Romanian immigrants and the inflows of foreign direct investment towards Romania

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Abstract. *The answer to the following question summarizes the research presented in this manuscript: "Are Romanian immigrants in the EU countries enhancing the foreign direct investment (FDI) inflows towards Romania?", and as a consequence it makes the results of the paper a useful tool for all Romanian authorities dealing with one of the two topics: migration and foreign investments. To our knowledge, the paper provides the initial evidence supporting the hypothesis that Romanian immigrants in the EU countries can be regarded as "ambassadors" of the Romanian economy in attracting FDI (to Romania) from their adoption countries. The methodological approach relies on econometric modelling which reveals a positive and statistically significant relationship between the stock of immigrants and the number of FDI firms located in Romania and sourced from 15 EU economies, when controlling for several variables. The results could be useful both for companies and for Romanian policymakers that should target as source for potential foreign capital the economies which attract important flows of Romanian immigrants.*

Introduction

The foreign direct investments (FDI) are regarded by the majority of the governments of developing economies as one of the most important tools that can be used to fuel the development of their economy and therefore identifying their determinants should be regarded with great care. Moreover, identifying some new determinants, specific to each individual economy should be regarded with great attention due to the fact that these might be the ones offering a competitive advantage to that economy. In the current post crisis context in the Eastern European countries, forging policies for attracting foreign direct investments, needs to become a continuous concern for private investors and also for regional and local level authorities due to the fact that these investments can be: an important source of taxes and incomes for the local budget, an important source of jobs for the local community and also a relevant aspect that can mitigate the migratory outflows.

The main goal of the present paper is to provide empirical evidence that the stock of Romanian immigrants in the countries of the European Union can be regarded as a trigger of the inflow of FDI received by Romania from those countries. Moreover, this

paper should be regarded as the first Romanian study which tries to support the hypothesis that the Romanian immigrants are one of the factors that enhance the Romanian domestic economic activity by catalyzing the incoming FDI from their adoptive country, towards Romania. Taking in consideration that the inflow of public and private investments and the outflow of labor force are significant issues that need to be tackled by both companies and Romanian public administration, this paper, by linking directly the two phenomena, tries to provide the starting point of a tool that can be developed by the public administrations (local and national) with the clear purpose of increasing the economic development of the targeted area and by consequence to stop the aggravating depopulation. Therefore, the objective of our paper is twofold: first we try to provide the initial evidence by linking the inflows of FDI to Romania with the outflows of Romanian migrants and second we try to emphasize the practical utility for the public administration of the policies and programmes constructed based on the correlation of the two phenomena.

The literature of the field of FDI determinants focuses on factors such as the size of the market, enabling infrastructure, resource endowments, labor market conditions, institutional stability, fiscal incentives and corruption, leaving other potential determinants like ethnic networks and the international migration in obscurity (Garas at.al, 2016; Navaretti, 2007). At the same time, the existing evidence confirms that migration has a number of positive consequences at individual level, due to financial (Roman, 2013) and social remittances (Nikolova et al, 2017), while migration's role on macro-economic financial inflows seems to be under-researched. Therefore the paper brings original contribution to the body of literature on the determinants of FDI by focusing on the particular role of diaspora, as an important trigger for the FDI towards the origin countries. For a developing, post-socialist country such as Romania, with a large recent migration, the topic addressed in the paper is of high interest.

Our results could be of significant relevance for companies and for public authorities as well. Identifying some relationships between the external immigration and the incoming FDI might prove useful for governments due to the fact that they can use their population located abroad as "ambassadors" of their economy, in attracting FDI from the adoption countries. Thereby, such a mechanism might be of an increased importance for developing economies that have large groups of immigrants in more developed economies.

In order to reach our goal we have structured our paper in three main sections accompanied by an introduction and conclusions. The first section deals with the literature review and provides a general structure of the studied phenomenon; the second section provides clear information regarding the employed methodology and the used data and finally, the third section presents extensively and discusses the empirical results of our study.

Literature review and theoretical framework

The globalization phenomenon and the dissolution of all kind of barriers (such as national borders or trade related barriers) have increased significantly both the international trade and the propensity of companies of engaging in investment activities abroad. As a consequence, the competition between alternative investment locations has intensified and national governments and foreign investors have moved towards a more collaborative environment.

The literature dealing with the determinants of FDI is rather vast and provides a very large list of macroeconomic, social and political indicators, which can be regarded

as factors which could enhance the FDI activity of a host county. On the other hand, the literature also identifies a large variety of factors (internal factors or factors related to the source economy) that can be regarded as motivators for companies to engage in internationalization processes.

Among the most important determinants are: market size and market strength, infrastructure, labor market related aspects, fiscal incentives, natural resources and legislative and institutional related aspects. Even though, the ethnic networks, which are mainly connected with international trade in the scientific studies and only recently with FDI activity, and the international migration, are other factors that can be connected with the FDI activity, their presence in the literature is scarce.

Main FDI determinants: a brief description

The market's characteristics are some of the most important determinants cited by scholars when analyzing the FDI attractiveness of a location. Influential studies identify a positive link between the market size, strength and economic growth and the FDI activity (Schneider and Frey, 1985; Asiedu, 2006; Cleeve, 2008; Mohamed and Sidiropoulos, 2010).

Danciu and Strat (2015) support the idea that companies decide to invest in locations where costs related to labor force increase the efficiency of the investment. Similar findings were obtained earlier by Schneider and Frey, in 1985, and Vijayakumar, Sridharan and Rao, in 2010. However, results are still under debate in this matter due to the fact that there are studies which support the idea that low labor costs could be associated with low productivity (Wheeler and Moody, 1992), decreasing therefore the FDI attractiveness of a location.

The existence of natural resources is described, in several articles, as being another key driver of the FDI activity. Some of the main studies supporting the positive linkage between the existence of abundant natural resources and FDI inflows are those published by: Deichmann, Eshghi, Haughton, Sayek and Teebagy in 2003, Asiedu in 2006 and Cheung and Qian in 2009.

The infrastructure is another major determinant of the FDI activity cited by scholars. Most of the findings have shown a positive correlation between the quality of the infrastructure (transport, energetic, IT&C) and the FDI attractiveness of a location (Asiedu 2002, Khadaroo and Seetanah 2009).

Corruption level (Dunning 2001, Al Sadig 2009), research and development level and institutional and legislative stability (Schneider and Frey 1985, Narulla and Dunning, 2000) are other macroeconomic and social characteristics of an economy that are presented by scholars as affecting the FDI activity of an economy

Migration and the FDI attractiveness

As mentioned in the previous sub-section, a large body of research was conducted with the clear purpose of studying the determinants of the FDI but the ethnic networks and the immigration phenomenon have remained in the shadow. One of the main reasons of this reality might be represented by the fact that such linkages are not so straightforward.

The literature has brought evidence (there are different FDI related theories) supporting the idea that companies will engage in FDI only when the benefits of the future investment is higher that its cost. Besides physical assets and different taxes, the costs include information gathering processes which cannot be neglected, due to the fact that a foreign company needs to develop in the new host country communication

relationships with a large variety of economic actors, such as: customers, authorities and competition. Therefore, it is plausible to assume that companies that manage to diminish these costs have a higher propensity of engaging in FDI activities. Thus, companies from a country where there is an important community of immigrants from another country, which can help diminish the information asymmetry, might be encouraged to invest in the source county (region, city) of the immigrants. In the context of international trade, we find one of the first evidences (Gould, 1994) supporting the idea that the existence of ethnic networks reduces the information asymmetry. Supporting the finding reported by Gould for the USA, Head and Ries, (1998), find similar evidence for Canada.

Another important approach tests the influence and possible substitutability between FDI and migration. Xu and Sylwester (2016) found that FDI increases emigration but only to the FDI origin country.A positive relationship between FDI and networks of immigrants is reported both by Bhattacharya and Groznik (2008) and by Buch, Kleinert and Farid (2006). Other studies supporting these findings, for the Chinese economy, are those published by Gao (2003) and Tong (2005). On the other hand, Kugler and Rapoport, (2007) find a negative relationship between FDI and international migration.

The mixt evidence increases the need for new research in the field and Romania being a developing country with a large and increasing European migration, however less covered by international literature, is a case of particular interest.

Methodology and data issues

We apply macro panel data modelling on a sample of 15 European countries covering the period between 2001 and 2009. We opt for multiple regression models with pooled data using E-Views. The variable of interest is the stock of Romanian migrants in the country of FDI origin and the estimation approach includes six different models. The first five models are constructed on panel structured data and the sixth model is a multiple regression model which is estimated for each year over the period 2001 – 2009. Due to the characteristics of the phenomenon we have analyzed (the inflow of FDI) we have considered panel regression model with fixed effects, as they seemed to be appropriate. However, since we use as independent variables in the models a number of time invariant characteristics (distance, dummies for Euro zone, North/South location and Latin countries), and using a rather small sample of countries, we investigate the models on pooled data,

A number of country- variables were introduced in the models, based on the evidence existing in the literature, but also restricted by the data availability: the distance between Romania and the source of FDI countries, GDP, GDP growth, and dummies for the cases when countries are member of Eurozone, are Latin countries, or belong to the North of Europe. The description of the variables, including their symbols used in the following models is detailed in Table 1.

Different specifications of the econometric models were used, as follows:

$$N\_FIR_{it} = \beta_0 + \beta_1 \cdot IMI_{it} + \varepsilon_{it} \tag{1}$$

$$N\_FIR_{it} = \beta_0 + \beta_1 \cdot IMI_{it} + \beta_2 \cdot GDP_{it} + \beta_3 \cdot DIST_{it} + \varepsilon_{it} \tag{2}$$

$$N\_FIR_{it} = \beta_0 + \beta_1 \cdot IMI_{it} + \beta_2 \cdot GDP_{it} + \beta_3 \cdot DIST_{it} + \beta_4 \cdot EURO_{it} + \varepsilon_{it} \tag{3}$$

$$N\_FIR_{it} = \beta_0 + \beta_1 \cdot IMI_{it} + \beta_2 \cdot DIST_{it} + \beta_3 \cdot OUTF\_S_{it} + \beta_4 \cdot GDP\_\%_{it} + \beta_5 \cdot EURO_{it} + \beta_5 \cdot N/S_{it} + \varepsilon_{it} \tag{4}$$

$$N\_FIR_{it} = \beta_0 + \beta_1 \cdot IMI_{it} + \beta_2 \cdot DIST_{it} + \beta_3 \cdot OUTF\_S_{it} + \beta_4 \cdot Latin_{it} + \varepsilon_{it} \tag{5}$$

The sixth model only considers the variables directly related to migration outflows, namely the distance to destination country and the stock of migrants. It is estimated for each year over the period 2001 – 2009 for the entire sample of 15 EU member states (resulting nine specific models):

$$N\_FIR_i = \beta_0 + \beta_1 \cdot IMI_i + \beta_2 \cdot DIST_i + \varepsilon_i$$ (6)

Table 1. *Variables included in the analysis*

Number	Title	Source	Missing values	Measurement units	Min	Max	Code
1	Number of FDI firms	ONTR, www.ontr.ro	No	No of firms	13	28150	N_FIR
2	IMI (immigrants)	Holland et al. (2011)	No	No of persons	361	887763	IMI
3	GDP	WB, www.worldbank.org	No	PPP (constant 2011 intern. $)	3.62×10^{10}	3.38×10^{12}	GDP
4	GDP growth (%)	WB www.worldbank.org	No	%	-8.27	6.64	GDP_%
5	FDI Out Stock	UNCTAD, www.unctad.org	No	Current US $	0	1802523	OUTF_S
6	Distance	http://www.distancefromto.net/	No	km	805.84	2787.11	DIST
7	EURO zone member (dummy)	Author	No	-	0	1	EURO
8	North – South (dummy)	Author	No	-	0	1	N/S
9	Latin country (dummy)	Author	No	-	0	1	Latin

Source: Authors' work.

All the time series presented in the paper cover the sample: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom. The sample of 15 countries was selected according to the availability of the data for the stocks of immigrants. It should be also noted that the destination countries in our sample cover more than 90% of the stock of Romanian migrants in Europe.

The data covers the period 2001 – 2009 and is publically available in the following sources: World Bank, United Nations Conference on Trade and Development (UNCTAD), Office of National Trade Register (ONTR) and National Institute for Economic and Social Research (NIESR) in London.

The dependent variable, namely the number of FDI firms coming from the 15 EU member states was constructed using the information available of the website of the (ONTR).

In the case of the variable of interest, the stock of Romanian migrants in the selected countries, the availability of reliable macro-data was an important challenge faced during this research and was somehow expected since this is the greatest limitation mentioned by the entire scientific literature dealing with the study of migration. Aziz and Syed, in their study on immigration and international trade released in 2016 have mentioned the "lack of data on the number of migrant" as a crucial limitation and have used data from Nations Global Bilateral Migration database for the years 1960, 1970, 1980, 1990 and 2000 (including for Romania). One of the main causes of this fact is identified as being the partial overlapping between recording and measuring stocks and flows (Anghel et al., 2016, Andren and Roman, 2016). Another source explored by the authors was census data, but the reached conclusion was that the source is not appropriate since it does not provide time series, but just moment snap-shots. Besides, as there was in the case of the Romanian last censuses, there were serious difficulties to register the population data comprehensively due also to informal flows (Anghel et al. 2016). For similar reasons, the data on permanent emigration provided by National Institute for Statistics[1] in Romania underestimates the magnitude of the Romanian migration, while the EUROSTAT data[2]   lack relevant information on Romanian case.

The solution that we have identified and employed during this research was the publicly available migration dataset provided by the National Institute for Economic and Social Research in London which has the highest adequacy for our purpose. The data set offers information on the stocks of migrants living in various European countries, including Romania and covers a time period of nine years, between 2001 and 2009, long enough for constructing a reliable panel. Moreover, the data has the clear advantage of using a common methodology and providing information comparable across countries and therefore it makes our results comparable with the ones obtained by similar research conducted for other East European economies. Therefore, we have constructed the time series of the stock of immigrants using the information displayed in Holland et al. (2011).

Empirical results
The dynamics of the main FDI determinants in Romania over the analyzed period
When discussing the FDI topic and mainly the inflow of FDI into a specific country, it is crucial to present the evolution of the main FDI determinants for that specific country for the studied period. Therefore, we will provide in the next paragraphs a brief description of the evolution of the main FDI determinants for Romania for the period 2001 -2009.

Over the studied period, the Romanian GDP has recorded a significant increase of almost 46%. Noteworthy is also the fact that the GDP peaked in 2008 and then it entered on a descending trend because of the severe effects of the global crisis. A similar evolution, with a peak in 2008, knew the GDP/capita, which also increased over the analyzed period with over 58%.

During the same period, the total labor cost increased with almost 160% while the hourly productivity increased with only 69%, showing a general decrease in competitiveness.

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[1] http://statistici.insse.ro/shop/index.jsp?page=tempo3&lang=en&ind=POP309D#, accessed September 15, 2016
[2] http://ec.europa.eu/eurostat/data/database, accessed September 15 2016

Both the fuel exports and the ores and metals exports have increased significantly over the period 2001-2010. The increase is substantial for both export types, signaling therefore an increased attractiveness for resource seeking FDI.

As far as infrastructure is regarded, the macro indicators show that some aspects remain severely underdeveloped while others have recorded important increases. The transport infrastructure is the most important weak point of the Romanian economy and the highway system measured in 2009 was only 321 km (in 2001 the entire network was of only 113km). During the analyzed period the railway network has slightly decreased, with almost 6%, on one hand and on the other hand, the liner shipping connectivity index has recorded an increase of over 94%. Significant improvement was recorded by the IT&C infrastructure and this might be considered one of the main engines of the development of the IT business sector at the level of the Romanian economy.

Other important determinant identified in the literature is the corruption level, which has also recorded an improvement of over 22% at the level of the Romanian economy over the analyzed period. Also, the research and development expenditures have recorded a 20% increase between 2011 and 2009, but still represent only 0.47% of GDP, placing Romanian at the bottom of the EU hierarchy. The economic trends in Romania and the evolution of FDI are also correlated with political cycles (Roman et al, 2009), being stimulated by an increase in domestic demand, especially in 2004 and 2008.

One important improvement was noted in the openness of the Romanian economy which has recorded an increase of over 33% (measured as imports and exports) over the analyzed period. Summing up this section, it is obvious that the general characteristics of the Romanian economy have improved over the analyzed period, increasing therefore the country's attractiveness for FDI.

The evolution of the stocks of FDI firms in Romania
The number of FDI companies located in Romania by investors from the 15 analyzed economies increased from 31216, in 2001, to 78967, in 2009, which means an increase of almost 153%. The structure of the sample has suffered little change over the analyzed period. Italian companies represent during the entire period around 34%-36% of the total. The same trend is visible for both French and Austrian companies, which represent, constantly, around 7% each. An important decrease was recorded by the indicator for Germany, where at the beginning of the period, German companies were representing over 29% and in 2009 they only represent fewer than 22%.

Table 2. *The structure of the stock of FDI firms by source-country over the period 2001 -2009*

No. FDI firms	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	**6,68%**	**6,92%**	**6,90%**	**6,83%**	**6,92%**	**7,04%**	**7,09%**	**7,07%**	**7,09%**
Belgium	2,79%	2,94%	2,88%	2,89%	2,89%	2,93%	2,93%	2,91%	2,91%
Denmark	0,61%	0,64%	0,65%	0,63%	0,63%	0,68%	0,73%	0,78%	0,79%
Finland	0,04%	0,07%	0,10%	0,11%	0,13%	0,14%	0,13%	0,15%	0,15%
France	**7,35%**	**7,75%**	**7,80%**	**7,78%**	**7,86%**	**7,88%**	**7,79%**	**7,73%**	**7,72%**
Germany	**29,22%**	**28,06%**	**27,12%**	**25,90%**	**24,96%**	**23,86%**	**22,58%**	**21,93%**	**21,67%**
Greece	**6,38%**	**6,45%**	**6,33%**	**6,25%**	**6,12%**	**6,06%**	**5,95%**	**5,90%**	**5,95%**
Ireland	0,38%	0,47%	0,49%	0,57%	0,65%	0,77%	0,88%	0,90%	0,91%
Italy	**34,07%**	**34,15%**	**35,05%**	**36,10%**	**36,28%**	**36,13%**	**35,49%**	**35,52%**	**35,65%**
Luxembourg	0,50%	0,53%	0,54%	0,56%	0,56%	0,67%	0,92%	0,96%	0,87%
Netherlands	4,27%	4,30%	4,32%	4,32%	4,43%	4,51%	4,54%	4,55%	4,54%
Portugal	0,24%	0,20%	0,23%	0,26%	0,31%	0,34%	0,39%	0,44%	0,46%
Spain	1,30%	1,42%	1,56%	1,85%	2,35%	2,92%	3,92%	4,54%	4,71%
Sweden	2,14%	2,02%	1,94%	1,77%	1,65%	1,54%	1,48%	1,42%	1,43%
United Kingdom	4,05%	4,06%	4,11%	4,18%	4,26%	4,55%	5,18%	5,19%	5,17%

Source: Authors' work, using ONTR data.

The highest growth, measured as relative change 2009/2001 is recorded by Finland and Spain for which the stock of FDI companies in 2009 is over 9 times higher than it was in 2001. This increase, even if impressive in percentages, is easily explainable by the very low stock from 2001.

The dynamics of the stocks of Romanian immigrants in European selected countries

Over the analyzed period, the spatial distribution of the stocks of immigrants, for the 15 studied countries, can be split into two different periods. Taking into consideration the evolution of the time series of Gini coefficients[3], there is a clear period, between 2001 and 2007, when the concentration is increasing. Therefore, during this economic growth cycle, the Romanian immigrants were particularly targeting some specific countries (which could be considered concentration poles). Starting from 2007, when the effects of the global crisis started to affect all European economies, the migration flows tend to favor the decrease of the disparities. Therefore, it is obvious that the migration patterns of the Romanians have become more complex and they have suffered some structural changes with respect to the pre-crisis situation. Moreover, the decreasing trend of the Gini coefficient might be interpreted as a proof of the fact that the migration motivation might have increased its sophistication due to the economic difficulties of the targeted countries.

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[3] Gini coefficient, as a measure of statistical dispersion, ranges between 0 and 1: 0 expresses the perfect equality in the share of Romanian migrants by countries, while 1 expresses maximum inequality among values. The coefficient was computed using Lorentz curve, as described in Isaic-Maniu Al., Mitrut, C.Voineagu V., `*Statistica*`, Editura. Universitara, 2003, Bucharest.
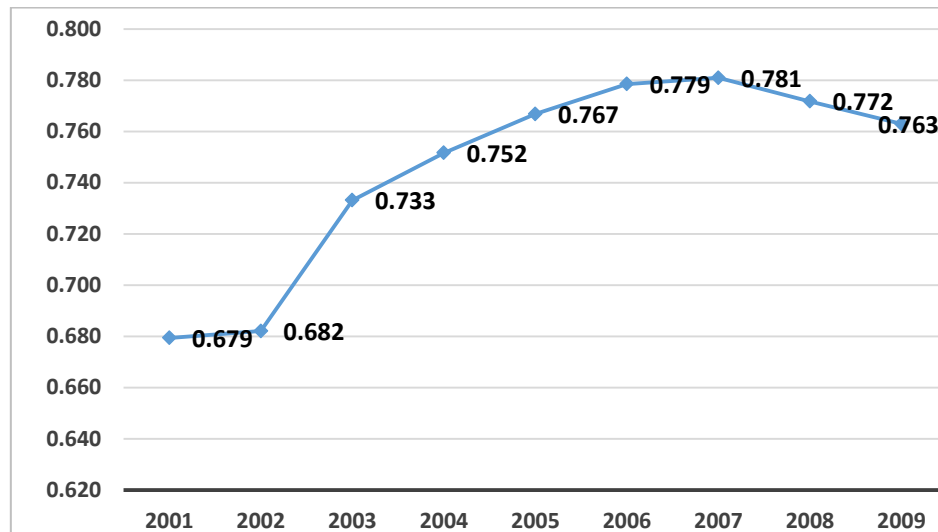
Figure 1. **Gini coefficients for the stock of immigrants over the period 2001 -2009**

Source: Authors' work.

Over the analyzed period, the stock of Romanian immigrants in the 15 countries included in the current research has increased more than seven times. This evolution was supported both by Romanians' visa-free access to Schengen countries (2002) and the country's accession to EU (2007) (Anghel et al., 2016).

The highest increase was recorded by the stock from Spain, followed by the UK, Italy and Belgium, showing therefore that the attractiveness of these countries had the highest positive evolution over the analyzed period.

Table 3. *The share of Romanian immigrants by destination countries over the period 2001 -2009*

Immigrants	2001	2002	2003	2004	2005	2006	2007	2008	2009
Austria	**6,17%**	**5,21%**	**3,79%**	**2,98%**	**2,49%**	**1,97%**	**1,69%**	**1,67%**	**2,24%**
Belgium	1,11%	1,09%	0,86%	0,79%	0,86%	0,92%	0,93%	0,85%	1,00%
Denmark	0,41%	0,34%	0,25%	0,20%	0,18%	0,15%	0,15%	0,19%	0,24%
Finland	0,19%	0,15%	0,10%	0,08%	0,07%	0,07%	0,06%	0,05%	0,05%
France	3,34%	2,81%	2,87%	3,30%	2,02%	3,85%	2,54%	2,25%	2,30%
Germany	**30,65%**	**23,70%**	**16,47%**	**10,24%**	**8,29%**	**7,07%**	**5,53%**	**5,20%**	**5,28%**
Greece	2,51%	3,69%	2,70%	2,26%	2,15%	1,71%	1,57%	1,52%	1,74%
Ireland	1,56%	1,31%	0,37%	0,34%	0,56%	0,69%	0,70%	0,80%	0,69%
Italy	**28,87%**	**25,40%**	**32,88%**	**34,75%**	**33,77%**	**30,86%**	**38,13%**	**41,21%**	**41,73%**
Luxembourg	0,13%	0,10%	0,07%	0,06%	0,06%	0,05%	0,05%	0,06%	0,04%
Netherlands	0,73%	0,63%	0,51%	0,42%	0,34%	0,29%	0,30%	0,32%	0,33%
Portugal	2,85%	2,98%	2,20%	1,72%	1,24%	1,07%	1,18%	1,44%	1,53%
Spain	**18,47%**	**30,16%**	**35,12%**	**40,08%**	**44,08%**	**48,65%**	**44,81%**	**41,35%**	**38,69%**
Sweden	0,87%	0,62%	0,43%	0,33%	0,27%	0,20%	0,27%	0,34%	0,36%
United Kingdom	**2,15%**	**1,82%**	**1,38%**	**2,46%**	**3,62%**	**2,44%**	**2,09%**	**2,75%**	**3,78%**

Source: Authors' work, based on NISER data.

Over the analyzed period, the spatial structure of the stock of Romanian immigrants has suffered severe changes. Germany was ranked first in 2001, hosting over 30% of the Romanian immigrants and, in 2009, it is ranked third with only 5.28%

of the stock. During the same period the number of immigrants from Italy and Spain has largely increased, the stock from Italy representing over 41% of the total and the one from Spain almost 39%, in 2009. The stock in the United Kingdom has recorded another notable increase (as part of total), representing at the end of the studied period 3.78% compared to around 2.15% at the beginning.

The correlation coefficients between the stock of immigrants and the FDI firms, for the sample of 15 countries included in the analysis, for the period 2001-2009, presents a U evolution pattern (Figure 2). The maximum value was recorded in 2001 when Romania was not a member of the European Union and immigration was not as facile as after 2007. The lowest value is recorded in 2006, which is the last year before Romania became an EU member. Also notable is that the time series does not fluctuate and has a constant decreasing trend until 2006, followed by a constant increase over the period 2006 – 2009, while the value recorded in 2009 is at the level of the 2002 -2003 period.
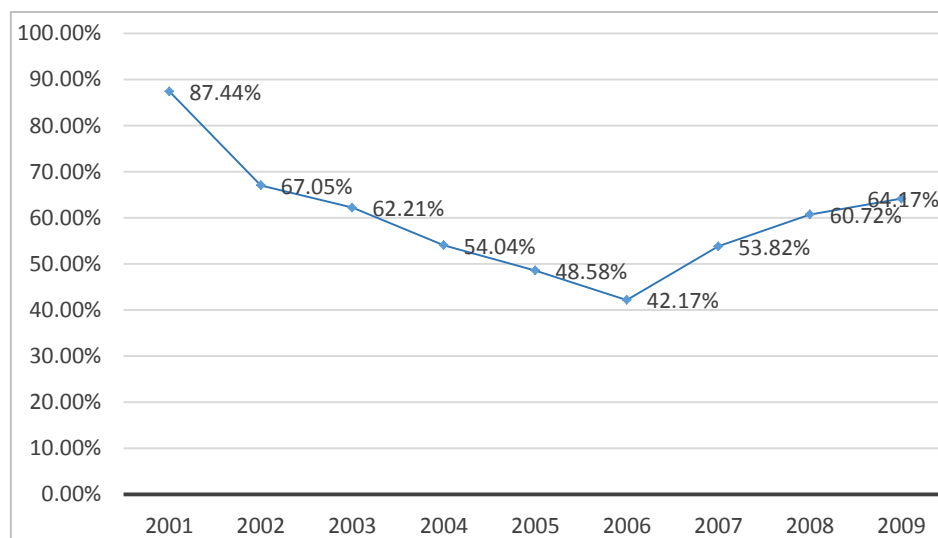

Figure 2. **The correlation coefficients between the stock of immigrants and the number of FDI firms**

Source: Authors' work.

Results of the macro econometric modeling
In order to assess the consistency of the results (the coefficient of the stocks of immigrants), there were several control variables included in the model in different modelling specification, as described in the second section. First, we have included the GDP of the source countries, the GDP growth for the source countries and the outflows FDI stocks of the source countries. All these variables were used in order to see if the stock of immigrants can still be considered a good indicator of the FDI received by Romania when controlling for different characteristics of the source economies. In model II, model III, model IV and model V we have also included the distance between Romania and the source country with the purpose to test the hypothesis that neighboring countries have a higher propensity of making investments in Romania. In order to see if the affiliation to the Eurozone is important we have also included in the third model a dummy variable (1 for Eurozone member states and 0 for non-members). In the fourth model we have included a new dummy variable, North/South (1/0) with the purpose of identifying a potential behavior difference between source economies with regard to their geographical location. Finally, in the fifth model we have included a new dummy variable, denoted Latin, with the purpose of testing the hypothesis that

Latin countries have a higher propensity to invest in another Latin country (therefore supporting cultural similarities).

The estimations were done in E-Views, and the obtained results are presented in a structured manner in the following tables:

Table 5. *The results of the models' estimation for the Models I-V*

Independent Variables	Model I	Model II	Model III	Model IV	Model V
	Unstandardized regression coefficients				
IMI	0.0167*	0.0118*	0.0113*	0.0108*	0.0090*
GDP		2.63×10^9*	2.73×10^9*		
DIST		-3.1168*	-3.1567*	-3.2233*	-4.1154*
OUTF_S				0.0022*	0.0021*
GDP_%				-54.8343*	-44.4098
EURO			1634.312*		
N/S				-1685.574**	
Latin					3311.452*
Constant	1487.760*	5720.749*	4411.340*	8289.198*	7939.50*
R square	0.8854	0.8976	0.9201	0.5990	0.6252
Adj R square	0.8845	0.8952	0.9177	0.5834	0.6107
No. obs.	135	135	135	135	135
Durbin - Watson	1.81	1.96	1.97	1.78	1.81

Note:* represents statistical significance at 1% level, ** at 5% level and *** at 10% level.

Source: Authors' work.

All five previously presented models are estimated using no effects since the dummy time invariant variables would not allow the usage of the fixed effects models. All independent variables included in the models, except IMI (stock of immigrants), are included as control variables with the clear purpose of assessing the consistency of the relationship between the dependent variable and the number of immigrants.

In all five models the coefficient of the number of immigrants (IMI) is positive and statistically significant (at 1%), showing that there is a clear correlation between the two phenomena and that the number of Romanian immigrants in a foreign country can be considered by Romanian policymakers as a very good indicator of the attractiveness level of Romania in the eyes of foreign investors from that specific country. We state very clear that analyzing the causal relationship between the two variables is not the main purpose of this paper and, for identifying such connections further, quantitative analysis, which is beyond the goal of this paper, needs to be conducted). Therefore, it is clear that the Romanian immigrants should be regarded by the Romanian policymakers as an enhancer of the Romanian domestic economic activity. As expected, the distance between Romania and the source country of the FDI companies has a negative and statistically significant coefficient (also at a 1% significance level) in all three models where it is employed. Thus, we can conclude that Romania is more attractive for neighboring investors than for investors located at the other end of Europe.

The GDP of the host country has a positive and statistically significant coefficient in both models, supporting therefore the hypothesis stating that larger economies are much more likely to send direct investments towards Romania. An interesting point is the negative and significant sign of the GDP growth which shows that countries with lower growths or even economic declines of the GDP are much more likely to invest in Romania. An explanation of this aspect might be the fact that Romania is considered a developing economy and is probably regarded as an option by foreign investors only

when they encounter difficult times and are forced to seek for new markets and new opportunities.

The outflow stock of FDI of the source countries has a positive and statistically significant coefficient, providing evidence which supports the hypothesis that economies which are more oriented towards making investments abroad are more likely to consider Romania as an alternative. Also, a positive and statistically significant coefficient has the Euro dummy variable. Therefore, it becomes obvious that countries from the Eurozone are much more likely to invest in Romania than those countries which are not members of the Eurozone (we are talking about EU members). This aspect might be explained by the fact that members of the Eurozone are countries with a macro perspective which is much more oriented towards collaborative activities. The North/South variable has a negative and statistically significant coefficient, revealing, therefore, the fact that southern economies are much more inclined to deploy investments in Romanian. With a positive and statistically significant coefficient, the dummy variable Latin, indicates that the cultural linkages might be used to explain the patterns of FDI, showing that the Latin countries show a higher propensity to invest in Romania.

Table 6. *The results of the models' estimation for the Model VI (2001 -2005)*

Independent Variables	Model VI.1 (2001)	Model VI.2 (2002)	Model VI.3 (2003)	Model VI.4 (2004)	Model VI.5 (2005)
	Unstandardized regression coefficients				
IMI	0.0879*	0.0613*	0.0393*	0.0292**	0.0233**
DIST	-1.6242**	-2.7591**	-3.2185**	-4.0021**	-4.5234**
Constant	3125.578**	5538.109**	6683.897**	8453.532**	9678.302**
R square	0.8460	0.6368	0.5943	0.5294	0.4891
Adj R square	0.8204	0.5763	0.5267	0.4510	0.4040
Durbin – Watson statistic	2.11	2.17	2.19	2.22	2.22

Note:* represents statistical significance at 1% level, ** at 5% level and *** at 10% level.

Source: Authors' work.

In the first five models (constructed for the period 2001 – 2005) the stock of immigrants has a positive and statistically significant coefficient bringing therefore further evidence to support the idea that the stock of immigrants from country (A) can be employed as a good predictor of the number of FDI firms located in Romania and originated from country (A). As stated before, the distance between Romania and the source country of the investments is still negatively correlated with the dependent variable in all five models. Notable is the fact that the coefficient is significant in all five models at a 5% significance level.

Table 7. *The results of the models' estimation for the Model VI (2006 -2009)*

Independent Variables	Model VI.6 (2006)	Model VI.7 (2007)	Model VI.8 (2008)	Model VI.9 (2009)
	Unstandardized regression coefficients			
IMI	0.0186**	0.0163**	0.0167*	0.0169*
DIST	-5.2624**	-5.5304**	-5.7791**	-5.8307**
Constant	11441.28**	12113.72**	12626.99*	12669.55*
R square	0.4438	0.5264	0.5861	0.6169
Adj R square	0.3511	0.4475	0.5171	0.5530
Durbin - Watson	2.22	2.19	2.18	2.17

Note:* represents statistical significance at 1% level, ** at 5% level and *** at 10% level.

Source: Authors' work,

The results presented above, for the first group of models (VI.1 - VI5), are further confirmed by the models VI.6 - VI.9 for the period 2006 – 2009. The stock of immigrants has a positive and statistically significant coefficient confirming its utility for assessing the FDI attractiveness of the Romanian economy for investors from the EU member states. The relation presented above for the variable regarding the distance between Romania and the 15 EU member countries is also further confirmed by the estimated models.

Therefore, summing up the results of the estimated models, we can state that there is enough evidence supporting the hypothesis that the stock of Romanian immigrants (in the 15 EU member countries) from a country can be used as an indicator of the number of FDI firms founded by investors from that specific country in Romania. Moreover, it is clear that the Romanian immigrants are enhancing the domestic economic activity in Romania by acting as a facilitator for FDI coming from their adoptive country towards Romania. Thus, it becomes clear that the public administration both at local level and at national level should design policies which should envision a twostep approach. First, based on the size and characteristics of the Romanian communities located in different European countries they can identify the economies with the highest propensity in sending direct investments toward Romania and focus on presenting the strengths of their areas to those particular investors. As a second step, after attracting these type of investors they can increase the standard of living as a direct consequence of the economic development fueled by the foreign investors and they can start forging policies that will mitigate or even reverse the drain of human capital. Moreover, the policies attracting FDI would be more successful if combined with the programs targeting return migration, such is the case of Diaspora Start-up, a program launched in 2016 by the Romanian Government with the purpose of supporting Romanian migrants in investing at home.

Conclusions

Before starting to list the main findings of the present research and to discuss their main socio-economic implications, we would state clearly the main limitations of our study. The first refers to the fact that the data regarding the number of FDI companies were gathered from the database of the ONTR, as the only place where such data are available for Romania, which does not use the IMF definition for the FDI[4]. The second limitation refers to the sample of countries used (only 15 EU members, however covering the great majority of Romanian immigrants in Europe) and, therefore, the results should be regarded with caution and just as a starting point for further investigations.

One important challenge encountered during this research, was represented by the limited availability of macro data regarding international migrants. Since the data provided by the National Institute of Statistics from Romania severely underestimates the migration flows and the database of Eurostat lacks information regarding migration flows for Romania. We have addressed this challenge by taking advantage of the public availability of the migration dataset provided by the National Institute for Economic and Social Research (NIESR) in London (Holland, Fic, et. al 2011).

This study should be regarded as the first empirical evidence linking the stock of immigrants in European countries with FDI inflows, for the case of Romania and the

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[4] More precisesly, as against the FMI definition, the shares of the foreign investors do not have the 10% lower bound in our approach.

results could be useful for the public authorities both local and national when developing policies both for migration and destined for attracting FDIs.

The number of FDI companies located in Romania has increased with 153% over the analyzed period while the stock of Romanian immigrants, in the 15 countries, has increased over seven times, while the structure of the entire stock of FDI companies has not changed dramatically over the analyzed period. Although, noteworthy is the decrease recorded by Germany, which accounts for only little over 21% of the FDI companies located in Romania in 2009, while it was responsible of over 29% of them in 2001. On the other hand, the structural changes in the stock of immigrants are much more severe. Spain and Italy host in 2009 over 80% of the entire stock of immigrants, while in 2001 they were a target for only around 47% of the Romanian immigrants. An important decrease is recorded by Germany, which is responsible for only 5.28%, in 2009, while in 2001, it was a host for almost 31% of the Romanian immigrants.

The most important finding of the present research is represented by the clear positive correlation between the stocks of FDI firms and the stock of immigrants, supported by all estimated models. The positive relationship is supported by statistically significant coefficients in all estimated models and its stability is proven by the inclusion of several control variables in different models. Therefore, it is obvious that there is enough evidence to support the idea that the stock of Romanian immigrants in a country has the potential to increase the attractiveness of the Romanian economy for the local investors of the adoption country, even though the main goal of this paper is not to identify causal relationships between these two variables.

The results could be of interest for companies and also for Romanian policymakers that should target as source for potential foreign capital the economies which also attract important flows of Romanian immigrants.

As further research directions, we consider that the results should be tested for other FDI source countries and also causal relationships, both short and long run, between these two phenomena, should be further analyzed.

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