"TRACING THE NEW ECONOMIC GEOGRAPHY OF THE BORDERS IN EUROPE"

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Abstract

The recent E.U. enlargement to the east has initiated a new political and economic geography in Europe. Within this context, spatial economic dynamics at the E.U. external borders is viewed with interest. At a political level the two-fold question raised is: "What does Europe constitute of, and, where are the defined limits to the European borders". The answer to this question is far from being clear. Although European borders have received great attention in the literature, research referring to spatial impacts of integration at the border regions is limited in number and scope. It is anticipated, that, the absence of a systematic and explanatory theory on borders causes inadequate interpretation of spatial economic dynamics focussed on the abolition of borders' barriers.

The aim of this article is to investigate the characteristics of the new economic geography at the external borders of the EU and the extent to which variables of city size and distance from borders can determine the type and level of economic interaction. The empirical analysis is based on research carried out in nine cross border zones at the EU external borders, within the framework of the EXLINEA research programme. The empirical results of the analysis show systematic correlation at the borders between distance and urban system and also between the type and level of economic interaction.

Key words: Borders, Integration, Cross border Cooperation, Economic Geography

1. INTRODUCTION

The recent E.U. enlargement to the east has brought forward a new political and economic geography in Europe. Europe's external borders have been shifted outwards, and, at the same time, many outer peripheral districts of the EU-15 have found themselves located in the E.U. 25 'inland'. The obstacles of economic activity in the E.U. 25 internal borders are abolished, forcing internal market to expand. However, there is an opposing argument stating that new dividing walls are being emerged in the E.U. 25 external borders with the Schengen Treaty playing a leading role in this process. The 'core-periphery' pattern, without doubt, is strongly affected by the new geographic coordinates of border regions. Within this context, the issue of spatial dynamics developed in the E.U. external borders becomes a rather special subject of interest both in literature and planning.

In the existing literature, the issue of borders in the European area poses a significant increase in volume, particularly with regards to the vigour of policy making. Nevertheless, most research studies focus on security, history, human geography, sociology and political science when it comes to analyse and report to the "border phenomenon". They offer little insight looking at it from an economic point of view. Moreover, most economic analyses that have been carried out so far primarily focus on the impact of enlargement at country level. It must be emphasized, that, there is no systematic theory available on borders to interpret the spatial economic dynamics when the barriers at the borders are abolished.

In terms of policies, the E.U. is not seen as having a clear vision in relation to its external borders. The President of the Commission Mr. Jacques Delors, had stated in the early 1990's that the attempt for European integration was a 'political issue without an identity so far'. "What does Europe constitute of, and, where are the defined limits to the European borders", is a two-tier question where there can be no clear answer in terms of policy making, strategic planning, and implementation. Although the terms for accession in the E.U. are officially the Copenhagen criteria, the E.U. differentiates its approach to its neighbours based on their political, geographic, cultural and geopolitical aspects.

The primary aim of this article is to investigate the economic dynamics at both new and old borders of the EU. The questions presented for analysis are: a) what are the characteristics of

the new economic geography at the EU's external borders? b) to which extent does city size and distance from the borders determine the type and level of economic interaction? c) does the level of embedment in relation to the core of EU-15 affect the dynamic of the regions' at the EU-25 external borders, and, in which way?

In the next section follows a literature review regarding the economic geography of border regions. The third section of the paper presents a general overview of the EU's policy towards its external borders and section 4, focuses on an empirical analysis of nine cross border areas in Europe. Conclusions are presented in the final section of the paper.

2. SPATIAL DIMENSIONS OF THE ECONOMIC INTEGRATION AT THE BORDERS. A THEORETICAL OVERVIEW.

Economic integration between two countries eliminates barriers and obstacles in the movement of productive factors, and intensifies the process of economic interaction. Several studies have theoretically and empirically concluded that the impact of borders on trade costs would is greater without the "intermediation" of the border line (McCallum, 1995; Helliwell, 1998; Brocker, 1998; Wei, 1996).

Despite the fact that the process of economic integration has a non-spatial dimension it nevertheless generates spatial economic dynamics at both national and regional level. As a result, there appear to be losers and winners in space with relative terms (Petrakos, 2000). Spatial impacts of integration have engaged the interest of the regional economic science in the last few decades without providing any empirically or theoretically backed answers. The models of the New Economic Geography link market access with regional development, which in turn reinstates the "core-periphery" pattern. (Monfort and Ypersele, 2003: Hanson, 2000; Brackman et al., 2000; Mion, 2003). According to this approach, integration provides forward and backward linkages with relation to supply and demand, as well as with economies of scale due to reduced transport costs (Niebuhr, 2004). This takes place within and amongst regions. In this discussion however the impacts of integration on border regions have not been adequately analyzed. In a closed economy, border regions are lacking opportunities due to their regional character, including areas of unfavourable development prospects (Dimitrov et.al., 2002). Losch (1940) compares border regions with a desert, where goods can be acquired by distance.

Therefore, it is a difficult task for firms near the borders to maximize their profits.

However, what is the state of affairs, between two neighbouring areas when borders once used to separate those creating barriers of economic interaction, no longer exists? First of all, the abolition of border obstacles reduces cross-border transport costs and increases the accessibility at both sides of the borders. Economic integration redefines not only accessibility to the market but market size too. According to the classical theory of central places, every firms and every product or service has its own crucial size and volume within the defined economic space, in order to be sustainable. (Cristaller, 1933). However, when it comes to borders, market size is distorted altering the hierarchical structure by restricting the potential for profit maximization and value creation. As a result, firms become discouraged to invest and locate close to border areas (Hoover, 1963; Hansen, 1997).

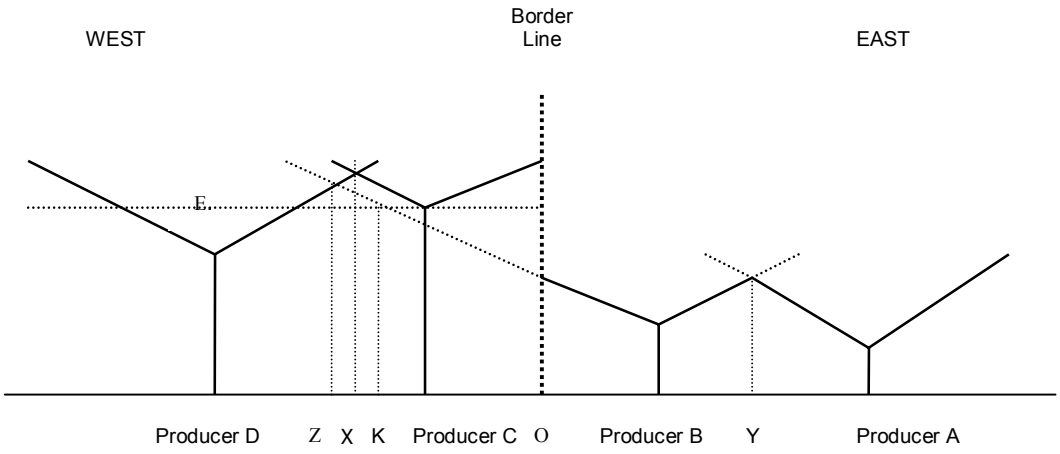
To which extent however, does the market size of the neighbouring country affect the orientation of firms, given that obstacles at borders are abolished? Damijan and Kostevc, (2002), claim that border regions having a smaller market size tend to gain more profits from the process of integration due to differences that exist among productive coefficients and due to low employment levels evident in border regions. The attempt of firms to save on transport costs initiates the need for access in larger markets (Amiti, 1998). There are several studies listed in the literature which provide evidence for the latter argument both in the USA and in Europe (Hanson, 1998; Resmini, 2003). Assuming the EU-15 takes up the role of a single country with a large unified and harmonised market, then, the adjacent border regions of the new member states are expected to enjoy economic gains (Fazekas, 2003; Deichman and Henderson, 2000). As far as the EU-25 external borders are concerned, the "Schengen", obstacles of cross border interaction, discourage the concentration of economic activities at the borders.

It is a common belief that there is a positive relationship between market and city size. The crucial market size of goods and services forms an overall level of hierarchies that exist among urban centres. Consequently, the differences in city sizes reflect differences of economic activities that these cities host. However, to which extent is city size and distance to the border line able to form a new economic environment at the cross border zones?

The economic geography of border regions before and after the abolition of borders is described in a model, presented in Figure 1. This is based on the existence of two neighbouring countries one located in the east and the other in the west. Each country has two enterprises

producing the same product situated in different locations with relation to borders and in a symmetric distance in terms of the other country's businesses. The businesses' sector is labour intensive, with the cost of production being lower in the east (due to cost differences). Businesses A and D located in larger cities with relation to businesses B and C, respectively, enjoy economies of scope and economies of scale selling their products at lower prices as they have obtained access to a larger market.

Figure 1: The Economic Geography of Border Regions Before and After the Abolition of Borders



Source: Authors' Elaboration

Under the assumption of closed borders businesses located in the east divide the market area at point Y and businesses located in the west divide the market area at point X. The border line distorts the market size of business B and C in the east and the west, respectively. When borders are abolished, business B has the potential to sell goods and services at lower prices up to point Z, by penetrating into the whole market area of business C and also capturing part of the market area of business D (the distance between point X and Z). As a result, business B gains short-term benefits extending trading activities within the neighbouring country. Business C, realizing loss in its market segment, is faced with two options in order to survive. The first option for C is to move towards the right, to point K, to enable protection from the intense competition coming from the east. Point K is determined from the section of the horizontal line E that represents the selling price of C's goods and services (free of transport costs), and the

diagonal line that represents the selling price of B's goods and services burdened with transport costs. This choice allows business C to continue to operate, although its new market area is now shrunk. The second option for C is to relocate eastwards in order to retain or even increase its previously attained market size. Business D, on the other hand, in order to avoid market pressure coming from B (and probably from C) is forced to relocate to the left of the diagram in order to retain the maximum of its previously enjoyed market share.

Key conclusions drawn from the above analysis are set out in more detail in the following section. There are different concentration economies due to urban hierarchy with prices being kept at lower levels in larger cities. This is reflected in the market size and the equal distance structure of the businesses. Labour intensive sectors in the west have a tendency to develop either in the east, close to the borders, or in small concentration units in the west but being kept further away from the borders. Reverse flows are expected to emerge in capital intensive sectors. Transport costs influence the market size of the businesses located at the borders. This means that the greater the transport costs of a defined basket of goods, the smaller the impact from the abolition of border to the respective markets. Including the element of spatial dimension in the actual study, makes our theory compatible with the H-O theory on partial specialisation. The assumptions made here allow us to analyse at a high level the economic impacts of integration in space, in order to form a basis for further analysis and investigation.

3. EU POLICY EXAMINATION TO ITS OUTER BORDERS. CHALLENGES AND PROSPECTS

The accession of ten new member states in the European Union following the 1st May 2004, has brought in a point for discussion regarding the new economic geography taking place in Europe and has raised the role of borders into an issue of great importance within the new European political and economic structure. What are Europe's borders? Where exactly should the European borders stretch up to, at a following enlargement? How penetrable should the EU's external borders be? These are only just few of the subject matters that come into question. Is there an answer to these questions on behalf of the EU's policy making, and, if so, is it an adequate one?

It is clear that the external borders of the enlarged EU do not possess any uniform characteristics with one another. They exhibit a rather interesting heterogeneity which is mostly accounted to the various geographic, political and economic factors. In a way this explains the differentiation of the EU's policy with respect to the group of nations at its external borders.

Map 1 depicts the issue of heterogeneity at the EU's external borders. Initially, south-east European countries[1] are dealt with through a series of legislative norms which progressively lead to full accession after they receive an official call for negotiations to commence. In the case of Romania and Bulgaria, for instance, the two countries will become equal members in the year 2007. On the other hand, the EU relationships with Western Balkan countries[2] have become differentiated as they are being governed by the Stabilization and Association Process (SAP). Its aim is to achieve future accession within the Europe Union. Amongst other conclusions drawn by the European Council in FEIRA in 2000, the stature of a "functioning candidate for accession" was officially recognised. A special status quo is also anticipated governing the relationships of the EU with the European Economic Area countries[3]. According to this, there would no longer be any border obstacles in the process of economic exchanges. However, what is happening to those countries that are neighbouring the EU?

In March 2003 the Committee set up the first principles for the European

[1] Rumania, Bulgaria, Croatia and Turkey
[2] Serbia-Monte Negro, FYROM, Albania and Bosnia- Herzegovina
[3] Switzerland, Norway, Iceland, Liechtenstein

Neighbourhood Policy entitled "Wider Europe Neighbourhood: A New framework for Relations with our Eastern and Southern Neighbours" (COM, 2004). Later on that year in October, the European Council adopted the above principles and encouraged the Committee to carry on in the same direction. During the months that followed, the Committee began clarification talks in relation to its policy with Romania and Moldavia, countries that the EU had already on-going Partnership and co-operation Agreements. During the same month when new member states were accessed into the E.U. (May 2004) the EU presented a processed strategy refereed to as European Neighbourhood Policy, for countries surrounding the EU itself, by introducing a framework of co-operation based on relationships and financial support. The European Neighbourhood Policy deals mainly with countries of the Euro-Mediterranean Pact[4], countries in the area of Caucasus[5], and in Russia with countries neighbouring Russia from the west[6]. Within this framework the Committee established a five year long National Action Plans for each and every country within the European Neighbourhood Policy. In particular, a development objective looking into four different "fields" was set out between the EU and Russia: a) common economic field b) common filed for freedom, security and justice c) common external security filed d) common field for research and education. The European Neighbourhood Policy will be operationally and financially implemented between the period 2007-2013, through the creation of a special fund under the title of European Neighbourhood Instrument (ENI). The fund will support cross border and cross regional projects and will replace existing programmes such as Phare, TACIS, CARDS etc., and at the same time place particular emphasis on technical support issues.

It appears that the European Neighbourhood Policy has a set of objectives being: a) the establishment of a ring of friends that will adopt common European standards and support political stability and security b) the provision of financial support and access to the common European market related to political and economic reforms c) being in agreement with European Law through technical support so that an enlarged market with common regulations can be

[4] It involves countries in North Africa and countries in the Middle East(Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia, Palestinian Authority) under the framework process of Barcelona.
[5] Armenia, Azerbaitzan, Georgia
[6] Russia, Ukraine, Moldavia, Belarus

established and one which will in turn provide incentives for investment and multilateral trade[7] d) reducing the negative impact the Shengen Treaty had brought to the EU's external borders e) introducing an alternative kind of relationship with the EU which will prevent prospects for full accession and will show symbolically where the European enlargement in fact reaches its peak.

Achieving all the above objectives is questionable, especially if one considers, that, up to now issues concerning the European Neighbourhood Policy strategies are vaguely defined and understood. Also, there appears to be few incentives complying with action plans that are set to be implemented after the year 2007. Apart from all the above, the final potential of the neighbouring countries is not the actual function of a full member state of the EU but one of an alternative relationship. How strong are therefore the expected benefits that would make the European Neighbourhood Policy countries participate and go into drastic economic and political changes? Furthermore, to which extent can the negative impacts at the regional borders of the European Neighbourhood Policy countries be compensated due to the recent enlargement and the imposition of the Shengen Treaty? Skeptics seem to be in a rather comfortable position to provide answers to these questions.

[7] The aim of the EU as far as the trade flows are concerned with the European Adjacency Policy countries, is to include these countries in the common external tariff system and in the World Trade Organization principles

4. EMPIRICAL RESEARCH IN THE EU's EXTERNAL BORDERS

Empirical research carried out in nine different cross border areas at EU's external borders within the European Research Programme, EXLINEA[8] (map 2). A total of 902 questionnaires returned completed providing answers to set questions. Importance factors were attached to each sub-question ranging from 1-7 with 1 being of low importance, and, 7 being of high importance. Originators of the completed questionnaires include representatives from the public sector and in particular, local government agencies, regional authorities, development agencies, universities, research centers, chambers of commerce, journalists, and, Non Government Organisations (NGO's).

[8] The EXLINEA Programme is funded by the European Commission under the 5th Action Framework. The present research is part of a wider effort to study the evolution, problems, policies and perceptions prevailing in the old and new external borders of the European Union. In this research the members participating include the Free University of Berlin(Germany) which is also the coordinator of the research programme, the South - east European Development Centre of the University of Thessaly, the Peipsi Centre for Transboundary Cooperation (Estonia), the Nijmegen Centre for Border Research (The Netherlands), the Karelian Institute of the Joensuu University (Finland), the University of Tartu, Department of Political Sciences (Estonia), the Hungarian Academy of Sciences, Centre for Regional Studies (Hungary), the European Institute for Regional and Local Development, University of Warsaw (Poland), and the University of Thessaly, Department of Planning and Regional Development (Greece).

A summary of the relevant sources questioned is shown in Table 1.

Table 1. General Information of the Research Sample

No	CROSS BORDER ZONES	QUESTIONNAIRES	RESEARCH BODY
1	GREECE (49)-ALBANIA (49)	98	UNIVERSITY OF THESSALY
2	GREECE (83)-FYROM (41)	124	UNIVERSITY OF THESSALY
3	GREECE (60)-BULGARIA (118)	178	UNIVERSITY OF THESSALY
4	FINLAND (39)-RUSSIA (42)	81	JOENSUU UNIVERSITY
5	ESTONIA (70)-RUSSIA (78)	148	TARTU UNIVERSITY
6	POLAND (29)-UKRAINE (26)	55	WARSAW UNIVERSITY
7	ROMANIA (75)-MOLDAVIA (73)	148	TARTU UNIVERSITY
8	HUNGARY (24)-ROMANIA (6)	30	DEBRECEN UNIVERSITY
9	HUNGARY (11)-UKRAINE (29)	40	DEBRECEN UNIVERSITY
	TOTAL	**902**	

Source: Authors' Elaboration

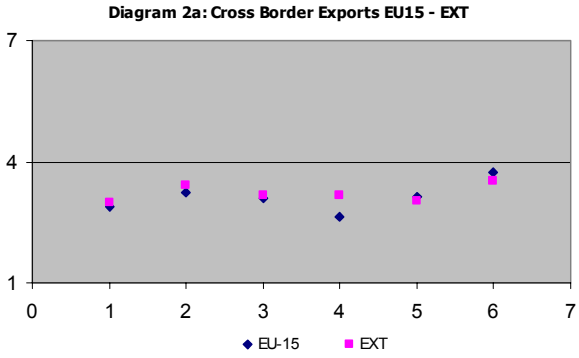
Analysis and interpretation of the research results implemented using a three-level methodology. The first level consists of the economic cross border interaction relative to exports, imports and investments from border firms in the adjacent country and vise versa. At a second level we examine the spatial dimension of these flows. More specifically, we look at a) the nearest city of the adjacent country (Question No. 1) b) the nearest larger city of the adjacent country (Question No. 2) c) the nearby regional markets of the adjacent countries (Question No.3) d) the more distant markets of the adjacent country (Question No.4) e) the capital of the adjacent country (Question No.5), and, f) other countries (Question No.6). In the third level of the methodology used, we analyze the economic inter-activity in relation to the institutional and economic proximity with EU-15. The characteristics of cross border flows are analyzed in the four following combinations: a) The EU-15 with External Countries, b) The New Member States of the European Union (NMS) with External Countries (EXT) c) The EU-15 with all the Transition Countries (TRA) of the sample and d) The EU-15 with the New Member States as well as with External Countries.

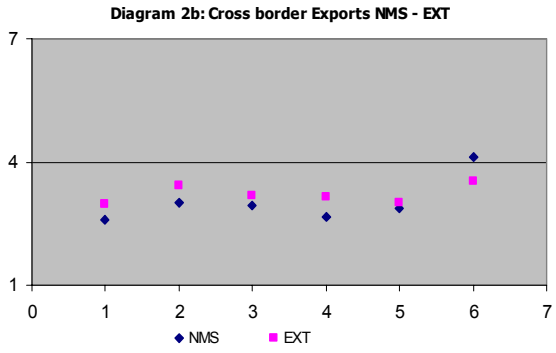
It is fundamental to illustrate the cross border economic flows with the dispersion

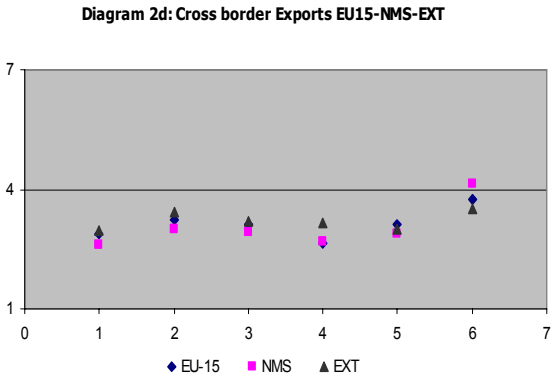
diagrams shown below. The horizontal axis represents the six spatial questions outlined in the second level of our analysis above. The vertical axis shows the intensity level of the given set of answers the extremes of which are: 1 = no interaction, and, 7 = very satisfactory interaction.

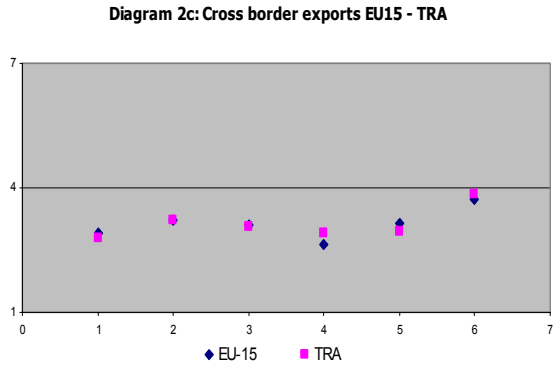
4.1 Cross border Exports

The export flows of border areas in relation to the institutional and economic proximity with EU-15 are presented in the diagrams below.





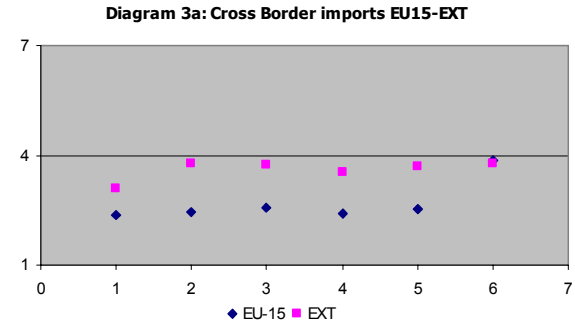


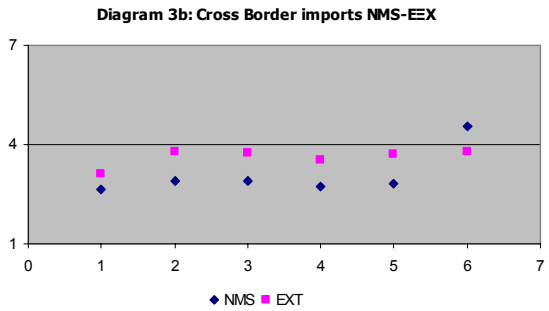


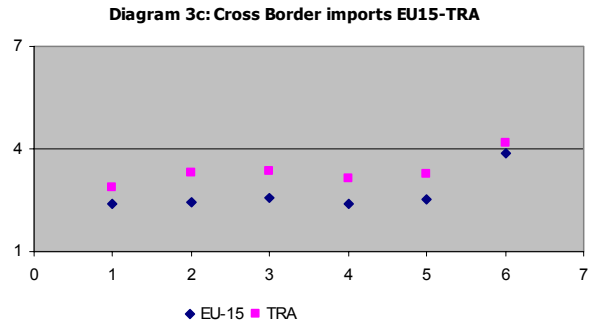
In all diagrams we identify: a) low export intensity b) small differentiation of export performance of the border regions in both axes, and, c) high export rates to other countries. This finding are independent to the level of economic development in such countries or the level of institutional proximity structures like the one of the European Union. On the other hand, export activities are directed more towards areas located further away from the borders. These findings back the assumption of weak economic performance at the borders due to their regional character and their low economic cross-border interaction.

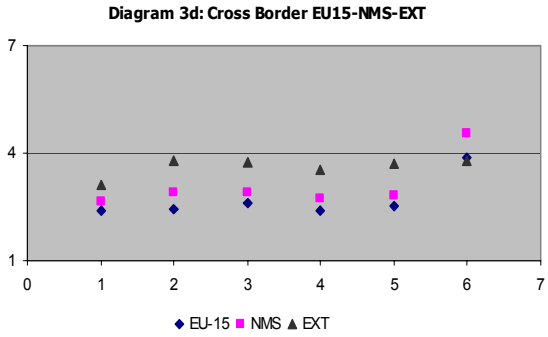
4.2 Cross border Imports

Cross border imports are exhibited in the following four diagrams:









Three main points are made from the above diagrams. Firstly, the intensity of cross border imports is active in all cases at below average levels. Secondly, imports from non European Union countries appear to be high. Thirdly, there is a high negative relationship between the EU-15 institutional and economic proximity with that of the intensity of import flows. This is clearly evidenced in diagram 3d.

In accordance to the above results we assume that trade imports take place between unequal partners at both the new and old external borders of the EU. Through this framework we can identify countries with transitional economies to be institutionally isolated from European structures. Such countries exhibit low level of economic development and cross border imports outweigh the cross border exports.

4.3 Local Business Investments on the other side of the borders

Research results dealing with businesses' investments in the other side of the borders are shown in the diagrams below.

Diagram 4a: Investments in the adjacent country EU15 - EXT

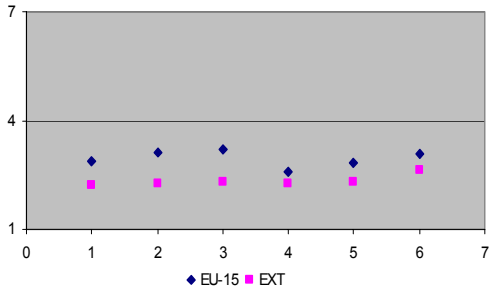


Diagram 4b: Investment in the adjacent country NMS-EXT

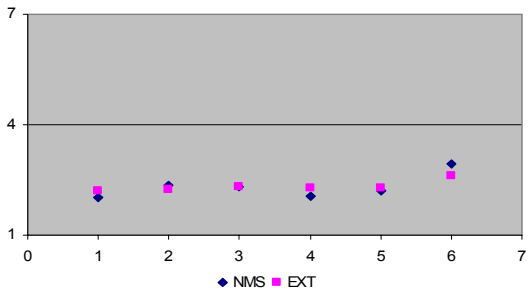


Diagram 4c: Investment in the adjacent country EU15-TRA

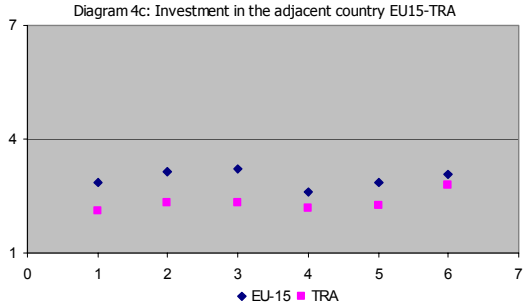
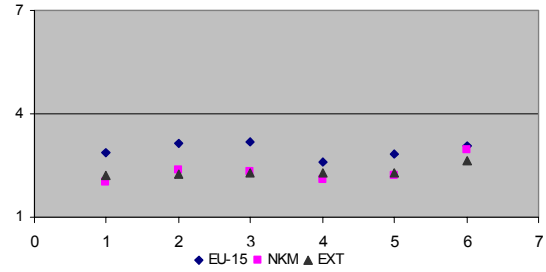


Diagram 4d: Investments in the adjacent country EU15-NMS-EXT

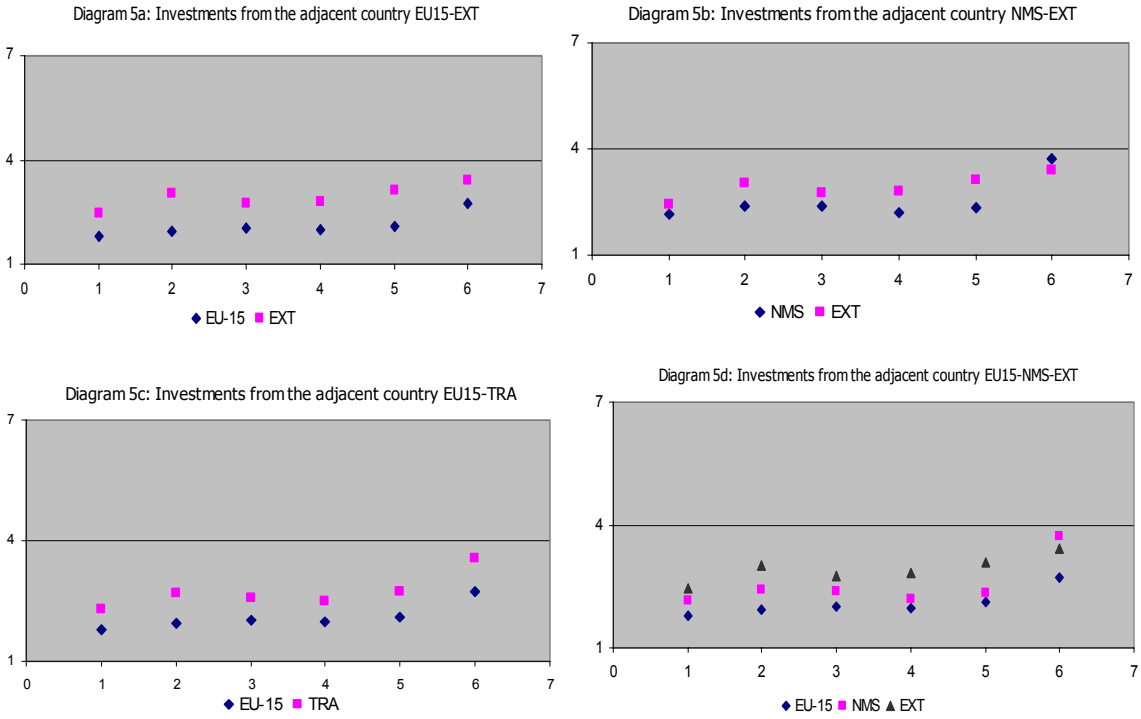


From the diagrams above it is necessary to note that: a) the level of investment from cross border businesses in the neighbouring country is very low in all cases b) a relationship between investment intensity and institutional and economic proximity appears to be the case for countries of the EU and External Countries and also for countries of the EU and Transition Countries. There is no similar association however between New Member States and External Countries.

These findings reflect low export and low investment dynamics of border regions even when considering the case of the EU's old borders. This is iterpreted as that borders do not make the principal location where investment initiatives come from.

4.4 Investments in Local Economy from businesses from the other side of the borders

The diagrams that follow show the investments at the border regions from businesses of the adjacent country.



The level of economic interaction appears to be low. The above diagrams also show that borders do not principally attract investment. However, there is correlation between investment activity of the neighbouring country in the local border economy and the economic and institutional proximity. Therefore, the lower the level of development is in the neighbouring country and the more distant it is institutionally from the EU, the fewer the investment initiatives originate from these countries.

4.5 Cross border interaction, city size and city distance

Descriptive statistics as well as corresponding t-values of the t-tests for cross border exports, are reported in Table 2.

Table 2. Cross Border Exports

		EU15 (a) - NMS (b)							EU15 (a) - EXT (b)							NMS (a) - EXT (b)						
(a)	(b)	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig
CITNEAR	CITNEAR	227	2,9	2,7	1,66	1,22	1,475	0,14	215	2,87	3	1,64	1,67	-0,834	0,41	289	2,64	3,02	1,29	1,66	-3,227	0
CITLARG	CITLARG	227	3,22	3,03	1,73	1,38	1,249	0,21	198	3,2	3,43	1,69	1,7	-1,393	0,17	273	3,05	3,42	1,49	1,67	-2,552	0,01
CAPIT	CAPIT	204	3,21	2,77	1,72	1,38	2,785	0,01	185	3,06	2,99	1,75	1,54	0,452	0,65	204	2,95	3,07	1,47	1,57	-0,789	0,43
REGNEAR	REGNEAR	225	3,1	3,01	1,6	1,25	0,598	0,55	211	3,02	3,12	1,55	1,6	-0,642	0,52	281	2,96	3,19	1,37	1,62	-1,754	0,08
REGFAR	REGFAR	223	2,64	2,72	1,55	1,27	-0,582	0,56	212	2,58	3,17	1,53	1,56	-3,945	0	285	2,69	3,19	1,38	1,57	-3,825	0

		EU15 (a) - EU15 (b)							NMS (a) - NMS (b)							EXT (a) - EXT (b)						
(a)	(b)	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig
CITNEAR	CITLARG	230	2,89	3,22	1,65	1,72	-4,119	0	313	2,6	3,01	1,28	1,45	-7,293	0	288	2,94	3,43	1,63	1,67	-4,794	0
CITNEAR	CAPIT	230	2,89	3,13	1,65	1,73	-2,412	0,02	287	2,59	2,86	1,24	1,49	-2,901	0	228	2,96	3	1,67	1,54	-0,309	0,76
CITLARG	CAPIT	230	3,222	3,13	1,72	1,73	1,071	0,29	288	2,94	2,85	1,43	1,49	1,001	0,32	214	3,5	3,05	1,71	1,54	5,265	0
REGNEAR	REGFAR	229	3,09	2,64	1,59	1,54	5,147	0	308	2,93	2,65	1,38	1,36	4,057	0	303	3,17	3,12	1,6	1,52	0,605	0,55

Source: Authors' Elaboration

Comparing the performance of EU15 against that of EXT and NMS we observe that the changes are generally not significant, apart from the case of capital cities being compared, in which case EU15 clearly dominates NMS but not EXT, as far as Exports are concerned. The t-values reported in the upper half of this table are generally larger than the test's critical value (at 5% level of significance). The same is not true when comparing NMS against EXT. Here, NMS exhibits performance improvements, expressed in most cases with a significantly greater mean value.

It is then examined whether size and location of the city are important factors that need to be considered accordingly. In the lower half of Table 2 we observe, that, regardless of the group (EU15, EXT, NMS) size of the city is extremely important, while the variable of location is indifferent. The city near to the borders exhibits a significantly lower mean compared to the nearest large city and also compared to the capital. Therefore, the larger the city is, the greater the exports are. Surprisingly, there are no significant changes between the capital and the nearest large city.

From the same table, we also observe that proximity (REGNEAR-REGFAR) constitutes a significant factor in export volume patterns.

Descriptive statistics, as well as corresponding t-values of the t-tests for cross border Imports, are reported in Table 3.

Table 3. Cross Border Imports

		EU15 (a) - NMS (b)							EU15 (a) - EXT (b)							NMS (a) - EXT (b)						
(a)	(b)	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig
CITNEAR	CITNEAR	224	2,40	2,83	1,53	1,41	-3,16	0,00	215	2,30	3,04	1,46	1,62	-5,30	0,00	290	2,65	3,14	1,42	1,66	-3,75	0,00
CITLARG	CITLARG	225	2,44	2,83	1,51	1,41	-2,84	0,01	199	2,35	3,81	1,48	1,90	-8,21	0,00	273	2,90	3,82	1,40	1,79	-6,26	0,00
CAPIT	CAPIT	224	2,51	2,82	1,54	1,45	-2,12	0,04	213	2,50	3,77	1,54	1,92	-7,59	0,00	284	2,82	3,72	1,54	1,84	-6,10	0,00
REGNEAR	REGNEAR	223	2,58	3,09	1,60	1,29	-3,46	0,00	208	2,50	3,85	1,54	1,70	-7,91	0,00	277	2,95	3,75	1,35	1,67	-5,89	0,00
REGFAR	REGFAR	223	2,38	2,87	1,51	1,32	-3,31	0,00	213	2,35	3,59	1,49	1,61	-7,92	0,00	284	2,70	3,54	1,38	1,56	-6,43	0,00

		EU15 (a) - EU15 (b)							NMS (a) - NMS (b)							EXT (a) - EXT (b)						
(a)	(b)	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig
CITNEAR	CITLARG	229	2,38	2,42	1,52	1,50	-0,58	0,00	309	2,66	2,87	1,44	1,37	-3,83	0,00	295	3,02	3,79	1,59	1,77	-6,72	0,00
CITNEAR	CAPIT	229	2,38	2,51	1,52	1,53	-1,27	0,02	304	2,65	2,79	1,44	1,53	-1,51	0,00	309	3,07	3,68	1,62	1,79	-4,93	0,76
CITLARG	CAPIT	230	2,43	2,52	1,50	1,53	-0,90	0,29	304	2,88	2,80	1,38	1,53	1,04	0,32	291	3,77	3,68	1,77	1,80	1,11	0,00
REGNEAR	REGFAR	230	2,59	2,40	1,59	1,51	2,48	0,00	306	2,91	2,70	1,32	1,35	3,75	0,00	306	3,75	3,50	1,64	1,51	3,14	0,55

Source: Authors' Elaboration

Comparing the cross border imports of EU15 against that of EXT and NMS we observe that the changes are significant in all cases, regardless of the size and location of the cities. The t-values reported in the upper half of Table 3 are all negative, while the corresponding critical values have even lower (at 5% level of significance), indicating the statistical significance of the results. This observation highlights the important role of the level of embededment with EU15 in terms of import volumes.

As in Table B above, it is examined whether the size and location of the city are important factors that need to be considered accordingly in the case of cross border imports. In the lower half of Table 3 we can observe significantly negative t-values. Therefore, regardless of the group (EU15, EXT, NMS), the size of the city is what it matters mostly. In almost all cases, the largest city near to the borders exhibits significantly larger mean compared to the nearest city, indicating the power of large cities in importing. From this result we can argue that imports do concentrate in large cities. The larger the city, the larger the imports. Again, there are no significant changes between the capital and the nearest large city. From the same table, we also observe that proximity (REGNEAR-REGFAR) constitutes a significant factor in import volume patterns.

Descriptive statistics, as well as corresponding t-values of the t-tests for cross border Investments by local firms, are reported in Table 4. Here, the terms "EU15", "NMS", and, "EXT" used throughout this table refer to a company whose registered head office is located in the EU, EU new member states, and, Non EU countries respectively.

Table 4. Cross Border Investments by local firms

		EU15 (a) - NMS (b)							EU15 (a) - EXT (b)							NMS (a) - EXT (b)						
(a)	(b)	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig
CITNEAR	CITNEAR	219	2,86	2,15	1,54	1,25	5,11	0,00	212	2,88	2,14	1,58	1,40	5,32	0,00	276	2,04	2,25	1,21	1,45	-1,84	0,07
CITLARG	CITLARG	219	3,14	2,34	1,52	1,29	5,97	0,00	177	3,18	2,21	1,55	1,47	6,11	0,00	209	2,26	2,27	1,32	1,49	-0,11	0,92
CAPIT	CAPIT	215	2,80	2,09	1,69	1,26	4,72	0,00	208	2,86	2,25	1,71	1,49	4,04	0,00	270	2,22	2,28	1,35	1,46	-0,47	0,64
REGNEAR	REGNEAR	217	3,18	2,35	1,58	1,25	5,78	0,00	210	3,22	2,22	1,57	1,38	6,96	0,00	272	2,31	2,32	1,25	1,42	-0,13	0,90
REGFAR	REGFAR	218	2,59	2,12	1,52	1,16	3,53	0,00	211	2,60	2,26	1,55	1,39	2,45	0,02	274	2,08	2,29	1,16	1,37	-1,92	0,06
		EU15 (a) - EU15 (b)							**NMS (a) - NMS (b)**							**EXT (a) - EXT (b)**						
(a)	(b)	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig
CITNEAR	CITLARG	229	2,87	3,14	1,55	1,53	-3,28	0,00	305	2,02	2,35	1,21	1,35	-5,62	0,00	220	2,18	2,25	1,47	1,48	-1,26	0,21
CITNEAR	CAPIT	228	2,87	2,85	1,55	1,71	0,26	0,80	299	2,01	2,17	1,21	1,35	-2,19	0,03	301	2,24	2,28	1,42	1,46	-0,65	0,52
CITLARG	CAPIT	228	3,13	2,85	1,53	1,71	3,06	0,00	302	2,36	2,18	1,36	1,35	2,48	0,01	219	2,26	2,23	1,48	1,48	0,44	0,66
REGNEAR	REGFAR	229	3,20	2,61	1,59	1,55	7,17	0,00	301	2,33	2,08	1,28	1,19	5,01	0,00	304	2,30	2,29	1,40	1,35	0,20	0,84

Source: Authors' Elaboration

The crucial observation here is that cross border investments of local EU15 firms are significantly greater that those of NMS and EXT firms. Thus, in any case, regardless of the size and location of the city with respect to the borders, the level of integration with the EU is extremely significant. The reported t-values are always positive and large, while the associated critical values approximate zero. This observation highlights the important role of the level of embededment with EU15 in terms of cross border investment volumes.

Interpreting the role of the size and the location of the city in cross border investments of local firms, the results signify the important role of the size of the city. We observe in the lower half of Table 4 significantly negative t-values. In almost all cases, the largest city near to the borders exhibits significantly larger mean compared to that of the nearest city. Thus, investment opportunities of the firms are augmented as we gradually move from small cities to the capital. As anticipated, there are significant changes between the capital and the nearest large city. Firms with large investment power are always situated in the capitals. From the same table, we also observe that proximity (REGNEAR-REGFAR) constitutes a significant factor in import volume patterns.

Descriptive statistics as well as corresponding t-values of the t-tests for cross border Investments by firms originated in the other side of the borders are reported in Table 5.

Table 5. Investment in the local economy by firms originating in the other side of the borders

		EU15 (a) - NMS (b)							EU15 (a) - EXT (b)							NMS (a) - EXT (b)						
(a)	(b)	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig
CITNEAR	CITNEAR	214	1,79	2,38	1,22	1,39	-4,42	0,00	210	1,77	2,32	1,20	1,37	-4,51	0,00	269	2,22	2,49	1,33	1,44	-2,28	0,02
CITLARG	CITLARG	212	1,97	2,64	1,42	1,41	-4,92	0,00	195	1,91	3,01	1,40	1,83	-6,06	0,00	252	2,42	3,05	1,42	1,74	-4,41	0,00
CAPIT	CAPIT	214	2,10	2,48	1,50	1,53	-2,45	0,02	204	2,08	3,08	1,51	1,86	-5,43	0,00	266	2,41	3,12	1,55	1,75	-5,06	0,00
REGNEAR	REGNEAR	218	2,02	2,60	1,42	1,39	-4,15	0,00	208	2,02	2,67	1,42	1,41	-4,82	0,00	273	2,40	2,74	1,39	1,38	-2,85	0,01
REGFAR	REGFAR	214	2,00	2,37	1,46	1,39	-2,50	0,01	208	2,00	2,67	1,44	1,39	-4,80	0,00	268	2,18	2,81	1,36	1,47	-4,94	0,00
		EU15 (a) - EU15 (b)							**NMS (a) - NMS (b)**							**EXT (a) - EXT (b)**						
(a)	(b)	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig	N	Mean (a)	Mean (b)	StDv (a)	StDv (b)	t-value	Sig
CITNEAR	CITLARG	229	1,79	1,93	1,20	1,39	-2,48	0,01	296	2,18	2,39	1,32	1,39	-4,21	0,00	285	2,42	3,02	1,39	1,72	-5,94	0,00
CITNEAR	CAPIT	229	1,79	2,10	1,20	1,49	-3,54	0,00	295	2,17	2,35	1,33	1,55	-2,48	0,01	297	2,42	3,08	1,38	1,74	-6,01	0,00
CITLARG	CAPIT	229	1,93	2,10	1,39	1,49	-2,10	0,04	292	2,38	2,36	1,39	1,55	0,39	0,70	283	3,04	3,10	1,72	1,74	-0,88	0,38
REGNEAR	REGFAR	228	2,02	1,99	1,40	1,43	0,52	0,61	296	2,35	2,17	1,38	1,35	3,66	0,00	301	2,77	2,77	1,39	1,44	0,00	1,00

Source: Authors' Elaboration

Investments capital coming from firms originated in EU15 is significantly greater than that of EXT and NMS firms. In any case, regardless of the size and the location of the city with respect to the borders, investments of EU firms are always greater. Comparing investments of EU and non-EU firms over time is complicated by changing price levels and exchange rates, by business-cycle differences, and by different patterns of global investments. However the data suggests that the EU investment power of EU15 firms in the other side of the borders is significantly higher than that of non EU firms.

Finally, we investigate again the role of the size and the location of the city in cross border investments of foreign firms. As it was the case so far, the size of the city is very important. We observe in the lower half of Table 5 significantly negative t-values. It is well expected that the larger and economically powerful companies with investment moves are situated in the larger cities as well as the capital. We observe that the role of the capital is also significant in the EU15 case.

In the context of the interpretations given to the above results it is reasonable to assume that there is a correlation between the intensity of cross border interaction and the urban system of the two neighbouring countries. Within this framework the determinant role of the capital cities is already documented in the literature (Petrakos and Economou, 2002). However, in line

with the empirical data presented and discussed above, it is important to emphasize the distinctive role of the large city located close to the borders shaping the new economic geography of them. As mentioned in a previous section of this paper, a largely populated city mirrors a large market size and a city close to the borders is interpreted as a city facing reduced transport costs.

5. CONCLUSIONS

The recent enlargement outlined on the map with the external borders of the EU provide a sense of incorporation and at the same time a sense of "isolation" of large parts of the European continent. The economic integration despite its non spatial and horizontal character causes spatial dynamics to influence cross border regions. The abolition of border obstacles in the EU-15 old borders improves access and expands the internal market into the EU-25. In the meantime however, the barriers at the borders of the EU-25 discourage the establishment of enhanced economic activities.

In the new geo-economic context in Europe, the basic characteristics of the new economic geography of the external borders of the EU-25, can be summed up as follows: the level of cross border interaction in terms of trade and especially exports takes place at very low levels. This reflects the weak productive system at the borders and the regional character of external borders. The external borders of the EU do not seem to make up the principal place where investment is directed. All the above characteristics, allow us to assume that the "core-periphery" model pertains to a great extent the new economic geography of the EU-25 external borders.

By grouping the countries of the research sample according to their level of development and institutional proximity with countries of the EU-15, we found out that there is an important correlation. Our present findings show that the cross border economic co-operation at the external borders is taking place among unequal partners by burdening the trade deficits of the border regions which do not belong in the EU-15. On the other hand however, all the above border regions appear to be acceptable even for low border investment activities that come from the EU-15.

Investigating within the scope of empirical analysis the extent to which size and distance

of the cities from the border areas defines the type and the intensity of cross border interaction, we have noticed a systematic correlation. The size of a city, as in all cases, is a significant factor. In almost all cases, the largest city near to the borders exhibits a significantly larger mean value compared to that of the nearest city. The significance of the results is augmented as we gradually move from small cities to the capital. These results lead us to the conclusion that there is a special role for the large urban centre close to the borders as this could operate under certain conditions as a hub of all sorts of economic activities.

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