Structural Changes of the Investment Capital in Transylvania

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Introduction

FOR DEVELOPING economies the impact of a large input of foreign direct investment (FDI) is widely recognized as an important growth factor. Disregarding the productive potential brought about by the additional capital investment in the economy, the increase in the number of new jobs, the inflows of foreign investment are expected to provide newer and improved technology which will lead to an increase in the growth prospects of the receiving economy and an important gain in attracting other new investments, which in our opinion is one of the most important things to be desired by a region.

The impact of FDI was important for the economies in Central and Eastern Europe, in need for additional capital investment, access to foreign technology and management techniques in order to modernize and improve their economies and narrow the development gaps (Benacek et al, 2000). Those countries have been recipients of important foreign capital inflows, determined by the lower factor prices and skilled labor force that compensated for transportation costs and loss of accessibility (Constantin et al, 2012). The FDI flows were particularly high in the capital city regions of CEE countries, leading to increasing interregional disparities. Some regional factors may determine which regions receive higher levels of investment, while other regions in the same country receive lower investments. Therefore we are analyzing the structure of FDI and the modifications that occured during several years, starting with year 2016, in order to identify the determinants of the localization of FDI in a certain region.

We structured the paper as follows. After providing a brief overview of the literature on determinants of FDI and also on the key characteristics of FDI inflows to the region, an attempt is made to identify the main differences in the impact of FDI on the different economic areas of Romanian regions. In the third part of our paper we analyzed the data provided by the Romanian National Bank regarding the FDI structure in the Transylvania region as compared with the FDI structure at the national level. Due to the lack of the analysis of FDI inflows and the structure of FDI in Transylvania, we consider the data coming from the West, North West and Center Region as regarding Transylvania. In the last section of the paper, we discuss the findings and conclusion of our analysis.

Literature review

FAR FROM reaching a consensus, the theoretical and empirical analysis underlined several macroeconomic and microeconomic factors that determine the localization and structure of foreign direct investments. Among the macroeconomic determinants of FDI, we can identify factors such as exchange rates (or expectations about future exchange rate movements), taxes and tariffs, market size, country risk, trade protection and trade flows, the quality of institutions that influence the well-functioning of markets (corruption included), knowledge-capital factors such as skilled labor, research and development factors (R&D expenditure and performance, patents) public goods (for instance, infrastructure), microeconomic factors such as firm's financing options, etc. (Blonigen, 2005), as well as non-economic variables like geographic distance or cultural differences (Reschenhofer et al, 2012). On the other hand, the economic literature regarding the primary determinants of regional FDI location designates workforce skills and costs as a significant factor of influence. Woodward (1992) found that there was a negative relation between the interstate distribution of the value of foreign manufacturing investment and the index of state labor costs. Another determinant of regional FDI location is the market size. According to Chakrabarti (2003), an expansion in the market size of a location leads to an increase in the amount of direct investment in that location through increased demand. Foreign investors are likely to be attracted by large markets allowing them to internalize profits from sales within the host countries (Rovinaru et al., 2014).

The number of patent applications, as a proxy for the technology development, was also found to be a positive factor for FDI decisions (e.g., Lansbury et al, 1996). Empirical evidence suggests that investment incentives such as preferential tax rates, social security relief, special tax deductible items and exemptions from tariff payments may have a high impact in attracting FDI inflows (Benacek et al, 2000).

Casi and Resmini (2012) emphasize that the magnitude of FDI influencing economic growth is directly affected by the regions' characteristics. Through a comprehensive study for the EU-27, Copenhagen Economics (2006) showed that FDI is one of the most important factors in increasing the technological level of a country. They emphasize the positive effect of FDI on host country's productivity, labor demand and economic growth and convergence. Countries or regions, with good infrastructure, highly educated people and developed communication technologies, are preferred by firms which want to invest their capital (Blonigen, 2005; Bagchi-sen and Wheeler, 1989).

The knowledge-seeking foreign investment is particularly interested in regional research and development (R&D) intensity and in the R&D-related factors of a region (Jensen, 2004). Cantwell (1989) states that knowledge-seeking investments vary across locations because they depend on location-specific factors, such as the number of scientists and educated people in the area, previously established innovations, R&D intensity, the education system, and good linkages between educational institutions and firms.

Basu and Guariglia (2003) studied the interdependences between FDI, growth and inequality. They used a sample of 119 developing countries and indicated that even if FDI promotes growth by reducing the agricultural sector's share in country's GDP, at the same time FDI can be a source of increased inequality between regions and economic sectors.

Regarding the dynamic of FDI in Romania, Danciu et al. (2010) tried to highlight the link between the FDI inflow for Romanian regions and each region's characteristic. According to these authors, a disparate distribution of FDI in Romanian regions is noticeable. They also identified the main determinants of FDI distribution in the Romanian regions, such as: privatization process, economic growth, labor cost, education and infrastructure. In his study, Nistor (2012) focused only on the relation between FDI inflow and economic growth: the process of catching up is very slow, even if the economic development has a positive impact on FDI level.

The financial crisis was an important event in the financial world, which affected the economy at worldwide level. Due to its importance and impact on economy, Popa and Gavril (2014) stressed out the impact of the financial crisis on FDI in Romania, showing a decrease in FDI levels in 2009 compared to 2008. Dornean et al. (2012) established that economic growth has a significant and positive influence over the level of FDI. An interesting result is that the link between the financial crisis and GDP growth had an important influence at FDI level. This drop in FDI, caused by the financial crisis, has encouraged policy makers to consider some reforms in order to improve the investment conditions in Romania, in order to mitigate the effects of the economic crisis.

Data Analysis

AFTER 1990, Romania shifted its spatial policy from a central-based policy to a regional-based policy, in compliance with EU-standards. Romania was divided in 1998 into eight Development Regions, using four criteria—number of inhabitants, surface, cultural identity and functional-spatial relations. The resulting regions are Bucharest-Ilfov, North East, South East, South, South West, West, North West and Center regions. As we stated before, we consider the data from the West, North West and Center region as illustrating Transylvania, one of the Romanian historical provinces.

FDI has shown substantial growth rates at national level as well, reaching up a high of 9.3 bn euro in 2008, but decreasing sharply afterwards: 3.49 bn in 2009, 2.22 bn in 2010 and only 1.9 bn euro in 2011.

Ranking the regions based on their ability to attract foreign investors, Danciu et al (2011) confirmed the strong domination of the Bucharest-Ilfov region, placed in the first position, followed at a long distance by the West and North East regions. The heterogeneous development areas, the economic decline recorded by small and medium size towns, and the severe negative impact of economic restructuring upon mono-industrial areas determine even bigger disparities inside the regions.

There is a clear unbalance in favor of Bucharest-Ilfov region, which pooled almost all foreign investments before EU accession, with an FDI/capita six times the national average and almost 8 times that of the next region, West. For comparison, the least developed region, North East, had an FDI/capita indicator of 7.7, 77 times lower than Bucharest.

Romanian regional indicators (national average = 100) in 2005

	North West Region	West Region	Center Region	Bucharest-Ilfov Region
GDP/Capita	97.2	114.7	104.2	191.5
Unemployment rate	67.8	86.4	123.7	40.7
SME's/100s inhabitants	109.0	105.7	105.7	228.2
Public road infrastructure/100km² (Romania=33.5)	34.7	32.1	29.9	47.9
Rural population	104.0	80.7	88.9	21.1
Employment in agriculture (Romania=32.2%)	29.9%	20.7%	19.0%	1.6%
FDI/capita	45.4	76.3	62.9	593.5

Source: Romanian Statistical Office data

Alongside Bucharest, the West region could also be considered one of the winners, with a dynamic labor market and entrepreneurial environment, benefiting from the spread of well-known high education centers and high degree of accessibility and the proximity to Hungary.

The Center and North-West regions were close to the national average in terms of GDP/capita and were recovering from a series of structural shocks that greatly increased the unemployment rate and decreased the economic activity. Accessibility was fairly limited in these regions, and they would have been best described as lacking opportunities.

The crisis period did not bring significant changes in the regional FDI distribution; however, a change of destination is noticeable, leading to a slight increase in the weight of Transylvania investments in the total FDI stock. At regional level the FDI picture is marked by high interregional disparities, showing a major imbalance between Bucharest-Ilfov and the other regions, as well as an important gap between the East and the West of Romania.

FDI by regions in 2009-2014

	Bucharest	Transylvania	Rest of Romania
2009-2011	63.40%	17.50%	19.10%
2011-2013	61.70%	19.30%	19.00%
2014	59.20%	23.00%	17.80%

Source: Romanian National Bank

We can identify three distinct periods, with a different focus on Foreign Direct Investments. The first stage is represented by the EU accession period from 2006 to 2008. It is a period characterized by exuberance and a race to seize opportunities, with a very strong effect on GDP. The next period, as we identified it, was the financial crisis period, 2009-2011, described by a freeze of specific sectors—particularly constructions and financing and mainly a generalized "draught" of investments and efforts to return capital. During the economic crisis there were no noticeable changes in the FDI structure; growth slowed considerably and several sectors even registered modest decreases (financial institutions, IT&C, trade and constructions); the financial industries and related industries were still holding the 2nd and 3rd positions, after production and manufacturing.

STOCK OF FDI 2009-2011 (MIL. EUR)

	Production	Professional & Support Services	Constructions, RE & Agriculture	Trade	Mining & Energy	Transports & Hospitality	Financial Institutions	IT&C	Other	TOTAL
2009	15,555	2299	7005	6164	5,125	897	9510	3235	194	49,984
2010	16,840	2560	5814	6519	6,253	1205	10055	3081	258	52,585
2011	17,372	2,679	7,213	6,282	7,115	1,218	10,026	2967	267	55,139

SOURCE: Romanian National Bank

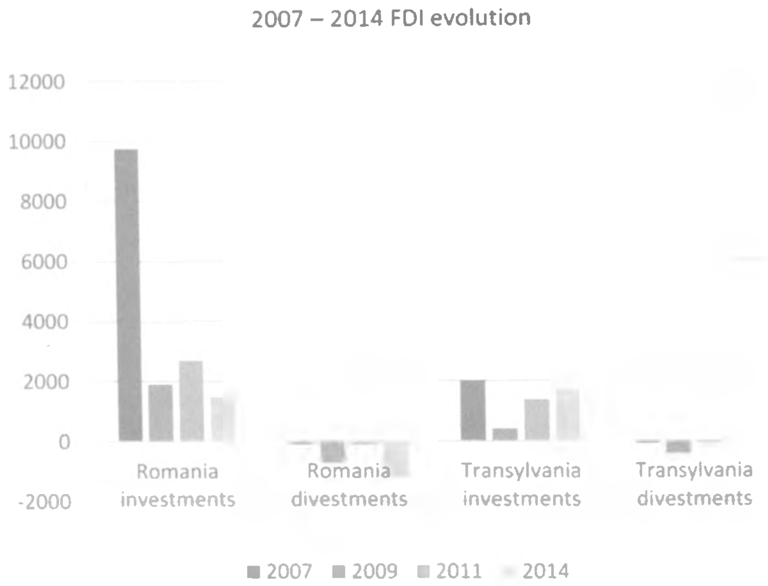
The post-crisis period, 2012–2015, brings a re-start of interest and several structural changes in different sectors of influence. From a structural perspective the biggest decrease was registered in the financial institutions sector, which not only dropped by 6% in the weight in FDI stock, but actually registered divestments of 2.2bn EUR. The biggest winners were mining, trade, the production and IT&C sectors, as shown in the table below.

Destination of FDI	Net value	Net gain in FDI stock
Mining & energy	2.9 bn EUR	+41%
Trade	0.8 bn EUR	+12%
Production	1.9 bn EUR	+11%
IT&C	0.6 bn EUR	+6%

SOURCE: Romanian National Bank

Regional Structure Evolution

THE FINANCIAL crisis had a very strong and immediate effect on the entire Romanian economy, yet it manifested differently at regional (Transylvania) level compared with the entire country. In the structural analysis of the net investments and divestments by sector, we considered a net investment all sectors in which the total national or regional investment was positive for a particular year and a net divestment the case of the sector in which the total national / regional investment was negative.



SOURCE: National Bank of Romania

Even at the first overall sight a different evolution at regional level is clearly visible. In 2007 and 2009 Transylvania only registered net investments of 21%-22% of the total national amount, of 2 billion dollars and respectively 0.4 billion dollars, compared with 9.7 billion dollars and 1.9 billion dollars. The net sector divestments were in the same period 89 million (91% of a total of 91 million) and 426 million dollars (59% of the total of 716 million dollars).

However, in 2011 the relative size doubled, the net sector investments in Transylvania reaching 1.37 billion, 51% of a total of 2.7 billion, while the net sector divestments remained relatively stable, at 59% of total (87 million out of a total of 147 million). In 2014 the split is even larger, Transylvania registering net sector investments of 1.74 billion dollars, 118% of the national value of 1.47 billion dollars, with net sector divestments of 24 million compared with the total national amount of 1.23 billion. This striking difference is mainly due to the investments' behavior in financial institutions and IT&C, which at national level were registered as a net divestment of 695 million and 530 million, while in Transylvania these were net investments, with 99 million and 40 million in aggregated value. The sectorial spilt analysis is detailed in the following tables:

ROMANIA	2007	2009	2011	2014
industry	2,237	540	1,391	514
professional services	1,637	682	119	40
agriculture	117	-157	248	227
other	-83	64	13	71
trade	1,762	105	-236	336
real estate	1,128	298	1,152	28
hospitality	-15	32	14	171
financial institutions	2,351	-508	-29	-695
IT&C	389	-51	-116	-530
transport	124	184	-2	86
TOTAL	9,647	1,189	2,554	248

SOURCE: National Bank of Romania

SECTORIAL NET INVESTMENTS / DIVESTMENTS IN TRANSYLVANIA

TRANSYLVANIA	2007	2009	2011	2014
industry	371	-175	482	1,097
professional services	489	-54	149	163
agriculture	43	168	261	71
Other	-4	2	-40	-12
Trade	363	77	35	83
real estate	535	-197	424	185
hospitality	-80	64	11	-7
financial institutions	84	39	-28	99
IT&C	120	42	8	40
transport	-5	25	-19	-5
TOTAL	1,916	-9	1,283	1,714

SOURCE: National Bank of Romania

At sector level the differences are even clearer, in both absolute and relative figures:

– The industry sector held the top position for direct investments across the analyzed period in both national and regional terms, but its growth was much faster in Transylvania, where it more than tripled its weight in total net sectorial investments from 19% in 2007 to 63% in 2014, compared with a much modest increase, from 23% to 35% in the same period at national level;

– The professional services lost their second position in both analyses, going down from 24% in 2007 to 9% in 2014 in Transylvania and registered a similar regress of 14% at national level, from 17% in 2007 to 3% in 2014;

– On the same direction of evolution, but with a significant gap in relative importance, were agriculture, growing from 2% to 4% in Transylvania and from 1% to 15% overall, the IT&C industry, which decreased from 4% both in Transylvania and overall to 2% in Transylvania and net divesture overall, and real estate dropping from 12% to 2% overall and from 27% to 11% in Transylvania;

– The most interesting results are however in the industries that manifest a diverging trend in Transylvania and at national level, balancing the strong growth of the industrial sector, and which could indicate the start of a regional specialization:

- In trade, the relative weight in total annual investments grew from 18% to 23% overall, yet decreased from the same 18% to 5% in Transylvania. This could actually be the result of a regional focus not on Transylvania, but on the rest of the country and especially Bucharest, where the big retail players have been significantly more active;
- A similar lack of regional focus would explain the hospitality industry that grew to 12% overall while it decreased to net divestures in Transylvania;
- A surprising result is that of the financial institutions, which registered a constant divesture process overall each year starting with 2009, but had a positive investment not only in 2014 (6% of total net sectorial investments) but also in 2009. This might be tied with the emergence of a second financial pole in Romania in Cluj, around Banca Transilvania, and a third one in Sibiu, around Banca Carpatica (whose recent capitalization problems open the way for further foreign investments in this period.

A deeper dive in the components of the 'industry' category yields even more surprising conclusions. The data indicate that in the latest period almost the all investments, especially in manufacturing, happened in Transylvania.

SECTORIAL NET INVESTMENTS / DIVESTMENTS IN INDUSTRY IN TRANSYLVANIA

TRANSYLVANIA	2007	2009	2011	2014
Industry	371	-175	482	1,097
Energy—electricity, gas, water	-60	39	59	49
Mining	44	-78	22	23
Manufacturing, out of which	387	-136	401	1,025
- food, beverages & tobacco	-109	-23	-2	13
- other manufacturing	-24	-35	25	24
- cement, glass & porcelain	29	-49	-33	21
- wood manufacturing	-66	56	-62	149
- computers and other electronic equipment	391	-89	127	169
- machinery	-35	-33	-18	72
- metallurgy	399	-173	189	224
- auto vehicles	32	166	127	297
- chemical industry	-197	109	44	-19
- textiles & leather	-33	-65	4	75

SOURCE: National Bank of Romania

SECTORIAL NET INVESTMENTS / DIVESTMENTS IN INDUSTRY IN ROMANIA

ROMANIA	2007	2009	2011	2014
Industry	2237	540	1391	514
Energy—electricity, gas, water	128	161	498	92
Mining	-62	62	363	-206
Manufacturing, out of which	2,171	317	530	628
- food, beverage & tobacco	96	-152	169	56
- other manufacturing	243	-17	-11	42
- cement, glass & porcelain	132	-132	103	-40
- wood manufacturing	16	73	14	264
- computers and other electronic equipment	690	3	222	171
- machinery	-39	-24	45	120
- metallurgy	372	-814	-83	231
- auto vehicles	321	441	251	-195
- chemical industry	330	1,017	-146	-113
- textiles & leather	10	-78	-34	92

SOURCE: National Bank of Romania

It is visible that while the effect of the crisis manifested itself much faster in Transylvania, where the investments turned negative in almost all manufacturing branches in 2009, at the overall level some of these continued to remain positive. Also the rebound was faster and in 2014 the total net investments surpassed 1bilion dollars in Transylvania, while almost half of that amount was offset by the rest of the country, and the overall amount only reached 628 million dollars. Particularly high values were registered for investments in the auto industry (297 million dollars, compared with a net divestment of 195 million dollars in the entire country), metallurgy and electronic equipment manufacturing, which composed almost the entire net amount for Romania (224 million out of 231 million for metallurgy and 169 million out of 171 million for electronic equipment) and wood manufacturing, which includes furniture, with 149 million out of 264 million dollars.

There is actually no manufacturing branch in which the Romanian figures would have a significant advance over the Transylvania ones, which would indicate an industrial focus, albeit narrower, in another Romanian region.

Conclusions

THE ANNUAL FDI volume reached 9.5bn EUR in the pre-crisis accession period, from about 5bn EUR/year until 2005. During the crisis the direct investments crashed to 2.2bn EUR in 2010 and 1.8bn EUR in 2011.

In the post crisis period, even though Bucharest maintained its position as top FDI location, it has definitely lost the one of top FDI destination, registering only half of the new FDIs—1.6bn EUR, compared with 3.2bn EUR in Transylvania. Until 2006, even though the majority of FDI came from resident investors in Europe, followed by South and North America, the percentage of companies owned by investors from Asia surpassed the American investors and the European capital has concentrated over a small number of economic operators. The main activity sector that benefited from capital inflow was industry (notably oil and gas, and auto), followed by the service sector, and at a greater distance by trade and transports.

Our analysis clearly shows that Transylvania is firmly consolidating its domination in industrial production, especially the more technical one (auto parts industry, computers and electronic equipment) while continuing to build on a strong position also in the financial sphere. A fact which at first sight is somewhat surprising is that the shared services and IT services industries, which do have a strong impact on regional GDP and employment, are not more visible in the foreign investments numbers, especially as both these areas generate income mostly from exporting services, and are more often than not owned by foreign players. The explanation for this comes from their characteristics and the importance of the high-skilled labor resources and the low need for capital investments.

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Abstract

Structural Changes of the Investment Capital in Transylvania

Before the effects of the global financial crisis started to be felt in Romania, investments in Transylvania were mostly directed towards real estate, financial institutions and several industrial sectors such as building and construction materials and components for the auto industry. The crisis brought not only market effects, but also changes in the structure of both transactions, and, our main interest, the structure of investments. Following the trend visible in other countries, one would have expected that these sectors would be the ones where the strongest restructuring effects would occur, and consequently investments in these sector would shrink. Despite these expectations, a more detailed analysis demonstrates far stronger effects and a higher sectorial influence. Thus, both investments and the impact on GDP seems to veer towards industry, IT and shared services. The objective of this study is to identify the factors that drove the FDI structure in Transylvania. Basically, the study is constructed so that it will provide a list of the main changes in the structure of FDI in the region, and also a comparison between FDI inflow at the regional level, national level and of course with the Bucharest-Ilfov region.

Keywords

structural changes, investments, sectorial analysis