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IMPACT OF THE ECONOMIC CRISIS ON FDI IN CENTRAL AND EASTERN EUROPE

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Abstract: *Few studies have investigated the relationship between the 2008 global financial and economic crisis and foreign direct investments (FDI) flows. This paper aims to analyze empirically this relationship for Central and Eastern European (CEE) countries. The crisis had a major impact on capital flows to the region, although the magnitude of the impact differed notably, depending on specific characteristics of the host country.*
In order to highlight this, we use a multivariate regression model based on dynamic panel data methodology, which will help us in analyzing also the significant factors affecting the evolution of FDI in the CEE countries during the period 2000-2013.
Keywords: *FDI, CEE, financial crisis*
JEL classification: *E22, F21, G01*

1. INTRODUCTION

Our research is focused on the impact of economic crisis on FDI flows to CEE countries and the competitive positions of these countries versus other countries of the region. The paper extends the existing literature by compressing two important dimensions from the literature: FDI distribution and FDI determinants. Therefore, it is important to understand how FDI are distributed by economic activities and origin country, as well as to see the way in which the financial crisis affected the FDI and the impact of other well-known determinants of FDI.

For the CEE region, FDI flows decreased during 2009 – 2010 with 60% compared with the period 2007 – 2008, while for the period 2009 – 2012 the FDI flows to CEE countries recorded a small improvement, a decrease of 50%

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compared with the period 2005 – 2008 still being recorded. Moreover, we were able to see that Poland overpassed the economic crisis more quickly compared with the others countries.

This paper is organized as follows: the second section reviews the literature regarding the main determinants of FDI flows, showing the most important findings of previous research in the process of understanding the manner of influencing FDI flows through different types of macroeconomic variables. The third section presents the methodology used in order to capture the impact of economic crisis in the CEE region, and also the relevance of the methodology used. A descriptive statistics of the main data used in our analysis will be presented in section four. Moreover in this section we will try to deeply analyze FDI flows per origin country for the CEE region. In section five, we will present the main findings of our analysis and the last section will conclude the paper.

2. LITERATURE REVIEW

One tool of promoting economic relationships between different countries is represented by investments. The last two decades were characterized by a constant increasing in FDI up to 1,971 billion USD in 2007, ten times more than 1990 (UNCTAD, 2011). FDI evolution was strongly affected by the economic crisis which caused that in 2012 the value decreased to 1,450 billion USD. Despite this, starting with 2013, an improvement in FDI flows was recorded and it is expected to reach 1,800 billion USD by 2016 (UNCTAD, 2014). Even if during the period 2008 - 2009 the FDI flows decreased, it seems that in 2010 the developing and transition economies absorbed more than half of the world's FDI inflows (UNCTAD, 2010).

FDI importance was highlighted by many researchers in the financial literature, emphasizing the huge importance of FDI for economic growth of the host country as stated by Alfaro et al. (2004), but also being considered as a main factor of financial globalization (Lane and Milesi-Ferretti, 2003).

The positive effect of FDI on economic growth was analyzed by many empirical papers based on data around the world. The development level of financial sector directly affects the FDI level and the economic development of the host country (Chang, 2005; Chowdhury and Mavrotas, 2006; Kahouli and Samir, 2015). Moreover, the link between FDI evolution and economic growth can be

improved by controlling several variables such as human capital, stable economy and liberalized markets (Bengoa and SanchezRobles, 2003).

When we analyze the main determinants of FDI flows we can use two ways of approaches: firm-level and country/region level. Firm-level approach takes into account firm specific variables which can affect the investment decisions. Even if such specific variables as firm size, risk, market share, cost variables can be statistically fairly fragile (Blonigen, 2005) this drawback can be improved by combining more theoretical models when estimating the FDI determinants (Faeth, 2009). The second approach, country-level, or region-level, takes into account macroeconomic variables which can affect the FDI inflows of different countries or regions. Economic literature revealed different macroeconomic variables which were taken into account to analyze the FDI determinants, such as: interest rate, wage changes, financial openness, industrial disputes, GDP per capita, exports, telephone lines, country risk and others (Bevan and Estrin, 2004; Moosa and Cardak, 2006).

This paper highlights the impact of one of the more recent economic event – the economic crisis - on FDI inflows from CEE countries. This is not the only crisis debated in the economic literature. Before 2008, there were debated some past crises, from which the most important are the "The Big Five Crisis": Spain crisis in 1977, Norway crisis in 1987, Finland crisis in 1991, Sweden crisis in 1991 and Japan crisis in 1992 (Reinhart and Rogoff, 2008). Despite these important crises there were also recorded several small banking or financial crises such as: Australia (1989), Canada (1983), Denmark (1987), France (1994), Germany (1977), Greece (1991), Iceland (1985), Italy (1990), New Zealand (1987), United Kingdom (1973, 1991, 1995) and United States (1984).

Researchers were interested in finding the magnitude of financial crisis and the effects on FDI flows. Based on literature, it was highlighted the fact that financial crisis had a powerful influence on FDI. Moreover, the economic crisis started in 2008 had a bigger impact on FDI flows, compared to past crisis (Dornean et al., 2012a; Dornean and Oanea, 2013; Poulsen and Hufbauer, 2011). Despite this, the ability of a country to recover from this crisis depends on the FDI level from the period before 2008. This is the reason why countries with higher level of FDI before economic crisis will experience a milder recession and a more gradual recovery.

3. METHODOLOGY

Based on the recent literature regarding panel data studies (Louzis et al., 2012) we consider that the dynamic approach is the most suitable for estimating the economic crisis effect on CEE countries, because it accounts for the time persistence in the FDI's flows:

$$y_{i,t} = \alpha \cdot y_{i,t-1} + \beta(L) \cdot X_{i,t} + \eta_i + \varepsilon_{i,t}, |\alpha| < 1, i = 1,..., N, t = 1,..., T \quad (1)$$

where the *i* denotes the cross sectional dimension and *t* denotes time dimension, $y_{i,t}$ is FDI level expressed as percentage of GDP, $\beta(L)$ is the $1 \times k$ lag polynomial vector, $X_{i,t}$ is the $k \times 1$ vector of explanatory variables other than $y_{i,t-1}$, η_i are the unobservable country specific effects and $\varepsilon_{i,t}$ are the error terms.

This methodology was used by Carstensen and Farid (2004) to determine the determinants of FDI for Central and Eastern European countries in 2004.

If we apply Ordinary Least Square method in estimating the equation (1), this will produce biased and inconsistent parameters, due to the correlation between lagged variable $y_{i,t-1}$ and country specific effects η_i . According to Arellano and Bond (1991), the equation (1) is consistent only if we apply the Generalized Method of Moments (GMM), based on first differences, and elimination of η_i :

$$\Delta y_{i,t} = \alpha \cdot \Delta y_{i,t-1} + \beta(L) \cdot \Delta X_{i,t} + \Delta \varepsilon_{i,t} \quad (2)$$

where Δ is the first difference operator, *i* denotes the cross sectional dimension and *t* denotes time dimension, $y_{i,t}$ is FDI level expressed as percentage of the GDP.

Following the dynamic panel data literature, we test the overall validity of the instruments used in estimation based on the Sargan test (Arellano and Bond, 1991), which is asymptotically distributed as chi-square. The null hypothesis of the test assumes that the moment conditions are valid.

The model used in our analysis has as a starting point the hypothesis of Growth-led FDI that relates to the Multinational Corporations theory. The background is represented by the Eclectic Paradigm or OLI (Ownership, Location and Internalization) described by Dunning (2000) in detail. According to the location sub-paradigm of countries, a MNC with some ownership advantages will choose to invest in countries with a location advantage, emphasizing the market

size (usually approximated by GDP). The rationality behind this theory is that an increase in the market size of the host country will lead to an increase in the level of FDI, due to a higher expected profitability. Following the methodology proposed by Assunção et al. (2011), we will extend the model, because we want to capture the economic crisis effect on FDI as well as the impact of three main determinants: infrastructure, human capital and economic stability.

The baseline model used in our estimation takes the following form:

$$FDI_{i,t} = \alpha \cdot FDI_{i,t-1} + \beta_1 \cdot Crisis_{i,t} + \beta_2 \cdot I_{i,t} + \beta_3 \cdot HC_{i,t} + \beta_4 \cdot ES_{i,t} + \eta_i + \varepsilon_{i,t} \quad (3)$$

with, $|\alpha| < 1, i = 1,...,11, t = 2000,...,2013$.

In equation (3), $FDI_{i,t}$ denotes the FDI percentage from GDP, $Crisis_t$ is a dummy variable which captures the economic crisis and takes 1 for the period 2009 – 2013 , and 0 otherwise; the infrastructure determinant of the host country, expressed by the number of internet subscriptions per 100 persons; HC_t is the human capital determinant and it is expressed through the average years of schooling; EC_t is the economic stability determinant which measures the economic stability and will be expressed by several variables which approximate the economic environment situation: inflation rate, real GDP growth rate, unemployment rate, and openness trade.

4. DATA AND DESCRIPTIVE STATISTICS

Data for selected variables are available on the United Nations Conference on Trade and Development (UNCTAD) web site (FDI, inflation rate, real GDP growth rate, openness trade), World Bank web site (unemployment rate and the number of internet subscriptions), and United Nations Development Programme for average year of schooling for period 2000 – 2013.

CEE countries have experienced the financial crisis more aggressively after the beginning of 2009. In 2009, the level of FDI decreased to 2.52% of the GDP, compared to the level of 2008 of 6.02% of the GDP. A worst situation was recorded by the GDP growth that fell from 19.31% in 2008 to -15.73% in 2009. The evolution of average FDI and average GDP growth can be clearly observed in Figure 1.

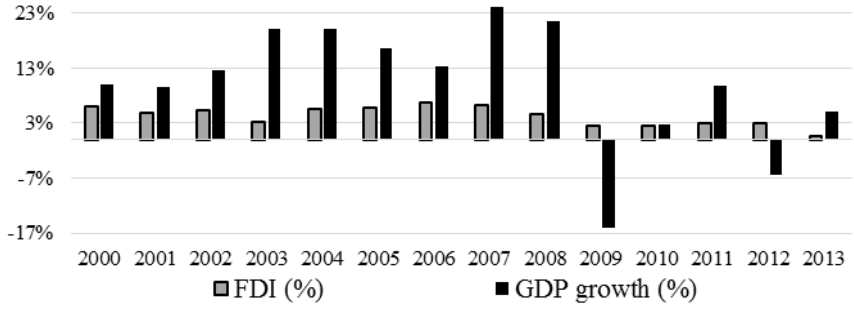

Figure 1. *Average FDI (% of GDP) and average GDP growth for CEE countries*
Source: based on data from UNCTAD, available at:
http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx

The descriptive statistics for selected variables for entire series and country level series are given in Table 1.

At first glance, we can observe that the highest level of FDI is recorded in Bulgaria (10.54%), while the lowest level belongs to Slovakia and Lithuania (0.01%). Even if the highest value for the average GDP growth is recorded for Lithuania (4.46%), the maximum level of GDP growth was recorded in 2006 for Latvia, when GDP grew with almost 11%. By means of an in-depth data analysis, we were able to find that in 2008 only Latvia and Estonia recorded a decrease in the GDP level, while the rest of the countries were still on a positive trend. At the same time, one year later, all CEE countries, except Poland, recorded a decrease in the GDP (the highest decrease was recorded by Latvia, of 17%, while the smallest decrease was recorded for Czech Republic of 4%). Poland is a special case within the CEE countries, because it is the only country which did not record any decrease in the GDP during the economic crisis. Obviously the increase in the GDP was smaller, in that the minimum increase in the GDP was 1.6% in 2009, respectively 1.7 in 2013.

Regarding Romania, we notice that the average FDI level is 4.17% of the GDP, being below the CEE countries average of 5.14%. At the same time, the average value of the GDP growth rate of 3.52% is higher than the CEE countries average of the GDP growth, which is 3.31%. Even if Poland was able to diminish the economic crisis effect, the level of FDI is lower than the level of FDI for Romania, when we express this variable as percentage of the GDP: 3.23% for Poland and 4.17% for Romania.

Table 1. *Descriptive statistics of selected variables*

Variable	Mean	Median	Max.	Min.	Std. Dev.	Skewness	Kurtosis
Average series							
FDI/GDP	5.14	3.94	29.41	-1.44	4.60	2.308	10.603
InternetSub	44.07	46.11	80.01	3.61	21.97	-0.262	1.855
YearSchool	11.19	11.30	13.20	9.40	0.85	-0.329	2.427
GDP	3.31	4.05	10.98	-17.69	0.04	-1.651	7.590
OpenTrade	1.21	1.21	1.91	0.57	0.33	0.142	2.055
Inflation	5.08	3.90	45.66	-1.11	5.41	4.425	29.674
Unemployment	10.57	9.60	20.50	4.30	4.31	59.84	2.217
Country level	FDI (% of GDP)				GDP Growth (%)		
	Mean	*Max.*	*Min.*		*Mean*	*Max.*	*Min.*
Bulgaria	10.54	29.42	2.70		3.64	6.75	-5.48
Czech Rep.	4.87	10.82	1.07		2.74	7.02	-4.51
Croatia	4.48	8.53	0.83		1.85	5.37	-6.95
Estonia	8.42	20.64	1.51		4.43	10.10	-14.10
Hungary	4.73	11.22	1.57		1.78	4.80	-6.77
Latvia	3.95	8.38	0.36		4.31	10.99	-17.70
Lithuania	3.14	6.01	0.01		4.46	10.28	-14.85
Poland	3.23	5.74	1.23		3.67	6.79	1.21
Romania	4.17	9.26	1.38		3.52	8.49	-6.58
Slovakia	7.38	23.97	0.01		3.98	10.49	-4.94
Slovenia	1.63	7.00	0.06		2.08	6.96	-7.94

Legend: FDI/GDP denotes the ratio between the FDI inflow and GDP as percentage; InternetSub denotes the number of internet subscriptions per 100 persons expressed in percentage; YearSchool denotes the average years of schooling of adults expressed in years; GDP denotes the real GDP growth rate as percentage; OpenTrade denotes the financial opening of the host country and it is computed as (imports+exports)/GDP as percentage; Inflation denotes the inflation rate as percentage; Unemployment denotes the unemployment rate as percentage.

Based on the GDP growth rate evolution, we consider the year 2009 to be the first year of the economic crisis, because all CEE countries recorded a decrease in both GDP and FDI level. The exception is Poland which in 2009 recorded an increase in both GDP (1.6%) and FDI level (7.1%).

Table 2. *FDI in CEE countries split by origin countries (billion EUR)*

Country	Period 2005 - 2012		Period 2005 - 2008				Period 2009 - 2012			Changes (%)
	Total	Share	Mean	Max.	Min.		Mean	Max.	Min.	
Germany	46.11	18.9%	6.66	9.18	5.40		4.87	7.03	1.78	-26.9%
Austria	39.17	16.0%	7.45	10.30	5.74		2.34	3.79	0.65	-68.6%
Netherland	33.79	13.8%	5.92	8.31	3.77		2.53	4.81	0.64	-57.4%
France	20.25	8.3%	2.98	4.18	0.84		2.09	3.39	0.71	-30.0%
Luxembourg	16.17	6.6%	2.97	3.40	2.30		1.07	2.65	-1.12	-64.0%
U.K.	11.40	4.7%	1.54	3.71	-0.19		1.31	2.06	0.90	-15.4%
Italy	10.05	4.1%	1.21	3.18	-1.70		1.30	3.91	-4.02	7.3%
Sweden	9.63	3.9%	1.30	2.00	0.30		1.11	2.98	-0.55	-14.3%
Belgium	8.65	3.5%	1.13	3.54	0.19		1.03	2.47	-0.91	-9.2%
Switzerland	8.15	3.3%	1.64	1.90	0.93		0.39	1.19	-1.49	-76.0%
Cyprus	7.47	3.1%	1.00	1.48	0.34		0.87	1.39	0.42	-13.7%
Spain	6.71	2.7%	1.04	1.74	0.45		0.64	1.18	0.27	-38.2%
U.S.A.	6.16	2.5%	0.72	1.15	0.12		0.82	1.78	0.05	13.3%
Hungary	4.12	1.7%	0.77	1.34	0.41		0.26	0.61	-0.05	-66.1%
Poland	3.30	1.4%	0.56	1.79	0.04		0.26	0.57	0.07	-53.5%
Denmark	3.24	1.3%	0.70	0.88	0.55		0.11	0.37	-0.44	-84.1%
Greece	3.01	1.2%	1.00	1.50	0.35		-0.25	0.41	-0.86	-125.0%
Czech Rep.	2.66	1.1%	0.38	0.62	0.18		0.28	0.64	-0.15	-27.1%
Malta	2.38	1.0%	0.39	1.03	0.03		0.21	0.53	0.03	-47.5%
Norway	1.71	0.7%	0.18	0.36	0.00		0.25	0.72	0.05	42.2%

Legend: The table presents the total value of FDI invested by the main 20 investors in CEE countries for the period 2005 – 2012 expressed in billion EURO. The column Share denotes the percentage of each country FDI in the total value of FDI in CEE countries for the same period. At the same time, the table presents descriptive statistics for two important sub periods: 2005 – 2008 and 2009 – 2012, as well as the percentage evolution between these two sub periods. Data were obtained from each national bank of CEE countries, being collected from July until August 2015.

Going further we tried to see the values of FDI split by origin country and main economic activities. In order to achieve this, we collected data from each national bank official site for the period 2005 – 2012, except Estonia, for which we were not able to find data for the mentioned period. Moreover, we split this period in two sub periods in order to divide it as a period before economic crisis, 2005 – 2008, and a period after the economic crisis, 2009 – 2012.

In table 2 we present the FDI values in CEE region split by origin countries, in which we can see the first 20 most important investors in CEE region. At a first

glance, we are able to notice that the first three major investors are Germany (46 billion EUR), Austria (39 billion EUR) and the Netherland (33 billion EUR), which invested almost 50% from the total FDI in CEE countries during 2005 – 2012. Moreover, we are able to observe that only three countries (Italy, United States of America and Norway) increased the investments in this region after the economic crisis, compared with the previous period.

If we analyze the territorial distribution of origin countries which invest in the CEE region, we are able to see that the first 20 most important investors are from Europe, except the United States of America, which invested only 3% from the total FDI in CEE countries.

When analyzing more deeply all the data for CEE countries regarding the country source of investments, we pointed out nine countries which invested in all countries from CEE region, namely: Austria, Belgium, Switzerland, Germany, France, Italy, Netherlands, Sweden and Denmark. Once again we have to mention that this result does not include Estonia, due to lack of data. Despite this, we consider that this lack of data does not affect the results, due to the fact that Estonian's FDI represent only 3.3% from the total FDI of CEE countries for the period 2000-2013.

In Romania's case, we are able to identify some changes regarding the main investor country. Based on our analysis we found that during the period 2005 – 2012, the biggest investors in Romania were Austria (6,831 million EUR), Germany (6,209 million EUR) and the Netherlands (5,946 million EUR). The economic crisis influenced this hierarchy, but more significantly the value invested in Romania, so that during the period 2009 – 2012, the biggest investors were Netherlands (4,827 million EUR), Austria (1,734 million EUR) and France (992 million EUR).

If we take into account the FDI regarding the economic activity in which it was invested, we notice, based on data presented in table 3, that the financial intermediation and manufacturing attracted almost 50% from the total FDI during the period 2005 – 2012. Moreover, a higher increase in the period of economic crisis was recorded for investments in research and development.

For Romania, the situation is different, because the main economic activity which attracts the highest value of FDI is represented by manufacturing. Due to the

economic crisis, the FDI flows into manufacturing sector decreased by almost 60% during the period 2009 – 2012, compared with the period 2005 – 2008.

Table 3. *FDI in CEE countries split by economic activities (billion EUR)*

Economic activity	Period 2005 - 2012		Average FDI 2005 - 2008	Average FDI 2009 - 2012	Modification (%)
	Total	Share			
Financial intermediation	65.30	27.5%	10.70	5.62	-47.5%
Manufacturing	45.17	19.0%	8.37	2.93	-65.0%
Real estate activities	35.46	14.9%	7.39	1.48	-80.0%
Research and development	22.51	9.5%	0.12	5.51	4393.2%
Electricity, gas	18.84	7.9%	1.84	2.87	55.7%
Wholesale trade	14.95	6.3%	2.90	0.84	-71.1%
Construction	14.77	6.2%	2.61	1.08	-58.5%
Post and communications	11.11	4.7%	2.41	0.36	-84.9%
Hotels and restaurants	6.89	2.9%	0.77	0.95	22.4%
Agriculture	2.47	1.0%	0.34	0.28	-18.8%

Legend: The table presents the total value of FDI for CEE countries split by economic activities expressed in billion EURO. The column Share denotes the percentage of FDI value for each economic activity in the total value of FDI in CEE countries for the same period. At the same time the table presents the average FDI per economic activity for two important sub periods: 2005 – 2008 and 2009 – 2012, as well as the percentage evolution between these two sub periods. Data were obtained from each national bank of CEE countries, being collected during July to August of 2015.

5. RESULTS

In order to capture through the regression model the characteristics of the selected variables (all being time series), we apply the Levin, Lin and Chu (LLC) test to see if the time series are stationary or not. According to the results presented in table 4 all series are stationary, except unemployment rate.

Table 4. *Stationarity Test Results*

LCC	Variables						
	FDI	InternetSub	YearSchool	GDP	OpenTrade	Inflation	Unemployment
t-statistic	-2.0161	-11.3145	-5.5430	-4.5222	-4.2709	-6.6268	-1.1823
p-value	0.0219	0.0000	0.0000	0.0000	0.0000	0.0000	0.1185

Legend: LLC stands for the Levin, Lin and Chu (2002) test where the null hypothesis that each individual time series is a unit root is tested against the alternative that all of them are stationary

One-step GMM estimation results for baseline model and also for robustness check models are presented in table 5, which also contains the Sargan test value for each model.

We are able to see that almost all coefficients estimated are statistically significant. Moreover, we can notice that all types of determinants have a significant impact on FDI.

The coefficient of lagged dependent variable is positive and statistically significant.

Table 5. *GMM estimation results*

Determinant type	Variables[a]	Basic model	Model 1	Model 2	Model 3
Time component	FDI(-1)	0.2968*** (0.0859)[b]	0.2706*** (0.0849)	0.2651*** (0.0936)	0.2712*** (0.0944)
Crisis	Crisis	-0.0319*** (0.0121)	-0.0447*** (0.0103)	-0.0438*** (0.0108)	-0.0476*** (0.0126)
Infrastructure	InternetSub	0.1501* (0.0339)	0.0348 (0.0401)	0.0815** (0.0352)	0.0928** (0.0425)
Human capital	YearSchool	-0.0318** (0.0156)	-0.0244 (0.0161)	-0.0352** (0.0354)	-0.0325** (0.0165)
Economic stability	GDP	0.1501* (0.0805)			
	OpenTrade		0.0540* (0.0273)		
	Inflation			-0.0379 (0.1270)	
	Unemployment				0.0992 (0.1522)
Sargan test		73.9508 [0.4900][c]	77.3964 [0.6000]	72.2062 [0.4300]	71.3123 [0.4000]

Notes: [a] – dependent variable is represented by foreign direct investments; [b] - (standard errors in parentheses); [c] – [P-value for Sargan test]; *, **, *** - Indicates significance at the 0.1 level, 0.05 level and 0.01 level.

The implication is that the investment attractiveness of a country depends on previous investments behavior, that is why it is important for the host country to apply sustainable policies which promote the FDI on a long term period not only in the short run.

Infrastructure influences positively the level of FDI attracted by a country, while the human capital affects it negatively. The chosen proxy for infrastructure was represented by the number of internet subscriptions per 100 persons, so it is

logic that a country with a better telecommunication infrastructure to be preferred instead of another country with less developed infrastructure. At the same time, the average year of schooling seems to affect negatively the FDI level. Even if at a first glance, this result is strange, if we analyze in more depth we can understand that a higher educated population means higher costs for a multinational corporation regarding the salaries. That is the reason why a MCN that invests in a country prefers the one with lower educated persons, which in the end is cheaper compared with a country having a higher rate of educated persons.

Economic stability is very important in attracting FDI, because the GDP is the main indicator of a country economic situation, which explains why a host country with a higher growth rate of the GDP will attract more FDI.

But the variable of higher interest in this paper is represented by the economic crisis. Based on the results presented in table 5, the coefficient of crisis variable is negative and highly statistically significant at FDI level (99% confidence level). The implication is that the investment attractiveness of a country was affected by the economic crisis, in such a way that some of countries reallocate their investments or that the level of investment they made decreased significantly.

6. CONCLUSIONS

This paper aimed at capturing the main impact of economic crisis on FDI level in Central and Eastern Europe. Based on the GDP growth evolution we pointed out that CEE countries have experienced the economic crisis more aggressively after the beginning of 2009, due to the fact that GDP growth has fallen from 19.31% in 2008 to -15.73% in 2009.

When dividing FDI flows by origin countries, we can see that the major investors are Germany (46 billion EUR), Austria (39 billion EUR) and the Netherland (33 billion EUR), which invested almost 50% from the total FDI in the CEE countries in the period 2005 – 2012. Among the first 20 investors for CEE countries we found only European countries, with the exception of the United States of America, which invested almost 3% from the total FDI. At the same time, we highlighted that Austria, Belgium, Switzerland, Germany, France, Italy, Netherlands, Sweden and Denmark are the only countries which invested in all countries from the CEE region, including Romania.

The main economic activities which attracted almost 50% from the total FDI during the period 2005 – 2012 are financial intermediation and manufacturing. For Romania the situation is different, because the main economic activity which attracts the highest value of FDI is represented by manufacturing.

Going deeply, we were able to highlight that all countries reduced their investments in CEE countries in the main two years of economic crisis in a significant way, with few exceptions: Netherlands increased the investments in Croatia; Luxembourg increased the investments in Poland and Croatia; Switzerland increased the investments in Hungary and Croatia; United Kingdom increased the investments in Czech Republic, Hungary, Slovenia and Latvia; Sweden increased the investments in Poland and Croatia; Italy increased the investments in Poland, Bulgaria, Hungary, Croatia and Lithuania; Belgium increased the investments in Romania.

When analyzing the recovery trend after the peak of economic crisis and comparing the difference in FDI per origin country, for the period 2005 – 2008 and 2009 – 2012, we found that Italy overpassed the economic crisis effects and started to increase the FDI flows in the CEE countries. Despite this, Romania and Czech Republic are not as attractive as before the economic crisis, so the level of FDI invested is the smallest.

When we took into account consolidated data for CEE region, we were able to see that the investments in the period 2009 – 2012 decreased with almost 60% compared with the period 2007 – 2008, while for the period 2009 – 2012 the FDI flows to the CEE countries recorded a very small improvement, but the decrease recorded is still high – 50%.

Based on our research we pointed out that only Poland overpassed the economic crisis more quickly compared with the others countries. We noticed that during the period 2009 – 2012 the three main investors (Austria, Germania and France) started to increase the FDI flow towards Poland. The others countries tried hard to fight in order to recover after the economic crisis, but even after four years after the peak of economic crisis, the countries did not succeed to reach at least the level of FDI existing before the beginning of the crisis.

Based on one-step GMM estimation results we found that all types of determinants (time component, infrastructure, crisis, human capital and economic stability) have a significant impact on FDI. Investment attractiveness of a country

depends on previous investments behavior, which is why it is important for the host country to apply sustainable policies which promote the FDI on a long term period not only on a short term.

Regarding infrastructure, a country with a better telecommunication infrastructure will be preferred against a country with undeveloped infrastructure. Moreover, a higher educated population means higher costs for a multinational corporation regarding the salaries. That is the reason why when a MCN will choose to invest in a country, it will select the country having lower educated persons, which in the end is cheaper compared with a country having a higher rate of educated persons. At the same time, economic stability is very important in attracting FDI, that is why a host country with a higher growth rate of GDP will attract more FDI.

The most important variable in our analysis, crisis, has a negative and high impact on FDI level (99% confidence level). The economic crisis affected the attractiveness of a country, therefore some of the countries reallocated their investments or the level of investments decreased significantly after the start of the economic crisis.

Our results emphasize the existing literature (Blăjuţ, 2015) which states that location advantages are extremely important to attract FDI, such as education level, unemployment rate or infrastructure, as we showed in this paper.

Our results are important in supporting the regulatory environment of a country, in order to attract more FDI as a solution to recover the economy affected by the economic crisis. By knowing the most important determinants of FDI can help authorities to improve the public policies.

These results complete our findings from previous papers regarding FDI (Dornean et al., 2012b; Dornean and Oanea, 2013) in which we analyzed the impact of the recent crisis on FDI for the case of Romania, for Central and Eastern Europe countries (from EU) and even for all European Union countries. We found that the level of economic growth influenced the level of FDI, still within the same year. In comparison with our previous research in which we studied the economic growth as a FDI determinant, the current study tackles other FDI determinants. Further research can continue our study in order to see how changes in public policies stimulate FDI.

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