THE RANKING OF THE ROMANIAN REGIONS BASED ON THE FDI ESSENTIALS FACTORS

Aniela Raluca Danciu[1], Răzvan Şerbu[2], Zizi Goschin[3]
[1]Academy of Economic Studies, anielaco@hotmail.com, [2] "Lucian Blaga" University Sibiu, razvanserbu@gmail.com, [3]Academy of Economic Studies, zizigoschin@hotmail.com

Keywords: regional disparities, economic development, foreign direct investment, ranking method

Abstract:
It has been recognized that different motives lie behind the investment decisions of firms in foreign countries. It is argued that "…there are substantial differences in economic performance across regions in virtually every nation. This suggests that many of the essential determinants of economic performance are to be found at the regional level" (Porter, 2003, p.550).
The goal of the study is the ranking the Romanian regions based on the main indicators which influence the foreign direct investment at regional level using the data provided by the National Trade Register Office of Romania for the period 1990-2010 and National Institute of Statistics.

1.ADMINISTRATIVE DIVISIONS IN ROMANIA

After 1990, Romania shifted its spatial policy from a central-based policy to a regional-based policy, in compliance with EU-standards. According to four criteria (number of inhabitants, surface, cultural identity and functional-spatial relations;) Romania was divided 1998 into eight Development Regions. The eight regions serve as NUTS-II units and as a framework for development policies while the counties serve as NUTS-III units. The NUTS-II units are: **North-East development region (**Bacau County, Botosani County, Iasi County,Neamt County, Suceava County,Vaslui County), **South-East development region (**Braila County, Buzau County, Constanta County, Galati County, Tulcea County, Vrancea County**)**, **South development region** (Arges County, Calarasi County, Dambovita County,Giurgiu County, Ialomita County, Prahova County, Teleorman County), **South-West development region** (Dolj County, Gorj County, Mehedinti County, Olt County, Valcea County)**, West development region** (Arad County, Caras Severin County, Hunedoara County, Timis County)**, North-West development region** (Bihor County, Bistrita County, Cluj County, Maramures County, Satu Mare County, Salaj County)**, Center development region** (Alba County, Brasov County,Covasna County, Harghita County, Mures County, Sibiu County)**, Bucharest-Ilfov development region** (Ilfov County, Bucharest).

2. VARIABLES SELECTION

Following the collapse of communism, the countries of Central and Eastern Europe, have been forging strategies to attract foreign capital as a way of achieving sustained economic growth (Martin and Velăzquez, 2000). Foreign direct investment by multinational corporations plays an important role in the transformation of former centrally planned economies into vibrant market systems, since it provides an inflow of capital, management skills, and jobs, alongside increasing exports and transfer of technology. It is also perceived as one of the conditions paving the way for improving the competitiveness of the economy and enhancing the provision of goods and services for the domestic market.
With the implementation of global and regional strategies by multinational corporations, the choice of location is becoming increasingly important, hence requiring a better understanding of the internationalization process and of the factors influencing the spatial distribution of FDI. There are substantial differences in economic performance

across regions in virtually every nation. This suggests that many of the essential determinants of economic performance are to be found at the regional level (Porter, 2003, p.550).

Several locational variables have been identified in literature as important determinants of FDI.

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 an increased demand. Foreign investors are likely to be attracted by large markets allowing them to internalize profits from sales within the host countries. According to Woodward (1992), Japanese–affiliated manufacturing investments in the USA during the 1980s to conclude that investors prefer states with strong markets and low unionization rates. The effect of specific market and regional growth characteristics are also taken into consideration in the spatial analysis of FDI in the United States, by Bagchi-sen and Wheeler's study. In this paper **population** is a measure of the market size and it indicates the economics dynamics of a location and states market growth potential (Bagchi-sen and Wheeler,1989). The other important determinant of FDI which defines local market size is **GDP**.

Agglomeration

The other important determinant of FDI is existence of agglomeration economies. Agglomeration economies are important to attract foreign direct investment. Agglomeration economies refer to the positive externalities and economies of scale associated with spatial concentration activities and co-location of related production facilities (Chadwick, 1989; Krugman,1991; Smith and Florida, 1994). There is systematic evidence suggesting that multinationals are attracted to clusters of economic activities in their own and in closely related industries and activities (Glickman and Woodward, 1988; Wheeler and Mody, 1992; Head and Ries, 1996; Devereux and Griffith, 1998; Guimaraes et. al., 2000; Driffield and Munday, 2000) **The total number of industrial enterprises** in a county, is expected to significantly attract FDI since the existence of industrial clusters signals a set of favourable condition for foreign investors such as the presence of local suppliers, specialized labour and infrastructure (He, 2002).According to Coughlin, Terza and Arromdee (1991)**,** the density of manufacturing activity was the important one of factors in location decisions of foreign firm in the US during 1981-1983. Head, Ries and Swenson (1995), examined the location choice of 751 Japanese FDI and observed strong agglomeration effects at the industry level. In this study, the total number of industrial enterprises in a province, is expected to significantly attract FDI since the existence of industrial cluster signal a set of favourable conditions for investors such as the presence of local suppliers, specialized labour and developed infrastructure (He, 2002).

The other variable in this study related to agglomeration economies is population density. **Population density** represents urbanization economies. Both number of foreign –funded enterprises and population density are expected to have a positive effect on FDI. Economists and geographers have pointed out that the role of agglomeration economies in industrial activities is very significant. The locational attractiveness to foreign investments is likely to improve through agglomeration effects related to the infrastructure quality, the availability of specialized service suppliers and of skilled labour, location-related reputation effects and the development of industrial clusters (Porter, 1990; Wheeler and Mody, 1992; Dunning 1998).

Infrastructure

The other important determinant of FDI is infrastructure. There are a positive relationship between infrastructure and inward FDI. Empirical studies support for the importance of infrastructure in FDI location decisions is provided by Wei and et al. (1998), Mariotti and

Pischitello (1995), Broadman and Sun (1997) and He (2002). A location with good infrastructure is more attractive than the others (Wei and others,1999; He,2002). Three variables are used to measure significance of infrastructure for FDI in this study: **hard surface public roads, railway lines, telephone line (*per1000 population*).**

Knowledge

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. As a result, firms may supplement their existing technologies by expanding internationally to access new knowledge. This expansion may suggest two types of knowledge-seeking behavior between firms originating from leading versus lagging technical centers (Cantwell and Janne, 1999). Firms from lagging technical locations need to catch up and locate their research centers abroad in order to improve their existing technology. However, while firms from leading locations do not need to catch up, they may also locate their research centers abroad to source more diverse knowledge, since "… the acquisition of new skills, and the generation of new technological capacity, partially embodied in new plant and equipment, must be a goal of every firm" (Cantwell, 1989, p.8). Due to the fact that knowledge is partially tacit and its transfer needs frequent interactions, knowledge-seeking investment requires physical proximity (Kogut and Zander, 1992). Moreover, efforts to search for knowledge-seeking investment are not carried out in isolation, but are strongly supported by various external organizations such as, for example, public research centers, universities or industry associations (Cantwell and Piscitello, 2005). The educational level of a country's citizens, alongside the existence of universities, research centers, science bases and other institutions that create knowledge in a region, has become increasingly important for the internationalization process, not only at the national level but also at the regional level (Cantwell and Iammarino, 2001, 2005; Acs *et al.,* 2002; Chung and Alcácer, 2002). Kuemmerle (1999) shows empirically that firms in technology-intensive industries by establishing R&D facilities abroad can expand their technological capabilities. Florida (1997) finds that accessing new indigenous technology is more important than customizing existing technology for new markets.

Bartlett and Ghoshal (1999) show that as firms establish their facilities abroad and allocate heterogenous products to them, R&D sites in close proximity to factories are needed. This is due to the fact that these sites support the transfer of knowledge, which is an attractive factor for the location of multinational companies (Cantwell and Piscitello, 2002). In addition, specific regions within nations might be particularly attractive locations for knowledge-seeking investment (Jensen, 2004). In this paper, **the number of scientists and R&D expenditures** are consi**d**ered.

3. COUNTIES AND REGIONS CLASSIFICATION USING THE RANKING METHOD

The ranking method relies on sorting the counties or the regions ascending or descending using the following sorting criteria: the market size, the agglomeration, the infrastructure and the knowledge.

All the counties will be sort descending assuming that the counties which register high values of the indicators should also be able to attract higher number of foreign investors. We assign ranking one to the county with the highest value of the indicator, considering it should attract most of the investors.

Table 1: Regions classification using the ranking method

Region	Ranks				Final ranking
	for market size	for agglomeration	for infrastructure	for knowledge	
Bucharest	1	1	1	1	1
West Region	2	3	2	2	2
North East Region	3	2	4	3	3
North West Region	4	4	3	7	4
South West Region	5	5	5	4	5
Center Region	6	6	6	5	6
South East Region	7	7	7	6	7
South Muntenia Region	8	8	8	8	8

After classifying of the regions, using the four criteria, we can observe that the Bucharest City has ranking one and it would be attract higher number of foreign investors. The second region is West region, following by North East and North West Region. The last places are occupied by the South East Region and South Muntenia Region.

Table 2: Counties classification using the ranking method

West Region		**North East Region**		**North West Region**		**South West Region**	
Counties	**Rank**	**Counties**	**Rank**	**Counties**	**Rank**	**Counties**	**Rank**
Arad	**17**	Bacau	**13**	Bihor	**11**	Dolj	**10**
Caras Severin	**32**	Botosani	**27**	Bistrita Nasaud	**28**	Gorj	**26**
Hunedoara	**14.5**	Iasi	**2**	Cluj	**4**	Mehedinti	**39**
Timis	**6**	Neamt	**19**	Maramures	**24**	Olt	**25**
		Suceava	**14.5**	Satu Mare	**20**	Valcea	**23**
		Vaslui	**22**	Salaj	**35**		
Center Region		**South East Region**		**South Muntenia Region**		**Bucharest**	
Counties	**Rank**	**Counties**	**Rank**	**Counties**	**Rank**	**Counties**	**Rank**
Alba	**21**	Braila	**31**	Arges	**8**	Bucharest	1
Brasov	**7**	Buzau	**29**	Calarasi	**34**		
Covasna	**41**	Constanta	**5**	Dambovita	**16**		
Harghita	**36**	Galati	**9**	Giurgiu	**40**		
Mures	**12**	Tulcea	**37**	Ialomita	**38**		
Sibiu	**18**	Vrancea	**30**	Prahova	**3**		
				Teleorman	**33**		

After classifying of the counties, using the four criteria, we can observe that the Bucharest has the ranking one, followed by Iasi (rank 2), Prahova (rank 3), Cluj (rank 4) and Constanta (rank 5).

nside the regions, there are big disparities determined by heterogeneous development areas, due to small, mono-industrial towns, strongly affected by the restructuring, reduced economical diversification of some big cities and due to the incapacity of some urban centers of becoming development vectors for adjacent areas. The under-developed regions are those dependant on agriculture, with great rural population where trans-border transport, is little developed, comparing to those in the opposed corner, whose dependence on the primary sector is reduced.

4. COMPARE THE RANKING OF THE REGIONS BASED ON THE FDI ESSENTIALS FACTORS WITH THE RANKING OF THE REGIONS BASED ON THE NUMBER OF FOREIGN DIRECT INVESTMENTS

Table 3: Ranking of the regions based on the FDI essentials factors and the number of foreign direct investments

Ranking based on	Bucharest	West Region	North East Region	North West Region	South West Region	Center Region	South East Region	South Muntenia Region
the FDI essentials factors	1	2	3	4	5	6	7	8
the number of foreign direct investments	1	2	6	3	5	4	7	8

We can see that the Bucharest region has ranking one for both ranking regions, that means it would be attract higher number of foreign investors and also it keeps the primacy in receiving foreign investments (about half number of the foreign commercial companies). The second group of regions, on the subsequent place is: the West Region, Northwest Region and Center Region (between 9-12%). The fewest commercial companies were founded in South Muntenia Region (only 2.7%).

This situation is motivated by the still precarious transport infrastructure connecting the rest of the country with Europe and the whole world, by the qualified and very skill workforce residing in Bucharest – the capital city is the most important academic center in Romania and the most of the students start working while still studying and thus being motivated to keep working and living in Bucharest after finishing their studies. Another favorable point for the skilled and very well prepared workforce in Bucharest is represented by the professors activating within the universities from Bucharest as well as the very well trained personnel working in all the other companies from the region.

The foreign investors' interest in the Western regions can be noticed, fact can be explained by the greater stability of the foreign capital invested of the Western region compared to the other regions of the country, the lower salaries and leaving standards compare with Bucharest, by the transport infrastructure that has improve lately for this region, the airports in the most important cities in the region being modernized and connected with the most important cities in the Western Europe , but also by the more Western – like life style and mentality from this region. The most important economic centers in this region are Timisoara (the second developed city of Romania after Bucharest) and Arad.

Generally, the foreign investors avoided the poorest regions in Romania, the rural environment, preferring the towns or the adjacent areas. The regional distribution of the FDI in Romania is characterized by great inequalities, the one between the Bucharest Region and the other regions being most obvious and the second between rural and urban area.

CONCLUSION

The analysis of the investment's location within Romania using the four criteria shows a very disparate distribution of FDI in the eight development regions. At the regions level, there are disparities determined by heterogeneous development areas, due to small, mono-industrial towns, strongly affected by the restructuring, reduced economical

diversification of some big cities and due to the incapacity of some urban centers of becoming development vectors for adjacent areas. The under-developed regions are those dependant on agriculture, with great rural population where trans-border transport, is little developed, comparing to those in the opposed corner, whose dependence on the primary sector is reduced.

An extremely important role in eliminating intra and inter-regional disparities is the help Romania shall receive from the European Community. For the operational programs that benefit from European cofinancing, for the timeframe 2007-2013, Romania shall receive 17,264 Millions Euro from Structural and Cohesion Funds of the European Union. From this amount, 3,275 Millions Euro shall be allocated to the Regional Operational Program destined for the FEDR development, that shall support the financing from national public funds of 549,04 Millions of Euro and national private funds of 28,90 Millions of Euro.

This work was supported by CNCSIS, project number TE code 349/2010

References:

1.BEVAN, Alan, ESTRIN Saul, The determinants of foreign direct investment in transition economies (2000), William Davidson Institute, Working Paper 342
1.BUCKLEY, Peter J.; CLEGG, Jeremy; WANG, Chengpi e CROSS, Adam R. FDI, regional differences and economic growth: panel data evidence from China. Transnational Corporations, vol 11 (1), Abril de 2002.
2.CAMPOS, Nauro F. & KINOSHITA, Yuko. Why does FDI go where it goes? New evidence from the transition economies. IMF Working Paper, IMF Institute, Novembro de 2003.
3.CAVES, R.E. – International Corporations: The Industrial Economics of Foreign Investment. Economica, vol.38 (February), 1971.
4.CORNWELL, C. and RUPERT, P. Efficient Estimation with Panel Data: An Empirical Comparison of Instrumental Variables. Journal of Applied Econometrics, 3: 149-155, 1988.
5.DUNNING, J. --- Multinational Enterprise and the Global Economy. Wokinghan: Addison-Wesley,1993.
6.DUNNING, John H. Determinants of foreign direct investment: globalization induced changes and the role of FDI policies. Annual Bank Conference on Development Economics, 2002.
7.GRANGER, C. Investigating Causal Relations by Econometric Model and Cross- Spectral Methods. Econometrica, 37: 424-438, 1969.
8.HOLLAND, Dawn; SASS, Magdolna; BENACEK, Vladimir & GRONICKI, Miroslaw. The determinants and impact of FDI in central and eastern Europe: a comparison of survey and econometric evidence. Transnacional Corporations, vol 9 (3), Dezembro de 2000.
9.HSIAO, C. Analysis of Panel Data. Cambridge University Press, second edition, 2003.
10.HYMER, S. - The International Operations of National Firms: a Study of Direct Foreign Investment. PhD Dissertation, MIT (publicada por MIT Press, 1976).
11.LIPSEY, Robert E. Inward FDI and economic growth in developing countries. Transnational Corporations, vol 9 (1), Abril de 2000.
12.TSAI, Pan-Long. Determinants of Foreign Direct Investment and its impact on economic growth. Journal of Economic Development, vol 19 (1), Junho de 1994.
13. National Institute of Statistics of Romania, Statistical Yearbook 2007, 2009
14.National Trade Registry Office, Companies by FDI Statistical Synthesisof the National's Trade Register's Data on 31 December 2009, www.onrc.ro/statistici/is_december_2009.pdf