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IS HUMAN CAPITAL A MAJOR DETERMINANT OF THE FDI INFLOWS? 
EMPIRICAL EVIDENCES FROM THE EU STATES

Laura DIACONU (MAXIM)*

Abstract: Knowing the importance of foreign direct investments (FDI) for economic development of a country, the main objective of the present paper is to analyse whether the human capital represents a major determinant for the multinational companies to invest in the European Union states. Moreover, we intend to discover if there are some other factors that may enhance this role played by human capital. In order to reach the established objective, we have investigated the literature, including several case studies, and we have statistically analysed the secondary data offered by various yearbooks and reports. The relevance of this paper results from the fact that the conclusions may offer valuable information for the policy makers to create a more favourable environment for the FDI inflows in the EU states, on long term.

Keywords: FDI inflows; human capital; EU states

JEL Classification: F21; F23; J24

Introduction

During the last 25 years, the value and the volume of the foreign direct investments (FDI) inflows in the European states have significantly increased, especially in the context of the regional economic integration. As argued by Brenton (1996), the European Union Single Market involved an increase in the foreign investments made by the EU companies in other EU countries. Moreover, the transition process from a centralized to a market economy of the Central and Eastern European states (CEECs), which led to a gradual elimination of the barriers to FDI and, subsequently, their integration into the EU, have augmented the FDI into this region. The same idea can be found in the research conducted by Disdier and Mayer (2004). Investigating the determinants of the location choices of the French multinational firms in Eastern and Western Europe, between 1980 and 1999, they have also analysed if the investors consider Western Europe and Eastern Europe as two distinct groups of potential host countries. Their conclusions show that the East-West distinction was significant for the multinationals’ location decisions, the institutional quality of the host countries being one of the most important investments’ determinants. Disdier and Mayer (2004) found out that this distinction has gradually diminished as the transition process advanced in the CEECs. However, since these states do not offer a homogeneous environment for investors, the value and the growth rate of the FDI

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inflows attracted by these countries have been significantly different across them. While the Central European countries had attracted, in general, a larger amount of foreign capital, the Eastern European countries (especially Bulgaria and Romania) lag far behind (Carstensen and Toubal, 2004). One explanation for this situation can be found in Dunning’s *investment development path* approach, according to which the economic development level of a country is influencing the FDI inflows (Dunning, 1981). However, subsequent empirical and theoretical investigations have revealed a number of some other factors that can explain the differences between countries in attracting the foreign investors. Analysing these studies, we can notice that, during time, significant changes took place in the FDI sectoral composition and, consequently, in their determinants. Therefore, if in 1970, the FDI were concentrated mainly in the primary sector, the availability of natural resources in the host country being the most important determinant, in the 1980s the investors reoriented towards the manufacturing sector from the developing states, in this case the size of the domestic market and the production costs being the main factors of attraction for them. During the last two centuries, the FDI were redirected towards the services’ sector and to the technology-intensive industries, investors preferring those countries that were stable from the economic-financial and political point of view, with an efficient and transparent institutional environment and also with high levels of human capital.

In this context, the importance of the human capital in attracting the foreign investors has significantly gained ground in the economic literature of the XXIst century. Most of the analysts have concluded that apart from the traditional factors, such as the market potential or the low relative unit labour costs, a higher stock of human capital could also increase the FDI inflows by making the investment climate more attractive for the multinational companies. Grouping the FDI determinants in three major categories, Lall *et al.* (2003) consider that there are “supply-side” factors, such as skilled labour, research and development or infrastructure, “demand-side” determinants, related to the host country economic and social variables, and “institutional factors”, which may favour or not the aspects from the other two groups.

Considering all these ideas, the main objective of the present paper is to analyse whether the human capital represents a major determinant for the multinational companies to invest in the EU states. Moreover, we want to see if there are also some other factors that enhance this role played by the human capital.

In order to reach the established objective, several research methods were used. To get an overview regarding the role played by the human capital in attracting the foreign investors in different EU countries, we have *investigated literature* and *analysed several case studies*. 

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IS HUMAN CAPITAL A MAJOR DETERMINANT OF THE FDI INFLOWS?
Moreover, to identify the actual evolutions of the Human Capital Index and of the FDI inflows in the EU states, we have *analysed and statistically tested the secondary data offered by various yearbooks and reports*. Thus, the relevance of this study consists in offering valuable information for the policy makers to create a more favourable environment for the FDI inflows in the EU states, on long term.

1. Literature overview regarding the human capital as a FDI determinant in the EU states

Knowledge, abilities and skills are the leading resources of those firms that want to become and/or remain globally competitive (Kedia *et al.*, 2012). It was noticed that, in the beginning of the XXIst century, this general truth has gained a particular importance since more and more multinational companies invest abroad, using a knowledge sourcing strategy, in order to catch up with competitors and to obtain technical diversity (Chung and Yeaple, 2008). This reason for investing abroad is known in literature as “technology seeking” or “knowledge seeking”. Therefore, in this era of intensified globalization and international competition, the developing countries can no longer rely on their low production costs to attract the foreign investors. They also have to develop and improve their human resources. As Reisen and Soto (2001) noticed, achieving a certain level of education became one of the main preconditions for a developing country to attract and maintain the foreign investors, particularly the efficiency-seeking multinational companies.

In this context, considering the difference that exist among the EU states from the point of view of the development level, it is important to know if the human capital represents a major determinant of the FDI inflows into these countries.

In the case of the developed EU states, literature offers several examples which indicate the key role played by the human capital in attracting the foreign investors. According to a study conducted by UNCTAD (2000), Ireland’s success in attracting the FDI in the electronics’ industry has largely relied on its ability to create skilled human resources which allowed multinationals to set up efficient world-class plants.

Assessing the impact of the European integration on the FDI inflows, Morgan and Wakelin (2001) have analysed the inward investments in the UK food industry. Their results show that apart from the price convergence in the EU, another important factor attracting the FDI is the level of firm-specific assets and skills. Based on the fact that the foreign investors are attracted to the sectors with high human capital intensity, they concluded that this reflects the UK’s comparative advantage. Morgan and Wakelin’s results are consistent with the findings of Neven and Siotis (1996) which show
that intra-EU FDI are concentrated in the technology intensive sectors, with abundant skilled labour force.

Focusing on the case of Sweden, Bandick and Hansson (2009) argue that the parallel trends that took place in this country in the end of the XXth century – rising the shares of skilled labour, growing wage differential between skilled and less-skilled labour and increasing the inward FDI – suggest that the larger presence of the foreign companies may be an explanation for the skill upgrading. After studying the Swedish labour market in the 1990s, a group of sociologists noticed that the supply of skilled labour has grown faster than the employers’ demand (Le Grand et al., 2001). As in the case of the findings of Morgan and Wakelin (2001) on the UK economy, Bandick and Hansson (2009) conclude that the country-specific advantages, which consist in the technological capabilities and in the high level of human capital of the indigenous firms, represented the main determinants for the foreign companies to invest in Sweden. In addition, they found out that the larger presence of the foreign companies in an industry has a positive effect on the demand for the skilled labour in the Swedish multinational firms within the same industry. Moreover, the increased level of human capital determined the Swedish multinational companies to transfer the less-skilled activities to the low wage countries (Hanson, 2005).

Even if some analysts, such as Kedia et al. (2012) consider that the knowledge seeking motivation to invest into the developed countries from the Western Europe will differ from the one of entering into the developing states from the Eastern Europe, other empirical studies have demonstrated that, recently, new global forces such as human capital and institutions must also be considered determinants of FDI inflows into these states (Addison and Heshmati, 2003). The argument for this idea comes from Dunning (2002), who noticed that FDI in the developing countries have shifted from market-seeking and resource-seeking to more efficiency-seeking investments. Therefore, in the context of globalization, the availability of the local skilled labour force has become a relevant pull factor of the FDI in the developing states (Noorbakhsh et al., 2001).

In the case of the Central and Eastern European states, the FDI inflows had an important role in transforming the former centrally planned economies into sustainable market systems. Therefore, the importance of attracting investors into these countries results mainly from the fact that they bring capital, management skills and technology, create jobs and increase the production and the exports. A study conducted by Chidlow et al. (2009) on the 91 multinational companies that invested in Poland in the beginning of the XXIst century revealed that the knowledge-seeking factors are a central motive for the FDI inflows into this economy. Their statistical results showed that there is a strong and positive correlation between the level of human capital from a region and the FDI attracted by that
region: the stronger knowledge factors are represented in a given area, the more likely a multinational corporation will invest in that region. This explains why the North–West region is less attractive than the Mazowieckie area. Yet, human capital is not the only aspect taken into consideration by the foreign investors. There are also some additional motives that enhance the FDI inflows, such as the geographical and the agglomeration factors, to which it adds the political implication in creating the “special economic zones” (Chidlow et al., 2009).

The role of the state in attracting the foreign investors has largely been argued by Blanton and Blanton (2007). According to them, the state credibility decreases the political risk and the cost of internalizing the production and the proper regulatory framework can enhance the ownership advantages. Moreover, the ability of people to gain proper skills and knowledge is more likely to develop in an environment where there is the rule of law and their rights are respected. By testing this assumption, Blanton and Blanton (2007) found out that the institutions and, implicitly, the human rights, are positively and significantly related to education and life expectancy. The idea has also been argued by Dutta and Osei-Yeboah (2013) who underline that the interlinkages between FDI, human capital and political (civil) rights have a very important role in explaining the FDI inflows into the developing countries.

The correlation between the FDI and the human capital in the developing states has also been analysed in close connection with the political environment and corruption by Reiter and Steensma (2010). Their results show that the relationship between the foreign investments and the improvements in human capital stock is more strongly positive when the corruption is low.

Analysing 38 developing countries, including transition economies from the Central and Eastern Europe, during the period 1975-2000, Nonnemberg et al. (2004) conclude that FDI is positively correlated to the level of schooling, but also to some economic and political variables such as the economy’s degree of openness, risk or average rate of economic growth. All these factors have also been tested by Garibaldi et al. (2002), on a panel of the transition economies from Europe between 1990 and 1999, who obtained the same results.

Mateev’s (2009) has conducted a study on Central and South-Eastern European countries and found out that, even more than the availability of the human capital stock, the political risk and the corruption can explain, to a large extent, the size of FDI flows into these economies. Similar results on the South and Eastern European countries had been previously obtained by Botrić and Škuflić (2005) who concluded that the FDI inflows into these states were largely influenced not only by the availability of the skilled labour force, but also by the privatization process, the trade regime, the density of the infrastructure and the agglomeration factor.
2. Empirical evidences regarding the human capital and the FDI inflows into the EU states

In order to identify if the human capital may be one of the determinants in attracting the foreign investors, it is necessary to analyse the levels of both FDI inflows and human capital in the EU states. These levels were identified for 2012 and 2014, by collecting and tabulating the information included in several yearbooks and reports. With the help of this statistical data, we have conducted a bivariate correlation analysis, based on Pearson coefficient, to see the relationship between the two variables. The results of a survey conducted by Ernst&Young (2014) revealed that, in 2014, the foreign investors considered Western Europe as the world most attractive destination, 45% of the 808 respondents mentioning this region on the first position. It was followed by China (with 44%), North America (with 31%) and, at a very small difference, by the Central and Eastern European states (with 29%). The rest of the respondents indicated on the first place, in the top of the most attracting regions/states of the world, three other countries: Russia (19%), India (17%) and Brazil (13%).

![Figure 1 – FDI inflows into the EU states in 2014, in million USD](source)

In terms of foreign investments into the EU states, Figure 1 shows that, in 2014, most of the countries that attracted the highest levels of the FDI inflows belonged to the Western, South-Western or Northern Europe, on the first five positions being placed UK, Netherland, Spain, Finland and France.
Among the Central and Eastern European states, the most attractive destinations for foreign investors were Poland, the Czech Republic and Hungary, which have successfully overpassed other Western countries, such as Germany or Belgium (UNCTAD, 2015).

As regarding human capital, the Human Capital Index (HCI) is considered one of the most relevant indicators. Therefore, in order to analyse the level of the human capital from the EU countries, it is important to identify the values of the HCI. This Index, which quantifies how countries are developing and deploying their human capital, includes four major pillars: health and wellness, education, workforce and employment and enabling environment. According to the World Economic Forum (2015), the global ranking of the Human Capital Index for 2015 is dominated by the EU countries, especially by those located in the Northern and Western parts (see Table 1).

Table 1 – Position of the EU states in the Human Capital Index’s top (world and EU levels), in 2014

<table>
<thead>
<tr>
<th>State</th>
<th>FI</th>
<th>SE</th>
<th>DK</th>
<th>NL</th>
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<tbody>
<tr>
<td>World rank</td>
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<tr>
<td>EU rank</td>
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</table>


As we can see in Table 1, five EU states are in the world top ten best performing countries from the point of view of the HCI – Finland, Sweden, Denmark, Netherland and Belgium – all these states belonging to the Western or Northern Europe. In the opposite position, the five countries with the lowest performances in the EU belong to the Eastern or Southern Europe: Bulgaria, Spain, Greece, Romania and Portugal. However, among the Central and Eastern European states, the same three countries that were the most attractive for the foreign investors have also obtained higher position in the world HCI top: the Czech Republic (on the 25 place in the world), Poland (28) and Hungary (32).

Considering these results, we may argue that the human capital may be one of the most important determinants of the foreign investors. This idea is supported by the fact that some of the Northern and Western EU states, which are among the first economies in the world HCI top, have also attracted very high levels of FDI inflows (for example Finland, Sweden or Netherland). Moreover, Romania or Bulgaria, which are placed on the 25th and, respectively, 28th positions among the EU states from the point of view of the HCI, have also attracted lower FDI inflows. However, it has to be mentioned that, apart from the human capital, some other important factors are influencing the foreign investors as well. A good example for this aspect is given by Belgium, where the FDI
inflows have considerably decreased in 2014, despite the fact that this country is placed in the 10th position in the world HCI top and on the 5th in the same EU ranking.

However, in order to see if this relationship between the HCI and FDI attracted by the EU states is not accidently, we have also taken into consideration another year – 2012. Looking at the statistics, we notice that, in 2012, the first five EU countries that have received the highest levels of FDI inflows belonged to the Western and South-Western Europe: Luxembourg, UK, Ireland, Spain and Germany (see Figure 2). Among the Central and Eastern-European countries, only Hungary succeeded to be in the top ten EU states most attractive for the foreign investors. With much lower values of the FDI attracted (almost half of those registered in Hungary), the next two countries from the Central and Eastern Europe – Czech Republic and Poland – occupied the 13th and, respectively, 14th positions. Romania and Bulgaria were placed in the second half of the ranking.

**Figure 2 – FDI inflows into the EU states in 2012, in million USD**

Source: adapted from UNCTAD, *World Investment Report, 2015*

The values of the HCI for 2012 indicate that the EU states’ ranking is also leaded by the Northern and Western European countries (see Table 2). Moreover, the Western countries that have received the highest levels of FDI inflows in 2012 were among the top ten EU states with the highest levels of HCI.
As regarding the Central and Eastern European countries, we can see that Hungary, which registered the highest levels of FDI inflows from the region, had a low value of HCI in 2012, being placed on the 25\textsuperscript{th} position among the EU states. The best performing countries in the region, from the point of view of HCI, were Slovenia and Czech Republic. In 2012, Bulgaria and Romania were placed on penultimate and, respectively, last position in the European Union HCI ranking.

Table 2 – Position of the EU states in the Human Capital Index’s top (world and EU levels), in 2012

<table>
<thead>
<tr>
<th>State</th>
<th>FI</th>
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<th>EL</th>
<th>BG</th>
<th>RO</th>
</tr>
</thead>
<tbody>
<tr>
<td>World rank</td>
<td>2</td>
<td>4</td>
<td>5</td>
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<td>11</td>
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<tr>
<td>EU rank</td>
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Taking into account all these results, both for 2012 and for 2014, in order to support the idea according to which the human capital is one of the main determinants of the foreign investors, it is also necessary to statistically test the correlation between the levels of HCI and of the FDI. Therefore, we have conducted a bivariate correlation analysis, based on Pearson coefficient. Data was processed with the help of the SPSS program. The results can be seen in Table 3 (for 2012) and in Table 4 (for 2014).

Table 3 – Correlation between HCI values and level of FDI inflows in EU states, in 2012

<table>
<thead>
<tr>
<th></th>
<th>FDI</th>
<th>HCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>28</td>
</tr>
<tr>
<td>HCl</td>
<td>Pearson Correlation</td>
<td>.300</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>28</td>
</tr>
</tbody>
</table>

Source: own estimation

As shown in Table 3, the correlation between the values of HCI and the level of the FDI inflows attracted by the EU states in 2012 is positive but moderate ($r = 0.3$). This result was expected since some countries, especially from the Central and Eastern Europe, attracted relatively high levels of FDI inflows but had lower values of the HCI compared to the other economies. Meanwhile, other countries, especially from Northern Europe (such as Finland or Denmark) were placed among the top 10 states in the European Union HCI ranking, but were less attractive for the foreign investors.
Table 4 – Correlation between HCI values and level of FDI inflows in EU states, in 2014

<table>
<thead>
<tr>
<th></th>
<th>FDI Pearson Correlation</th>
<th>HCl Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>1</td>
<td>0.479</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.041</td>
<td>1</td>
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<td>N</td>
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<td>28</td>
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</tbody>
</table>

Source: own estimation

The correlation conducted for 2014 shows a positive higher relationship between HCI and FDI than in 2012. The value of the Pearson correlation coefficient is almost 0.5 (r = 0.479), which indicate a moderate to high correlation between the two analysed variables. This result allows us to reinforce the ideas launched before, according to which the human capital becomes a factor of growing importance in influencing the decisions of the foreign investors.

Conclusions

Analysing both the literature and the statistical information, we can argue that achieving a certain level of education becomes an ever more essential precondition for the EU states to attract especially the efficiency-seeking multinational companies.

The case studies that were investigated in this paper offer various examples of both developed and developing EU countries for which the human capital is one of the most important FDI determinant. In the case of the developed states, Ireland, UK and Sweden represent a relevant proof for arguing this idea. Moreover, it was noticed that the increased level of human capital determined the Swedish multinational companies to transfer the less-skilled activities to the low wage countries. Among the Central and Eastern European states, Poland and Hungary are good examples of countries in which there is a strong and positive correlation between the level of the human capital from a region and the FDI attracted by it.

However, despite these clear evidences that point out the major role played by the human capital, it has to be mentioned that its contribution in attracting the FDI inflows will depend to a great extent on the institutional framework from each EU state. In this context, we assume that an efficient and transparent institutional environment favours the human capital to reap the benefits of the FDI inflows more efficiently. Actually, by testing the assumption according to which the people are more
likely to gain proper skills and knowledge in an environment where there is the rule of law, it was found out that the institutions and, implicitly, the human rights are positively and significantly related to education and life expectancy. Moreover, the interlinkages between FDI, human capital and political (civil) rights seem to have a very important role in explaining the FDI inflows especially into the developing EU countries.

These conclusions are also supported by the statistical results that we have obtained when analysing the correlation between the level of the FDI and the values of the HCI in the EU states. Our findings show that even if there is a moderate correlation between the two variables, this has strengthened between 2012 and 2014. Actually, the value of the correlation coefficient indicates that it is very likely that this relationship to become strong during the next years. Therefore, we can assume that the human capital becomes a factor of growing importance for the foreign investors’ decisions. Yet, considering the fact that not all the EU states which were placed on the first positions in the world HCI top has experienced high levels of FDI inflows, we can also conclude that, apart from the human capital, some other important factors are also influencing the foreign investors in the EU states.

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References


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