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**THE IMPACT OF THE EUROPEAN UNION ENLARGEMENT
ON THE MEMBER COUNTRIES ECONOMIC GROWTH**
An Econometric Analysis

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Abstract – This paper assesses the impact of the overall EU- enlargement process on the EU members' economic growth with special attention being paid on foreign direct investments and international trade as the main drivers of EU integration. Based on Solow's endogenous growth model, I carried out an econometric analysis for the period 1990- 2010, separating for old and new member states as well as for the enlarged EU. The main findings of the study suggest that integration process had a positive impact on economic growth via FDI inflows for the new members and via trade augmentation for the old members.

INTRODUCTION

The European Union has been enlarged since 2004 with the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Malta and Cyprus and since 2007 with Bulgaria and Romania, with the majority of them facing socialist regimes until the early 1990's. These two waves of enlargement were the biggest ones, regarding the number of countries and the population, compared to the previous enlargement stages, bringing together countries with different economic, social and political structures, making the EU the largest integrated economy of the world.

The reform policies of the accessed countries were focused on: (i) macroeconomic stabilization, (ii) the degree and methods of privatization, (iii) refining the business cycles of the economy and (iv) the development of labour markets. The principal objective of these policies was to increase productivity growth, converging to a sustainable enhanced welfare level. For the new members it is suggested now after the enlargement that they are part of the single EU market, have implemented the same customs union policies as the rest of the members and their capital and labour markets are moving freely across the Union, with the impacts of these influencing both the newly accessed and the old members. Foreign direct investments (FDI) and international trade were the key- drivers for the economy of those countries during the transition period and until they formally became part of the European Union.

The aim of this thesis is to investigate and present the impact of the overall process of EU enlargement on both new and old member states. I will focus on foreign direct investments and international trade as the main drivers of EU integration and their impact on economic growth for the European Union, separating for the newly accessed and old member states as well as the enlarged EU.

This thesis is organized as follows; Part I describes the impacts of EU enlargement on its members, Part II illustrates the role of the openness to international trade, Part III shows the effects, the evolution, the different types and the determinants of FDI. Part IV underlines the theoretical model, Part V is the empirical study and finally Part VI concludes.

This was the biggest ever enlargement of the EU, which nowadays considered to be a major success for the EU, although it raised many doubts in terms of security, identity, wages and jobs. The process of enlargement helped the EU to strengthen the security, the democracy and stability inside the continent after the collapse of the communist regime. The EU after the enlargement has now more political and economic power through the increased competitiveness and ready to face the challenges of globalization as the largest integrated economy, with more than 30% of the world's GDP (European Commission, 2009). In overall, the enlargement has been a win- win game by improving the living standards and boosting the economy of the new members and at the same time old members were benefiting from the rise of exports and investment opportunities. The four countries that joined the euro area were even more benefitted by eliminating the risk of exchange rates and cumulate capital with lower interest rates. The success of the process was driven by the institutional outlines and the common policy framework.

The enlargement process was expected to have a beneficial impact especially for the acceding countries because their relative small economic size and low development level would lead to convergence towards the advanced Western economies. The reform policies of the accessed countries were focused on: (i) macroeconomic stabilization, (ii) the degree and methods of privatization, (iii) refining the business cycles of the economy, (iv) development of the labour markets. The principal objective of these policies was to increase productivity growth, converging to a sustainable enhanced welfare level.

I. 1 Shocks of enlargement

The shocks of EU enlargement influence the accession countries as well as the rest of the Union.

A first shock is the move of the accessed countries towards the customs union of the EU (Common External Tariff and Common Commercial Policy). This implies the elimination of tariffs between the member - states of the EU and the accessed

countries, as well as the setting of the common external tariff rate of EU to the candidate countries, settled to agriculture and manufacturing sectors. The abolishment of trade barriers affects the relative prices of products across different regions, leading to more trade due to the reallocation of supply and demand powers. Furthermore it influences the terms of trade and via this change of relative prices of imports and exports, it influences the welfare through the different levels of consumption, the rate of return to capital, the savings and the inflows of FDI (Lejour et al. 2001).

Secondly, EU enlargement suggests that the accession countries will be now a part of the European-Union single market, making use of the benefits of openness to trade and the flows of foreign and domestic investments that took place. Trade will increase because of the elimination of trade and technical barriers and the reduction of risk such as political and trade risk, matters that make the accessed countries evaluated more positive by investors. Studies in the literature suggest an increase in bilateral trade dealing with European members and the accessed countries. Brenton and Gros (1997) and Fidrmuc and Fidrmuc (2001) estimated the increase of trade to be 30% to 60% and Baldwin et al. (1997) estimated it of around 30% increase, as regards the effect of a single EU market, while similar results holds true for Canadian provinces where McCallum (1995) and Helliwell (1996) estimated a 22 times more trade when the provinces of Canada trade with each other than with similar US states.

A third impact of the enlargement is the free factor movements, particularly capital and labour, between the Union as a consequence of the differences of return to capital, the wage differences and the level of employment across EU members. Gacs (1999) estimated the increase of GDP for the Central Eastern European Countries (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia Bulgaria and Romania) generating by the capital (FDI) inflows to be 1.5% which is rather conservative compared with the 18.8% of real income increase estimated by Baldwin et al. (1997).

A distortion of the old-members labour market will arise due to the mass migration of the new members to the Western Europe, with the countries having common borders with these countries affected most. According to Boeri et al. (2000) for the ten accession CEE countries, an inflow of 218.000 immigrants (65% of the total)

mitigated to Germany was predicted for the year 2002. Austria is coming next (40.500). The prediction suggests that 30% of this flow was coming from Poland and 7.5% from Hungary. It was also estimated that the aggregate immigrant flow will decline across time and in 2010 the total amount will be 72.100 of immigrants to EU-15. Studies of Barell et al.(2007), Brücker (2007), and D'Auria et.al. (2008) estimating the impact of migration between new and old members, concluded to rather more considerable effects in the long- run than in the short- run in terms of GDP growth. D'Auria et al. (2008) concluded that intra-EU labour mobility is positively correlated with GDP and leads to 30 billion euros income gain for the EU-25.

I. 2 The impact of the EU – enlargement on economic growth

Several studies give evidence about the impact of EU-enlargement process on economic growth.

Lejour et al. (2001) examined these shocks of EU enlargement with new members (the move towards a customs union, being a member of the single EU market, and the movement of capital and labour across EU members), trying to correlate them with economic growth. They found an 8% increase of GDP per capita for the new members generated by these shocks, with the accession to the internal market being the major factor compared with the other two. Other studies are also relevant with these results with Brown et al. (1997) estimated the welfare gains for the CEECs to be between 3.8% and 7.3% and for the EU to be 0.1%. Baldwin et al. (1997) estimated a 1.5% level of income gain for the new members. The study of Breuss (2001) suggests that for 3 CEECs, the Czech Republic, Hungary and Poland, the welfare will be between 5% and 9% measured on real GDP. More specifically, it was estimated a ten times more gain for the CEEC than for the rest of EU, which was found to be 0.5% increase for the years 2005 to 2010. The gains in EU- 15 were found to be uneven, with Austria gaining 0.6% of GDP higher (Keuschnigg and Kohler, 2002), Germany 0.5% of GDP higher (Keuschnigg et al., 2001) and Italy estimated to gain 0.5% of GDP in 2000-2010 (Grassini et al.2001), countries that benefitted most and Spain, Portugal and Denmark to the opposite.

The study of European Commission (Five years of and enlarged EU, 2009), stated that for the new members the additional growth was 1.3% to 2.1% per year for the period

1994 - 2009 while for the old members was 0.5% to 0.7% higher. Maliszewska (2004) found an insignificant impact on the old members' welfare but a loss of 0.1% of GDP for the accessed countries for the scenario of non-attachment to the European Union.

The average per capita GDP of the new members reached 52% of the EU-15 average in 2008 from 40% in 1999 (Eurostat). The largest income gap of the newly accessed countries was noted in Bulgaria and Romania and the smallest was marked in Cyprus, Malta and the Czech Republic. Countries with low initial GDP per capita converged faster to the EU-15. Moreover, all new members but Malta managed to close the income gap, stressing that catching-up is not granted. Results from beta-convergence in EU-27 by European Commission, showed that for the 5-year period before the accession the speed of convergence was 2.3% increased to 3.4% for the 5-year period after the enlargement. The results are matching with those of Sala-i-Martin (1996) and Rapacki and Próchniak (2009). New member states converged in such a fast pace that are able to shrink income inequalities over the time horizon.

For the years after the enlargement competition of the accessed countries significantly increased and the advantages that the EU single market provided, extended their business activities. From a pan-European survey of 17.283 Small and Medium sized Enterprises (Eurobarometer 2007), 67% of the surveyed firms in the new members reported an increased competition while for the old members the respective figure was 58% supporting the perceptions for catching-up process. The surveyed enterprises also pointed out the importance of the single market for their business activities in the new members. Single market legislation, the same currency in most of EU members and no border regulator are the key features of the single market as provided by the surveyed enterprises.

Accessed countries applied EU competition rules to their domestic law which required additional changes in national level in order to increase their competitiveness. To enforce the application of EU competition rules by the accessed countries, each new member set up a competition authority, although it is still a challenge for some of them because of budgetary limitations and instabilities of staff which is often uneasy to resolve. The implementation of the EU legal framework by the new members increased dramatically their competition in most of them.

II OPENNESS TO INTERNATIONAL TRADE

Since closed countries open their economies to international trade, the degree of foreign investments and trade (the major measures for openness) influence their growth rate, in the sense that more open countries grow faster than closed ones. A driving factor of economic growth is technology which is introduced to the host economies through the trade of goods and services and the capital movement (foreign direct investments). New growth theory suggests that international trade and FDI are both responsible for technological diffusion and have positive effects on economic growth.

A vast literature supports the positive relationship between openness to international trade and economic growth. Openness to trade promotes new technology channels to the host countries, imitate them and include them and thus improve the production procedure, expanding it and make it more efficient (Grossman and Helpman, 1991 Barro and Sala- i-Martin, 1995). The trade enhancement means more exports, that can increase the real output (Helpman and Krugman, 1985) and more imports that can lower production costs (Markusen 1995). The expansion of trade leads the country to specialize in the fields of the economy that has comparative advantage and allocate the resources to the most efficient ones. However, some literature pointed out that the relationship between openness to trade and economic growth is not that clear and straightforward, (for example Krugman, 1994 and Rodrik, 1995), Rodriguez and Rodrik (2000) argued that this relationship is influenced by externalities of the host country. The study of Buffie (1992) suggested that export-led growth is determined by economy's structural characteristics, such as human capital, economic infrastructure and technological endowments.

Trade in the EU as a whole, grew in a faster pace after the first enlargement (2004) than the years before. The annual growth rate of trade reached 12.8% from 9.4% for the new members and 6% from 4.4% for the old members, when comparing the 5-year period before the first enlargement and the 5 - year period after it (IMF). After the EU enlargement, trade integration deepened mainly among the new members leading their markets to integrate further to the Single Market, ranged in 2007 from

38% of GDP (in Romania) to 90% (Malta) (Eurostat). Price convergence was also speeded-up due to the integration to the Single Market leading towards the EU-27 average affected by the opposing forces of upward trends (increased prices) in the new members and downward (decreased prices) in the old members (Dreger et al, 2007). The high degree of trade openness at the new member states boosted the competitiveness of the EU by exploiting the comparative advantages. In 2007, 80% of the new members' total exports went to the rest of EU with almost 20% going to other new members, while the figure for the old members was 8% of their exports (European Commission, 2009).

New member states increased their share of exports after the 2004 enlargement from 2.1% in 1999 to 3.9% in 2007 (Eurostat), with all but Malta almost doubling their market share as a result of their improved international competitiveness and globalization process, while the old members lost export world market share during this period dropping from 39.5% in 1999 to 34.3% in 2007, influenced particularly by the export growth of China (IMF). The United Kingdom, France and Italy marked the greatest losses while on the contrary the Netherlands increased its export share.

De Benedictis and Tajoli (2005) argued that the new members converge faster in terms of income to the EU-15 if their composition of exports is related with the exports of the old members'. Palazuelos-Martinez (2007), argued that by gaining expertise in intra-industry trade influences the convergence process. Openness to trade increases international competition leading to better quality products and services with lower price. Moreover, open economies are more attractive for investments with Wacziarg and Horn Welch (2008) suggesting that investments influence up to 21% the relationship between trade and economic growth and Winters (2004), argued that this relationship is influenced by macroeconomic policies such as investment, inflation and education policies.

Baldwin and Seghezza (1996), using a basic neoclassical growth model for imperfect-competition, quoted results for the impact of European integration on economic growth. They found that domestic trade barriers negatively affect growth (through the decline in investments). In the case of European integration where the trade barriers

were dropped significantly, growth was generated by the augmented trade led by investments.

Wang et al. (2004), investigated the effects of openness through both trade and FDI on economic growth for 79 countries based on their income, classified by the World Development Report 2000, for the period 1970 to 1998. The results derived from a panel data set indicated that for the high-income countries, FDI is relatively more beneficial while trade affects relatively more the low-income countries. The growth of this group of countries is also negatively affected by the black market premium. They also emphasized the role of technological diffusion generated by the international trade and FDI inflows and the positive impact of the diffusion on growth enhancement. They concluded with the proposition to the low-income governments to focus their policies more on trade augmentation than the adaption of FDI.

III THE ROLE OF FOREIGN DIRECT INVESTMENTS

Looking at the majority of the newly accessed countries, the collapse of socialism, the openness to trade and capital, and the propensity of joining the European Union, made these countries attractive for Foreign Direct Investments. These capital flows, were crucial for them, helping to move from the transition economy towards a capitalist one. Several reasons made these countries an attractive destination for investors; the labor force is well - educated, relatively cheap given its productivity, and the region is located close to the developed Western Europe. It is very useful to examine the effects of FDI inflows in the new member countries, as investments and openness to trade in general was something unknown for the majority of them until the early 1990s with the fall of Communism. Another interesting part is the degree of differentiation among these countries as regards their size, the integration to Western Europe, and the economic development.

III. 1 EFFECTS OF FDI

FDI is more crucial for the new members as they are scarcer to capital than the old members with its impact increasing over time. The direct effects of FDI are the boost of production and exports in both quantitative (enlarged production) and qualitative (technological and managerial inputs from the source country) levels. Qualitative effects can be measured with the intra-industry trade share between new and old members while Kawecka - Wyrzykowska, (2009) found a relationship between increasing intra- industry trade and FDI in the accessed members.

The flows of FDI into the under accession economies promoted growth, technical innovation, helped to restructure the domestic enterprises, which was very crucial to the process (Djankov and Murrell, 2002 and Papp, 1996) and supplied the economies with capital (EBRD, 2002). FDI can be crucial driving factor of the new members' transition economies leading them from a centrally planned economy towards a capitalist one (Michalak 1993). Bevan and Estrin (2004) in their study underlined that FDI inflows to the transition countries are influenced by the EU integration. They also linked FDI with GDP positively for both host and source countries suggesting that these countries that are announced for potential EU membership can have continuous rates of growth.

The FDI inflows into new member countries did not only provide these countries with the capital needed for industrial restructuring (capital in the domestic economies cannot be found), but also introduced new technology techniques, enhanced quality standards which along with economic development helped these countries to be integrated with world markets (Zemplerova and Benacek 1996). Productivity and knowledge spillovers from FDI indirectly affected positively the host countries through the imitation of production process, employees' rotation (Fosfuri et al. 2001) and through backward and forward linkages (Kugler, 2006; Blalock and Gertler, 2008). These effects differ in short-term, causing a decline in productivity, and long-term increasing productivity growth (Liu, 2008). Bitzer et al. (2008), estimated high productivity spill-overs from backward linkages for the new member states that are OECD members and Kolasa, (2008) spotted positive spill-overs for Poland.

Barrell and Pain (1997a) found a positive relationship between FDI and economic growth as well as with technical progress in private sector for the Europe - 15. Similar results were detected by Dohrn et al. (2001), examining elevated FDI inflows in new EU member states in the 1990s. They argued that the technological development and transfers along with the improvement of public sector introduced by the FDI inflows are positively associated with economic growth. The importance of technological development created by FDI inflows was also stressed out by Damijan et al. (2003). They used a panel data analysis for firms in the period from 1994 to 1998 for six new and two candidate members of EU and pointed out the positive relationship between FDI and firm productivity growth.

Borota and Kutan (2008) using a sample period of 1973-2002 for the EU- 15 group, supported the beneficial role of FDI inflows to economic growth, as a channel for technological transfers, following an FDI- induced technology- led growth process. They suggested that these results can have the same impact on the new members that joined EU in 2004, as long as foreign investments are encouraged by political and social transformations.

Borensztein et al. (1998) and Hejazi and Safarian (1999) pointed out the stimulation of domestic productivity and economic growth that arises from inward FDI. Studies of trade focused on the linkages between the transition European countries and the Western Europe, suggested that the countries that attract more FDI are those that converge more to the rest of Europe.

Although the impact of FDI on economic growth in most studies is positive, some others puts restrictions like the trade orientation of host market for beneficial effects (Balasubramanyam 1996), or the need for export- oriented economy (OECD, 1998)

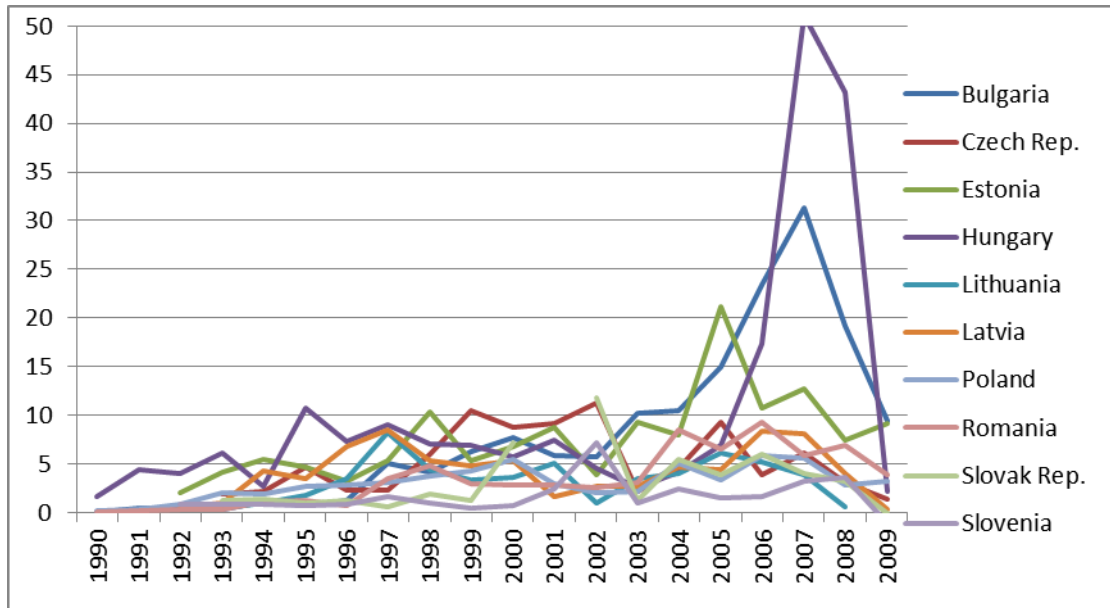
III. 2 DEGREE OF DIFFERENTIATION OF FDI

Although the share of global FDI flows going to the accessed countries was very limited at the early stage of the transition process - 3.8% in 1995 and 4.4% in 2002 – while in 1995, 64.4% of the total flows were invested in industrializes and 31.7% in less developed countries, namely China, Malaysia, Indonesia and Thailand (World

Bank 1996, The Economist 1996a), the flows of FDI from 1993 onward overweight low - income countries and from 1999 the lower - middle – income ones (World Bank, 2002).

However, the new members as a group are not homogeneous, making the attraction of FDI uneven across those countries. The initial condition of each country at the time that Communism collapsed along with political and economic instability and risky environment were major factors for the attraction of FDI (Bevan and Estrin 2000, Brada et al. 2006). Investors were discouraging in investing in some of the new members also due to unfinished privatization, high taxes, the unstable law system, low level of transportation infrastructure, an unstable government and the unwilling population to move towards globalization making use of the benefits generating from foreign investments and international trade (EBRD 1993). As a consequence, the low risk and the good progress of reform in Poland, Czech Republic and Hungary made these countries top destinations for investments. For the period between 1989 and 1996, these countries received four fifths of the total inflows investing in CEE countries (EBRD 1997). These are also the largest of the CEEC countries and the founders of the Central European Free Trade Area (CEFTA) in 1992. In addition, the geographic location of these countries, which are located close to the rest of EU and with common borders with many of them, and the high degree of privatization (for Hungary and the Czech Republic the share of private sector is 80% since 1998 and 1999 respectively – EBRD) made them even more attractive as regards the FDI. Coming next are Slovenia characterized by a significant high FDI stock per capita - 1460.59 dollars in 1999 (UNCTAD 2001), and the Slovak Republic with the share of private sector being 80% from 2000 onwards (EBRD). On the other hand, the low labor costs in Romania and Bulgaria are not enough for itself to make these countries attractive, with the FDI stock per capita being very low (286.71 and 414.72 dollars in 1999 respectively).

Figure 1: Evolution of FDI inflows (% GDP) at the CEEC



Source: Data from World Bank (World Development Indicators)

Looking at the case of the Czech Republic, we can see that it comes second, after Hungary, as refers to the amount of FDI and the level of FDI per capita (EBRD 1997). The country's geographical location close to Germany and Austria along with a developed transportation system, ensured low transportation costs of products to the Western Europe. Foreign investors can gain access to the rest of Eastern market through the Czech Republic as it is easily accessible for both Western and Eastern Europe. The high level of investments is also supported by the well- educated and low- cost labor force in a market of manufacture. Investments were coming mainly from Europe with Germany being the leader (28.3%) followed by the United States and Switzerland (with a proportion of 14.6% each), placing their funds mainly at transportation and communications (21.2% of the total industrial sector), with automobile industry (14.3%) and consumer goods- including tobacco- industries (13.6%) coming next (CzechInvest 1997a).

III. 3 DIFFERENT TYPES OF FDI

FDI can be categorized according to the motive of investment (including the production cost minimizing- or vertical FDI, and market seeking- horizontal FDI) and the entry method (joint venture, mergers and acquisition, brownfield and greenfield investments).

Vertical FDI is related with the relocation of different parts of production chain to locations with low cost. Inexpensive inputs that vertical FDI is seeking of can be labour, primary commodities, intermediate goods and raw materials. Vertical FDI is encouraging by differences in international inputs prices and requirements as well as variances in factor prices and improvements in technology. Horizontal FDI is involved with the setting plants for the supply of those foreign markets. The main target is to reduce the costs of the foreign market supply (tariffs and transport costs) when the foreign market is supplied through exports. Thus if the cost of access to foreign market through exports is higher than the setting up of an affiliate, then horizontal FDI will replace exports in that market (Shatz and Venables, 2000).

The significant impact of first-mover advantages mentioned by Lankes and Venables (1997) found to be quite important in Romania and Poland (Pye 1998) and in Hungary (Konings and Janssens 1996) where there was also marked a lack of horizontal FDI competition. In Hungary greenfield investments hold a major share of the total investments both in the early stage of transition and when transition was over. This did not really happen in the Czech Republic because of high bureaucracy (Benacek and Visek 1999d).

Greenfield investments are preferred by the governments, for the reason that they instantly create new fixed assets. Joint venture firms give the opportunity to domestic firms to benefit from the technology brought in by the foreign firm and managerial spill-overs and also supply the local market more easily. Smarzynska et al. (2008) found evidence for these mechanisms in Romania. Mergers and acquisitions were also important for the new members as enormous privatization took place during the transition process. Mergers and acquisitions were increasing steadily since 1996 after a global recession in M&A, with its peak being in 2000. The evolution of M&A in the new members is following the one of the old members, although the value and

frequency is quite smaller. European investors regarding M&A preferred other EU members; in 2007, 35% of M&A in the new members were done by EU-15 firms, 39% was domestic and 9% by another new member. Main targets inside the new members group were Poland, the Czech Republic, Hungary and Romania (European Commission 2009). Bennett et al. (2007) concluded that Poland's foreign privatized firms had higher gains than locally private and state-owned firms. In the Czech Republic, the horizontal spill-over effects are more beneficial for the acquisitions than greenfields (Stančík, 2009).

Making a distinction between manufacturing and trade sector as targets for M&A investments between new and old members, it can be concluded that manufacturing sector attracts the most of cross-border M&A investments for both the new and old members for the period 1998-2007. In the services sector cross-border M&A investments were higher for the old members and similar hold true for the domestic M&A as well. Manufacturing sector is more targeted for domestic M&A in the new members than trade sector.

Service sector FDI is considered to be horizontal and it is not related with openness to trade with a direct relationship (Kolstad and Villanger, 2008). In service sector knowledge transfers is expected to increase in a slower pace compared to manufacturing sector where the labour intensity is higher. As a consequence, the growth that is generated from the FDI in service sector is lower than the one generated from the FDI in manufacturing sector (Lejour et al. 2008)

Moreover, higher labour intensity can lead to spill-over effects through the rotation of the flexible labour markets. In that way, service sector can be benefited from these spill-overs. Service sector FDI in the new members can be also vertical e.g. the "shared service centers" whereas firms provide business services to their subsidiaries around the world. New member states characterized with relative low cost and high skilled labour force are popular destinations for these service sector FDI (Lejour et al. 2008).

In general, service sector FDI in the new members was lifted faster compared with the respective of the old members. This was caused as a result of privatizations in this sector. The progress has helped to close the gap at service sector FDI between new

and old members and goes along with the overall enhancement of services at the new members (Eurostat 2009). Services sector FDI can also lead to trade linkages leading to increasing volumes in this sector at the new members as their markets open up more during the transition.

III. 4 DETERMINANTS OF FDI

- **Market Size and Growth**

A survey made by Pye (1998) investigating the investments for 334 firms between 1989 and 1996 in the Czech Republic, Poland, Hungary, Romania and Slovakia showed the size of market and growth potential to be the main factor for investment coming from Europe and North America in 34 per cent of the sample, with strategic motives coming second. Market size was also found to be the most important determinant by the survey of Lankes and Venables (1997). They investigated 117 West European firms operating in the countries included by the EBRD. Market potential was found the most important factor for Austrian investors in CEE countries, by a survey of 150 firms made by Altzinger (1999), while Savary (1997) surveyed 22 French industrial firms showed that investments is more likely to occur in CEE than in South Europe countries due to differences in market size. Studies for Hungary are also with similar results. Meyer (1996) covering British and German companies illustrated the importance of accessing to local markets for both horizontal and vertical oriented foreign investors. Konings and Janssens (1996) indicated the market expansion for being the most important factor and Elteto and Sass (1998) analyzing the non- exporters in Hungary found that the growth prospects potential for market share expansion to have the key- role. For Poland, it was showed by INDICATOR (1995) that investment decisions were subjected to the market's size and homogeneity and the country's growth level. It was also showed that personal incomes in Poland Hungary and the Czech Republic are positively related with investment flows into them.

- **Privatization**

The initial level of privatization at the CEE and Balkan countries and the torque towards the expansion of it are key factors for investment inflows during the initial stage of transition. As I illustrated above, the Balkan countries lag far behind the Central Europe countries, with the private sector as a percentage of GDP being less than 50% at the first 5 years of the 1990s (EBRD). For the Visegrad countries it was suggested that those economies with higher share of private sector, would have more FDI inflows (Lansbury et al 1996, Barrell and Holland 1999, Gronicki 1999). The means of privatization is as important as the speed of privatization (Hunya 1997a), while Holland and Pain (1998 a, b) found that the method of privatization to be more essential than the share of private sector. Several means were adopted at the initial stage of transition by the countries such as the few restrictions on sales from foreign firms that were adopted in Hungary or the voucher-based mass privatization adopted in the Czech Republic and the Slovak Republic. Another method was the management - employee buy-outs mainly introduced in the Balkan countries.

- **Trade Linkages**

Balasubramanyamet al., 1996, investigated the relationship between investments and economic growth and concluded that for the developing countries this relationship is positively correlated with the openness to trade and exports. The liberalization of trade and trade arrangements are crucial for investors' decisions for the location of each investment (Barrell and Pain, 1998), and Lansbury et al (1996) found a positive relationship between trade and FDI flows between host and source countries. Thus, CEFTA member –countries in Central Europe (Poland, the Czech Republic, Hungary, Slovenia and Slovak Republic) are more attractive for investors with their contiguous borders with Western Europe being an extra advantage for them. The importance of contiguous borders for FDI was suggested by Holland and Pain (1998 a,b) taking into account the factor costs, risk and privatization level. Trade agreements and obligations for GATT/WTO fulfilled by most of the Central European countries encouraged investments focused on EU – sales. Geographical closeness and contiguity to the EU was an important factor for investors, mainly for the market oriented ones, although primarily investments focused on enabling intra-firm trade due to proximity advantages.

- **Factor costs**

The wage levels in CEE countries and especially in the two Balkan countries are among the lowest in Europe. This is a major determinant for establishing a foreign investment in the country. This factor seems to affect labour-intensive goods firms in a great deal. Apart from the level of wages, labour productivity should be taken into account from the foreign firms as productivity in many transition countries was low. Lansbury et al. (1996a,b) with an econometric study emphasized the role of relative labour costs within the Visegrád region and the effects of these costs on the attraction of a foreign investment coming from 14 OECD countries. A similar study was carried out by Holland and Pain (1998a) for 11 transition countries for the years between 1992 and 1996 where the importance of wages to investment decisions was indicated. Riker and Brainard (1997) supported the evidence for FDI competition across similar location countries in terms of factor costs rather than dissimilar locations. Holland and Pain (1998b) using a panel of 8 transition countries suggested that a rise in labour costs will disfavor investments unless the labour productivity will offset this cost.

Labour costs advantages were found to have an influence on investment decision in Poland (INDICATOR 1995) where Gronicki (1999) and Sass and Szemler (1999) founded that manufacturing low-waged sectors are more attractive for FDI. In Hungary it was also found to be important although with a less significant influence than the market share expansion (Konings and Janssens 1996). Hungarian high skilled labor force was also an important determinant of FDI mostly for assemblers and exporters rather than non-exporters (Elneto and Sass 1997). In the Czech Republic and Slovakia labour costs as well as access to local market and region's overall stability were found to be the most important factors for the motives of investors (Pye 1998). For the Czech Republic Benacek and Visek (1999b) suggested that potential investors are attracted by the educational foundations existed in the country rather than several qualifications provided by each industry. Furthermore, Czech Republic's investors were being attracted by high total factor productivity and high level of R&D (Benacek and Visek, 1999a).

- **Risk and Stability**

Stability in political and economic fields of the country is reflected to the location of potential investments in the region. Legal regulations and governmental policies influence these decisions as well (Jun and Singh, 1996). It is clear that the stability that characterize Czech Republic, Hungary and Poland as members of the OECD made them host the greater part of FDI in CEEC in comparison with the two Balkan countries which have poor credit ratings. The low levels of inflation in Hungary and the Czech Republic and the trends of economic growth in Poland during the transition made these countries popular for investments decisions. For Hungary, predictions for economic development as well as economic and political stability were found to be important factors for non- export (Elteto and Sass 1998) and market oriented investors while factor- price oriented firms were concerned less (Meyer 1996). INDICATOR pointed out the beneficial role of legal system existing in Hungary for investments, which is analogous to the EU, while for the Czech Republic, Pomery (1997) suggested that barriers like bureaucracy, low- performance of judiciary and non-transparent lawmaking discouraged investments.

Brada et al. (2006), estimating the ratio of actual to predicted FDI inflows in transition economies of Europe for the period 1993- 2001, concluded that for the Balkans, political instability is a key factor for reducing FDI inflows in these economies, while for the Central European and Baltic countries, the good reform policies that took place, made these countries capable of receiving FDI inflows which were much greater than comparable hypothetical West European economies. Variables for both starting conditions and progress of transition were taken into consideration, to include the time changes and across countries differences.

An econometric analysis of Lansbury et al (1996) for Poland, the Czech Republic and Hungary did not result in a significant relationship between FDI and the risk measure, probably due to the comparable risk levels of these countries. A significant role of risk was detected for the same countries by Barrell and Holland (1999) using a different measure of risk but Gronicki (1999) using the same measure for Poland did not found a significant relationship. Holland and Pain (1998) used a larger sample considered of 8 Eastern European countries for the period from 1992 to 1996. Their results

illustrated the significant effect of the method of privatization and the links of trade with the advanced economies on the level of investment. They also captured the competitiveness of attracting inward investment by linking it with the level of risk and relative labor costs as well as private ownership and trade linkages. They concluded that inflows of foreign investment affect significantly the economic performance of the host country.

- **Other factors**

The announcements of decisions about the policies in the new members during the accession period significantly affected the FDI inflows (Bevan and Estrin, 2004; Clausing and Dorobantu, 2005). The adoption of the euro increased further the FDI inflows since the certainty that the common exchange rate provides, encourages investors' confidence (Axarloglou and Kouvelis, 2007) and was estimated to lift FDI inflows by 14% (Petroulas, 2007; European Commission, 2008d). For the new member states the growth of FDI inflows was estimated to be between 18.5% and 30%, with trade and FDI having high complementarity (Brouwer et al. 2008).

The size and the distance (including transport costs and cultural distance) of the host's country are widely considered to have strong impact on FDI considering the new members (Bevan and Estrin, 2004; Demekas et al. 2007; Bellak et al. 2008). The empirical study of Lskavyan and Spatareanu, (2008) supported the major impact of the quality in business environment and institutions on FDI for the small foreign firms.

High corporate taxation is suggested from literature that negatively affects FDI inflows in the host country (Becker and Fuest, 2007) but also investment decisions on the new members depends on the two-sided tax regulations (Bellak et al. 2007). Elschner and Overesch (2007) linked competition between foreign investments in Europe with a decay in tax rates.

IV Underlying Model

For the estimation of the economic growth and the determinants of it, I will base my econometric model on the expanded economic growth model of Solow (1956), using a Cobb-Douglas production function:

$$Y/L = (K/L)^\alpha (H/L)^\beta A^{1-(\alpha+\beta)} \quad (1)$$

where (Y/L) stands for GDP per capita, (K) is the capital formation, (L) is the labor force, (H) for human capital and (A) for total factor productivity. α and β are the share in income for physical capital and labour, with $\alpha + \beta$ assumed to be smaller than 1 implying for diminishing returns to capital and the existence of the steady state. The growth of total output per capita (g_y) is determined by the investment rate (s_k), the rate of human capital formation (s_h), the growth of total factor productivity (g_A) and the growth rate of population (n). Higher investment rate, human capital formation rate and total factor productivity growth lead to higher GDP per capita growth, while higher growth rate of population hampers it, since labour force is now attracting a larger part of investment than before and a smaller is devoted to capital augmentation.

The economy is moving towards its steady - state where the physical and human capital are given by the equations: (Mankiw et al. 1992)

$$k^* = (S_k^\beta S_h^{1-\beta} / (n + g_A + d))^{1/(1-(\alpha+\beta))} \quad (2)$$

$$h^* = (S_k^\alpha S_h^{1-\alpha} / (n + g_A + d))^{1/(1-(\alpha+\beta))} \quad (3)$$

where k^* and h^* denoting the physical and human capital per unit of effective labor, and d the capital depreciation rate. Since the economy has reached the steady- state, the total output per capita is growing at the rate of total factor productivity growth. Foreign investment inflows through the channels of technology and management techniques can improve and expand the levels of physical and human capital to the host economies, helping close “object gaps” and “idea gaps” (Romer, 1993). Thus the level of FDI inflows on a country positively influences the rate of endogenous growth

of total factor productivity, and this corresponds to the beneficial effect on the growth of total output per capita.

Substituting the steady state levels of physical and human capital [equations (2) and (3)] to the Cobb- Douglas production function [equation (1)] and taking logs, one can obtain a relationship for total output per capita. The regression equation suggested by Mankiw et al. (1992) for the growth of total output per capita takes the form:

$$g(Y/L) = \beta_1 + \beta_2 S_k + \beta_3 n + \beta_4 S_h + e, \quad (4)$$

therefore the growth of output per capita is a function of physical capital investment rate (s_k), the growth rate of population (n) and the human capital investment rate (s_h)

The impact of the EU integration can be investigated through its effect on the production function. Assuming physical capital investment rate to be endogenous we can derive an equation for physical capital investment rate (Borota and Kutan, 2008).

$$S_k = \beta_1 + \beta_2 n + \beta_3 S_h + \beta_4 EU + e \quad (5)$$

Based on the literature review presented above, in my study I will use FDI inflows and trade openness indicators as a proxy for EU integration, allowing for an integration-induced investment-led growth. If those variables were found to be significant for the investment rate (equation 5), it can be interpreted that trade openness and FDI inflows leads to increased investment rate and through equation (4) increased investment rate leads to increased growth of GDP per capita through the channel of openness to trade and FDI inflows.

V. 1 Data and Econometric Specification

In the empirical section, I will look at the 27 European Union countries. In the analysis, I will differentiate between the new member states of the EU and the old member states. This division was being done to examine separately for both new and old members the determinants of GDP per capita growth, but also looking at the complete 'picture' of the enlarged European Union after the assessment of the new

member states. The time period used is from 1990 to 2010. The year 1990 was chosen as the beginning year of the period because only after this year data information is available for the former communist countries that joined the European Union later. The data was collected from World Development Indicators that are provided by the World Bank, from UNECE Statistical Division Database and from European Bank of Reconstruction and Development (EBRD).

Following the theoretical growth model of Mankiw et al. (1992), in my empirical study I will construct a regression equation for GDP per capita growth as dependent variable using panel data analysis. The econometric specification is as follows:

$$\mathbf{GGDPPC}_{i,t} = \beta_1 + \beta_2 \mathbf{CAB}_{i,t-1} + \beta_3 \mathbf{Ln (TRADE)}_{i,t-1} + \beta_4 \mathbf{Ln (FDI)}_{i,t-1} + \beta_5 \mathbf{Ln (GDP)}_{i,t-1} + \mathbf{e}_{i,t-1} \quad (6)$$

Where the variable GPPC refers to GDP per capita growth, CAB to the current account balance, TRADE to trade, FDI refers to foreign direct investment inflows and GDP to gross domestic product.

In a second step, I will estimate the equation:

$$\mathbf{GGDPPC}_{i,t} = \beta_1 + \beta_2 \mathbf{CAB}_{i,t-1} + \beta_3 \mathbf{Ln (SECENR)}_{i,t-1} + \beta_4 \mathbf{Ln (TRADE)}_{i,t-1} + \beta_5 \mathbf{Ln (FDI)}_{i,t-1} + \beta_6 \mathbf{Ln (GDP)}_{i,t-1} + \mathbf{e}_{i,t-1} \quad (7)$$

Where the variable SECENR represents the secondary school enrolment

In a last step, I will concentrate only on the new members, estimating the equation:

$$\mathbf{GGDPPC}_{i,t} = \beta_1 + \beta_2 \mathbf{CAB}_{i,t-1} + \beta_3 \mathbf{Ln (SECENR)}_{i,t-1} + \beta_4 \mathbf{Ln (WAGE)}_{i,t-1} + \beta_5 \mathbf{Ln (PRIV)}_{i,t-1} + \beta_6 \mathbf{Ln (TRADE)}_{i,t-1} + \beta_7 \mathbf{Ln (GDP)}_{i,t-1} + \beta_8 \mathbf{Ln (FDI)}_{i,t-1} + \mathbf{e}_{i,t-1} \quad (8)$$

Where the variable WAGE refers to gross average monthly wages and PRIV refers to the private sector share.

The analysis was carried out using *Stata* based on a panel data approach. Country fixed effects were introduced to capture time-invariant cross-country differences. Year dummies variables were included in all the regressions in order to control for yearly variations caused by other macroeconomic shocks and policies implemented in the period examined and not captured by the variables in the model. The independent variables of the regression equations are all lagged by one year. This is required because of the time needed for the economy to adjust the changes as far as the GDP per capita growth.

V. 2 Independent variables

- **Trade**

Regarding the impact of openness to trade on the economic growth resulting from the attachment of the new member states to the EU, it was used the variable trade (exports + imports) as a percentage of GDP, gathered from World Development Indicators of World Bank. The expected relationship between trade and GDP per capita growth is positive. As resulting from the previous empirical studies and theoretical background quoted above, openness to trade promotes economic growth (Balasubramanyam et al., 1996) from the increased technological diffusion, the improved allocate and distributed efficiency and the expanded possibilities of production with higher efficiency (Grossman and Helpman, 1991; Barro and Sala-i-Martin, 1995; Obstfeld and Pogoff, 1996).

- **FDI**

The influence of foreign direct investment inflows on the economic growth was tested using the independent variable FDI net inflows (as a percentage of GDP) at the regression analysis. Inflows of FDI instead of FDI stocks were chosen as a variable because previous studies using FDI stocks, fail to establish trustworthy conclusions (Caves, 1996). The expected relationship is positive following the new growth theory, the modernization hypothesis (FDI stimulates growth through the supply of external capital spreading the benefits to the economy) and the results from relevant studies mentioned above.

- **Policy Sustainability**

The role of policy sustainability was captured by the current account balance measure. The variance chosen was current account balance (as a percentage of GDP) taken from World Development Indicators that are provided from World Bank. Current account balance is the balance of commodity trade of real sector and income- outcome of foreign flows (Yeldan, 2005). This variable is expected to be related positively with the dependent variable for the reason that stable macroeconomic policy is critical for economic development of the members reducing economy's uncertainty, and contribute positively in foreign investment decisions (Brada et al. 2006). Literature presents strong relations between economic growth and current account balance (Kandil and Greene, 2002; Hooper ve Tyron, 1984; Karunaratne 1988; Bagnai ve Manzocchi, 1999; and Freund, 2000).

- **Total Output**

The size of total output was expressed by the variable GDP (in US dollars) collected from World Development Indicators of World Bank. The expected impact on economic growth of this variable is negative according to convergence hypothesis which suggests that countries with low income are growing in a faster pace than more advanced ones.

- **Human Capital**

To capture the role of human capital as a determinant of the GDP per capita growth, I introduced the variable secondary school enrolment (as a percentage of the gross population). The data for this variable was collected from World Development Indicators provided from World Bank. The role of human capital development was strongly emphasized that leads to long-term economic growth through more efficient production resulting from raised skills and new technology (Mankiw et al, 1992; Barro and Sala-i-Martin, 1995). The expected impact of this variable on GDP per capita growth was positive suggesting that the more educated work force makes the country more attractive for investment decisions, more competitive in production activities and therefore contribute positively in the economy's economic growth.

- **Wage Levels**

For the impact of wage levels on economic growth the variable Gross average monthly wages was chosen, gathered from UNECE Statistical Division Database. According to other empirical findings (Lansbury et al. 1996a, b; Lankes and Venables, 1996), higher labour wages negatively affect economic growth, due to unattractiveness of investments for this country (more expensive human capital). The coefficient of this variable was expected to be negative.

- **Privatization Level**

For the level of privatization, the variable Private sector share (% of GDP) was chosen, data was collected from EBRD, following Lansbury et al. (1996a, b) and Holland and Pain (1998). The variable was also standardized for market size effects as it was adjusted for GDP. Private sector share was expected to influence positively economic growth since as illustrated from the above findings it is a measure for attractiveness of foreign investments, related with the effectiveness of corporate governance.

V. 3 Results

V. 3. 1 Estimating the main equation

In table 1 the estimates of equation (6) are displayed. Column (1) shows the results for the total sample and column (2) and (3) for the two different groups of countries.

Table 1

Dependent variable: GDP per capita growth

	(1) Enlarged EU	(2) Old Members	(3) New Members
CAB	-0.0895	-0.0148	-0.112

	(0.0658)	(0.0744)	(0.0782)
Ln (TRADE)	3.804 (2.569)	6.432** (2.655)	2.803 (2.711)
Ln(GDP)	-0.981 (1.555)	-2.754** (1.282)	-2.234 (2.493)
Ln(FDI)	0.616** (0.272)	-0.311 (0.189)	0.835*** (0.261)
Constant	0.841 (44.43)	41.88 (30.49)	36.21 (61.39)
Observations	468	257	211
R-squared	0.470	0.738	0.544

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Year and country fixed effects are included (omitted from the table)

From the results of this regression it can be concluded that trade has significant (at 5% level) and highly positive impact on GDP per capita growth for the old members group, which was expected. A significant impact was not detected for the new members and the enlarged EU groups although the signs of the coefficients were the expected positive. FDI inflows were found to have a significant and the expected positive impact on GDP per capita growth as regards the new member states (at 1% significance level) and the enlarged EU (at 5% significance level). GDP was found to be negatively related with the dependent variable at 5% significant level for the old members group while a significant relationship for the new members group and the enlarged EU cannot be concluded; therefore no conclusions for the convergence hypothesis can be made for the new members of the EU, meaning that the host-country's GDP has a contribution to the growth process of them. The current account balance variable was found to be insignificant for all the three country groups, thus any remarks and conclusions cannot be made for its impact on the dependent variable.

The findings for current account balance can be supported by the weak relationship between current account balance and economic growth found on the study of Chinn and Prasad (2000) supporting differences between developing and industrialized countries. Weak relationship was also supported by the findings of Calderon et al. (2002), Yücel (2003) and Eken (1990).

Using the results of columns (2) and (3) to examine the relationship between openness and economic growth comparing the new and old member states of the Union, it can be concluded that FDI inflows are relatively more important for the new member states in terms of the growth process while international trade is more beneficial for the old members of the EU. Since the increased FDI inflows and trade volumes were generated by the EU integration, the results provide evidence for FDI-induced technology-led growth process for the new members and trade - induced growth process for the old members during the integration process having a beneficial impact on economic growth.

V. 3. 2 Introduction of human capital

The next step was to capture the role of human capital as a determinant of the GDP per capita growth. The results of the estimation of equation (7) for the three country groups are presented in Table 2, where the prefix Ln indicates the log operator.

Table 2: *Dependent variable: GDP per capita growth*

	(1) Enlarged EU	(2) Old Members	(3) New Members
CAB	-0.0922 (0.0659)	-0.00513 (0.0683)	-0.118 (0.0762)
Ln(SECENR)	-1.224 (2.229)	0.786 (1.226)	-4.826 (4.643)
Ln(TRADE)	3.909 (2.720)	6.189** (2.596)	2.742 (2.755)

Ln(GDP)	-0.979 (1.551)	-2.951** (1.266)	-2.841 (2.524)
Ln(FDI)	0.647** (0.240)	-0.190 (0.141)	0.711** (0.304)
Constant	5.812 (45.61)	44.34 (29.05)	72.08 (65.62)
Observations	454	252	202
R-squared	0.481	0.758	0.556

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Year and country fixed effects are included (omitted from the table)

The results of these regressions display an insignificant coefficient of the secondary school enrolment variable for all the three country groups examined. Therefore, no conclusions can be made about the impact of the secondary education level on the economic growth of the European Union. This is not very surprising since secondary school enrolment rate only very roughly measures human capital, denoting the percentage of people who are to be educated in the future (Islam 1995). Also Nunnenkemp and Spatz, (2003), with similar results of insignificant coefficient for the human capital endowment, attributed this to the fact that secondary school enrolment does not capture the quality of schooling.

The signs of the coefficients for the rest of the variables remained the same as the previous regression analysis without the human capital development. Only a marginal change on the statistical level and the size of the coefficients was detected. Thus, the interpretation about the impact of the remaining variables on economic growth remains the same: trade has a positive and significant at 5% level impact on growth for the old members group, and FDI inflows positively influence economic growth of the new members as well as the EU as a whole at 5% significance level.

V. 3. 3 Introduction of the levels of privatization and wage

Next, investigating for the determinants of economic growth, the impact of labour wages and the level of privatization was examined. These two independent variables were added to the previous regression and the countries examined were the new members of the Union due to lack of data of the private sector share for the old member states. Still, the statistical model was a fixed effects model and year dummies variables were included. The results of specification (8) are presented in Table 3 where the prefix Ln indicates the log operator.

Table 3: *Dependent variable: GDP per capita growth of the following year*

	(1) New members
CAB	0.0144 (0.104)
Ln(SECENR)	7.807 (10.91)
Ln(WAGE)	0.588 (1.172)
Ln(PRIV)	15.63*** (2.711)
Ln(TRADE)	-0.823 (4.293)
Ln(GDP)	-5.436 (5.494)
Ln(FDI)	0.610 (0.446)
Constant	23.24 (116.7)
Observations	148

R-squared

0.607

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Year and country fixed effects are included (omitted from the table)

The results of this regression displays that the coefficient of Ln (PRIV) is positive and significant at 1% level. It can be concluded therefore, that the private sector share has a high and positive impact on economic growth for the new assessed countries, which is consistent with the expectations.

A significant impact of wages on economic growth was not detected. This might be explained by the wage level of Bulgaria and Romania included in the sample. As mentioned before, although the low levels of labour cost existing in these two countries was relatively low compared with the rest of the assessed countries, foreign investments were discouraging by the risky environment, economic instability and low privatization, having as a result a low economic growth process during the transition period. Moreover, there is empirical evidence that low wages in transition economies are not a major driver for FDI and therefore for economic growth (Bevan and Estrin, 2004). Real appreciation of currencies along with real wages increase in transition countries made FDI that was attracted before to leave these countries (Brada et al. 2006). It might be caused also from the fact that labour productivity was not taken into account.

Unexpectedly, the coefficient of Ln (FDI) variable was not found to be significant. Thus, the impact of FDI inflows on economic growth was detected insignificant for the new members when adding the variables Ln (WAGE) and Ln (PRIV) in this regression.

V. 3. 4 The “2004 – group”

Lastly, looking at the case of the “2004 – group”, I tried to examine whether the formal date of their integration into the EU influenced their economic growth. To do this I split the sample of the “2004 – group” countries into two sub-samples; the one

contains the years from 1990 to 2003 (the period before the formal year of the first enlargement), and the other from 2004 to 2010 (the period after the first enlargement). Bulgaria and Romania therefore are excluded from this sample since these countries entered the EU formally at 2007 only.

Using the econometric specification (7), the results are presented on Table 4. As before, the prefix Ln stands for the logarithm operator and still the statistical model was a fixed effects model and year dummies variables were included.

Table 4: *Dependent variable: GDP per capita growth of the following year*

	(1) "2004 – group" Before Enlargement	(2) "2004 – group" After Enlargement
CAB	-0.147** (0.0587)	-0.272 (0.186)
Ln(SECENR)	-4.632 (10.07)	57.00 (50.62)
Ln(TRADE)	0.442 (4.966)	23.70 (24.12)
Ln(GDP)	-1.339 (5.447)	-39.14** (12.75)
Ln(FDI)	0.0668 (0.427)	-2.198 (1.479)
Constant	51.81 (150.8)	582.9 (447.1)
Observations	115	49
Number of country_id	10	10
R-squared	0.315	0.835

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

From the results of column (1), which refers to the period before the formal date of the first enlargement, the current account balance variable was found to be significant at 5% level and negatively related with GDP per capita growth of the “2004 – group”. The column’s (2) results, which is referring to the period after the formal date of the first enlargement, demonstrated a negative and significant at 5% level relationship (as was expected) between GDP and GDP per capita growth. As regards the impact of FDI variable on GDP per capita growth, no significant relationship was detected for the period after the enlargement. This fact along with the results of Table 2 and Table 3 (where the significant and positive impact of FDI on economic growth was detected for the whole transition period) can lead to the suggestion that FDI influences economic growth of the new members through the overall procedure of EU enlargement, starting from the initial years of transition of those countries until the years after the formal adaption to the EU.

Furthermore, I divided the new members into sub-groups according to their geographical location, their characteristics of openness to international trade and foreign investments and their economic performance since transition. The first group included Czech Republic, Hungary and Poland, the second, Estonia, Slovenia, Latvia, Lithuania and Slovakia, the third one Bulgaria and Romania, while the fourth included Cyprus and Malta, the two Mediterranean countries. This was a way for avoiding heterogeneity and diversification regarding the new members and to have a more “clear” and precise evaluation of the economic growth determinants of the different regions included in the assessed countries. However, the insufficient amount of observations of these sub-groups led to inadequate results, thus these regressions were not reported.

Apart from the independent variables introduced at the previous regressions, I also tried to include others such as the International Country Risk Index in order to capture the impact of the risky environment on economic growth. Moreover, taxes on international trade were used as an independent variable, to test the impact of barriers to international trade on economic growth. However, the results were not found to be

of much importance and significance in improving the explanatory power of my specification, so these regressions were not presented.

V. 4 Concluding Remarks

The main empirical findings of this study suggest that for the last 20 years, GDP per capita growth of the new members of the EU as well as the enlarged EU was influenced positively from the FDI inflows while the one of the old members was influenced by the increased trade volumes. With the fact that integration process that took place this period was spread to the EU through the channels of FDI inflows and trade augmentation it can be concluded that integration process had a positive impact on economic growth via FDI inflows for the new members and via trade augmentation for the old members. For the enlarged EU the channel of integration that contributes positively to economic growth appears to be FDI inflows. Moreover, when introducing the variable of the share of private sector its impact on economic growth is highly positive as regards the new members of the EU. When dividing the sample of “2004 – group” into two periods for “before” and “after” the first enlargement, it can be interpreted that FDI inflows spread its positive effects on economic growth of those new member countries through the overall integration procedure of EU enlargement, with the entrance year to the Union not being a determinant factor for the impact of FDI inflows on economic growth.

This was the biggest ever enlargement of the EU, which nowadays considered to be a major success for the EU. The process of enlargement helped the EU to strengthen the security, the democracy and stability inside the continent after the collapse of the communist regime. The EU after the enlargement has now more political and economic power through the increased competitiveness and ready to face the challenges of globalization as the largest integrated economy. In overall, the enlargement has been a win- win game by improving the living standards and boosting the economy of the new members and at the same time old members were benefiting from the rise of exports and investment opportunities.

In my empirical study, I tested for the economic growth determinants for the period 1990 – 2010, a period which started with the transition process of the new members and includes the overall integration procedure towards EU-enlargement. The countries examined were separated into the old member countries, the new member countries and the aggregated EU. The findings of this econometric analysis suggest that integration process had a positive impact on new members' economic growth through the increased FDI inflows and the elevated share of private sector, while influences positively economic growth of the old members through the increased international trade. As far as the enlarged EU, FDI inflows have an overall positive impact on economic growth whereas GDP appears to negatively affect economic growth of the old members

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APPENDIX

Table A-1: *Summary statistics of key variables*

Variable	Obs	Mean	Std. Dev.	Min	Max
GGDPPC	513	1.959066	4.665641	-31.34485	12.84896
CAB	506	-2.041073	5.692851	-27.15748	12.63741
Ln(SECENR)	492	4.607375	0.1392914	4.075602	5.077337
Ln(WAGE)	491	7.138965	1.073293	3.394508	8.705762
Ln(PRIV)	177	4.211098	0.1933341	3.401197	4.382027
Ln(TRADE)	535	4.499165	0.4641556	3.56655	5.789237
Ln(GDP)	540	25.36479	1.809378	2.165831	28.9215
Ln(FDI)	509	1.116034	1.506192	-10.55318	6.336678

Table A-2: *Definition of country groups*

Enlarged EU	Austria, Belgium, Germany, Denmark, Spain, Finland France, United Kingdom, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Sweden, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Malta, Cyprus, Bulgaria Romania
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Old Members Austria, Belgium, Germany, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Sweden, the Netherlands, Portugal, Sweden, United Kingdom, Portugal,

New Members the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland Slovakia, Slovenia, Malta, Cyprus, Bulgaria and Romania

"2004 - group" the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Malta and Cyprus
