit, inflation, exchange rate, risk factors, economic reforms, trade openness, bottlenecks in the bureaucracy are statistically significant in the expected direction.

Loree and Guisinger (1995) analyzed FDI made by United States for 1977-1982 period. The sample involves both developing and developed countries. One of the major findings is that variable concerning host country policy is significant if infrastructure is significant determinant in all regions.

4 Determinants of FDI

In this section we introduce both traditional determinants and transition-specific determinants of FDI. While traditional determinants are concerning with the motives of market-seeking and resource-seeking FDI, transition-specific determinants signifies the transforming circumstances of different economic, political, and institutional aspects, taken into account mostly by efficiency- seeking FDI.

4.1 Traditional Determinants

Traditional determinants consist of market size, plant- firm specific costs and human capital. These variables were used widely in the FDI literature for both developed, developing, low-income, emerging, and transition countries.

4.1.1 Market size

Market size reflects the market demand in the country. Foreign investors, whose motive is market-seeking, prefer large domestic market size because market-seeking investments aim to serve a domestic consumer market. In addition, it is important in terms of economies of scale exploitation and production factor specialization of the MNCs performing FDI. Large market size enables the increase in the host country's total output originated from cost minimization and market growth. In addition, we expect that per capita FDI is greater in countries with large domestic market.

Empirical studies mainly the effect of GDP growth and GDP per capita, variables as proxies for market size, is significant and positive on MNCs' cross-border activity. Bhasin et al. (1994) and Morrissey and Rai (1995) argue that foreign investors consider both host country's market size and growth perceptions before they perform FDI operations. Morrissey and Rai (1995) state that international agreements on trade and investment also influence FDI activity. Jeon (1992) and Wang and Swain (1995) claim profitability rates reflect the expectations of growth

prospects. They found their effect on FDI inflows is indeed positive statistically significant in their econometric model. Agarwal (1980) argues the multinational investment is dependent on the output or sales of the foreign firms in the host country. This can be indicated by the market size of the host country by using level of GDP or growth rates as proxies in their model.

On the other hand, some econometric evidences signify MNCs' cross-border activity may not be always driven by the market capacities and forces of the host country. For instance, Campos and Kinoshita (2003) found agglomeration effect statistically significant whereas market size is found to be insignificant. Therefore, market seeking motives may not be robust in these countries.

4.1.2 Labor cost

If the motivation of foreign investors is resource-asset seeking, labor cost will be important determinant for investment decisions. Specially, the importance of factor-cost considerations increases for the vertical FDI because vertical multinationals prefer locations with relatively lower labor cost for their labor-intensive activities (Carstensen and Toubal, 2004). Empirically, Bevan and Estrin (2004) found that the effect of unit labor cost is negative and significant on FDI flows into 11 transition countries between 1994 and 2000.

On the other hand, the effect of wages can be considered ambiguous concerning FDI attraction. In fact, England could not achieve significant increase in FDI after reducing total labor costs. Although Cheng and Kwan (2000) argue labor cost has no negative effect over FDI, Chen (1996) did not found correlation between wages and FDI. Moreover, Campos and Kinoshita (2003) found the effect of labor cost insignificant for both CEEC and CIS countries. One of the possible explanations for this result is relatively small variance of labor cost in these countries. In addition, EU

accession prospects of these countries rather than cost-specific factors such as labor cost were the main drivers of MNCs' investment activity to these countries. For instance, even though Romania and Bulgaria retain the lowest wages among CEECs during 1990-1999, FDI inflows to these countries were substantially lower than front-runner countries such as Poland, Holland, and Czech Republic concerning EU accession process.

4.1.4 Natural Resources

FDI flows whose motivation is asset-resource seeking look for countries abundant in natural resources. The motive is driven from acquiring the natural resources necessary for the production process at a low cost. The availability of natural resources varies significantly across transition countries (DeMelo et al., 1997). For instance, FDI flows go into the CIS countries, rich in terms of oil and natural gas, mainly because of this reason (Campos and Kinoshita, 2003). Especially, FDI flowing into manufacturing sector takes into account this consideration.

3.1.5 Regional Proximity to Thriving Market Economies

According to the gravity model approach, proximity to host country is an important determinant of trade flows between countries. More specially, trade volume between countries is affected from both output levels of countries and distance between them. In fact, geographical distance represents transportation costs or economic obstacles to trade. From this perspective, the distance between two countries affects trade volume between these countries negatively. Likewise, cost-motivated investments such as vertical FDI also takes into the consideration the distance. In fact, distance can be considered as a measure of transaction costs of performing foreign activities. If the distance between the host country and the source country is long, the cost of transportation and communication, the cost of coping

with cultural and language differences, the cost of sending personnel abroad will be higher.

From the same perspective, regional proximity of transition economies of EU to thriving market economies of Western Europe influences the cost motivated investments positively. For instance, Campos and Kinoshita (2002), analyses the effect of proximity in kilometers on FDI activity by identifying distance in kilometers from the headquarters of thriving market economies of EU to the capital city of host country. They found the effect of distance positively significant for FDI inflows to the Eastern European and Baltic countries, in which market-seeking FDI flows in. On the other hand, the effect is negative and significant for CIS countries, in which cost-motivated investments such as vertical FDI flows in. Both results comply with the theory that the literature suggests. In addition, Bevan and Estrin (2004) argue that high FDI inflows from market economies of western Europe to CEECs is originated from differential in real unit labor cost and relatively short distances between countries such as the distance between Germany and Poland. Indeed, empirical findings in their study conforms their hypothesis because they found the effect of both labor cost and geographical proximity is statistically significant.

In addition geographical proximity to market economies is important for CEEC countries in the early stage of transition because it enabled them to imitate and import market institutions (De Melo et al., 1997).

4.1.3 Human capital

Another FDI determinant is human capital quality and availability. A more educated worker can learn and can get accustomed to the new technology faster (Campos, Kinoshita, 2003). For instance, Noorbakhsh and others (2002) argue that

high labor quality has significant effect on FDI inflows for developing countries because FDI in developing countries flows in to the technologically intensive sectors, in which high labor quality is need. In particular, FDI activity, performed into developing countries such as the countries in Asia, is channeled to manufacturing sector because of this motive. In addition, Dunning (1988) asserts that the level of education and skill of the labor force affect the volume of inward FDI and activities that MNCs undertake in the host country.

However, the empirical results indicate that the effects human capital may be insignificant regarding the attraction of FDI. In fact, MNCs add new capital stock in the host country by investing over the depreciated capital and provide FDI stimulant growth prospects. However, MNCs may consider the efficiency of labor is low and can be increased with training. For instance, Cheng and Kwan (1999) used percentage of population with higher education as a proxy for human capital to measure its effect on FDI inflows. However, the effect is not statistically significant. According to Guntlach (1995) the insignificant results of human capital accumulation is originated from the fact that education triggers externalities and spill-over effects in production which can not be measured easily by using standard set of variables. Human capital augmentation can be replaced with human capital accumulation to overcome this technical problem.

4.2 Transition-Specific Determinants:

Even thought traditional determinants are still important regarding the attraction of FDI, MNCs also look for locations in which specific financial, fiscal, and institutional advantages prevails. Specially, that transition countries have exposed to intensive transformation process in terms of financial, political, and institutional regulations originates new attraction factors, i.e., transition- specific factors.

4.2.1 Agglomeration Economies

Agglomeration effects are also considered to have an effect on FDI activity. Economies of agglomeration is concerning the advantages of firms when their locations are near to each other, because of positive externalities. Because foreign investors have not adequate knowledge of the host country's environment, they may consider that FDI activity of other MNCs is a good indicator of favorable investment conditions. Therefore, uncertainty concerning the multinational investment decreases.

When firms operate close to each other, the cost of production may diminish as a result of greater specialization and division of labor. In addition, foreign firms benefit from positive spillover effects, such as knowledge spillovers, specialized labor and intermediate inputs, by operating close to each other. With regard to technology spillovers, foreign investors, intending to perform multinational investment need general and technical information concerning efficient operating conditions, acquired thorough direct experiences of other investors, in the host country. This information can transfer to foreign investors by informal communication. Therefore, foreign firm choose location for business operations near to other firms to gain such positive externalities. For instance, Marchall (1920) states that industrial districts are originated from technology spillovers and advantages of thick markets for specialized skills. Moreover, industry-specific localization comes into being when firms in the same industry generate shared cluster of skilled labor and specialized input suppliers (Campos and Kinoshita, 2003). Also, forward and backward linkages effect emerges as a result of agglomeration. That is, suppliers of intermediate goods locate near to each other because large market increases demand for goods and supply of inputs (Krugman, 1991). From this perspective,

multinational investment may be attracted to countries with more existing foreign investment.

In contrast, an empirical analysis of this effect is difficult to measure because of limitations of data and determining optimal econometric specifications. Head et al (1995) argues location of the firms in the same industry is an important determinant for FDI. In addition, Barrell and Pain (1999) used market size 5-year moving average of stock manufacturing patterns as proxies for agglomeration for their model of FDI determinants in Europe. In fact, many of studies of this effect are concerning FDI in the United States. For instance, Wheeler and Mody (1992) state the effect of agglomeration economies is significant for the foreign investment decision in US. Likewise, Head et al (1995) argue industry level agglomeration affects the location preference of Japanese manufacturing FDI in the United States. In addition, Cheng and Kwan (2002) report the similar effect for the investment decisions in China.

According to the factor endowment theory, differences in endowments and favorable initial conditions among countries clarify the geographical pattern of FDI inflows. Therefore, host country should make changes in economic infrastructure to attract FDI. According to agglomeration theory, however, once FDI flows into the host country, there would no need to change the economic policies because the process itself is self-reinforcing. From this perspective, FDI inflows are dependent to past activities of FDI flows. That is, FDI is a function of its lagged values (Campos and Kinoshita, 2003).

4.2.2 Macroeconomic (Fiscal) Policy

Fiscal policies and governmental intervention can be considerable determinants of MNCs' cross-border activity. If governments consider that FDI can be a remedy for dealing with unemployment and positive effect on national output, they impose

policies aiming to encourage multinational investment. Fiscal policies are composed of tariffs, taxes, subsidies, regulations and privatization policy. If the government increases tariffs or taxes, it is expected to have negative effect over cost-motivated investments such as vertical FDI.

Cheng and Kwan (2000) empirically found that such measures constitute obstacles for economic restructuring and FDI inflows. For instance, after Chinese government adopts *open door policy,* China became the second country receiving the largest amount of FDI. In addition, Morrisey and Rai (1995) argue negative institutional features of the host country and the level of political intervention put limitation for FDI inflows and economic restructuring. For instance, the abolishment of incentives in special economic zones in Ukraine decreased privatization related FDI flows into Ukraine

4.2.3 Liberal Degree of Trade Regime

The extent of external sector liberalization is another determinant of FDI. It is stylized fact that trade liberalization has positive effect over FDI activity. Foreign investors may be well informed of local environment of the host country by trading and more attracted to the country they have better knowledge. The liberalization movements in both developing countries and transition countries at the onset of transition contribute to the increase of FDI activity. Therefore, FDI and the level of trade volume are said to be complementary. If trade regime of the host economy is liberal, positive and high correlation exists between FDI and openness index defined by the proportion of trade volume to GDP. Trade liberalization and removal of capital controls indicated the level of structural reforms, highly relevant to multinational investment decisions. From this perspective, abolishment of trade controls-quotas, liberalizing exchange rate restrictions and modernization of tariff

rates increases FDI flow into countries. On the other hand, if tariff-jumping is the main motive for foreign investors, restrictions on trade regime may increase FDI flows into the host country (Campos and Kinoshita, 2003).

For instance, the large amount of FDI inflows to England can be attributed to three considerations:

a. the liberalization of foreign owner regulation
b. the privatization program covering telecommunication, railways, electricity, and water
c. Financial deregulation, (Raines and Brown, 1999)

Likewise, FDI inflows increased dramatically in Turkey after full capital account liberalization in 1989.

Bhagwati (1978) states that FDI inflows increase in countries in which the foreign trade policy is promoting and subsidize export rather than imposing import substitution policy. Milner and Pentecost (1996) used ratio of exports to sales as a proxy for trade regime and found that it is positively significant effect over FDI inflows. The recent studies demonstrate that special export processing zones also contribute to FDI inflow. For instance, Cheng and Kwan (2000) empirically showed that Chinese economic zones have positive effect on FDI.

4.2.4 Institutional Development and Economic-Political risk

The economic literature also stresses the importance of institutional development, economic and political risk regarding the attraction of FDI inflows. Risk indicators consist of macroeconomic stability, inflation and exchange rate stability, institutional stability, the transparency and effectiveness of the commercial legal code, and the degree of corruption.

Therefore, institutional development and economic-political risk factors of the host country, affecting directly business operating qualifications, are of concern of foreign investors. Good economic institutions decrease the probability of default risk and favor economic growth thorough higher investment, higher educational attainment, and lower mortality. From the same perspective, good economic institutions are influential attracting inward FDI. Morrisey and Rai (1995) states that institutional features of the host country are significant in terms of FDI inflows and economic restructuring. On the other hand, corruption in the host country constitutes an obstacle on FDI inflows (Wei, 2000). In addition Carstensen and Toubal (2004) found that country risk is negative and significant implying that uncertainty of legal, political, and economic environment constitutes obstacles for FDI activity into the host countries.

The empirical studies used various variables to capture this effect such as variability of growth and inflation, exchange rate and indicators of institutional development (Bevan and Estrin, 2004). However, many of these variables are highly collinear. Therefore, researchers mostly prefer to use one representative risk variable to capture this effect. One of the indicators reflecting the risk is price stability. That the host country has low inflation experience of recent date and implements prudent fiscal policies reflects the credibility of government. Many of transition countries in Europe were exposed to high inflation just after the beginning of transition. However, countries implemented stabilization programs early, got control over inflation rapidly (Campos and Kinoshita, 2003).

Bevan and Estrin (2004) used risk index, indicating the credit rating of the host country, in their empirical model and found insignificant effect on FDI inflows. One of the possible explanations for the insignificant result is that other explanatory

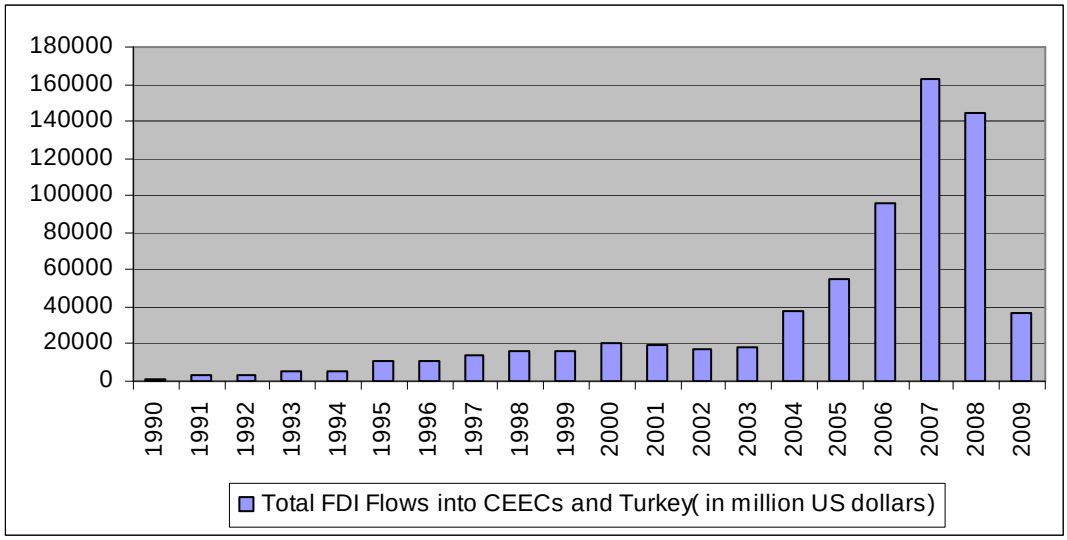
variables, such as unit labor cost and distance already include this effect. In addition, because many of the transition countries are member of the European Union, foreign investors considers that the level of sovereign risk has already declined during the accession process.

5 The Impact of EU Accession of CEECs on FDI flows into These Countries

The actual or potential involvement of the host country in free trade agreements, custom unions, and supra-national economic structures triggers both FDI inflows and trade (Bevan and Estrin, 2004). In fact, CEEC countries has been attracting significant amount of FDI flows driven by the process of their integration to the European Union. MNCs' cross-border activity into these countries has been enforced with the abolishment of the barriers international economic activity and acceleration of the transition process in these countries. In particular, political announcements concerning timetables for admission to the EU affect FDI inflows positively and significantly. Establishment of regional corporate networks originated from prospective membership attracts efficiency–seeking FDI whose motivation depends on the common governance of geographically dispersed activities with the availability of economies of scale and scope (Campos and Kinoshita, 2003).

On the other hand, the amount of FDI flows into CEECs differs across these countries due to their heterogeneous structure in economic, institutional, and environmental terms (Carstensen and Toubal, 2004). For instance, EU market countries such as Italy, Austria, Sweden, and Greece adopted different policies of foreign trade and direct investment to the transition countries in terms of their admission prospects to the EU during 1990s. Three categories existed for transition countries concerning their admission prospects: Countries likely to join very soon such as Hungary and Poland, countries likely to join after a longer period such as Bulgaria and Romania, and those that are unlikely to get membership, such as Ukraine. In this period, the first category of countries received substantial foreign capital while the inflows remained at moderate levels for south-eastern countries such as Bulgaria, Romania, and Turkey (Carstensen and Toubal, 2004).

Figure 5.1 Total FDI Flows into CEECs and Turkey (in million US dollars)



Source: UNCTAD (2010)

Several positive implications of EU membership of transition countries exist in terms of multinational investment. Firstly, host countries become part of the single European market. Therefore, foreign firms in EU area acquire the advantage to relocate production into new members with lower labor cost. The importance of FDI in terms of capital formation can be understood better from the comparison of ratio of FDI to total gross domestic capital formation of transition countries and developed countries. While this ratio is 4-17% for developed countries, it is 44% for CEECs between 1990 and 1999 (Bevan, Estrin, and Grabbe, 2001). Secondly, the risk index (credit rating) of the host country decreases originated from EU accession because negotiations for admission required increased quality of management and institutional development. From this perspective, host countries gain implicitly future macroeconomic stability, a well-developed institutional and legal infrastructure, and more stable political environment originated from EU membership. More specially, accessing countries have to adopt to EU legislation across various aspects stated in acquis chapters ranging on a wide range of areas such

as commercial and civil law, company law and taxation. Therefore, the country has to reform and arrange its trade rules, financial regulation and competition policy according to the EU legislation (Bevan and Estrin, 2004). From this perspective, EU announcements indirectly influence the credit rating of the country thorough increased FDI inflows.

We will examine FDI flows into CEEC countries in three periods: 1990-1999 period, in which many transition countries began to adapt market oriented policies and transform their economic and political structure, 2000-2006 period, in which many CEECs acquired EU membership and speeding up transformation, 2007-2009 period, in which global financial crises has emerged and affected international transactions severely.

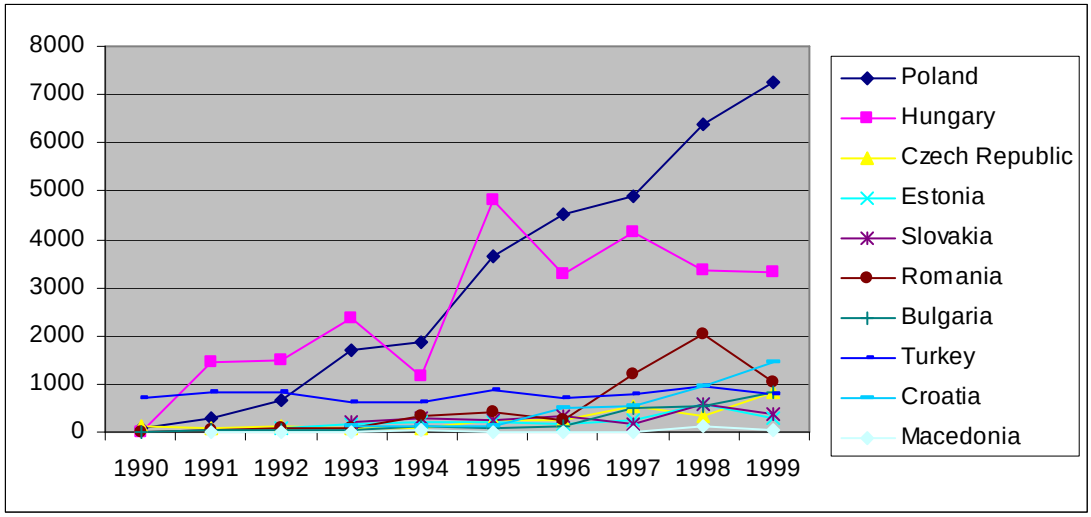
5. 1 The Early Transition Period of 1990-1999

A wave of largely peaceful revolutions in 1989 and the breakdown of Council for Mutual Economic Assistance (CMEA) signify the beginning of transition in Central and Eastern Europe. In addition, after the collapse of Soviet Union in 1991, the republics of FSU, which acquired their political independence, began to adopt to the polices of market economy rather than central-planned economy (DeMelo et al., 1997). Therefore, CEECs countries attracted large amount of FDI flows from the beginning of transition to market economies. For instance, the amount of FDI inflows to CEECs was higher than those of low income countries in 1993 The amount was even higher than those of low-middle income countries in 1999. (Carstensen and Toubal, 2004). However, the share of total FDI inflows which is 0.02% remained still small in global comparison.

During the period 1990-1999, initial conditions of countries affect FDI activity. Initial conditions consist of the level of economic development at the onset of

transition, urbanization, industrialization, geographical proximity to market economies of EU, abundance of natural resources, trade dependence and development of state institutions (DeMelo et al., 1997). Countries with favorable initial conditions attracted more FDI compared to other countries during this process.

Figure 5.2 FDI Net inflows (in million $) during 1990-1999 Period

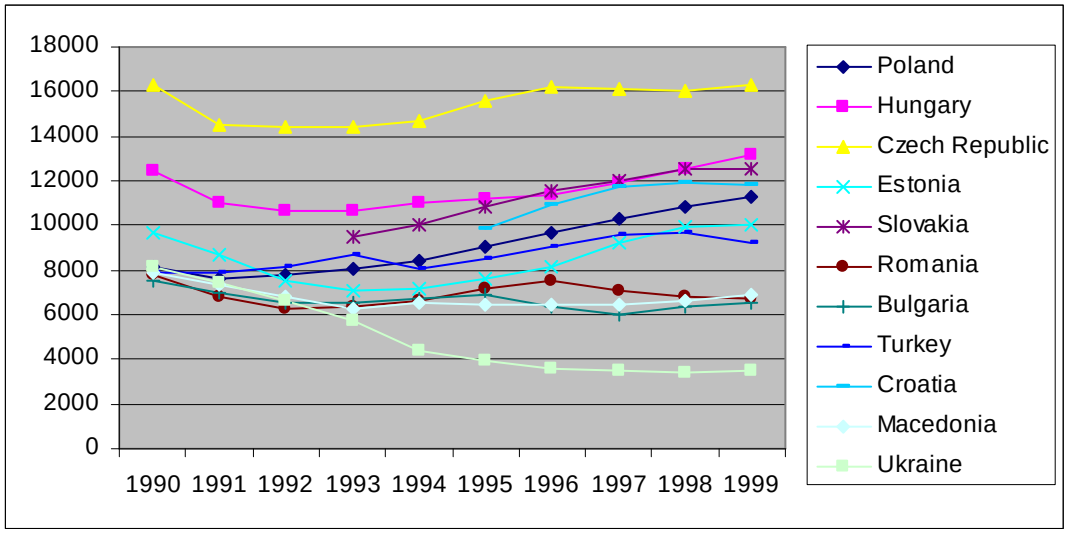


Source: UNCTAD (2010)

From Figure 5.2 demonstrates the distribution of FDI inflows during the early transition period is highly dispersed among CEECs. Poland and Hungary received the largest portion of FDI inflows during 1990-1999. However, among CEECs Czech Republic got the highest level of cumulated FDI stocks amounted 21.1 billion dollars as of 1999. In fact, both of three countries were the earliest members of Central European Free Trade Area (CEFTA)[5]. In addition, they have low country risk and performed high level of reforms measured by their transition indexes [6]calculated as of 1999.

[5] The CEFTA was formed in 1992 by the former Czechoslovakia, Hungary and Poland.
[6] Transition indexes were calculated by EBRD (2001). It is a average several progress indicators of transition countries. The indexes are Czech Republic, Hungary, and Poland were 3.49, 3.69, and 3.48 respectively as of 1999.

Figure 5.3 GDP per Capita[7] during 1990-1999 Period (US $)



Source: UNECE, Economic Survey of Europe (2010)

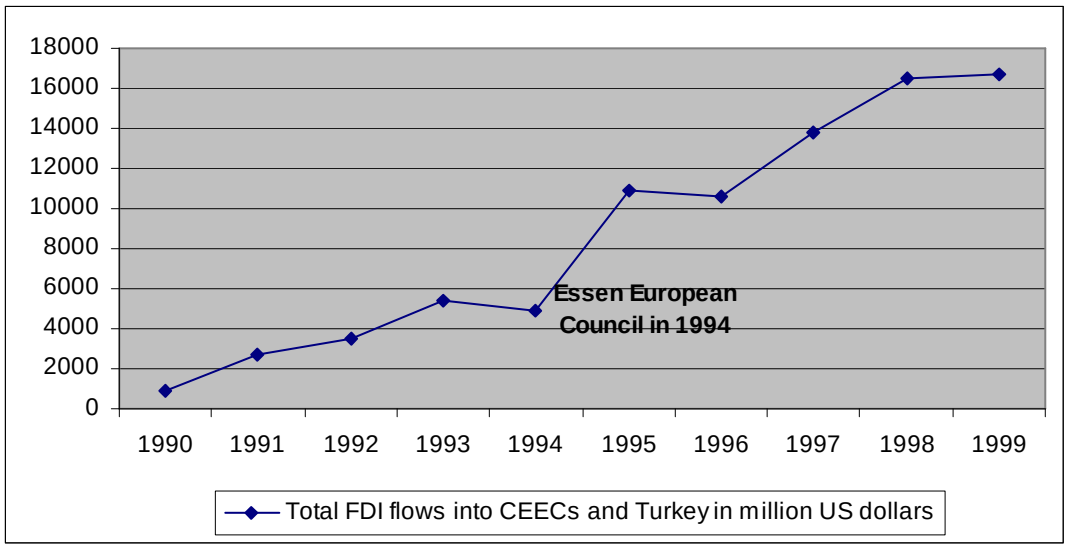
Moreover, Poland, Hungary, and Czech Republics had a large market size indicated by their higher GDP per capita in comparison to other countries. Especially, market-seeking FDI whose focus large and fast growing markets directed to these countries because of availability of large and advanced market economy structure of these countries. Likewise, Slovak Republic, although relatively small, received considerable foreign investment due to its stable environment. Low-income countries such as Macedonia and Ukraine received low amount of FDI during this period.

On the other hand, the early stage of transition period for CEECs signifies a large output fall indicated decreasing trend of GDP per capita series for individual economies of CEECs. In particular, GDP levels decreased by massive amounts in the first half of the decade (Campos and Kinoshita, 2002). It can be inferred that increasing MNCs activity in CEECs in the early-stage of transition does not contribute to the output growth of CEECs. This result conflicts with the economic theory that FDI increases the GDP level of the host country thorough capital accumulation. According to Borenztein, De Gregorio, and Lee (1998) human capital

[7] GDP per capita values are constant at prices of PPP of 2005.

is the factor that determine the effect of FDI inflows in output growth. The economic growth can be achieved only if the labor that the foreign company employed has adequate skills, experience and education to use the technology that the MNC transfers.

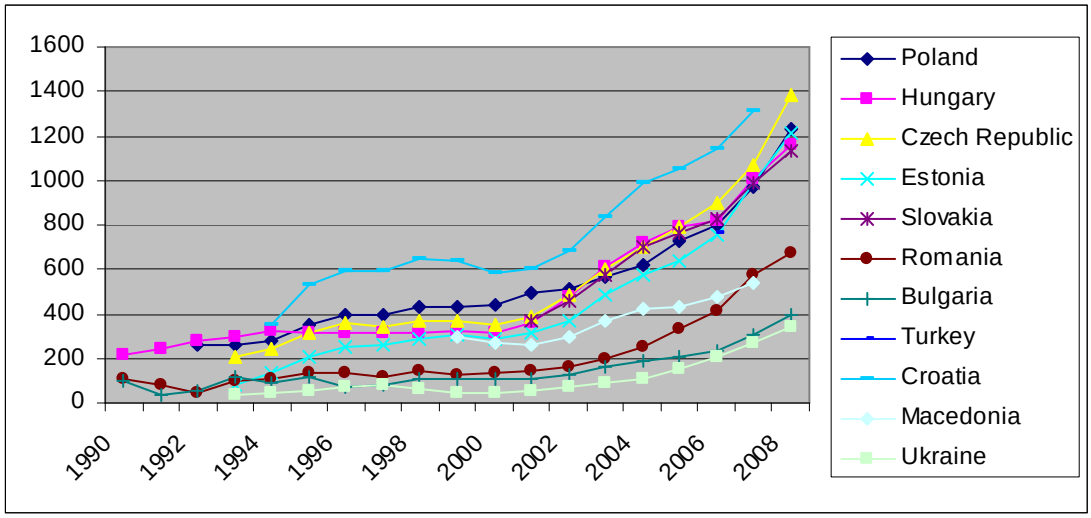
Figure 5.4 Total FDI Flows into CEECs and Turkey (in million US dollars)



Source: UNCTAD(2010)

1990-1999 period is also characterized by the accelerated process of EU enlargement to the Eastern Europe. EU committed itself for the enlargement to the eastwards after Essen European Council in 1994. This declaration in 1994 gave rise to significant increase of FDI flows into front-runner countries Poland, Hungary, and Czech Republics, expected to gain EU membership in the near future. Indeed, the break point for the jump of FDI in 1994 can be seen from the figure 5.4. Furthermore, the increasing trend of FDI to these countries is intensified after 1997, in which EU announced to open accession negations with these countries including Estonia at Cologne European Council (Bevan and Estrin, 2004).

Figure 5.5 Gross Average Monthly Wages (US$, at current exchange rates)



Source: UNECE, Economic Survey of Europe(2010)

On the other hand, countries considered to be furthest from membership such as Bulgaria, Romania, and Macedonia continued to receive low FDI inflows although they have lowest labor cost among CEECs. Therefore, it is another sign indicating majority of FDI flows into the region were characterized as efficiency-seeking and market-seeking during this period. While Czech Republic, Hungary, Poland and Slovakia got two-thirds of the inflows to the region, Bulgaria and Romania received only 10% during 1990-1999. In fact, FDI gives rise to self-reinforcing process in economic terms. That is, FDI stimulates economic growth and macroeconomic stability, which will in turn attract more FDI and so on. From this perspective, that the preferences of investor for investment concentrated on front-runner countries in the EU accession progress enlarged the gap between the inflows of front-runner countries and worse-performing countries during the early post-transition period. (Bevan, Estrin, and Grabbe, 2001). Likewise, Ukraine and Macedonia continued to receive moderately small FDI in spite of lower wages prevailing in these countries.

Table 5.1: Inflation of CEECs and Turkey during 1990-1999 Period

	1990	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
Poland		76,7	45,3	36,9	33,2	28,1	19,8	15,1	11,7	7,3
Hungary		34,2	23	22,4	18,9	28,6	23,4	18,3	14,2	10
Czech Rep.					9,9	9,5	8,8	8,4	10,7	2,1
Estonia				89,8	47,6	28,8	23	10,6	8,2	3,3
Slovakia					13,4	9,9	5,8	6,1	6,7	10,6
Romania		230,6	211,2	255	137	32,2	38,8	155	59,1	45,8
Bulgaria	23,8	338,4	91,3	72,9	96,1	62	122	1058	18,7	2,6
Turkey	60,3	66	70,1	66,1	106	88,6	80,4	85,7	84,6	64,9
Croatia	500	122,2	625	1500	107	4	4,3	4,1	6,4	4
Macedonia			1511	352	127	16,4	2,5	0,9	-1,4	-1,3
Ukraine			1486	4735	891	377	80,2	15,9	10,6	22,7

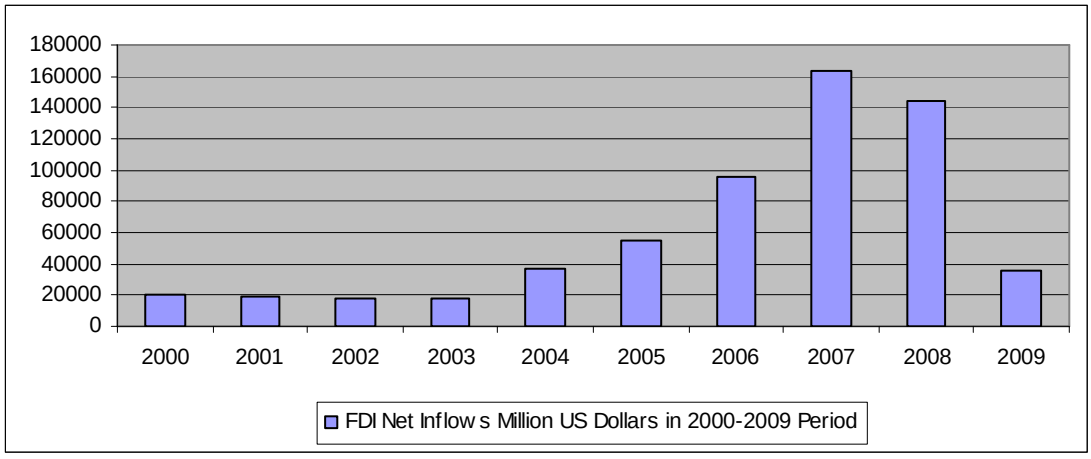
Source: World Bank-World Development Indicators (2010)

Almost all the transition countries experienced high inflationary periods in the early stage of transition. However, that countries implemented stabilization programs from the beginning of transition enabled them control over inflation rapidly (Camposand Kinoshita, 2003). For instance, the inflation rate measure by the growth of the average CPI of Poland was 76,7% whereas it decreased to 7,3% in 1999. Specially, front-runner countries regarding EU accession got control high inflation rapidly in comparison to other countries in the region. From this perspective, EU accession prospects may have positive implications on the overall price level, distorted by transition from central- planned to market economy. For instance, high inflation constitutes a chronic problem for south- eastern countries, including Romania, Bulgaria, and Turkey, during 1990s. That they were the laggers regarding EU accession may have prevented them to overcome high inflation rates, even reached to 1058% for Bulgaria in 1997.

5. 2 The Post-Transition Period of 2000-2007

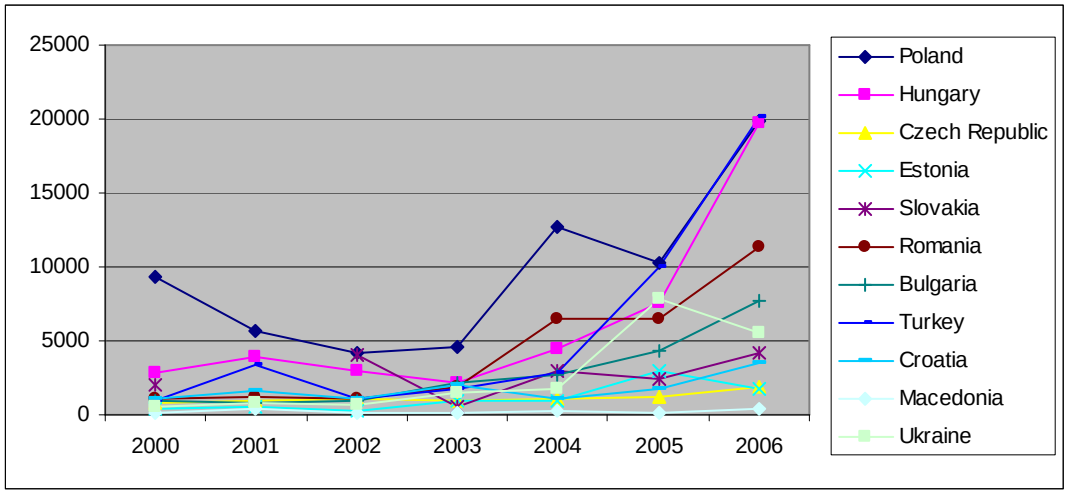
The early 2000s is characterized as a brief global recession, which affected mainly developed countries. The global FDI inflows declined with a 21% decline globally to 651$ billion, the lowest level since 1998. The recession is originated from slower economic growth rates in most countries. Moreover, falling stock market valuations, lower corporate profitability, and speed down of the privatization processes in some countries contributed to the recession. The number of cross border mergers and acquisitions (M&As) showed a significant decline. The cases of M&As fell from 7894 in 2000 to 4493 in 2002. However, the effect of such decline varies across regions. In fact, the brief decline in economic activity in this period did not have significant effect on international economic activity of CEECs partly because of EU enlargement prospects for both accessing and non-accessing CEECs. The countries in the region resisted to the recession with its FDI inflows increased by 15% (UNCTAD, 2005). Foreign investment continued to flow into the region mainly through Greenfield investments, mergers, acquisitions, and initial public offerings. MNCs aimed to expand into higher value-added activities based on unskilled labor and advantage of educational level of local labor force. The amount of FDI inflow to the region reached to $29 billion at the en of 2002.

Figure 5.6 FDI Net Inflows Million US Dollars during 2000-2009 Period



Source: UNCTAD (2010)

Figure 5.7 FDI Net Infows in Million US Dollars during 2000-2006 Period:



Source: UNCTAD(2010)

However, the amount of foreign investment varies across individual countries of CEECs during the period, too. In particular, countries such as Poland, Hungary and Czech Republic continued to receive the largest portion of foreign investment. In the early 2000s FDI inflows to the Czech Republic and Slovakia increased because of the takeovers of Trangas by German RWE and Slovensky Plynarensky Priemysel by Gazprom, Rugras and Gaz de France while the flows to Estonia, Hungary, and Poland decreased (UNCTAD, 2003). Czech Republic, Slovakia and Slovenia experienced intense privatization processes during the early decade. Therefore, privatization related FDI inflows dominated the FDI activity in these years. In addition, an increasing number of Greenfield investments contribute to the increase of FDI inflow from the beginning of 2003.

FDI inflows continued to increase in the region in the second half of the decade thorough Greenfield projects and cross-border M&A. FDI outflows from EU-15 to the region increased by 67% in 2005 compared that of previous year (UNCTAD, 2006). Germany followed by Spain and Austria were the main investors to new members during this period. Apart from Central and Eastern European Countries,

flows into the Commonwealth Independent States (CIS) such as Ukraine and Azerbaijan have been increased because of their natural resource-based economies. In particular, resource-seeking FDI, whose motive is getting resources not available in their country, such as raw materials, and low labor cost, flows into the CIS. In addition, transactions concerning privatization deals and investment in private companies were overtaken by developed countries, such as Austria and Netherlands, in both south-east Europe and CIS. For instance, the large proportions of increase in FDI inflows to the Romania is originated by several privatization deals in banking sector such as the sale of Banca Comerciala Romana to Erste Bank in Austria (UNCTAD, 2006). Likewise, the acquisition of Romanian natural gas providers by Gaz de France and Ruhrgas, a German MNC, contributed to the rise in FDI activity.

The period of 2000-2007 is also characterized by the intensification of EU accession prospects of CEECs, originated from the involvement of new memberships, speeding up EU negations, and application for new candidates. Mainly, MNCs prefer countries slated for the accession to the EU to perform investment during this period because of future macroeconomic stability, a well-developed institutional and legal infrastructure, and more stable political environment originated from EU membership. Therefore, EU accession countries have to adapt their FDI regimes according to that of EU regulations propose. They could both conform to EU regulations and gain benefits from EU instruments such as regional development funds.[8] For instance, only large investors were benefiting from Slovakia's special incentives for foreign investors and Hungary's 10-year tax holidays before 2002 (UNCTAD, 2003). However, both countries harmonized their investment incentives according to EU regulations after 2002. Moreover, most of

[8] Accession countries have to originate an institutional framework to administer and direct these regional development funds, contributing to their economic development.

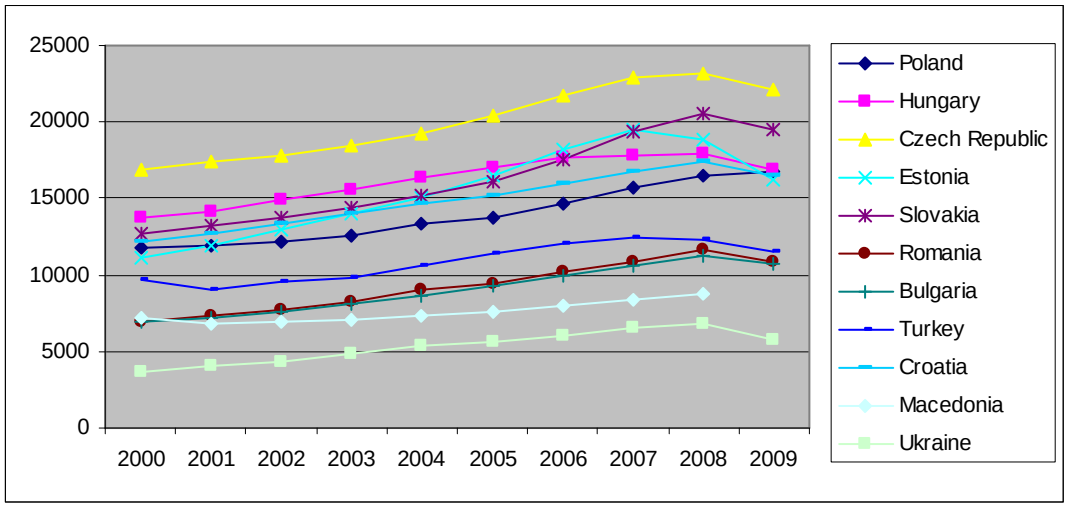
accession countries lowered their tax rates to get international competitiveness under EU membership during the period. Finally, eight accessing countries, Poland, Bulgaria, Czech Republic, Estonia, Slovakia, Slovenia, Latvia, and Lithuania gained EU membership on May 1, 2004. From figure 11, we see that total FDI inflows to the region increased dramatically from the beginning of membership of these countries in 2004.

Moreover, Romania and Bulgaria, favored in terms of EU membership prospects during the period, received large amount of FDI in particular after 2004 in which European Commission announced that both countries are ready for becoming membership. The Treaty of 2005 in which the Council of European Union admits the applications for admission of Bulgaria and Romania even intensified the process. Finally both countries got membership on January 1, 2007. These positive phases in terms of EU membership prospects and low-cost of labor in these countries increased multinational investment dramatically. Both Romania and Bulgaria received $62 billion inflow, 22% of total foreign investment in the new member states, in the form of privatization in 2006. Moreover, Bulgaria's rank in the UNCTAD FDI index increased from 92nd in 1990-1992 to 7th place in 2004-2006 (UNCTAD, 2007). As competitive labor cost is an attraction factor for efficiency seeking FDI, higher value-added industries also speed up the process of FDI activity.

EU agreed to start negations with Turkey December 17, 2004 and the accessing negations began on 3 October 2005. The amount of FDI inflow increased from 2.8$ billion in 2004 to 10$ billion in 2005. This amount increased to 20.1$ billion in 2006. The massive rise signifies the importance of EU accession prospects on FDI activity to the region.

Non-accession countries also benefit from EU enlargement in terms of multinational investment activity. Specifically, they may get "new frontier" for efficiency-seeking FDI (UNCTAD, 2003). Therefore, they have to take new measures to harmonize the status of new frontier. For instance, assembly-type manufacturing may be transferred from higher labor cost countries. From this perspective, FDI flows into the Former Republic of Macedonia, recognized as a candidate country in 2005, and to Ukraine increased moderately during 2000-2007 period. However, relative and absolute increase in comparison to countries exposed to EU enlargement prospects is considerably small.

Figure 5.8 GDP Per Capita during 2000-2009 period (US dollars)



Source: UNECE, Economic Survey of Europe (2010)

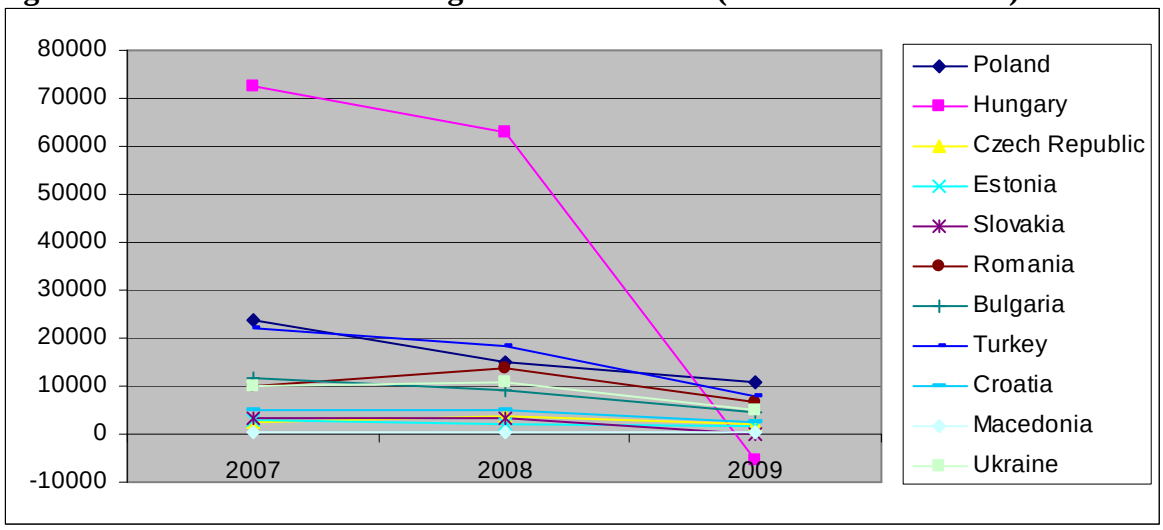
Market seeking motives continued to influence investment decisions of foreign investors during the period. Czech Republic, Hungary, Czech Republic and Estonia having the highest GDP per capita received the largest portion of FDI

5.3 The Global-Financial Crisis Period of 2008-2010

The global financial crisis of 2008-2009 hit FDI flows to CEECs severely. FDI inflows to all of the countries in the region fall dramatically, falling to about 2005 level (UNCTAD, 2009). Although the effect is less significant in southeastern

European countries and CIS, it is more severe in new member EU states, such as Poland, Hungary and Slovakia. The net FDI inflow to Hungary and Slovakia is negative in 2009, meaning that foreign investors repatriated their capital from the host countries back to their countries. This large decrease is originated from falling global demand, excess capacities, difficulties in investment financing, and decline in subsidiary profits. Especially, the emergence of excess capacities of multinational firms prevents new investment projects both in home and host country. MNCs performing vertical FDI, whose motive is export-oriented, produce less as a result of decline in global demand. In addition, constraints in the financial market affect FDI activity negatively. Firstly, FDI in the form of loan to the subsidy decreases significantly. Secondly, the rise of interest rates makes difficult new investment projects, heavily financed from bank credits. As a result, new FDI investments and fixed capital investments in the home country are postponed due to stagnant goods market conditions and financial constraints.

Figure 5.9 FDI Net Inflows during 2007-2009 Period (in million US dollars)



Source: UNCTAD(2010)

Approximately the fall in the flows is 50% for Poland, Romania, Bulgaria, Croatia, Macedonia, and Ukraine. The decline into Turkey is even greater than 50%. On the

other hand, Poland, Romania, and Turkey have been continuing to receive the largest amount of FDI in the region in absolute terms.

6 Methodology:

We will employ dynamic panel data approach by using generalized method of moments (GMM) [9]technique developed by Arrenalo and Bond (1991) to get empirical results of the determinants of FDI flows into CEECs and Turkey. The model is also known as autoregressive-distributed lag model (ARDL). In fact, many of the studies concerning determinants of FDI use static models such as Bevan and Estrin(2004). However, the issue should be analyzed in the context of dynamic structure of FDI. We will get more efficient and unbiased results from the Arrelano and Bond estimation results by stressing the dynamic nature of FDI.

Using panel data in dynamic econometric models provides important advantages over the time-series and cross-sectional. Firstly, cross-sectional data by alone can not be used in dynamic models because dynamic relationship to be investigated can not be estimated from observations at a single point of time. In addition, we may get unbiased results originated from aggregation biases by using aggregate time-series data for just one cross-section. Using panel data prevents time-series aggregation biases and it provides the analyses of heterogeneity in adjustment dynamics between different types of cross-sections (Bond, 2002).

Moreover, ARDL model provides application of linear estimation techniques because of the linearity in its coefficients (Novak-Lehmann et al., 2009). Several alternative dynamic model estimators for panel data have been developed in the econometric literature such as 2SLS and GMM.

Dynamic models have been using in a wide range of economic literature such as Euler equations for household consumption, adjustment cost models for firms' factor demands and empirical models for economic growth. Although, the effect of the

[9] We do not prefer to use dynamic cointegration model to clarify the long-run determianats od FDI because this technique requires a large time dimension. Moreover, transition-specific factors, such as the effects of EU accession prospects, can not be used in the dynamic cointegration method.

lagged dependent variable is not of concern, imposing dynamic process into the model enables more consistent and reliable estimates for the effect of other explanatory variables in the model.

6.1 Partial Stock Adjustment Model:

We will follow partial stock adjustment model developed by Cheng and Kwan (2000) in which they estimate the role of past FDI values as a process of partial stock adjustment. The adjustment process is formulated as follows:

$$y_{it} = (1-\beta)y_{i,t-1} + \beta\, y_{it}^{*} \quad ; \quad \alpha < 1 \tag{6.1}$$

where y_{it} *is* FDI stock in region I at time t and y_{it}^{*} is the equilibrium level of FDI stock. Here, we assume that it takes time for FDI to adjust to its equilibrium level. ($\beta < 1$) is a condition that enables the question to be stable (non-explosive) and non-fluctuating. We need to determine the determinants of y_{it}^{*} to estimate equation 6.1. β is the coefficient of partial adjustment. It means that net investment in one year is α percent of the difference between y and y*. More specially, for instance, if it equals 20, it will take five years that the current FDI stock to adjust its desired or equilibrium level (Cheng and Kwan, 2000).

Based on partial stock adjustment model, the ARDL model, including one cross-section dimension, i.e. 11 host countries *i* with i = 1,....,*N* and one time dimension t with t = 2,….,T, we will estimate

$$y_{it} = \alpha y_{i,t-1} + \beta x_{it} + (\eta_i + \upsilon_{it}) \; ; \; i = 1,2,\ldots..,N; \; t = 2, 3\ldots., T \tag{6.2}$$

where y_{it} is the net FDI inflow to county i at year t, $y_{i,t-1}$ is the net FDI inflows in the previous period(one-year lagged) , x_{it} is the vector of all explanatory variables that affect FDI, η_i contains country-specific time-invariant effects which allows for heterogeneity in the means of y_{it} series across cross-sections, and υ_{it} is a serially-uncorrelated disturbance term.

6.2 OLS and Within Group Estimator:

Several techniques exist for the estimation of equation (6.2). Here, the estimator of ordinary least squares (OLS) of α would give inconsistent results, i.e., the estimates may not be close to the true value of the regression coefficients even the sample size gets larger, because of the positive correlation between $y_{i,t-1}$ and $(\eta_i + v_{it})$. Therefore, the estimate of α and β is biased upward. The inconsistency is originated from the presence of individual effects and can not be eliminated even thought the sample gets larger (Bond, 2002).

Within group estimator would remove the inconsistency because it changes the equation to eliminate η_i. This estimation technique requires the deviations of y_{it}, $y_{i,t-1}$, x_{it}, η_i and υ_{it} from their means. Because the mean of η_i is itself η_i, the individual effects are eliminated from the transformed regression. However, this technique would give inconsistent results too because of the negative correlation between lagged independent variable and transformed error term. Therefore, within group estimate of α and β is biased downward.

6.3 Two Stage Least Squares (2SLS) Estimator:

Two Stage Least Squares (2SLS) is another estimator for ARDL models. It is one of standard IV regression models, which include problematic an endogenous explanatory variables correlated with the error term, additional regressors that are not

correlated with the error term, called exogenous variables, and instrumental variables correlated with the endogenous explanatory variables, but uncorrelated with the error term. 2SLS is different from OLS estimator in such a way that it uses Maximum likelihood estimators. We perform first –differencing transformation of equation (6.2) for 2SLS estimator:

$$\Delta y_{it} = \alpha \Delta y_{it-1} + \beta \Delta x_{it} + \Delta \upsilon_{it} \quad ; \quad i = 1,2,\ldots..,N;\ t = 3,4\ldots.,T \qquad (6.3)$$

where $\Delta y_{it} = y_{it} - y_{it-1}$. Here, $\Delta y_{i,t-1}$ and $\Delta \upsilon_{it}$ are still correlated and cross-section effects are removed from the equation by differencing equation. We can get consistent estimates of α using 2SLS by introducing instrumental variables that are both correlated with Δy_{it-1} and orthogonal to $\Delta \upsilon_{it}$ (Bond, 2002). Based on the assumption that υ_{it} is a serially-uncorrelated lagged level $y_{i,t-2}$ is uncorrelated with $\Delta \upsilon_{it}$ and thus can be used as an instrumental variable for the first - differenced equation. In this context, the estimates are consistent in large N, and fixed T. However, 2SLS is not asymptotically efficient even if the complete set of available instruments is used for each equation and the disturbance term υ_{it} is homoscedastic.

6.4 Generalized Method of Moments (GMM) Estimator

Generalized method of moments (GMM) estimator for ARDL panel data is modeled by Arrenalo and Bond (1991) to get asymptotically efficient estimators. As in the case of 2SLS estimator, GMM approach starts with the first- differenced form of equation (6.2):

$$\Delta y_{it} = \alpha \Delta y_{it-1} + \beta \Delta x_{it} + \Delta \upsilon_{it} \quad ; \quad i = 1,2,\ldots..,N;\ t = 3,4\ldots.,T \qquad (6.3)$$

Based on the previous assumption that υ_{it} is a serially-uncorrelated disturbance term, we use lagged levels of dependent variables as valid instruments in the first-differenced system $y_{i,t-s}$ where $s \geq 2$ and $t = 3, 4\ldots, T$ and exploit the moment conditions:

$$\mathrm{E}\left(y_{it-s}\Delta\upsilon_{it}\right) = 0 \qquad s \geq 2 \text{ and } t = 3, 4\ldots, T \tag{6.4}$$

However, GMM estimator based on the moment condition (6.4) produce inefficient estimates. We need to use explanatory variables as additional instruments (Cheng and Kwan, 1999). However, we need to differentiate the endogenous variables and strictly exogenous variables in x_{it} because strictly exogenous explanatory variables for both past and future Δx_{it} are valid instruments:

$$\mathrm{E}\left(\Delta x_{it-s}\Delta\upsilon_{it}\right) = 0 \qquad t = 3, 4\ldots, T \text{ and all } s. \tag{6.5}$$

However, GMM estimation based on (6.5) will be inconsistent for s<0 if the model includes reverse causality in the sense that $\mathrm{E}\left(x_{ir}\upsilon_{it}\right) \neq 0$ for r≥t. That is, x_{it} may be correlated with the future realizations of υ_{it}. By taking account this possibility, we may assume x to be weakly-exogenous, in the sense that $\mathrm{E}\left(x_{is}\upsilon_{it}\right) = 0$ s<t, which proposes the following condition:

$$\mathrm{E}\left(\Delta x_{it-s}\Delta\upsilon_{it}\right) = 0 \qquad t = 3, 4\ldots, T \text{ and } s \geq 2 \tag{6.6}$$

Equations (6.3) to (6.6) outline a set of linear moment conditions of standard GMM methodology Arrelano and Bond developed.

6.5 Sargan Test and Test for Detection of Autocorrelation of the Level Disturbances

The consistency of GMM estimator depends on the validity of moment conditions outlined from equations (6.3) to (6.6). In other words, the model requires serially uncorrelated level disturbance term and exogeneity of the explanatory variable used as instruments in the first- differenced form of equation (6.2). The overall validity of instruments is checked by Sargan test. It is a standard test of overidentifying restrictions. The test statistics have an asymptotic x^2 under the null hypothesis that instrument are valid, i.e., overidentifying restrictions are valid (Bond, 2002). If we reject the null, the instruments are not valid; implying some of the explanatory variables may not be strictly exogenous. Different sets of explanatory variables may be treated as predetermined and checked the validity of instruments in this specification.

In addition, Arrelano-Bond m_1 and m_2 statistics need to be used to the serial correlation of disturbances υ_{it} (Arrenalo and Bond, 1991). If υ_{it} is serially-correlated, the first differenced disturbances $\Delta\,\upsilon_{it}$ follow a MA(1) process, indicating the first-order autocorrelations are non-zero but second or higher orders are zero. On the basis of differenced disturbances, Arrelano-Bond m_1 and m_2 statistics test the null hypothesis of zero first-order and second- order autocorrelation respectively. That m_1 is insignificant or m_2 is insignificant signifies the presence of invalid moment conditions originated from the autocorrelation in υ_{it} (Cheng and Kwan, 1999).

7 Empirical Model[10]

We will introduce data used in the empirical model we develop and definition of regression variables in the first part of this section. Descriptive statistics of the regression variables will be analyzed in the second part whereas unit root tests are performed afterwards. Finally, ARDL model estimated by GMM technique will be analyzed in the last part of this chapter.

7.1 Data and Regression Variables

The data used in this study covers a pool of 11 transition countries, including CEECs (Poland, Hungary, Czech Republic, Estonia, Slovakia, Romania, Bulgaria, Croatia, Macedonia, and Ukraine) and Turkey between 1990 and 2009. We use several data resources including World Bank-World Development Indicators, IMF-World Economic Outlook database, UNCTAD on-line database, and Eurostat. The selection of pool of individual countries is performed according to their different EU accession phases. The number of observations in the complete panel is 220 (=11×20).[11] The dependent variable is the *net FDI inflows (FDI)* in millions of U.S. dollars.

As signified in previous chapters, market-seeking FDI considers the market size and conditions of the host country. Thus, we expect the large market size affects FDI inflows positively. We use *GDP per Capita (GDP)* as the proxy for the market size.

If MNCs takes into account the factor costs, labor cost will be important determinants regarding the attraction of FDI. We expect high labor cost affects FDI inflows negatively. We *use Gross Average Monthly Wages (W)* in U.S. dollars and at current exchange rates.

[10] E-Views 6 statistical sofware package is used throughout the empirical analyses.
[11] The data used for estimation are unbalanced, because some observations for the variables used in the model are missing.

Multinational investors also seek countries with a low risk, enforced by successful macroeconomic policy and economic reforms (Campos and Kinoshita, 2003).We use *annual average inflation(I)* to proxy for economic risk.

In addition, liberal degree of trade regime has significant effect on MNCs' investment decisions. Trade liberalization and removal of capital controls enforce the level of structural reforms, possessing favorable economic environment for foreign investment. We use *import per capita (IM)* US$, at prices and PPPs of 2005 to proxy liberal degree of trade regime of the host country.

As noted in previous chapters, agglomeration economies also exert positive influence over multinational investment due to positive externalities. To proxy agglomeration effects, we use a single variable, *the one-year lagged FDI inflow (FDI(-1)).* By introducing the lagged value of the dependent variable as an explanatory variable, we will allow dynamic effects, i.e, AR(1) process, into the model. Therefore, the inclusion of the one-year lagged FDI inflow variable into the regression enable the ARDL specification of our model.

The last explanatory variable we will use in the model is a dummy indicating EU accession phases of host countries. As noted earlier, front-runner countries regarding the EU accession prospects receive large amount of foreign investment. To proxy EU accession prospects we use a dummy variable, which we develop on the basis of integrated announcement dummy variable developed by Bevan and Estrin (2004). The authors constructed the dummy variable by assuming that the EU accession announcements caused a structural shift from the announcement date until the end of the time horizon. On the basis of this formulation, we set up an updated *integrated dummy reflecting the EU accession prospects (EU)*, i.e., namely phases, of the individual countries in our sample.

Table 7.1 Formulation of Integrated Dummy reflecting EU Accession Prospects:

	PL	HU	CZ	EE	SK	RO	BG	TR	HR	MK	UA
1990	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0
1994	1	1	0	0	0	0	0	0	0	0	0
1995	1	1	0	1	1	1	1	0	0	0	0
1996	1	1	1	1	1	1	1	0	0	0	0
1997	1	1	1	1	1	1	1	0	0	0	0
1998	2	2	2	2	1	1	1	0	0	0	0
1999	2	2	2	2	1	1	1	0	0	0	0
2000	2	2	2	2	2	2	2	1	0	0	0
2001	2	2	2	2	2	2	2	1	0	0	0
2002	2	2	2	2	2	2	2	1	0	0	0
2003	2	2	2	2	2	2	2	1	1	0	0
2004	3	3	3	3	3	2	2	1	1	0	0
2005	3	3	3	3	3	2	2	2	2	1	0
2006	3	3	3	3	3	2	2	2	2	1	0
2007	3	3	3	3	3	3	3	2	2	1	0
2008	3	3	3	3	3	3	3	2	2	1	0
2009	3	3	3	3	3	3	3	2	2	1	0

Source: Constructed by authors

According to this formulation, the value of 0 indicates that EU does not approve the country as a candidate yet. Dummy variable equals to 1 is the country becomes a candidate country of EU. It takes the value of 2 if EU announces the candidate county showed a good progress, and therefore, accession negations would begin. Finally, a value of 3 signifies the phase in which the accessing county gets the membership of EU.

7.2 Descriptive Statistics:

Before empirical investigation of ARDL model, it is worth to analyze descriptive statistics of the series employed in the sample. We analyze descriptive statistics of the series at cross-section level to capture the heterogeneity across individual countries.

Table 7.2 Descriptive Stat. of FDI

FDI			
COUNTRIES	Mean	Std.Dev.	Obs.
BG	2366,65	3438,10	20
CZ	940,33	962,40	20
EE	907,52	930,29	18
HR	1666,03	1507,98	17
HU	11467,14	20215,33	20
MK	161,83	182,35	19
PL	7376,30	6455,69	20
RO	3283,33	4291,13	20
SK	1563,49	1574,32	16
TR	4812,00	7106,28	20
UA	2780,00	3615,34	17
All	3502,05	7829,10	207

Table 7.3 Descriptive Stat. of GDP

GDP			
COUNTRIES	Mean	Std.Dev.	Obs.
BG	7825,70	1648,75	20
CZ	17728,15	2898,96	20
EE	11976,05	4173,76	20
HR	13655,53	2335,12	15
HU	13902,15	2655,90	20
MK	7148,74	713,24	19
PL	11509,95	2924,07	20
RO	8073,50	1675,36	20
SK	14199,65	3373,13	17
TR	9769,20	1486,94	20
UA	5164,85	1445,16	20
All	10905,42	4355,21	211

Table 7.4 Descriptive Statistics of W

W			
COUNTRIES	Mean	Std.Dev.	Obs.
BG	141,90	88,90	19
CZ	554,45	331,66	16
EE	447,60	315,93	16
HR	755,55	271,32	14
HU	484,01	282,34	19
MK	373,86	98,63	9
PL	539,71	263,24	17
RO	210,42	170,90	19
SK	727,78	258,13	8
UA	107,69	90,51	16
All	411,37	312,40	154

Table 7.5 Descriptive Stat. of INF

INF			
COUNTRIES	Mean	Std.Dev.	Obs.
BG	97,69	239,17	20
CZ	4,83	3,56	16
EE	14,96	22,82	17
HR	145,46	362,31	20
HU	13,39	9,36	19
MK	112,97	359,23	18
PL	16,31	19,92	19
RO	69,91	83,43	19
SK	6,72	3,49	16
TR	50,43	32,28	20
UA	430,54	1143,68	18
All	89,04	392,15	202

Table 7.6 Descriptive Statistics of IM

IM			
COUNTRIES	Mean	Std.Dev.	Obs.
BG	5220,53	2489,10	15
CZ	9470,85	5227,18	20
EE	9526,59	4733,71	17
HR	6202,80	1666,64	15
HU	7798,89	4487,99	19
MK	3932,16	1247,27	19
PL	3672,85	2049,02	20
RO	2582,20	1973,15	20
SK	10003,29	4160,64	17
TR	1900,90	804,37	20
UA	2168,67	881,09	18
All	5589,10	4274,37	200

The average value of net FDI inflows is highest for countries front-runner countries, Hungary and Poland. In addition, the respective values of Turkey and Romania in which FDI inflows speed up from the date of their accession negotiations begin. FDI into Ukraine is also considerable such that its rich natural resources attract foreign investment.

The volatility of FDI is reflected from std. deviations of the respective series. It is interesting that the highest volatility of FDI exists in countries receiving the highest portion. Especially, the massive fall of FDI inflow of Hungary, even turns in net outflows in 2009, contributes to the highest respective value of the country. The value of Turkey is also high in comparison to many other countries in the sample. It is worth to state that high positive correlation exists between the mean and std. deviations of FDI inflows during this period.

Among descriptive statistics of explanatory variables, several points should be pointed out. Firstly, Czech Republic could not attract FDI as high as many countries in the sample in spite of its highest market share during the sample period. This implies that market motives may not be the main driver for foreign investors during the period. Low value of std. deviations of labor cost indicates rather a stable pattern for the variable of each country. The lowest average values belong to eastern countries, i.e., Romania, Bulgaria, and Ukraine. In spite of their low factor costs, they could not attract significant foreign investment during the early transition period implying resource-seeking motives may not prevail in the region. High inflationary periods of the CEECs and Turkey in 1990s contribute to the high mean values of the respective series. On the other hand, it seems that high price level does not constitute an obstacle regarding foreign investment because FDI activity into the pooled countries increases on average from the beginning of the time horizon. Finally,

import per capita on average is the lowest for Turkey, which may be originated from the highest population of the country, compared the others.

7.3 Unit Root Tests:

Generally, time dimension of dynamic panel data is short with the number of cross-sections (T) larger than the number of observations over time (N). However, when the pooled data involve larger T, the time-series properties of variables become considerable. Therefore, time-series problems must be detected and coped with these problems to avoid spurious regressions[12] (Im, Pesaran, and Shin, 2003). Based on time series literature, the unit root tests detect whether a series is non-stationary, i.e., whether it has a unit root.

Two groups of unit root tests dominate for panel data in the theoretical literature. The first group is based on panel homogeneity implying common unit root process for all cross-sections. The second panel unit root tests assume panel heterogeneity in the sample. By assuming panel heterogeneity, these tests are based on individual common unit root test for each cross-section. From this perspective, we will employ Im, Pesaran, and Shin (IPS) panel unit root test to allow individual unit root test processes so that panel-specific results vary across cross-sections (Im, Pesaran, and Shin, 2003). The number of lags is specified according to Schwarz Information Criteria with the automatic selection of maximum lags. In addition, because IPS test statistic requires the specification of the deterministic component of each cross-section, we estimate the test statistic with equations including only individual constant, and both individual constant and trend term. The results of the test are given in Table 7.7:

[12] Spurious regressions are regressions in which dependent variable and expalnotary variables are spuriosly correlated with overstated t-scores and overall fit.

Table 7.7 Results of Im, Pesaran, and Shin (IPS) Panel Unit Root Test[13]:

	Im, Pesaran and Shin W-statistic							
Variables	FDI	GDP	GRW[14]	INF	IM	W	D(W)	D(D(W))
Constant	2,97	1,55	-4,10***	-37,54***	-0,15	12,90	1,98	-5,15***
Constant&Trend	-5,06***	-1,23	0,62	-27,26***	-2,20**	5,36	0,78	-2,40***
Integration Level	I(0)	I(1)	I(0)	I(0)	I(0)	I(2)	I(1)	I(0)

***, **, and *** represents statistical significance at 99%, 95%, and 90% confidence interval respectively.**

IPS test shows that among the regression variables only GDP per capita and gross monthly wages are non-stationary. We transform theses variables, containing unit root, to get rid of non-stationarity problem by transforming GDP to growth rate of GDP (GRW) and by taking the first difference of W (D(W)). Although D(W) still contains unit root, we do not prefer to take its one more difference because the original series would loose its economic meaning, which is as important as the statistical requirements of the model.

7.4 Empirical Model Results:

As explained in detail in chapter 6, first-order autoregressive distributed lag model (ARDL) has been used widely for analyzing dynamic effects for panel data. The lagged dependent variable is used as one of the explanatory variable in this model to capture the effects of current and lagged explanatory variables. From this perspective, we will employ partial stock adjustment model developed by Cheng and Kwan (2000) in which they estimate the role of past FDI values as a process of partial stock adjustment. Because OLS and 2SLS estimators yield inconsistent estimates for ARDL , we will rely on GMM technique developed by Arrelano and

[13] The test assumes asymptotatic normality

[14] $GRW = [GDP - GDP(-1)] / GDP(-1)$

Bond (1991). Still, we also estimate ARDL panel with random effects[15] OLS estimator for comparison. The estimation results are tabulated in Table 7.8:

Table7.8 Determinants of FDI: GMM and Random Effects Model

Independent Variables	Label	GMM	RE
Lagged FDI	FDI(-1)	0,62***	0,98***
		(0,00)	(0.00)
Market size	GRW	11436,64	-6406,03
		(0,13)	(0,59)
Liberal degree of trade regime	IM	0,50***	0,06
		(0,00)	(0,65)
Inflation	INF	4,97	-0,62
		(0,11)	(0,52)
Labor cost	D(W)	3,06	3,46
		(0,35)	(0,73)
EU accession prospects	EU	1092,63***	489,63**
		(0,00)	(0,05)
Number of obs.		117	136
Sargan test		20.96	
		(0.64)	
Second order autocorrelation (m_1)		0.22	
		(0.82)	
R^2			0,68

Note: *, **, and * represents statistical significance at 99%, 95%, and 90% confidence interval respectively. Figures in parentheses are *p*-values.**

Table 7.8 reports GMM and random-effects results for the pooled sample. Although both estimators' results resemble to some extent, the inconsistent estimates of RE is visible from the negative sign of the coefficient of market size. In addition, in contrary to GMM, the coefficient of IM is insignificant in RE model. Still, the significant estimates of lagged FDI and EU accession prospects comply with our expectation based on the theory.

Sargan test statistic and m_1 of GMM estimation indicate that the instruments are valid and no autocorrelation exists in the model respectively. GMM estimates the coefficient of lagged FDI α *i*s 0,62, implying the coefficient of partial adjustment

[15] Hausman test does not reject the random effects model.

β of 0,38. This means that net FDI inflow in one year is 38% of the difference between equilibrium level of FDI stock and current FDI stock. In other words, the difference between equilibrium, desired FDI stock, and current FDI stock will be closed after about 2,5 years in case the equilibrium level of FDI stock does not change. In addition, the coefficient is statistically significant at 1% significance level, implying that the effect of agglomeration economies on FDI inflows is positive and significant. In other words, past activity of other MNCs is an important determinant for MNCs' multinational investment decisions.

The insignificant coefficient of market size indicates that market-seeking FDI would no dominate in these countries. From statistical point of view, we would get significant result of market size if we had not transformed the explanatory variable in levels (GDP) to growth of the series. On the other hand, we know from the empirical literature that efficiency- seeking motives have been prevailing in the region than market-seeking motives during the time horizon of the sample. Therefore, this result is also acceptable.

The significant effect of liberal degree of trade regime also complies with the expectations that the theory suggests. From this perspective, trade abolishment of trade controls-quotas, liberalizing exchange rate restrictions and modernization of tariff rates increases FDI flow into CEECs and Turkey because foreign investors may be well informed of local environment of the host country by trading and more attracted to the country they have better knowledge. Based on this empirical evidence, it may be further inferred that FDI inflows and international trade activity are complements.

The effect of inflation is positive and insignificant. In fact, CEECs with relatively low price level are expected to receive more FDI because low inflation is an

indicator for macroeconomic stability and reduced default risk. Although this empirical finding contradicts the theory suggests, the high inflationary periods of CEECs and Turkey during 1990s may contribute to insignificant result. In addition, it can be inferred that EU accession dummy has already includes the effect of risk perceptions because candidate/accessing country has to harmonize its regulations in terms of broad aspects including, diversified chapters ranging from its financial system to intellectual property rights.

Labor cost is found to be positive and insignificant. This result is also not surprising because resource-seeking FDI have not dominated in CEECs and Turkey during the time horizon of data. For instance, Romania, Bulgaria, Macedonia, Turkey and Ukraine in which the wages are lower compared to those of other countries, did not receive large amounts of FDI in particular during the early transition period. Instead, EU accession prospects of these countries rather than cost-specific factors were the main drivers of MNCs' investment activity.

Finally, we found the effect of EU accession prospects, which is our main interest, positive and statistical significant at 1% significance level. The significant result of the variable supports our hypothesis that EU accession phases of CEECs and Turkey contribute the speeding up of multinational of MNCs into these countries significantly. This result also enforces our expectation that efficiency-seeking FDI, whose motive is driven by the geographically dispersed activities, dominates the region during the time horizon of data. From this point of view, it can be inferred that economic integrations and supra-national economic structures have a direct and positive effect on FDI inflows.

8 Conclusions

In a dynamic panel model, we investigate the factors accounting for the geographical patterns of FDI inflows to 11 transition countries of Europe for the period 1990-2009. Whereas traditional FDI determinants, i.e., market size, labor cost, risk perceptions, are insignificant, we find that transition-specific factors, i.e., agglomeration economies, trade openness, and EU accession prospects have significant and plausible effects on FDI. From this perspective, efficiency-seeking motives prevail across the region rather than market-seeking and resource-seeking motives during the time horizon of data. From this perspective, determinants of FDI inflows should be analyzed in the context of intensive globalization process, reshaped by many factors such as regional integration, new information and communication technologies. In other words, the motives that attacked foreign investment in 1970s should be analyzed now in the context of changes in the global economy, i.e., high development of communication and information technology as well as other transition-specific factors.

In addition, our empirical analysis implies that integration with the EU is important for FDI in transition economies. We find the effect of EU accession prospects on FDI flows into transition countries positive and significant. From this perspective, countries implementing EU accession regulations, enforced by market economy policies, successfully acquire EU membership earlier, which further speed up FDI that originates more growth and development. On the other hand, countries implementing EU regulations poorly are further from prospective membership, which may discourage FDI inflows.

Three interesting extensions of this research come into mind. First, econometric analysis may be performed with a larger sample, including CIS. Especially, CIS

have been attracting the foreign investment due to their rich natural resources. We may get more comprehensive results by enlarging data and including a proxy for natural resources into our mode. Second, the effect of EU accession prospects on major macroeconomic indicators of transition economies of EU may be elaborated for future research. Specially, the contribution of EU accession progress of CEECs regarding their success of getting high inflation levels under control may be analyzed empirically. Finally, causal relationship between FDI and technology in transition economies of EU may be investigated in further analyses because development of the technological infrastructure in the individual economies may have positive influence over their international trade and financial activities.

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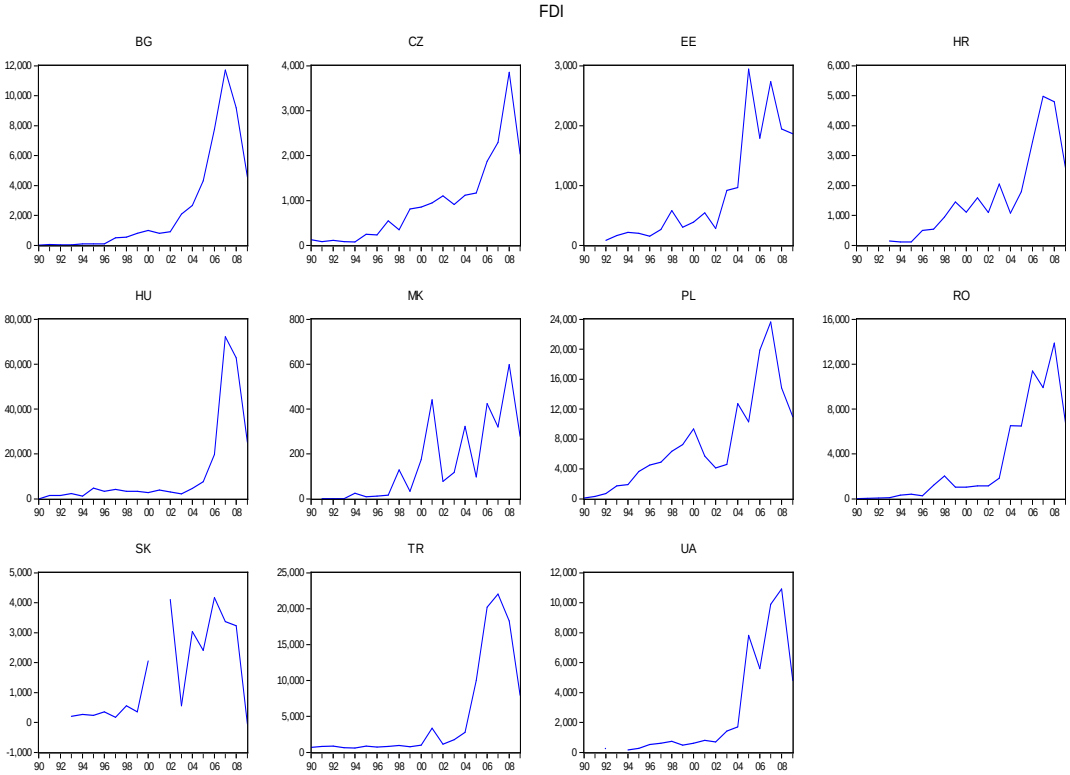
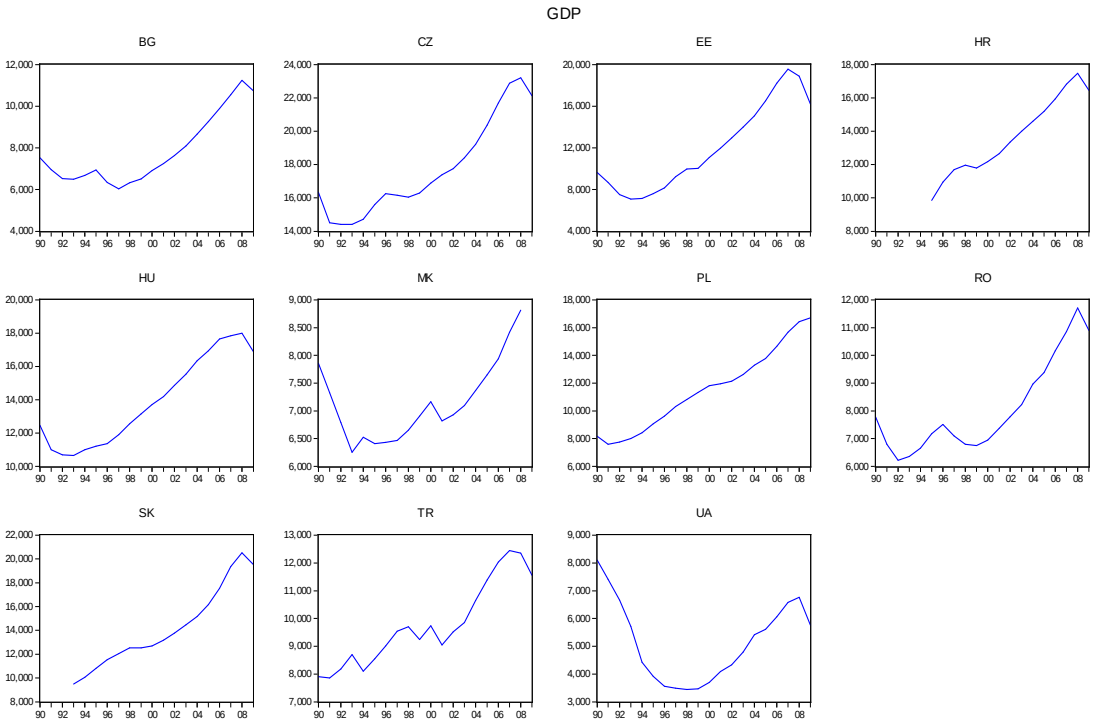
Appendices

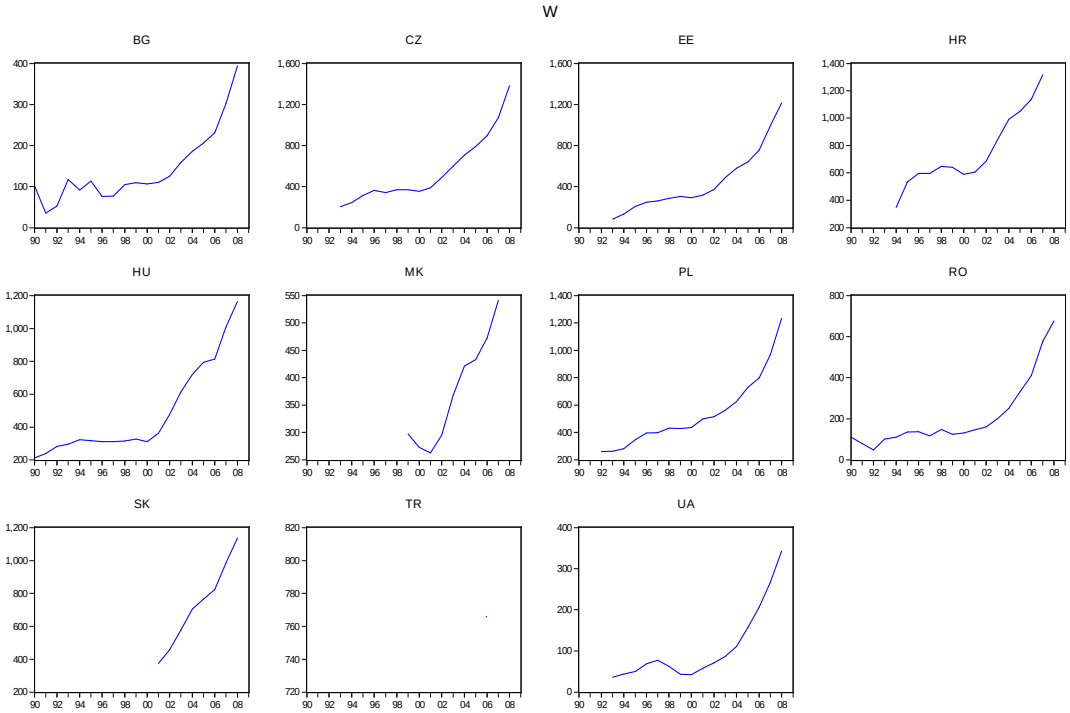
A. FDI Inflows of Individual Countries



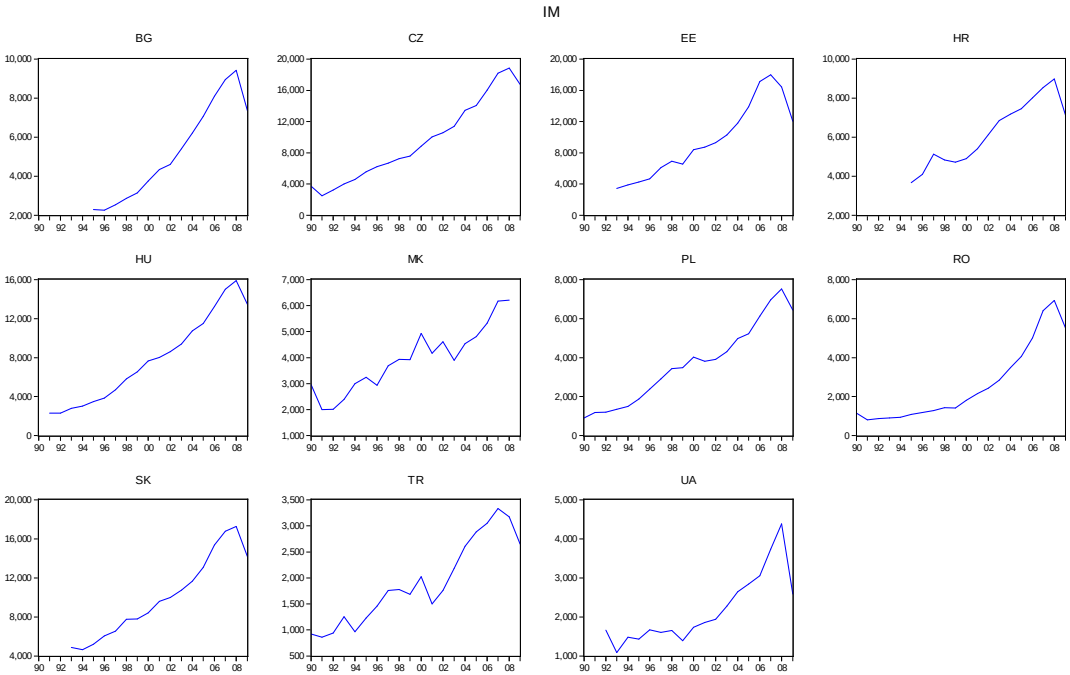
B. GDP per Capita of Individual Countries



C. Wages per Country



D. Import per Capita of Individual Countries



E. Inflation per Country