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## Does the geographic location influence takeovers?

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### ABSTRACT

The aim of this study is to examine whether there is an impact of geographical proximity, between the acquirer and the target company of a takeover process, on the success of the transaction. In order to do this we analysed a complete database of all the takeover bids between 2000 and 2014 on the Romanian capital market. The evidence reveals that not only is the geographical proximity important for the success of the transaction, but that also takeovers can occur across distant locations if the target firm has a long history of its activity that can be monitored by the acquiring companies. We have also tested if there are NUTS regions characteristics that can influence the decision-making, but the results were inconclusive.

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## 1. Introduction

It is well known that mergers and acquisitions (M&As) are a way for there to be economic development of a city, region or even a state. They can lead to some important changes in a company's business and also can influence the economic activities in the target area.

In our point of view, Romania is a special case that needed attention. The state was under a communist regime for more than 50 years and the centralised economy followed a policy of industrialisation. Under the socialist beliefs that people must pursue the interest of everybody and everything is under common ownership, many socialist companies were founded regardless of the social necessities, and were equally distributed all over the state. Then, after Romania became a democracy, the state could not hold on to those non-performing companies and faced a massive privatisation. This is the beginning of the M&A activities in Romania.

In this paper, we examine if the geographical distance between the target and the acquiring company can play an important role in the decision-making of an M&A transaction. If two companies are in proximity, then there is a significant chance that they know each other well, what facilities they have, if the human capital is qualified or if the company is highly profitable. In other words an increase in the distance between the acquiring and the potential target reduces the chance of knowing each other and so reduces the likelihood of a merger between companies (Ensign, Lin, Chreim, & Persaud, 2014; Uysal, Kedia, &

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Panchapagesan, 2008). This finding was first noticed in the domestic M&As in the banking industry (DeLong, 2001; Houston, James, & Ryngaert, 2001), but there are studies that have concluded that cross-country transactions have the same trend (Eckbo & Thorburn, 2000). Many of the M&A transactions involve a company placed in important metropolitan areas that is willing to expand its economic activities to nearby areas. This can bring an improvement in productivity and economic performance due to the stimulation of knowledge spillovers (Böckerman & Lehto, 2006).

Nowadays, we live in an information era, when we can find a great deal of information about any company anywhere in the world. Take, for example, the balance sheet and the income statement. They are very useful for knowing about a firm's physical assets, leverage or the value of its total sales and profit, but not as useful when we think about the firm's productivity, the R&D division or other internal issues. The geographical proximity can facilitate the transmission of some soft information that could be very hard to transmit and be interpreted by someone far away (Uysal et al., 2008; Kang & Kim, 2008; Chakrabarti & Mitchell, 2015).

The aim of this study is to investigate the patterns of takeovers in Romania in the last 15 years. The study contributes to the existing literature, first of all, by investigating the influence of the proximity between the target and the acquiring company on the success of the transaction not for a single M&A sector, but for the entire M&A market of the state. Second, to our knowledge, this is the first study on this topic that analyses a post-communist economy, and so the findings could be in the interest of both researchers and business people. In the end, our study's contribution to the existing literature consists of finding that there are some specific industries that are more attractive for acquirers who are placed near target companies, from a geographical point of view. In addition, domestic acquirers are less successful in takeover processes than foreign investors.

This paper is structured as follows. In Section 2 we present the main findings of other studies in the field. The next section deals with our main research questions, and Section 4 presents the database and methodology. After this, Section 5 presents the main empirical results and the final section contains the conclusions and discussion on the study findings.

## 2. Related studies

There are many studies that analyse domestic and cross-country mergers and acquisitions, but only a few that are aimed to provide findings as to whether nearby regional or state characteristics can influence the decision-making and success of a transaction. So, the importance of the geographical distance in M&As, is a frequent research question, as is the possible advantages that the proximity confers to the companies engaged in M&A transactions (Chakrabarti & Mitchell, 2013; Green, 1990; Green & Cromley, 1984). Studies in this field are limited only to the US, Canadian, German and Finnish domestic M&A markets, but a lot of research has been done in this area recently.

Green (1990) investigated the US market in the 1970s and 1980s and concluded that the economic centres of a country are key factors in developing the nearby areas. According to this idea, M&As contributed to the increase in corporate control for the urban agglomerations and also to a reinforcement of the existing company headquarters (Chapman & Edmond, 2000). Therefore, cities are considered to be the locations of power and control and with the help of the M&As their power will increase even more (Rodríguez-Pose &

Zademach, 2003). Geographical proximity can facilitate the success of a transaction through the ease of transmitting information about the future investments (Sorenson & Stuart, 2001). In addition, the information is more accurate when the companies are close to each other and the flow is direct (Ensign et al., 2014; Uysal et al., 2008).

All the related literature shows that geographic distance negatively influences the success of a M&A deal. The increase in distance will lead to a decrease in the chance of the M&A being successful. Some studies positively associate distance with the asymmetric information between the acquirer and the target (Ragozzino & Reuer, 2011). Nearby acquirers are in a better position to appreciate the key resources of the target company (e.g., human capital, key technologies, brands, growth prospects, and relationships with other firms and customers) while distant acquirers are likely to lack of this kind of information.

From a political point of view, the companies try to reduce their competition in the technology or in market products through an M&A. So acquiring nearby rivals can give a company the comfort of not competing with others. In this case, the companies can reduce their R&D spending in short run and make savings in terms of personnel or equipment (Cassiman, Colombo, Garrone, & Veugelers, 2005). This could be another reason why geographic distance is an important factor for M&A decisions (Bertrand, 2009).

Kang and Kim (2008) – in a study on the US M&A market (block acquires), this time on a sample between 1990 and 1999 – indicate that acquirers have a strong preference for geographically nearby targets and there is a strong link between geographical proximity and corporate governance. Kang and Kim (2008) conclude that proximate block acquirers are more likely to engage in post-acquisition governance activities with the target companies. For example, if they are located in the same state or within 100 km from their targets it is more likely that their representatives will be on the target's board or management team. The conclusion that geography matters is also present in other studies over the last decade of the US M&A market. Erel, Rose, and Weisbach (2012) states that the odds of acquiring a firm in a nearby state are substantially higher than the odds of acquiring a firm in a distant state. In addition, higher economic development, and better accounting quality increase the chances of the target being acquired.

In Canada, domestic mergers and acquisitions are concentrated in the major cities in the south of the country (Aliberti & Green, 1999). Both in the US and Canada the findings suggest that distance is a key element when it comes to decision-making in the M&A sector (Green, 1990). Rodríguez-Pose and Zademach (2003) realise an interesting study on the changes that occur in the German economic activity do to the M&A waves after the 1990. They focused their attention on the importance of the location of different industries and the dynamics of these industries. The results show that there is a massive exchange of capital and knowledge between firms situated in nearby areas. This finding is often recorded in the 'new economy' industries, such as media, services, and IT&C, and they are less obvious in the 'old sectors', such as heavy industry, the textile industry or vehicle construction.

In Finland, the evidence reveals that geographical closeness directly influences the takeovers in cases of domestic M&As. The findings suggest that the acquiring firm can monitor the target company in the pre-acquisition period if the companies are in close geographic range, but also the acquiring company can do the same thing with companies from distant places if it has a long history and is a permanent presence in the market (Böckerman & Lehto, 2006). In addition, the main takeover flows are within the regions that contain a large number of companies.

Other studies are focused on cross-country mergers and acquisitions and, similar to the domestic transactions, geographical proximity can influence the success of a transaction. Green (1990) analysed this factor among others – such as the market, similarity in language or legal structure – and concluded that there is a dominance of the UK and Canada in the US market of M&As. Rodríguez-Pose and Zademach (2004) found the same thing in Germany. Other studies on cross-border M&As identify that cultural boundaries (language, religion or political regime) (Ahearn et al., 2010) along with the increase in distance (Rose, 2000) can increase the costs of combining two firms and so the likelihood of success of the transaction drops. In the end, even if we have a cross-border M&A, the distance between the acquirer and the target plays an important role in defining the international transactions (Hijzen, Görg, & Manchin, 2008; Portes & Rey, 2005).

Some studies found only a small impact of geographic distance on cross-country M&As (Coeurdacier, De Santis, & Aviat, 2009). A possible explanation is that, as a large number of transactions studied took place from 1995 onwards, and the database only consists of M&As from developed countries, the information is present everywhere and can be accessed by anyone, so the geographical proximity of the acquirer and target company can become statistically insignificant. The same study concludes that this is not the case if we analyse developing countries. Here, distance could make the difference between a successful and an unsuccessful transaction.

In the Romanian M&A market, several studies have been carried out. Their main focus was the estimation of the control premium and the determinant of this premium (Dragotă et al., 2007; Dragotă, Lipară, Ciobanu, 2013). Some of the indicators used in these studies were also used in ours to see whether they can explain the probability of success of an M&A transaction in the Romanian post-communist economy.

### 3. Study hypotheses

As Ragozzino and Reuer (2011), Cassiman et al. (2005), Ellwanger and Boschma (2014) or Uysal et al. (2008) concluded in their studies, geographical proximity can facilitate the success of a transaction by the ease of transmitting information between the two parties involved. We expect the same result from our study, which takes into account transactions between companies in the Romanian market, that a nearby acquirer will have an advantage over a distant one in a takeover bid.

**Hypothesis 1.** The geographical proximity influence the takeover bids.

Böckerman and Lehto (2006), Erel et al. (2012) concluded that the success of an M&A transaction depends on the good knowledge of the target. We expect that the age of the firm can express this feature and so the chance of a successful takeover rises with the age of the target company. We will test whether this is the case in Romania, a former communist country that moved to a market economy not many years ago and where many state companies were privatised through different national programmes.

**Hypothesis 2.** The age of the target company can increase the probability of success of a takeover.

#### 4. Database and methodology

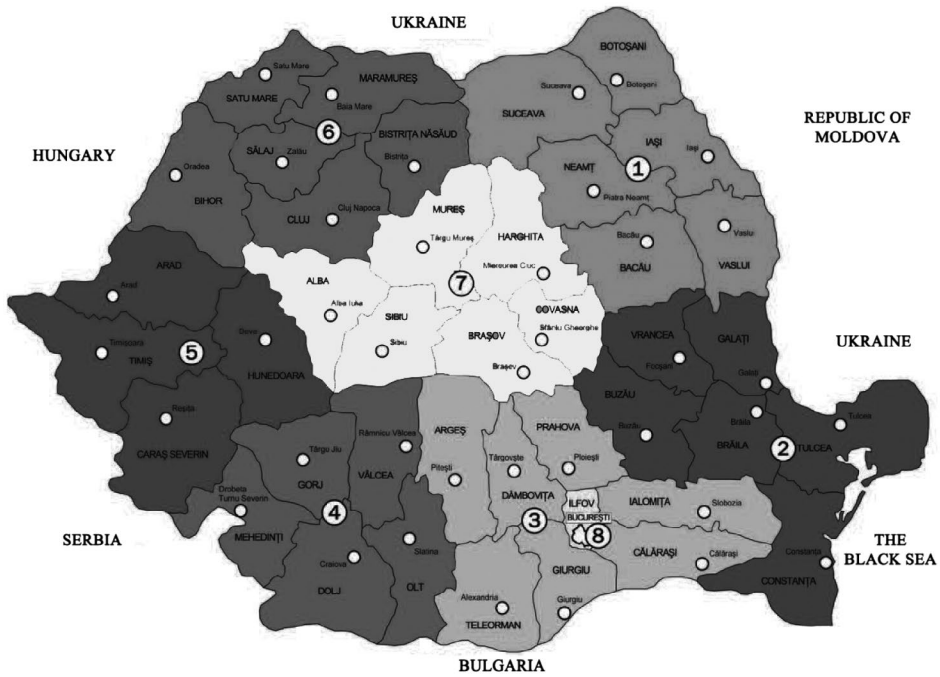
The database contains all the transactions that took place on the BSE (Bucharest Stock Exchange) and RASDAQ (the Romanian equivalent for US NASDAQ) during the period 2000–2014. The analysed the takeover bids that resulted in a change in control of a company or could have led to a change of the controlling ownership in case of a successful transaction. A shareholder is considered to have the controlling position in a company if he/she owns 50% or more from the firm's equity. We considered there to be a successful transaction if, at the end of the takeover bid, the company had a change of the controlling shareholder. We did not take into account transactions that not imply the possibility for the bidder to take effective control of the company.

During 2000 and 2014 more than 1600 purchase public offers were recorded on BSE and RASDAQ. From these, only in 490 cases did the buyer want to gain the controlling position, and so could be classified as takeover bids. We excluded from the database the takeover bids where the acquirer was a physical person, because the aim of this study is to analyse the impact of the geographical proximity of two companies. In the end, our database consisted of 320 transactions where both the bidder and the target are legal persons. We considered the location of a company by the city where its headquarters are placed. In order to place all these takeover transaction in country regions, we used the NUTS 2 level proposed by Eurostat.<sup>1</sup> The region analyses can provide interesting information about the geographical development and they were also used in several studies (Škuflić & Botrić, 2009). In Romania, there are eight regions named after their geographical position in the country (see Figure 1).

The methodology proposed for this study consists of two separate analyses. First we realise a statistical overview of the M&A market in Romania with a series of maps highlighting the preferred region for takeovers or the acquirers' regions from where the transaction started. Second we estimate, using regressions, the probability of the success of a takeover judging by the geographical distance between the acquirer and the target, the age of the target company and other characteristics of the firms or region involved.

After the transition to a democratic regime after 1990, Romania faced two M&A waves. The first began in 1995–1996 and ended around 1999 and was characterised by a massive privatisation programme that included many important and profitable Romanian state companies. Both domestic and foreign investors were attracted because, in many cases, the cost of the transaction was reduced, and the possibilities of future profits were high as long as a professional management team was in charge. By the end of this period, no more than 20% of the state company's shares were actually transferred to private owners and less than 10% of the companies were actually privatised (Earle & Telegdy, 1998). A second wave came after 2000 when Romania, like other East European states, faced an increasing politic and economic stability that ended with the accession to the European Union in 2007. In this period, many companies were accepted for trading on the BSE or RASDAQ market, so the transfer of ownership was easier to implement. In this way, many companies were acquired by large domestic and foreign firms with the same industrial profile.

For the first part of our analysis, we want to investigate whether the takeover bids are equally spread around the state or are concentrated in one or more cities or regions. In accordance with the literature (Aliberti & Green, 1999; Rodríguez-Pose & Zademach, 2003), many of the takeovers bids were started or targeted firms that are located in the main urban

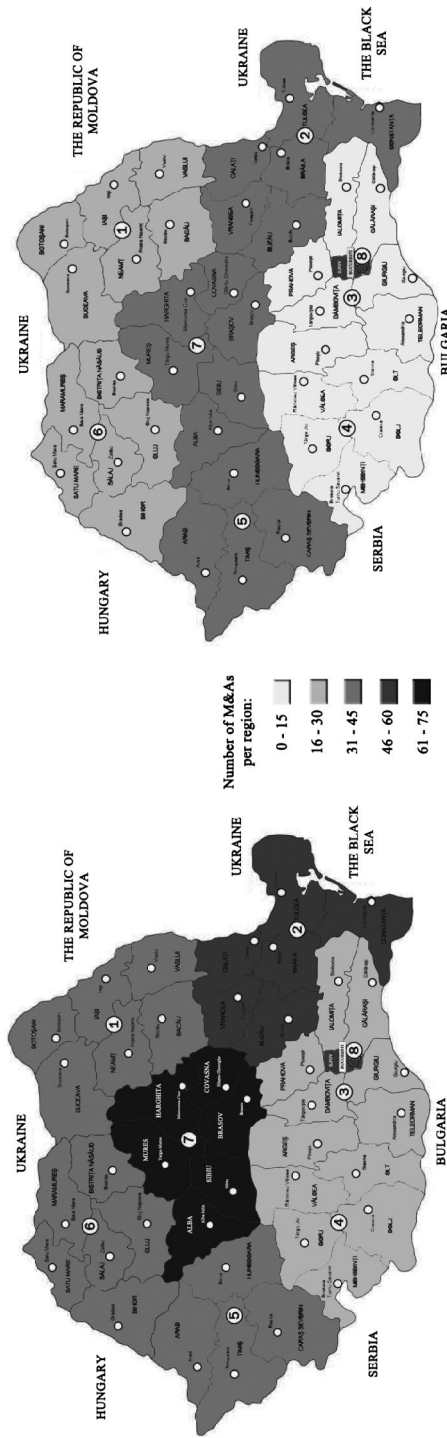


**Figure 1.** The NUTS 2 regions of Romania. Source: Romania NUTS 2 regions are: North-Eastern region (1 on the map), South-Eastern region (2 on the map), South region (3 on the map), South-Western Region (4 on the map), West region (5 on the map), North-West region (6 on the map), Centre region (7 on the map), and finally the Bucharest region (8 on the map).

agglomerations. Only in less than 13% do we find that the target company is located in a rural or a small city location. So we directed our investigation to the regions where the headquarters of the companies involved in the takeover offers are located. We generated two sets of maps. In each one there is a map for the target's region and one for the acquirer's region (Figure 2).

In the acquirers map we only included the domestic acquirers. In almost 20% of the cases, the acquirers were companies with headquarters located outside the Romanian border, so these transactions were excluded from the analysis. Even if these companies are registered in other countries, many of them have Romanian ownership and are located in states like Cyprus for tax payments facilities.

As we can see in Figure 1 (left map), the target companies are located mainly in the Centre and South-Eastern region and Bucharest region. In the communist period, the Centre region was characterised by the clothing industry (factories in Miercurea Ciuc, Târgu Mures or Sibiu), the machinery industry (in Brașov and Sibiu) and the mining and manufactory industry (the largest salt and natural gas resources in Romania). The South-Eastern region also had other types of companies, which are specialised in machinery construction (especially naval and maritime) and services or commerce (due to the proximity of the Black Sea and Danube River, a main route between Western Europe and the Middle East). All these types of companies are also highly profitable at present, so this is why they are of continuous interest to investors.



**Figure 2.** The number of takeover bids by region (by target location, on the left; by acquirer location, on the right). Source: Own representation of the results. This figure presents the geographic distribution of the takeover bids in Romania. The takeover bids are recorded for the period between 2000 and 2014. We consider a takeover bid if the buyer wanted to gain a controlling position in the target company. In the acquirer's map we did not include the foreign acquirers.

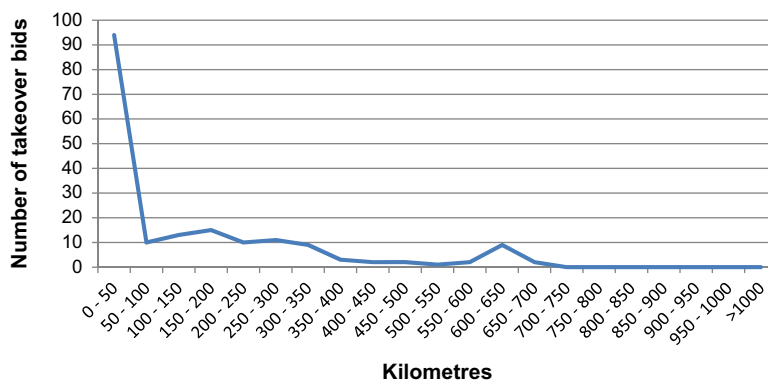


Besides the foreign companies, many of the domestic companies involved in the takeover bids are located in the Centre, Western South-Eastern and Bucharest regions. This confirms the hypothesis that the geographical proximity does matter in M&A activity. Similar to the results of other studies on different countries (Uysal et al., 2008 on the US; Rodríguez-Pose & Zademach, 2003 on Germany; Böckerman & Lehto, 2006 on Finland), the acquirer was located in the same region or in the proximity of the target's region. If we express the geographical proximity in kilometres we can illustrate the density of the takeover bids by the spatial distance (Figure 3).

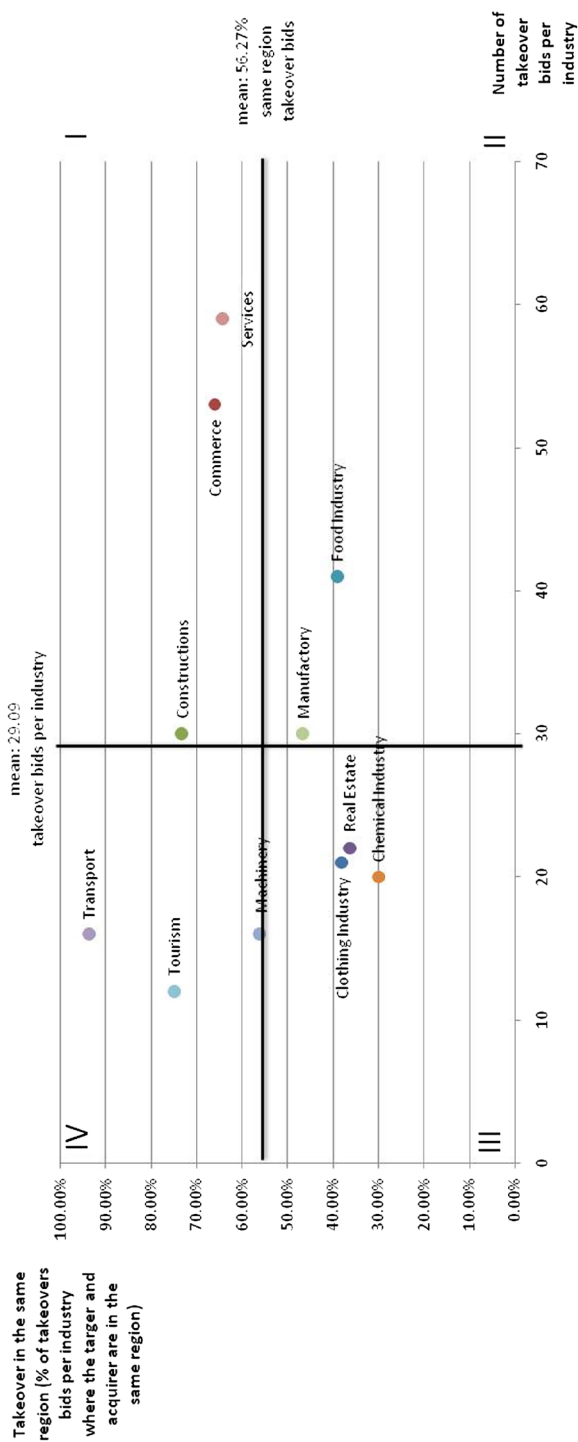
We statistically demonstrated that geographical proximity influences takeover bids in Romania. Another question arises. Is this a common thing, or are there some industries where this is happening in most cases or industries where only for a few transactions are the target and acquirer located in the same region? To analyse this we split our database into 11 industry sectors: Clothing industries, Commerce, Constructions, Real Estate, Food Industry, Chemical Industry, Machinery, Manufactory, Services, Transport and Tourism. We created a chart that illustrates which sector is above the country mean by the number of takeover bids and if, in those cases, it happened that the target and the acquirer are in the same region (Figure 4). In five sectors the number of regional takeover bids exceeds the country average, but in only two cases does the number of takeover bids per industry exceed the country average per sector.

Furthermore, we carried out a deeper analysis to see what changes appear when we limit our database only on those takeover bids that ended with a change in control (Figure 5). Again, we can see that there is the same distribution of the takeover bids. Also, if there is a high number on takeovers where the target is located in the Centre, South-Eastern or Bucharest region, the acquirer is located almost always in the same region or the regions nearby. In conclusion, the hypothesis that the geographical proximity is a determinant of the M&As is still confirmed.

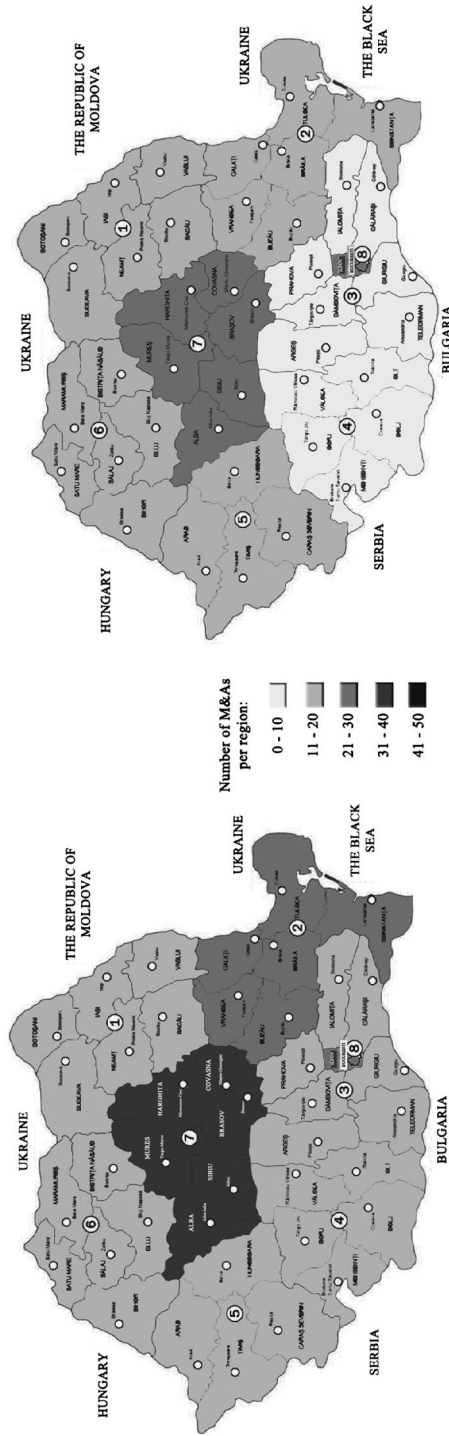
In the second part of our study, we analysed which are the determinant variables that can influence the probability of a takeover bid being successful. We used a Probit model and we based it on the assumption that the probability of an event occurring is linearly



**Figure 3.** The density of the takeover bids by distance. Source: Own representation of the results. This figure presents the geographic distribution of takeover bids recorded in Romania between 2000 and 2014. We consider a takeover bid if the buyer wanted to gain a controlling position in the target company. Foreign acquirers are not included in the study. There are 183 cases that meet these criteria.



**Figure 4.** The number of takeover bids per industry. Source: Own representation of the results. This figure presents the number of takeover bids, recorded in Romania between 2000 and 2014, classified by the industry sector of the target company. We consider a takeover bid if the buyer wanted to gain a controlling position in the target company. On the horizontal axis there is the number of the takeover bids per sector and on the vertical axis the percentage of the takeover bids in the sector where the target and acquirer are in the same region. So the takeover bids are allocated to four quadrants. For example, if an industry is placed in the first quadrant it means that the number of takeover bids in that industry exceeds the country's average of takeovers per industry (29.09 takeover bids per sector) and also in the majority of the cases the target and the acquirer were located in the same region (taking in consideration the country average of 56.27%).



**Figure 5.** The number of successful takeover bids by region (by target location – in the left, by acquirer location in the right). Source: Own representation of the results. This figure present the geographic distribution of the successful takeover bids in Romania. The takeover bids are recorded for the period between 2000 and 2014. We consider a successful takeover bid if the buyer wanted and succeeded to gain a controlling position in the target company. In the acquirer's map we did not included the foreign acquirers.

**Table 1.** Dependent variables used in the model. Relevant studies which considered these variables are also presented.

Indicator	Explanation	Relevant studies
<i>Firm characteristics</i>		
PBA	Stake owned before the announcement day – proxy for the bargaining power of the buyer	Dyck and Zingales (2004), Dragota, Lipara, and Ciobanu (2013), Ciobanu (2014)
CAP	The total capitalisation (million RON) of the target-company before the transaction	Nenova (2003), Dyck and Zingales (2004), Böckerman and Lehto (2006), Kang and Kim (2008)
HHI	Ownership concentration index	Duggal and Millar (1999) Dragota et al. (2013)
AGE	The age of a firm is measured in years.	Böckerman and Lehto (2006), Erel et al. (2012) Ciobanu, Brad, Dobre, and Braşoveanu (2014)
<i>Geographical proximity</i>		
DIST	The distance in kilometres between acquiring and target company	Böckerman and Lehto (2006), Erel et al. (2012), Kang and Kim (2008), Bertrand (2009), Ragozzino and Reuer (2011)
SAMECITY	The acquiring and target company are located in the same city – dummy variable (1 for the same cities, 0 for different cities)	
SAMENUTS	The acquiring and target company are located in the same region – dummy variable (1 for the same regions, 0 for different regions)	Böckerman and Lehto (2006), Kang and Kim (2008)
DOMESTICTRANS	Type of the acquirer – dummy variable (1 if the is a domestic acquirer, 0 if not)	Green and Cromley (1984), Green (1990), Chakrabarti and Mitchell (2008)
<i>Region characteristics</i>		
MEANGDP	The level of GDP per capita of the region – dummy variable (1 if the region is above the country's average, 0 if not)	
MEANR&D	The level of R&D spending per company of the region – dummy variable (1 if the region is above the country's average, 0 if not)	

Source: Own calculation and results.

related to a set of explanatory variables. The coefficient estimated for the linear probability model can be interpreted as the change in the probability for the dependent variable when the independent variable will equal 1. In order to do that, we conducted several regression models to test the hypotheses presented in Section 2 by using variables that characterise the companies involved in the takeover bid and regions where the target's or acquirer's headquarters is located. The variables used are documented in Table 1.

Some descriptive statistics for the variables used in the model are presented in Table 2. Overall, the percentage of the target's equity owned before the takeover bid by the acquirer was around 15%. The mean age of the target company is around 44 years with a maximum of 172 years. Almost 56% of the target companies are located in same region and approximately 39% even in the same city. The mean distance between the target and the acquirer is 131 kilometres. Almost 80% of the takeover bids involved domestic transactions.

We have also tested for multi-collinearity. The correlation matrix for this is presented in Table 3. We did not consider in the same regression the variables correlated at a higher level than 0.3.

**Table 2.** Dependent variables.

	Mean	Median	Max	Min	Stdv
Percent of shares before the takeover bid (%)	14.82%	0.00%	49.98%	0.00%	18.79%
Target's capitalisation (million RON)	7.35	0.53	328.45	0.003	29.78
Ownership concentration index	0.35	0.31	0.98	0.00	0.21
Target's age (years)	44	40	172	5	29
Target and acquirer company located in the same region – dummy	0.56	1.00	1.00	0.00	0.50
Target and acquirer company located in the same city – dummy	0.39	0.00	1.00	0.00	0.49
Domestic takeover bid – dummy	0.80	1.00	1.00	0.00	0.40
Target's region GDP per capita above the country's average – dummy	0.68	1.00	1.00	0.00	0.47
Target's region R&D spending above the country's average dummy	0.50	0.00	1.00	0.00	0.50
Distance between the target and the acquirer – dummy (only for domestic takeover bids)	131.18	12.50	845.00	0.00	187.57

Source: Own calculation and results. This table summarises the characteristics of the variable used to analyse the probability of a successful takeover bid. These variables characterise the target company or the target's region or the geographical proximity. The sample consists of all the takeover bids on the Romanian capital market between 2000 and 2014.

**Table 3.** The correlation matrix.

	PBA	CAP	HHI	AGE	SAME NUTS	SAME CITY	DOMESTIC M&A	MEAN GDP	MEAN R&D	DIST
PBA	1.00									
CAP	0.08	1.00								
HHI	-0.27	-0.07	1.00							
AGE	0.09	0.13	-0.04	1.00						
SAME NUTS	-0.07	0.02	-0.07	-0.12	1.00					
SAME CITY	-0.07	-0.04	0.01	-0.13	0.69	1.00				
DOMESTIC M&A	0.01	-0.03	-0.12	-0.16	0.57	0.40	1.00			
MEAN GDP	-0.04	0.05	0.09	0.01	-0.02	-0.06	-0.06	1.00		
MEAN R&D	-0.01	0.05	-0.01	0.02	-0.12	-0.12	-0.07	0.10	1.00	
DIST	0.07	0.00	-0.06	0.00	-0.77	-0.68	-0.23	0.04	0.06	1.00

Source: Own calculation and results.

## 5. Results

To test the hypotheses outlined in Section 2 we used several regression models with the dependent variables presented in the methodology section. In support of our hypotheses is Table 4, which presents the probit regression results performed on our database consisting of all the takeover bids on the Romanian capital market between 2000 and 2014. Our dependent variable is a binary variable that takes the value 1 if the takeover bid is successful and 0 otherwise. We consider a successful takeover bid to be the case that the buyer wanted and succeeded in gaining a controlling position (50% or more of the firm equity) in the target company. For the first set of regressions we estimated the probability for all 320 transactions, where the target companies are located in Romania and the acquirers can be domestic or foreign. We did not include the distance variable because of the lack of data on the exact location of the foreign company. For the second set of regressions, we limited the database only to domestic acquirers. For a better analysis, from the author's point of view, we excluded the recordings where the acquirer and the target company are placed in the same city.

**Table 4.** The model estimated results.

Variable	(1)	(2)	(3)
L_CAP	-0.08** (-2.21)	-0.07* (-1.89)	-0.07* (-1.82)
HHI	0.51 (1.44)	0.59* (1.71)	0.58* (1.68)
AGE	0.005** (2.08)	0.006** (2.22)	0.006** (2.26)
DOMESTICM&A	-0.41** (-2.19)		
PBA	1.19*** (2.91)	1.14*** (2.79)	1.14*** (2.79)
SAMENUTS			-0.05 (-0.34)
SAMECITY		0.16* (1.75)	
MEANGDP	0.03 (0.25)	0.04 (0.26)	0.04 (0.29)
MEANR&D	-0.08 (-0.58)	-0.08 (-0.56)	-0.07 (-0.53)
Intercept	0.88 (1.57)	0.37 (0.74)	0.32 (0.63)
Pseudo R-squared	11.06%	9.74%	8.28%
Number of observations	320	320	320

Source: Own calculation and results. To estimate the probability of a successful takeover bid we used the probit regression model. The regression uses 320 observations of takeover bids on the Romanian capital market between 2000 and 2014. We consider a takeover bid if the buyer wanted to gain a controlling position in the target company. We did not consider in the same regression the variables correlated at a higher level than 0.3. T-statistics are in parentheses. The symbols \*, \*\*, \*\*\* represent significance levels of 10, 5 and 1%.

The findings from these models are consistent with those in the first part of our analysis. They also confirm the hypothesis from the second section. The geographical proximity influences positively the probability for a successful takeover. This is in accordance with the results of the studies conducted by Erel et al. (2012), Kang and Kim (2008), Bertrand (2009) or Ragozzino and Reuer (2011). If the target and the acquirer are located in the same city the probability for the takeover bid to be successful is higher. In contradiction to this, domestic acquirers tend to have less chance of a successful takeover than foreign investors. Our results are in contradiction with those of Green and Cromley (1984), Green (1990) or Chakrabarti and Mitchell (2008), who concluded that domestic acquirers have more success in a takeover because of the geographical proximity. In our study, a possible explanation for the results can be that domestic acquirers usually do not have the amount of investment capital that foreign acquirers have.

The age of the company is also directly related to the probability of success, which confirms our second hypothesis. Indeed, older firms have more public information available about them and also they are well known to the general public. If the acquirer companies have good monitoring capacity they may be able to overcome the geographical boundaries more easily. The same results are found in Böckerman and Lehto's (2006), and Erel et al.'s (2012) studies.

The percentage of shares owned before the takeover bid was also significant. If an acquirer already owns some of the target's equity, the probability of the success is very high. Furthermore, it seems that it is easier to succeed in a takeover if there is a concentrated ownership. If an acquirer wants to buy the controlling stake, he only has to convince a limited number of shareholders. According to our findings, if the company is larger, the

**Table 5.** The model estimated results.

Variable	(1)	(2)
L_CAP	-0.12** (-2.11)	-0.12** (-2.15)
HHI	0.77 (1.12)	0.84 (1.22)
AGE	0.006* (1.72)	0.007* (1.74)
DIST	-0.001* (-1.75)	
PBA	0.86 (1.36)	1.18* (1.70)
SAMENUTS		0.39* (1.68)
MEANGDP	-0.42* (-1.72)	-0.45* (-1.81)
MEANR&D	-0.25 (-1.11)	-0.23 (-0.99)
Intercept	1.54* (1.77)	1.12 (1.29)
Pseudo R-squared	9.59%	9.23%
Number of observations	128	128

Source: Own calculation and results. To estimate the probability of a successful takeover bid we used the probit regression model. The regression uses 128 observations of takeover bids on the Romanian capital market between 2000 and 2014. We consider a takeover bid if the buyer wanted to gain a controlling position in the target company. We did not consider in the same regression the variables correlated at a higher level than 0.3. T-statistics are in parentheses. The symbols \*, \*\*, \*\*\* represent significance levels of 10%, 5% and 1%.

probability of a successful takeover bid is reduced. None of the region characteristics was significant. Surprisingly, the region dummy was also insignificant so we cannot confirm the statistical findings from the first part of our analysis.

Our results show that both the GDP and the R&D spending are not significant. So the success of takeover bids is not influenced by the economic and innovative development of the region where the companies are placed. A possible explanation can be that in the communist regime, state companies and large factories were intended to be uniformly spread out in Romania. After the transition to the market economy, some geographic regions felt behind in terms of strategic development, but the companies remained placed there and were targeted for takeover transactions.

According to the literature, most of the studies were conducted only on domestic M&A transactions (Böckerman & Lehto, 2006; Erel et al., 2012; Kang & Kim, 2008). In order to do this, in our study we limited our database only to domestic acquirers and also we excluded the takeover bids where the target and the acquirer company are located in the same city. Again we used the probit regression (Table 5). In these models we included the geographical distance between the dependent variables.

Again, the geographical proximity of the acquirer and the target can influence positively the probability of success of the takeover bid. If the distance is higher, the probability that the takeover will be successful is lower. This confirms again our hypothesis from Section 2. Similar results are found in Erel et al. (2012), Kang and Kim (2008), and Bertrand (2009). Also, in this case, when the database consists only of domestic takeover bids and the acquirer and target company are not placed in the same city, the acquirer has a higher probability of success if it is placed in the same region as the target company.

Another interesting result is the region dummy for GDP per capita. If the region GDP per capita is higher, the probability for a successful transaction is lower. This means that

domestic acquirers look to invest in a low developed region, where there are possibilities of synergetic gains. This result is interesting because it is complementary with our previous finding when we analysed the entire database. A possible explanation can be that if a domestic investor is willing to invest in another city, he will probably look to a more developed region. The results are different for the R&D expenses being a not significant variable for explaining the success of takeover bids. This can be due to the fact that R&D expenses are quite low in Romania and investors do not see a competitive advantage in being present in one region or another.

## 6. Conclusion

The probability of a successful takeover transaction is highly influenced by geographical factors. First of all, if the acquirer is located in the proximity of the target company there is an increase in the probability that the transaction will end with a change of control. We measured the geographical proximity by using either a distance quantitative variable (expressed in kilometres) or dummy variables (for the same city or region of the companies involved in the takeover).

Second, the age of the target company is also a significant factor for the probability of a successful takeover. The older the firm is the greater the probability. An older company expresses more confidence to investors and there is a good chance there will be positive synergies from the transaction.

As presented in the study, some results are consistent with those found in the literature, (the geographical proximity, age, capitalisation, ownership, etc.) but we also found some particularities for Romania. For example, foreign acquirers have greater success in takeover bids because, in many cases, they score better with regard to financial resources, management strategy and innovation than domestic acquirers.

This study is important both for practitioners and for those in academia. From the author's point of view, the results are of great interest for practitioners working in the M&A divisions of various consulting agencies. The results can be used by investors and M&A specialists in Romania to see which sectors are more appealing to acquirers and also in which geographical regions it is better to develop a business. For the further development of our study we can make parallel analyses on every geographical region to see why some are more appealing to acquirers than others. In forthcoming studies, I believe that an analysis of the industry sectors and knowledge capital (number of patents, R&D spending) of the target firm is necessary to see whether these characteristics can also influence the possibility of a successful takeover transaction.

## Note

1. The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU. This was made for the purpose of the collection, development and harmonisation of EU regional statistics, socio-economic analyses of the regions (NUTS 1: major socio-economic regions; NUTS 2: basic regions for the application of regional policies; NUTS 3: small regions for specific diagnoses) and framing of EU regional policies (regions eligible for aid from the Structural Funds (Objective 1) have been classified at NUTS 2 level, areas eligible under the other priority objectives have mainly been classified at NUTS 3 level).



## Disclosure statement

No potential conflict of interest was reported by the author.

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