

## EU cohesion policy incentives and knowledge-intensive FDI inflows

Łukasz Cywiński

### Abstract

The single market had a profound effect on development of the EU. It had affected a vast range of economic aspects – from trade flows across borders to development trajectories. Enlargements of the EU created several challenges related to the performance of regions. Those challenges have been met by cohesion policies aimed to stimulate regional growth. This paper examines the relationship between cohesion investments and knowledge-intensive foreign direct investments.

**Keywords:** Social and Territorial Cohesion, R&D, knowledge-intensive FDI

**JEL Codes:** F15, F21, F23, F55

**Note:** This paper is a result of a UITM research on EU cohesion policy, a project to evaluate EU policy from various economic perspectives on a basis of 5th Commission Report on cohesion policy “Investing in Europe’s Future”.

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## **Introduction**

The third wave of globalization and the global diffusion of knowledge has the potential to push regions towards innovation driven economies with the growth generated by intangible capital (Corrado et al, 1999). Global economy is however not free of disparities, so is European Union, although some European countries have been already benefiting from innovation-driven sources of growth, some regions are still lagging in economic development – straggling to fill the gap between efficiency-driven and innovation-driven economy (World Economic Forum, 2014).

The third wave of globalization have been possible because of the growing liberalization of trade and serviced – sets of favorable laws that allowed for knowledge-intensive FDI. As a consequence of liberalization the role of multinational corporations have changed – corporations are becoming not interested in resource driven investments, but they are also interested in various intangible forms of investments – for example investments in research laboratories or services – like internet service providing. The main aim of this paper is to provide a summary of research on various aspects of EU cohesion policy that had stimulating effect on foreign investments with a special interests of knowledge-intensive activists and R&D. This paper is a result of a UITM research on EU cohesion policy, a project to evaluate EU policy from various economic perspectives on a basis of 5th Commission Report on cohesion policy “Investing in Europe’s Future”.

Structural changes of the global economy are reflected by international trade and growing fragmentation of production. Multinational companies especially from high-tech sectors have been locating different parts (or segments) of the production in different areas of the world – acting within the scope of global production chains. This distributed system of production could not be possible without previous liberalization of trade and services. In this context, European Union is one of the most advanced Regional Integration Agreements in the world. And this alone in terms of location advantages from the MNC perspective is an important stimulus in terms of location advantages (Dunning, 2000). One of the main aims of this paper is to investigate if EU cohesion policy influenced (stimulated or perhaps dissimulated) the inflows of knowledge-intensive FDI to lesser developed regions of EU. The paper will be structured as follows: the first section will present a brief description of main determinants for knowledge-intensive FDI – focusing especially on institutional incentives. The second part will review related EU cohesion policy objectives. The third part will focus on cohesion objectives that might have been linked, or could have stimulated investment decisions. And last but not least, the paper will present concluding remarks related to policy recommendations.

European Union funds have been used to support various activities from restructuration to implementation of national-level innovations. The combined effect of improved efficiency and transition to sectors with higher added value has been particularly important for the lesser developed regions. The key elements of EU policy had focused on driving innovation through measures aimed at stimulating the potential absorption and diffusion of knowledge. (European Commission, 2010). For this purpose EU cohesion policy created the system of special incentives designed to strengthen development of human capital, macroeconomic and institutional framework to integrate EU markets.

## **Knowledge-intensive FDI – main institutional determinants and selected effects on European regional development**

Advancement of globalization over the last decades created an opportunity for growing international business activities – particularly in the form of foreign direct investments. In this context the theoretical framework for FDI is still relatively fresh with earliest studies dating back to 1960s (Faeth, 2009). The early studies focused particularly on market factors and trade barriers, developing a gradual interest in factors

related to investment climate – among main contributors of FDI theoretical framework Faeth (2009) mentions Robinson (1961), Kolde (1968) and Forsyth (1972).

Early studies of FDI have been also related to the neo-classical trade theory and particularly to Heckscher–Ohlin model further developed and modified by MacDougall (1960) and Kemp (1964). In this model the capital was expected to move to the country with higher capital returns, but the model did not include institutional determinants that might have influenced investment decisions.

The next sets of FDI theories focused on ownership advantages (Hymer, 1976 in: Faeth, 2009) and particularly on the situation where MNE had monopolistic advantages. In contrary to neo-classical theories ownership advantages FDI theoretical framework included the role of governments. Hymer's theory of FDI have been later revised by Knickerbocker (1973) and Vernon (1966) that suggested that investment decisions are related to various factors from negotiation process with governments to 'follow-the-leader' effects (Faeth, 2009). It is however important to add that up to the end of the second half of twentieth century FDI have not been particularly engaged in knowledge-intensive activities, thus different factors might have been meeting the eye of researched that studied in the initial MNE decision-making processes. At that time, FDI have been seeking resources or efficiency, hence negotiations with government have been much more relevant than for example the quality of economic and institutional regime.

Further globalization and further research on modes of entry – through direct investment, trade, or licensing – that have been made possible because of the further development of international cooperation and liberalization of trade – and a close revision of internalization theories inspired Dunning (1977 and 2000) to create eclectic paradigm. The theory synthesized advantages – reasons to invest into three main groups of advantages: ownership, location and internalization. The OLI paradigm and particularly location advantages focused in great part on institutional framework affecting investment decisions. Later developments of the eclectic paradigm have differentiated investments into several groups: from resource-seeking investments to strategic-asset-seeking investments.

The OLI paradigm is often extended to various theoretical frameworks that introduce very accurate optics that allows for explanation of new structural made by FDI. For instance theories that included knowledge capital have been introduced because of the diffusion of knowledge from MNE to host countries. Also various research started to distinguish between horizontal and vertical inflows because of the growing fragmentation of production. However most importantly – on the country level all research that follows OLI framework agree that institutional regime plays an important role being a key factor influencing location advantages. OLI paradigm have been also tested empirically many times, and the results confirmed its eligibility.

The quality of domestic institutions, for instance institutions responsible for efficient protection of civil and property rights or institutions that allow for economic freedom and protection from corruption are the key factor explaining various cross-country differences, both in terms of growth rates and income per capita (Acemoglu et al, 2012). Various studies show also that institutional determinants play significant part in FDI inflows to developing countries (Bénassy-Quéré et al, 2007). Moreover FDI are one of the most stable components of capital flows that can bring technological progress through dissemination of knowledge – for example by improved production techniques. In other words, good-quality institutions promote FDI inflows and thus promote technology-driven structural changes and productivity growth.

In the other hands poor quality of institutions, or negative changes of economic regime may create additional costs to FDI. This effect might be especially visible in case of corruption or increasing sunk costs, or even during poor government policy reversals (Wei, 2001). There is number of institutional factors that may influence investments decision, that include among mentioned above, bureaucratic red tape,

regulatory burden (Kaufman et al., 1999), violence or government effectiveness. Moreover the quality of institutions impact both inward and outward FDI. However, the effect on outward FDI becomes significant only in case of large and developed countries (Kaufman et al, 1999; Bénassy-Quéré, 2007).

The institutional distance between two countries – in terms of regulatory framework, have been suggested to have also impact on investment decisions (Bénassy-Quéré, 2007). The effect of institutional proximity have been studied among countries that shared economic and social history – for instance developed during colonial era – and those studies showed that investment decisions have been correlated with closeness of various market and law regulations (Bénassy-Quéré, 2007). To sum up, institutional distance reduces bilateral FDI.

Various institutions might also create incentives for investment. For example through introduction of Special Economic Zones (SEZ). In most of the cases the role of institutions that generate incentives is to promote and eliminate uncertainty. This is especially important in the case of developing countries (UNCTAD, 2004), where promotion activities impact the formation of capital; creating a stimulating effect for the overall economic growth. In some cases local promotion activities might be perceived as a signal of high productivity because well-functioning organizational structures are stimulating for FDI.

Advancement of globalization and related policy measures have a great impact on the firm's survival (Hayakawa, 2012). Furthermore the liberalization of trade and services creates possibilities for various modes of entry – for instance cross-border Mergers and Acquisitions (M&A). Through M&A MNE can acquire assets of local target firms, that later could create further possibilities for diffusion of knowledge streaming from superior know-how of foreign firms to host countries. Thus, local advantages could translate into enhanced productivity through restructuring process financed by the FDI. What is more, the indirect impact of abovementioned process, could be later extended through positive externalities – for instance through intra-industry spillover effects.

Direct investments can play an important role in regional technological development, mainly through abovementioned positive spillover effects and diffusion of knowledge. And host countries can benefit from FDI by assimilation of new technologies as well as managerial knowledge and/or increased competitiveness – partially generated by the liberalization of trade and services (Hayakawa, 2012; European Commission, 2006). Furthermore, well-designed regional foreign investment policies – implemented on the EU level promote regional convergence to the least developed regions of Europe, with the goal to stimulate the absorption of knowledge.

European Commission (2006) research on location incentives and their effects on regional development found out that in case of Eastern European Countries regional policy factors might play an essential role in attracting knowledge-intensive FDI. The research suggested that inflows of R&D-oriented FDI that have been attracted by policy incentives have been particularly visible in lesser developed regions. The main group of incentives (among others) have been related to improvements of infrastructure accessibility, programs to improve regional workforce education, innovation and R&D as well as penetration of innovation and communication technologies (ICT). The same research investigated also the impact of fiscal incentives on the initial stage of FDI, and the impact of cluster policies. Although in the first case, empirical results acknowledged that fiscal incentives might have been an important factor for FDI attraction, cluster policies have been of the lesser significance (European Commission, 2006).

Other empirical research of FDI in Central and Eastern European Regions showed that among other factors, investments to lesser developed European Regions have been driven by low relative labor costs and availability of skilled workforce (Carstensen et al, 2004). Notwithstanding, the transition-specific factors – for instance privatization policies and risk-reducing factors related to further EU integration. The same transition-specific factors might have been also responsible for numerous positive spillover effects

that lead to clustering effects (Disdier and Mayer, 2004) and industry specific agglomeration effects. In both mentioned empirical studies the progressing quality of institutions was a crucial factor to increases of FDI inflows and their quality.

## **Cohesion policy programs as stimulants for R&D-oriented investments**

The main aim of the EU cohesion policy is to create a framework for lesser developed regions to catch up with developed regions. The role of structural and cohesion funds that have been allocated to lesser developed regions might have contributed to knowledge-intensive FDI attraction in various ways – from funding necessary infrastructure to establishing institutional incentives (i.e. SEZ etc.).

The research on cohesion policy impact on FDI inflows is very scarce, however empirical research by Basile et al (2008) found out that by helping to transform and modernize the structure of poorer regions cohesion funds prepared them for the competition within European Single Market and thus further influenced location decisions, that led to dramatic growth of MNE activities in that regions. The positive effect of Cohesion Funds on FDI inflows have been especially present in peripheral regions (Basile et al, 2008).

According to previous research and available theoretical framework (presented in earlier part of this paper) the location choice is conditioned to several choices of investment – entry modes. Several research suggest that the presence of cohesion funds might influence investment decision at the last stage of the decision process. It is because MNE choose first whether to invest in Europe, later choosing the mode of entry and then after the close consideration whether account incentives provided by cohesion funds.

EU Cohesion Policy does not have a dedicated policy instrument to attract FDI (Basile et al, 2008), although a substantial part of the cohesion budgeted is aimed to transform and restructure lagging economies, to prepare them for the competition from other EU regions. Cohesion policy funds, are therefore used to facilitate various kinds of infrastructures and thus increasing attractiveness of all locations available. Notwithstanding the impact of cohesion funds on social aspects of economic growth, that may create an important incentive for knowledge-intensive FDI to follow.

One of the goals of the European Union is to achieve sustainable growth. In this context the role of Cohesion Funds is to prepare lesser developed regions to withstand the competition from wealthier regions of Europe. Unintentionally – because the policy was not initially designed to attract FDI – cohesion funds have created several stimulating effects that attracted FDI and knowledge-intensive FDI for that matter.

The attraction of the R&D-oriented FDI by cohesion funds could have been stimulated by funding programs designed to strengthen human capital and availability of necessary infrastructure – like ICT. What is more, the stimulating and sustainable effect of both cohesion funds and knowledge-intensive FDI, could have been synergetic in nature. The cohesion programs have been the answer to policy liberalization and the creation of the large market – two factors that also have a stimulating effect on knowledge-intensive FDI.

Cohesion policy objectives (sometimes in the literature called the priority objectives) are divided into three main aspects: to promote structural adjustments and development of lagging regions, support economic and social cohesion to these regions and support adaptation and modernization of a) education and b) employment policies (European Commission, 2010). These policy objectives are coordinated both on the regional level, national level and EU-level to achieve maximum coherence on expected results.

Although, cohesion programs are not designed to stimulate FDI – the funding creates institutional and infrastructural changes that have a positive long lasting effect on FDI attraction and hence on the

development of sustainable growth in the lesser developed regions. Also, FDI and knowledge-intensive FDI in particular, can play a vital role in transferring technology and know-how to lesser developed regions because of the stimulating effects related to comparative advantages (Witkowska, 2005). It is apparent that not all cohesion policy programs have the same effect on knowledge-intensive FDI inflows – for instance programs designed to improve education might have been more important than programs designed to enhance environmental sustainability.

In 2007-2013 EU cohesion policy funds amounted for EUR 344 billion – which was over 30 percent of all EU budget for the period. These funds have been distributed mainly among European Regional Development Fund (ERDF), European Social Fund (ESF) and the Cohesion Fund (CF) programs. To achieve complex cohesion objectives, these funds have been later divided on several groups – for instance ESF have been sub-grouped to maintain convergence objectives (and covered regions with GDP per capita lesser than 75 percent of EU average (European Commission, 2010)) or Regional Competitiveness and Employment (RCE).

Cohesion policy expenditures in 2007-2013 supported several areas of interest, among which the research and technical development and innovation activities covered 17.5 percent of total expenditures. Other enterprise support activities have been planned to amount for 5.4 percent of total and telecommunication infrastructure for 0.7 percent. Most of the planned cohesion policy spending supported transport infrastructure 22.0 percent of total and Human Capital 19.8 percent of total – designed to enterprise innovation and link regions internally and to the outside world (European Commission, 2010).

Among the vast number of Cohesion Programs designed to strengthen regional economies and facilitate structural changes to allow them to adapt and compete in the Single Market several could have potentially stimulated knowledge-intensive FDI inflows. For instance strengthening SMEs competitiveness and innovativeness might facilitate conditions for FDI cooperate with them and use them as backward linkages for various kinds of activities associated with production.

As it was mentioned earlier before 22.0 percent of the cohesion funds have been dedicated to support development of human capital. The focus of EFS programs was to aid education and training, strengthen international mobility and modernization of tertiary education – the aim of cohesion programs was not only to increase the skills of students but also knowledge transfer between research institutes and businesses (European Commission, 2010).

## **The role of cohesion funds in attracting FDI – preliminary comparative observations**

As the economic and political union EU influences a wide range of development resources allocating factors of production throughout its member states (Thomas, 2013). FDI location is determined by factors ranging from local market attractiveness – which can be affected by international policies throughout specifically designed funded and co-funded programs, agglomeration economies labor costs or trade openness. Factors that are present in richer and more developed economies – with better working institutions, finer division of labor and in general lower production costs (Blanc-Brude et al, 2014).

Structural expenditures in the EU that came after her fifth enlargement have been designed to stimulate infrastructure investments used by all industries, thus on the international allocation of FDI (Breus et al, 2010). However in case of distance-to-cost relationship FDI inflow determinates have not changed, therefore infrastructural investments – financed by the cohesion programs, could have lesser effect than social or R&D oriented programs designed to increase innovativeness in eligible regions. Also the literature on FDI (Breus et al, 2010) discusses the negative effect of enlargement, suggesting that investments in

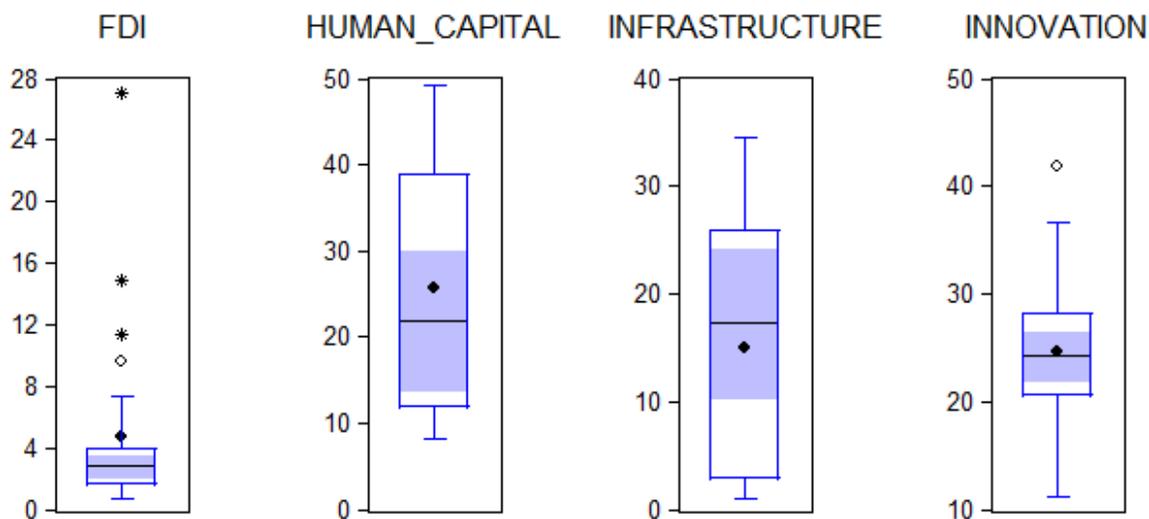
one country (within enlarged Single Market) might be reduced by increasing investments in other country. This effect of geographical enlargement will be, however very hard to test empirically because of two reasons: first the effect of economic downturn and second, because of the *echo* or *signal effects* (Blomström, 2006) – the presence of other investments. This observation is also in line with Barry’s (2003:189) observation that “EU enlargement is not a zero sum game in which the new member states will compete against current incumbents for a fixed pool of FDI”.

The composition of cohesion investments in 2007-2013 in Central-Eastern, Western-, Northern- and Southern-European Economies of EU differed considerably. In Central-Eastern European Economies substantial amount of investments have been used to support transport infrastructure – the only exception was noticeable in Estonia where cohesion funds have been supporting mainly RTD, innovation and enterprise environment. In CEE only a relatively small portion of funds have been used to support human capital programs, except in Romania where cohesion funds supported human capital programs but did not supported innovation activities – that is relatively, comparing to other countries from the group.

In contrary, Western Economies cohesion funds have been used to support mainly human capital, and later RTD, innovation and enterprise environment. In those economies only small percentage of cohesion funds have been used to support transport infrastructure. Analogically Northern European Economies (Finland, Sweden and Denmark) did not use cohesion funds to support infrastructure. In Sweden and Denmark cohesion programs have been supporting mainly development of Human Capital and innovation, whereas in Finland they supported mainly RTD, innovation and enterprise environment.

Southern European Economies (Greece, Spain, Bulgaria, Italy, Cyprus, Portugal and Malta) are the least uniformed group. In Greece, Bulgaria and Malta cohesion funds have been mainly used to support transport infrastructure. But in Italy and Portugal cohesion programs have been supporting human capital programs and in Spain and Cyprus cohesion funds supported RTD, innovation and enterprise development.

**Figure 1 Selected EU cohesion investments distribution in (2007-2013) and inward FDI distribution.**



Source: European Commission and UNCTAD data.

**Table 1 Selected average Cohesion investment plans (% of total) and average FDI inflows in 2007-2013**

	Cohesion investments in human capital	Cohesion investments in transport infrastructure	Cohesion investments in RTD, innovation, enterprise environment	FDI inflows (percentage of GDP)
Belgium	49.37	3.09	27.28	14.88
Bulgaria	13.74	28.60	11.20	9.64
Czech Republic	12.20	29.02	18.18	2.98
Denmark	40.97	1.04	34.30	1.05
Germany	47.61	6.09	25.92	1.16
Estonia	8.48	19.95	23.47	7.10
Ireland	42.49	2.95	25.39	11.42
Greece	18.43	26.21	17.75	0.72
Spain	21.91	20.37	27.76	2.81
France	35.01	6.38	28.37	1.53
Italy	34.79	7.15	25.27	0.76
Cyprus	17.03	10.16	24.04	7.37
Latvia	8.22	25.65	21.96	3.64
Lithuania	9.87	22.50	20.90	2.51
Luxembourg	38.82	1.27	34.24	27.13
Hungary	12.59	21.82	19.42	4.07
Malta	10.11	21.81	11.80	2.45
Netherlands	44.17	3.21	26.46	3.79
Austria	36.85	2.81	36.64	2.69
Poland	12.15	34.56	20.82	2.62
Portugal	21.88	17.35	21.37	2.26
Romania	15.34	27.66	12.62	3.19
Slovenia	10.74	27.93	24.30	0.94
Slovakia	10.11	29.99	22.75	2.84
Finland	36.69	1.71	42.00	1.47
Sweden	38.97	4.51	35.64	3.33
United Kingdom	47.09	1.87	28.55	3.05

Source: European Commission and UNCTAD data.

Cohesion funds aimed to support R&D, innovation and enterprise environment fluctuated around the median 24.3 percent of total. Similarly, cohesion support aimed to develop transportation infrastructure wavered around the median 17.35 percent of total – however with greater variance. Human capital supporting cohesion funds have been fluctuating around the mean value 21.88 percent of total with the variance similar to infrastructural investments. In the other hand the inflows of inward FDI as a percentage of GDP, differed considerably varying from 0.72 percent in Greece to 27.13 percent in Luxembourg.

## Concluding comment

The shape of cohesion policy was influenced by a range of factors ranging from environmental issued to social governance, notwithstanding the fact that distribution of funding was highly influenced by the political decisions. The challenges generated by the single market and development of specific policies to improve competitiveness of lesser-developed regions might have also created numerous threats – for instance the extent of aid might have overstimulated some of the cohesion regions to pursue for the funds and not answering the needs adequate for current situation. In other words the situation where people are building bridges in in places where they should have created crafts. It is therefore important to further investigate the relationship between investments stimulated by cohesion funds in relation to foreign direct investment. Proposed research might have been used for policy recommendations to facilitate sustainable growth and diffusion of knowledge in all regions of EU.

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