HUMAN CAPITAL AS AN FDI DETERMINANT

LJUDSKI KAPITAL KAO DETERMINANTA PRILJEVA INOZEMNIH IZRAVNIH ULAGANJA

BILAS, Vlatka; FRANC, Sanja & CENAN, Danijela

Abstract: *Foreign direct investments (FDI) are recognized as an important source of foreign capital and a factor of economic growth. As globalization and liberalization trends intensify, the competition among countries to attract FDI is becoming fiercer. Among various determinants it is has been proven that quality human capital improves countrys' investment climate and therefore, represents a factor of attracting FDI. This paper analyses the role and significance of FDI and human capital. Furthermore, trends in FDI inflows and in human capital formation in the EU and Croatia are analyzed in order to compare the results and make conclusions.*

Key words*: FDI, human capital, EU, Croatia*

Sažetak: *Inozemna izravna ulaganja predstavljaju važan izvor kapitala i promicanja ekonomskog rasta osobito u tranzicijskim zemljama. U uvjetima globalizacije i liberalizacije, konkurencija među zemljama za privlačenjem inozemnih izravnih ulaganja sve je jača. Uvriježeno je mišljenje da postojanje kvalitetnog ljudskog kapitala poboljšava investicijsku klimu zemlje i time ona postaje privlačnija privatnim stranim ulagačima. U radu će se analizirati značaj i uloga ljudskog kapitala i inozemnih izravnih ulaganja. Provesti će se analiza trendova inozemnih izravnih ulaganja i konkurentnosti ljudskih resursa među zemljama EU i Hrvatske u svrhu donošenja zaključaka o međusobnoj povezanosti.*

Ključne riječi*: inozemna izravna ulaganja, ljudski kapital, Hrvatska, EU*

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1. Introduction

The significance of human capital formation and foreign direct investments (FDI) has been recognized in both developed and developing countries as important factors contributing to economic growth. They are also complementary to each other. Generally speaking, human capital increases inflow of FDI by making the investment climate more attracting. Among many established determinants, including different economic factors, government policies and companies' own strategy [1], human capital is also recognized as an important factor of attracting FDI.
This paper analyzes the role and significance of FDI and human capital. Furthermore, trends in FDI inflows and in human capital formation in the EU and Croatia, as a candidate country, are also analyzed in order to compare them and draw conclusions.

2. Trends in FDI inflows

Since the end of the 1980s, there has been a significant increase in FDI inflows to emerging countries as a consequence of their liberalization and transformation processes. However, it is still debatable what effects do FDI have on the receiving economies. Proponents of FDI argue that they enable economic prosperity through technology transfer, higher exports, increased employment in case of greenfield investments, and others potential spillover effects such as knowledge spillovers. On the other hand, opponents argue that FDI can increase dependency and vulnerability of the recipient country. Furthermore, increased FDI flows could lead to the *crowding out* effect, when domestic investments are decreasing.

There are various factors that determine FDI flows and in recent years majority of authors accentuate the relationship between FDI and human capital. Rapid growth of FDI is often accompanied by an increase in the level of human capital that is achieved by strong government commitments to expand formal education and vocational training together with enterprise human resource development [8].

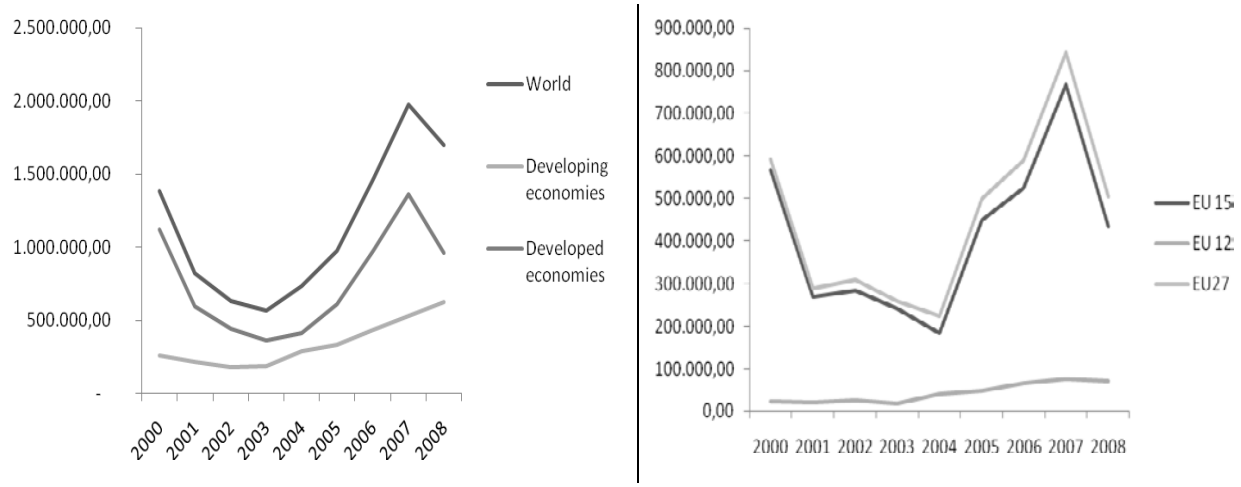

Chart 1. Global FDI inflows (a) and FDI inflows in the EU (b), 2000-2008 in millions USD [13].

When analyzing FDI in the EU, looking separately the old member countries, so called EU15, and the new members, EU12 countries (chart 1b) it is obvious that the EU15 had higher FDI inflows but also more volatile than the EU12 inflows.

The following chart 2 compares selected EU12 and EU15 countries with highest and lowest FDI inflows and FDI inflows in Croatia. It can be seen that until 2003 Croatia has had very similar, even higher FDI inflows than selected EU12 countries. After 2003, FDI in the EU12 increased rapidly and only Slovenia recorded smaller inflows than Croatia. When looking at the EU15 countries it is obvious that all selected countries have had higher inflows than Croatia until 2003. After 2003, FDI in Ireland became more volatile and lower than in Croatia. Finland also experienced a decrease in FDI inflow at the end of 2002 and again in 2007.

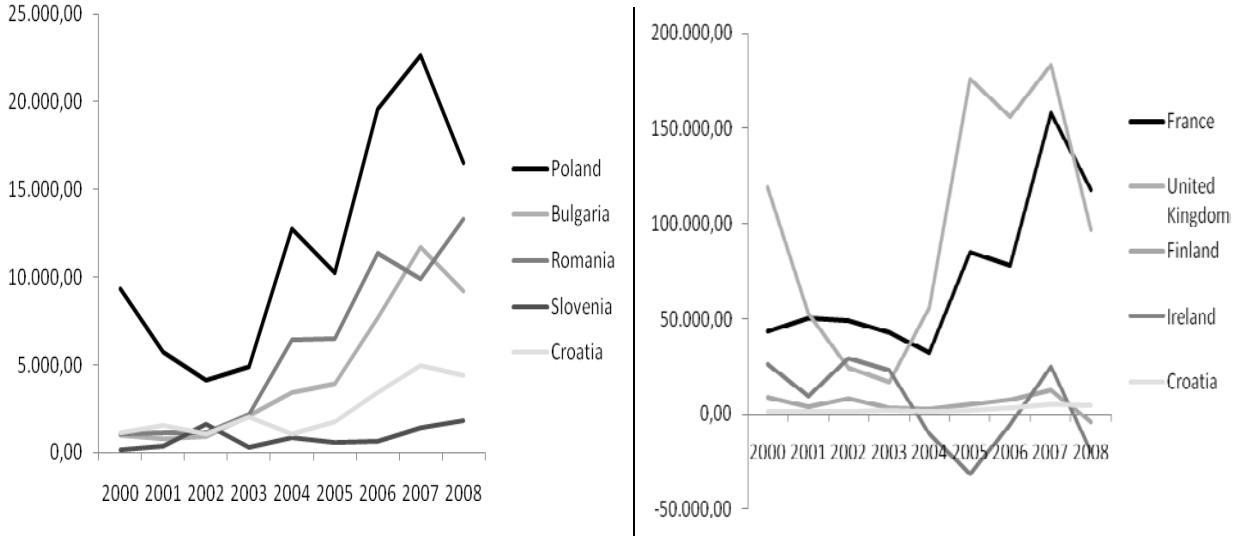

Chart 2. FDI inflows in selected EU12 and EU15 countries and Croatia, 2000-2008, in millions USD [13].

From the above analysis, it can be concluded that the highest average FDI inflows from the EU15 group were recorded in France and United Kingdom, and from the EU12 group in Poland and Romania. All of the analyzed countries were affected by the current crisis and they have experienced a decrease in FDI inflows.

3. The significance of human capital

Knowledge as the key resource of modern business operation and generator of development is an exclusively human product [4].

Human capital assumes specific knowledge hard to copy and it is considered to be the key of gaining competitive advantage both for enterprises and a country as a whole. Human capital is defined as the abilities, knowledge and skills embodied in people and acquired through education, training and experience [5].

It is commonly accepted that human capital accumulation induces various externalities, especially in the area of technology and innovation. Human capital is considered to be a crucial input for the development of new technologies and a necessary factor for their adoption and efficient use.

The new growth theory has stressed the existence of strong externalities related to human capital and education, showing that the social return to human capital exceeds the private return [3]. Often, these externalities are the main reason for government subsidies to education. Overall, investing in the development of quality human capital is expected to have a positive impact on employment and economic growth.

3.1. Human capital as an FDI determinant

There are a number of factors determining the competitiveness of an economy which include resource availability and cost, openness of an economy, human capital capacity and technological advancement [16]. The more competitive an economy is, among other things, the more FDI will it attract. Until the recent beginning of the global recession private capital flows, especially FDI, have rocketed to record levels boosting the economic growth of both developed and developing countries.

Due to the fact that FDI affect economic growth by enabling technology and knowledge spillovers, through employment and trade effects, its role and importance is certain.

Recognizing the importance of FDI and possible positive effects they can have, many countries have opened to FDI inflows. However, there are number of factors determining flows of FDI. The literature has stressed the difference between so called traditional and non-traditional determinants. Traditional determinants are considered to be different market factors such as access to inputs, labor availability, market size, economic stability, etc. The non-traditional determinants are taxes, level of education, the degree of economic freedom, level of corruption, etc. UNCTADs' research [14] has stressed the importance of traditional factors during the 1990s, however there are many authors that give more attention to non-traditional ones, especially in the last decade [see: 7,15,10].

The importance of human capital as a key factor of economic growth, but also as one of the FDI determinants, is being recognized and empirically proven in the vast literature. Noorbakhsh, Paloni and Youssef [9] have tested the importance of human capital in attracting FDI on the large sample of developing countries and have found that it plays a significant role. Another study by Kamal Saggi [11] reached similar conclusions. He found that without adequate human capital, spillovers from FDI fail to materialize.

3.2. Trends in human capital formation

Since there is a consensus in the literature that human capital plays a significant part of an economy, it is in every countrys' interest to further develop its' human

resources. In order to achieve that goal enhanced government and enterprise commitments are necessary.

It the table 1 there are records about the average educational attainment, average school expectancy years and average expenditure on education as indicators of the human capital formation potential.

	Educational attainment, % (2000-07)	School expectancy years (2000-07)	Expenditure on education, % of GDP (2000-06)
EU27	67.60	17.10	5.04
EU15	64.34	17.42	5.33
Austria	79.03	16.05	6.02
Belgium	63.26	18.88	8.32
Denmark	80.01	18.46	4.55
Finland	76.81	19.61	4.49
France	65.36	16.55	3.64
Germany	83.11	17.34	4.26
Greece	56.39	16.63	5.82
Ireland	62.74	16.91	4.64
Italy	47.75	16.70	3.73
Luxembourg	62.64	13.99	5.28
Netherlands	69.79	17.39	5.61
Portugal	23.74	16.93	5.44
Spain	44.65	17.08	6.21
Sweden	82.05	19.89	7.15
United Kingdom	69.26	18.94	5.06
EU12	75.22	16.06	4.98
Bulgaria	72.88	15.03	4.18
Cyprus	66.66	14.08	4.30
Czech Republic	88.83	16.63	5.26
Estonia	88.16	17.81	6.54
Hungary	74.84	17.15	5.36
Latvia	83.62	17.09	5.39
Lithuania	86.82	17.23	5.28
Malta	22.76	14.76	4.94
Poland	83.42	17.26	5.31
Romania	72.29	14.93	3.31
Slovakia	87.14	15.60	5.79
Slovenia	79.07	17.43	4.05
Croatia*	72.81	14.90	3.94

Table 1. Chosen indicators of human capital creation potential in the EU and Croatia, average, 2000-07 (06) [6].

*Data for Croatia show average school expectancy for the 2004-07 period, average rate of educational attainment for 2002-07 period and average expenditure on education for 2002-06 period.

Educational attainment is the percentage of population between the age of 25 and 64 that have completed at least upper secondary education. Germany had the highest average educational attainment in the EU (83,11%), followed by Sweden (82,05%). The lowest rate of education attainment among the EU member were recorded in Malta (22,76%) and Portugal (23,73%). School expectancy corresponds to the expected years of education over a lifetime and has been calculated adding the single-year enrolment rates for all ages. Among analyzed countries Sweden (19,89) and Finland (19,61) have had the highest average school expectancy years for the 2000-07 period.

Croatia is among the countries with high educational attainment rate and high school expectancy (average number of year is smaller because of the shorter period of analysis). Moreover, Croatia has had higher average school expectancy than Malta and Cyprus and overall higher average educational attainment rate than the EU27.

Expenditure on education is also an indicator of government commitment to human capital development. Average expenditure on education in the EU27 is 5,04% of GDP. Denmark is the country with highest average investments in education (8,32%) in the 2000-06 period, followed by Sweden (7,15%). On the other hand, Romania is the country with the lowest average investment in education (3,31%)

Level of education	Young workers (15-24)	Prime age (25-54) and older workers (55-64)
Low	3.4	20.8
Medium	5.8	43.8
High	1.2	25.0

Table 2. Highest education levels attained in the EU, 2007, share in total employment as % [5].

According to the table 2, most of the EU employees have medium level of education (Level of education coresponds to the International Standard Classification of Education - ISCED). In Croatia, according to the available records for 2008, 17% of total number of employed people have had high levels of education (university degree) [12].

Chart 3 shows the average number of students participating in the tertiary level of education and number of graduates from the same level of education for the 2000-07 period. It is obvious that there is a huge disproportion between the number of enrolled students and the one that actually gradute in all of the observed countries.

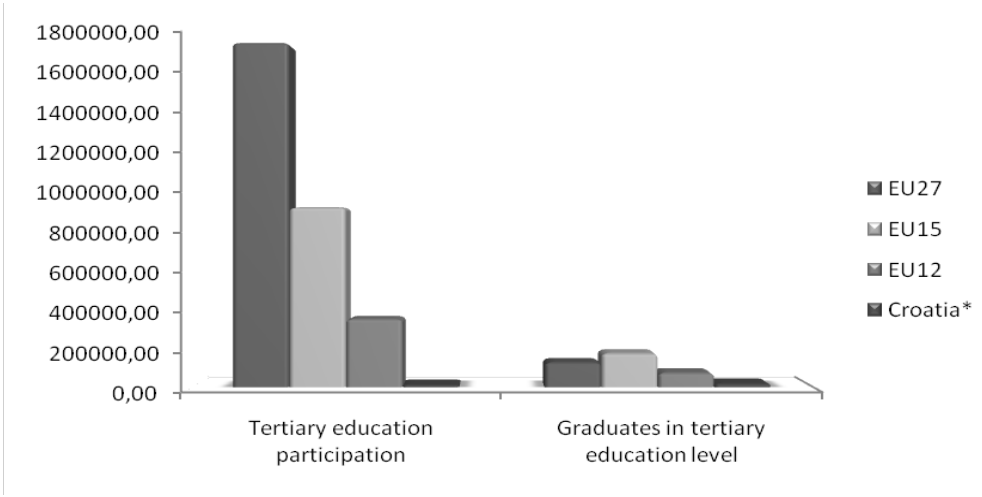

Chart 3. Tertiary education participation, graduates in tertiary education level, average 2000-07, in 000 [6]. *Data for Croatia show average tertiary education participation for the 2002-07 period, and data for graduates in tertiary educationa level are averages for the period 2003-07.

Next table 3 shows data about the most and least represented fields of study of the employed with a high level of education in the EU in 2007.

Fields of study	Young workers (15-24)	Prime age (25-54) and older workers (55-64)	Total (15-64)
General programmes	0.2	0.1	0.1
Teacher training and education	6.7	10.8	10.6
Humanities, languages and arts	10.5	7.9	8.1
Foreign languages	2.0	2.5	2.5
Social sciences, business and law	35.5	29.7	29.9
Science, mathematics and comp.	1.1	0.6	0.6
Life science	1.9	2.0	2.0
Physical science	2.1	2.9	2.8
Mathematics and statistics	0.9	1.2	1.2
Computer science	5.3	3.0	3.1
Computer use	0.4	0.2	0.2
Engineering, manufacturing and construction	13.4	19.2	18.9
Agriculture and veterinary	1.7	2.5	2.4
Health and welfare	11.9	14.0	13.9
Services	6.3	3.4	3.5
Total	100.0	100.0	100.0

Table 3. Fields of study of the employed with a high level of education in the EU, 2007, share in total of age groups as % [5]

Comparing young workers (15-24) with prime age (25-54) and older workers (55-64), the following fields have higher percentages in the former group: humanities, languages and arts; social sciences, business and law; science, mathematics and computing; computer science; computer use; and services (table 3). In the rest of the fields young worker have lower percentages.

According to the available data, in Croatia, majority of the highly educated people work in the education sector (25% in 2008) [12].

To sum up, it can be said that on average the EU15 countries show slightly better results than the EU12 countries concerning selected human capital indicators. Croatia, as a candidate country is below the EU average concerning the school expectancy and expenditure on education, but above the average concerning educational attainment.

4. Conclusion

There are various factors that determine FDI flows and in recent years majority of authors accentuate the relationship between FDI and human capital. In general, human capital increases inflow of FDI by making the investment climate more attracting.

FDI flows have increased globally during the 2000-07 period. However, the current economic and financial crisis has caused FDI flows to plummet. When analyzing FDI in the EU, looking separately the EU15 and the EU12 countries it is obvious that the EU15 had higher FDI inflows but also more volatile than the EU12 inflows. From the conducted analysis, it can be concluded that the highest average FDI inflows from the EU15 group were recorded in France and United Kingdom, and from the EU12 group in Poland and Romania. All of the analyzed countries were affected by the current crisis and they've experienced a decrease in FDI inflows.

According to the conducted analysis of the human capital formation trends, it can be said that, on average, the EU15 countries show slightly better results than the EU12 countries concerning selected human capital indicators. Croatia, as a candidate country is below the total EU average concerning the school expectancy and expenditure on education, but above the average concerning educational attainment.

Humanities, languages and arts, social sciences and business and law are the most represented fields of study of the young employed with a high level of education in the EU in 2007, while social sciences, business and law and engineering are most represented fields among prime age and older workers. In the rest of the fields young worker have lower percentages. In Croatia, majority (25%) of the highly educated people work in the education sector.

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