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The geography of foreign investments in the EU Neighbourhood

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Abstract

This paper aims at investigating the drivers of Multinational Enterprise (MNE) investment in countries linked to the 'core' of the European Union (EU-15) by different degrees of functional, economic and political integration: the EU 'New' Member states, Accession and Candidate countries, European Neighbourhood Policy countries, as well as Russia. Understanding the drivers of Foreign Investment (FDI) in these countries is highly relevant in consideration of their increasing integration into the global market and the strong influence exerted by the EU on this process. By employing data on individual greenfield investment projects for the period 2003 to 2008, this paper aims to disentangle the drivers of FDI in these countries for different industrial sectors, business functions and investment origins. The empirical results suggest that FDI in the area tends to follow market-seeking and efficiency-oriented strategies, and show path-dependency and concentration patterns that may reinforce core-periphery development trajectories in the EU neighbourhood.

1. **Introduction**

Over the past decades the world economy has been characterised by an increasing process of internationalisation of economic activities with the involvement of a growing number of countries. According to UNCTAD, the world stock of Foreign Direct Investment (FDI) in 2010 has reached $20 trillion dollars, while the figure for the first half of the 1980s was below one trillion.[1] The dramatic expansion of international investment represents one of the main features of the process of globalisation, in which developing and transition economies have been progressively more involved (e.g. Moran, 1999; Asiedu, 2002; Iammarino and McCann, 2013).

This paper aims to explore the geographical patterns of FDI in a set of developing and transition economies linked to the 'core' of the European Union (EU-15) by different degrees of functional, economic and political integration, and that will be broadly referred to as the 'EU neighbourhood'. Such an area embraces the EU New Member States (NMs) that joined the EU in 2004 and 2007 (strongest degree of integration with the 'core' of the EU-15), Accession and Candidate Countries (ACC), European Neighbourhood Policy (ENP) countries, and Russia (the latter with the weakest degree of integration with the EU-15, stronger autonomy, but crucially important 'gravitation point' for investments in the area).[2] This group of countries represents a very relevant case in terms of patterns of FDI and strategies of multinational enterprises (MNEs) for its geographical proximity as well as its political and economic links to the EU-15 economic core. In this respect, the paper offers some new insights on the dynamics of global investment in the EU neighbourhood. While this region is relatively under-explored in the existing literature on FDI, its importance from a policy perspective is rapidly increasing. Policy-makers at the EU and national level are especially interested in gaining a better understanding of FDI patterns (and their drivers): the European Neighbourhood Policy and the intensification of economic and institutional relationships with other important actors in the area (such as the Russian Federation and Turkey, among others)

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[1] http://unctadstat.unctad.org.

[2] NMs: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia; ACC: Albania, Bosnia and Herzegovina, Croatia (which joined the EU in 2013), Macedonia, Montenegro, Serbia and Turkey; ENP Southern: Algeria, Egypt, Israel, Jordan, Libya, Lebanon, Morocco, Syria, Tunisia; ENP Eastern: Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine.

have made apparent the huge potential of the entire region in terms of future economic development and integration through global value chains. Furthermore, the attractiveness of these economies for international investment is of special interest because of their relatively recent access to global markets that has often been coupled with (or mediated by) a close relationship with the European Union, making them unique case studies for the analysis of the interaction between globalisation and regionalisation processes. As a consequence, from the standpoint of academic research, the investigation of MNE behaviour in terms of investment strategies in the EU neighbourhood has a particular relevance for a better understanding of the economic, social and geographical processes that connect global and local actors.

This paper is based on data on individual greenfield investments in the EU neighbourhood over the 2003-2008 period and investigates three main aspects of the interaction between recipient countries and global capital flows. First, the analysis aims to single out which national characteristics are relevant for attracting global FDI into the EU neighbourhood. Second, the paper examines the role of different FDI determinants across sectors and business activities in order to shed new light on the heterogeneous effect of different characteristics of the recipient economies on investments of different nature. Third, the analysis investigates whether FDI originating from different areas of the world responds differently to national features and concentration patterns.

The next section provides a brief overview of the empirical research that has explored FDI determinants in the EU neighbourhood, while Section 3 offers a detailed picture of FDI patterns in this area. Section 4 introduces the drivers of FDI considered in the econometric section and explains the methodology. The main findings are presented and discussed in Section 5, whilst Section 6 concludes.

2. Literature background: the drivers of foreign investment into the EU neighbourhood

In recent years, the intensity of the political and economic relations between the EU-15 and its neighbouring countries has increased substantially. However, the EU relations

with its neighbours have been far from homogeneous, considering the remarkable differences among these countries. Some ex-socialist Central and Eastern European countries (CEECs) succeeded in joining the Union in the enlargement rounds of 2004 and 2007, while others are still candidate to accession. In addition, a heterogeneous group of countries geographically bordering the EU has become part of the so-called European Neighbourhood Policy, a unified framework aiming at generating peaceful and collaborative relationships between the EU and its border countries (Commission of the European Communities, 2004).

Notwithstanding the variety of economies involved – to different degrees – in this process, the attention of most existing studies on FDI and their determinants in the area has been focused on CEECs (i.e. the countries that gained full EU membership in the 2000s and that are here called New Member states – NMs).[3] Most existing studies looked at FDI flows in the NMs in order to understand whether (and to what extent) increasing economic integration can influence FDI drivers. The reason for the special attention devoted to this sub-group of countries by the existing academic literature is threefold. First, the EU enlargement has provided scholars with unprecedented settings for the study of FDI patterns. Second, these analyses responded to the widespread concerns for the growing de-localisation (and potential job loss) away from the 'old' EU members in favour of CEECs (e.g. Boeri and Brücker, 2001). The third reason is related to data availability: not only NMs have received a much larger share of FDI than all other countries in the EU neighbourhood, but empirical analyses have also been fuelled by more accessible and comparatively more reliable data.

What emerges from the literature on the determinants of FDI in NMs is that internal demand, market potential and labour costs are fundamental aspects that foreign firms consider in their investment decisions (Resmini, 2000; Carstensen and Toubal, 2004; Janicki et al., 2004; Bellak et al., 2008). Other relevant elements for FDI attraction include proximity to the EU (Bevan and Estrin, 2004), deepening economic integration

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[3] AS Croatia joined the EU on the 1st of July 2013, in this paper it is considered Accession country and included in the ACC group.

(Brenton et al., 1999), good institutions (Bevan et al., 2004) and tax incentives (Bellak and Leibrecht, 2009). Interestingly for the aims of the present paper, Resmini (2000) develops an empirical model taking into account sectoral differences in attracting FDI in NMs: her findings suggest that the responsiveness of FDI to national characteristics differs substantially across industries. This insight is corroborated by the results of Pusterla and Resmini (2007), showing that sector-specific drivers influence the investment decisions of foreign companies in NMs. The present paper offers a similar perspective for countries of the EU neighbourhood, further extending the analysis to business functions, following Crescenzi et al. (2014) and Ascani et al. (2013).

In sharp contrast with the abundance of studies on NMs, FDI patterns in the EU neighbourhood are much less explored in the literature. The limited number of studies on the area converges in suggesting that 'traditional' FDI determinants matter the most in this context. For instance, studies on the subnational determinants of FDI in Turkey suggest that local demand and agglomeration forces are very relevant drivers of FDI (Deichman et al., 2003). FDI in the Balkan region tends to be encouraged by low labour cost (Louri et al., 2000) and political and economic reforms (Sergi, 2004). Some contributions have investigated the determinants of FDI in the Middle East and Northern Africa (MENA) countries, showing that growing markets, human capital and low risk environments exert a strong attractive influence on global investment (Moosa, 2009). The role of market size, trade opportunities and institutional variables, along with the availability of natural resources, is confirmed by other studies on FDI in MENA countries (Hisarciklilar et al., 2006; Mohamed and Sidiropoulos, 2010). Recent work by Zvirgzde et al. (2013) on Ukrainian survey data argues that FDI in the capital region are mostly market-seeking, and also motivated by institutional factors, while FDI in western areas are attracted by the proximity to the EU. A strong market-oriented rationale for FDI is also found by studies on Russia (Fabry and Zeghni, 2002; Ledayeva, 2009); in addition, in the latter case FDI is motivated by both resource-seeking strategies and availability of physical infrastructure such as sea ports (Ledayeva, 2009).

Overall, although the literature on FDI determinants has devoted limited attention to the EU neighbourhood, at least in comparison to other emerging areas such as China, India or Latin America, existing contributions point out that most FDI in the region follows market and/or efficiency-seeking rationales.

3. Stylised facts on global investments in the EU neighbourhood

In order to broaden the perspective of the existing literature and cover both the EU NMs and the broadly defined neighbourhood of the Union this paper makes use of homogenous and comparable data on individual investment projects undertaken by MNEs in 34 countries in the period 2004-2008.[4] The source of data is *FDi Markets-Financial Times Business,* which represents an increasingly exploited tool of analysis in the literature on FDI determinants and location choices (e.g. Crescenzi et al., 2014).[5] Greenfield investments from the entire world into the EU NMs and neighbourhood are used to investigate country-level drivers of FDI decisions. In what follows we present some descriptive evidence in order to contextualize the subsequent empirical analysis.

[Table 1 about here]

As is mentioned above, the EU neighbourhood, as considered here, is a highly heterogeneous region. NMs have joined the EU in two subsequent enlargement rounds in 2004 and 2007, ACC are EU candidate or potential candidate, while a large group is involved in the ENP, with the exception of Russia. These different degrees of integration with the EU signal the large variation in economic and political features across the region, as well as in the extent of attractiveness towards global capital flows.

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[4] Although *FDi Markets* provides data since 2003, in the present work we consider only the period 2004-2008. This is due to the econometric exercise requiring lagged independent variables for which data are not available prior 2003 (see Section 4 below).

[5] FDI is identified by Financial Times' analysts through a wide variety of sources, including nearly 9,000 media sources, project data provided from over 1,000 industry organisations and investment agencies, and data purchased from market research and publication companies. Furthermore, each project is cross-referenced across multiple sources and more than 90% of investment projects are validated with company sources. The dataset is by construction a sample of global FDI, and it is therefore likely to be skewed towards the larger firms and projects. However, Crescenzi et al. (2014) show that investment decisions captured by this database are highly correlated with other macro-level data on FDI from UNCTAD and the World Bank.

Table 1 reports new foreign investments undertaken in the EU neighbourhood over the period 2004-2008 by global MNEs. Over half of total FDI flows in the area are directed to NMs (52.18%), while ACC, ENP Southern and ENP Eastern economies all exhibit lower and similar shares: 10.03%, 11.92% and 8.0%, respectively. A relevant share is, instead, targeting Russia, which receives 18.11% of total global FDI directed in the area. Considering individual countries rather than groups, Russia is the most attractive destination for FDI, followed at large distance by Romania (11.91%), Poland (9.26%) and Hungary (7.16%). In the ACC group, Turkey and Serbia are the most preferred destinations, with 3.87% and 2.68% respectively.

In the ENP Southern region, Morocco and Egypt play a leading role with 2.39% and 2.25% of total FDI, whilst in the ENP Eastern region Ukraine attracts the great majority of investments with 4.67% of the total. Figure 1 provides a graphical representation of global FDI distribution in the EU neighbourhood over the period 2004-2008.

[Figure 1 about here]

There are different motives behind investment decisions and they are intimately connected to the functions and sectors in which MNEs operate their foreign activities. Although the original dataset reports several typologies of business functions and a large number of industrial sectors, due to the low number of observations in some countries for certain activities and industries, data are aggregated into three groups of business functions and two broad economic sectors. With respect to the former, Table 2 presents figures on investment in the following broad functional categories: (i) Headquarter and Innovation activities (HQ & Inno); (ii) Sales, Marketing, Logistic and Distribution (SMLD) and (iii) Production. Table 3 instead provides an outlook on the macrosectoral aggregations: (i) Manufacturing and (ii) Services.

Table 2 shows that NMs attract the large majority of FDI in all business functions. However, Russia remains the single most important country in terms of attractiveness across all functions. Surprisingly, ENP Southern countries receive a relatively large share

of FDI in Headquarters and Innovative activities (16.7%), due in particular to the large role played by Israel (3.8%). Among NMs, Romania attracts the largest share of FDI in all business functions, while Turkey and Serbia lead the ACC group. As far as ENP Eastern is concerned, Ukraine unsurprisingly plays the most relevant role. What emerges from these figures is that global FDI tends to be concentrated in a few locations across the EU neighbourhood, and that variations in foreign investors' preferences exist according to different business functions. For instance, Poland is one of the main destinations of global FDI in the area, but only 5.9% is in Headquarters and Innovation, while the share almost doubles when looking at FDI in Production activities.

[Table 2 about here]

Table 3 reports the distribution of FDI towards the EU neighbourhood for the two industrial macro-aggregates, which also show remarkable differences. FDI in manufacturing concentrates in NMs (56.3%), whilst the attractiveness of ENP Eastern, ENP Southern and ACC groups in this respect is relatively weak (5.8%, 8.7% and 9.5%, respectively); the Russian Federation alone attracts 19.7% of manufacturing FDI. As far as service activities are concerned, the shares of ENP Southern and ENP Eastern are higher (14.8% and 9.9% respectively) while NMs still attract about half the volume of service FDI (47.9%).

[Table 3 about here]

4. **The analysis of FDI drivers in the EU neighbourhood: methodology**

In order to investigate the role (and relative importance) of national characteristics for the attraction of FDI in the EU neighbourhood, this paper relies upon regression techniques. In particular, following the literature on the quantitative analysis of MNE location, the empirical analysis relies on a count data model where national characteristics explain the

number of FDI projects received by each country in each year.[6] With a count response variable, it is customary to employ a Poisson regression technique. However, we detect over-dispersion in our count variable, which makes this methodology less appropriate: we therefore apply a negative binomial model, which allows us to adjust estimates for over-dispersed data[7] [8]. The time span covers the period 2004-2008 and includes a total of 11,262 greenfield FDI. In line with the relevant literature, independent variables enter the analysis with a one-year lag, as specified below. Thus, data for 2003 are employed to construct lagged explanatory variables.

The following empirical model is estimated:

$$FDI_{it} = f(demand_{it-1}, institutions_{it-1}, labour_{it-1}, colocation_i, P_i)$$

Where:

FDI_{it} is the count of foreign investment in destination country i in year t.

$Demand_{it-1}$ represents internal market size and external market potential (MP) of country i in year t-1; both variables enter the model in log form.

The size of the market in the host economies is viewed as a major driver of FDI (e.g. Wheeler and Mody, 1992; Billington, 1999). The larger the national market in the recipient country, the larger the local demand for goods and services and, consequently, market opportunities for the investor. National GDP at constant prices (US dollars 2005) is included as a proxy, with one-year lag, and comes from the World Development Indicators (WDI) of the World Bank.

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[6] Alternatively, a conditional logit model can be adopted, as common in similar studies. Nevertheless, the equivalence of the coefficients provided by these classes of models is well established in the literature (Guimarães et al., 2003).
[7] An additional problem with count data models can derive from the large number of zeros in the data. However, this is not a relevant issue in our dataset.
[8] We also run a Poisson regression (not reported here) which confirmed the main results of the Negative Binomial.

FDI might also be aimed at exploiting external market potential (e.g. Head and Mayer, 2004; Carstensen and Toubal, 2004): in other words, some countries can play the role of platforms for exports towards other proximate locations. In order to control for countries' external market potential we follow the literature (Harris, 1954) and compute the following indicator:

$$MP_{it-1} = \sum_{c \neq i} \left({GDP_c}/{d_{ic}} \right)$$

where market potential (MP) of location i is the distance-weighted internal demand of neighbouring countries c. This indicator is included in the analysis with a one-year lag.

Institutions$_{it-1}$ stands for 'Control of corruption' in country i in year *t-1*.

This part of the model tests whether FDI is sensitive to national institutional environments, which are highly heterogeneous in the EU neighbourhood. Institutions are proxied with a measure that captures a very relevant aspect of the national environment when considering the strategies of foreign investors, namely 'Control of corruption' as provided by the World Bank in its World Governance Indicators (WGI). As for previous variables, institutions enter the analysis with a one-year lag. As is suggested by the existing literature, we expect that good institutional quality plays a positive role in attracting foreign capital since it increases certainty in market transactions and stability (e.g. Altomonte, 2000; Wei, 2000; Bénassy Quéré et al., 2007; Ascani et al., 2013).

Labour$_{it-1}$ includes proxies for the education level and average wage in country i in year *t-1*.

This section of the model looks at the characteristics of the workforce and labour market. First, a measure of the average education level in the host economy is included, that is the ratio between secondary school age population and total population provided by UNESCO. This is the only available measure of education for the countries of interest. In

line with studies highlighting the beneficial effects of human capital on FDI attraction, we expect that this indicator is positively linked to inward FDI (Noorbakhsh et al., 2001). Second, we include per capita GDP as a proxy for average wage employing data on GDP and population from WDI (Alsan et al., 2006). Although this is an indirect measure for salaries, wages for most countries under observation are not available. We expect that higher values of this indicator discourage foreign investors, since saving on input costs represents a strong rationale for FDI in emerging and developing economies (Resmini, 2000).

$Colocation_{it}$ includes several stock variables for FDI in country i calculated as a cumulative count according to country of origin, sector and business function, all expressed in log.

These variables capture the extent to which foreign investments co-locate in the same country; that is, using data at the investment level, we generate the stock of all FDI with similar characteristics to those of each specific investment (e.g. Defever, 2006). Then, when constructing our dataset at the country level, we consider the cumulative average stock of FDI in a specific country in a specific year. The *FDi Markets* database allows constructing stock measures of FDI according to (i) nationality of the investor, (ii) sector and (iii) business function. We are thus able to investigate the importance of similar FDI in determining new flows of investment, exploring FDI path-dependency along these three different dimensions. Similarly, two additional stock variables are built by crossing both sectors and business functions with information on origin countries, allowing to test whether FDI in one sector or business activity originated from a certain country attracts more FDI with similar features.

Finally, P_i is a set of country dummies included in order to account for any factor not explicitly controlled for in the model that might have an effect on countries' attractiveness towards global FDI. These include any time-invariant country-level driver of FDI such as geographical and cultural characteristics. The full list of variables is reported in Table A in Appendix 1.

5. Results

The first objective of our empirical exercise is to analyse the relevance of different FDI determinants in the EU neighbourhood. Therefore, we estimate a negative binomial model by including all FDI directed towards the 34 countries in the area of interest over the period 2004-2008.

[Table 4 about here]

The results of this first estimation are reported in Table 4. The coefficients are mostly in line with expectations, and consistent across different model specifications. Traditional drivers of FDI, such as size of the internal market and external market potential, are strongly and positively correlated with the decision to undertake new investments. This confirms that global FDI flows towards the EU NMs and neighbourhood have a prominent market-seeking rationale. In other words, MNE strategies in the area are strongly based upon market access considerations in terms of both the exploitation of domestic demand in the recipient economies and the opportunity to constitute platforms for exports towards third countries (see Neary, 2007). As far as the national institutional environment is concerned, 'Control of corruption' exhibits a positive and weakly significant relationship with FDI in only two specifications out of five: overall, according to this first set of results, global investors do not appear overly concerned about choosing locations where the institutional setting confers stability to their operations and transactions.

With respect to workforce characteristics, the model does not detect any relevant relationship between FDI and education level, indicating that, in general, MNEs do not invest in the EU neighbourhood in order to take advantage of local competences. Conversely, our proxy for wage levels reveals that investors look for cheap labour in the region. The robustness of the coefficient on this feature across all specifications suggests an efficiency-seeking rationale for foreign companies investing in the area. This indicates that the conclusions reached by previous studies arguing that cost-saving on labour is

among the main drivers for FDI in CEECs (Resmini, 2000) may be extended to the broader EU neighbourhood.

As far as FDI path-dependency is concerned, we enter the different colocation variables separately given the high level of correlation among them. The first three columns test the relevance of colocation patterns associated with common nationality of the investor, sector and business function respectively. Columns 4 and 5, instead, test the effect of colocation of FDI in the same sector and business by nationality. Results in Table 4 suggest that FDI tends to follow previous investment flows with similar features, with the only exception of functional colocation. Moreover, regressions in columns 4 and 5 indicate that FDI from the same country of origin tends to select the same location according to their sector and business activity performed abroad.

Foreign investment might be motivated by different determinants depending on the specific function operated abroad or the particular sector in which the FDI is undertaken. Therefore, we run separate regressions for the three types of business functions (Table 5) and the two macro-aggregates of economic activity (Table 6).

[Table 5 about here]

As is shown in Table 5, when considering the number of FDI in specific business functions as response variable, FDI patterns are significantly associated with a smaller number of determinants, which are particularly important for a specific function. Therefore, in the case of 'HQ & Inno', the education level of countries appears to be the main relevant driver of FDI. This is not surprising considering that activities in 'HQ and Inno' are likely to be related to higher skill-intensity. Conversely, in the case of 'SMLD' results suggest that a lower level of education is attractive of FDI, plausibly signalling that these activities require less skilled workers. As far as Production activities are concerned, a favourable institutional environment plays a major role in driving FDI patterns in the EU neighbourhood. With respect to colocation variables, path-dependency in FDI inflows emerges clearly in the case Production. This is not surprising considering

that production activities are likely to be associated with the occurrence of agglomeration economies and localised backward and forward linkages. However, in the case of 'HQ & Inno' the coefficients turn out to be negative and significant: this might be due to the fact that, while corporate headquarters tend to concentrate in large urban agglomerations (particularly capital cities) mainly for political networking and lobbying reasons, this is not normally the case for innovation activities (Iammarino and McCann, 2015). Previous research has shown that MNE technological and innovation operations are unlikely to be located in the vicinity of those of competitive rivals (see, among others, Cantwell and Santangelo, 1999; Alcácer, 2006; Verbeke et al., 2009) and tend rather to follow the location of production operations (Defever, 2006) or to reflect a value chain logic (Crescenzi et al. 2014)

[Table 6 about here]

Table 6 presents results of negative binomial estimates by macrosector. Interestingly, and not entirely unexpectedly, the signs of the significant coefficients are opposite in manufacturing and services, a plausible outcome in the set of countries that constitute the EU neighbourhood. As far as manufacturing industries are concerned, the strong and negative significance of the education level signals that foreign MNEs tend to look for low-skilled workforce, reasonably because the kind of manufacturing activities localised in the EU neighbourhood by MNEs is mostly concentrated in the more basic segments of the value chain. Differently, service activities are associated with a more educated workforce in relation to the nature itself of the service sector, which requires relative higher standards of skills than basic manufacturing. Table 6 also suggests that the institutional setting of the host countries matters for FDI decisions, again with different signs in the two aggregates considered. In particular, manufacturing activities are associated with less favourable institutional conditions: this, particularly in the case of emerging and developing economies such as those in the EU neighbourhood, might be explained by cross industry heterogeneity in MNEs' preferences over institutional attributes. In other words, it has been argued that some MNEs tend to prefer locations with weaker economic institutions because they aim at bypassing transparent market

mechanisms in their operations abroad (e.g. Helmann, 1998; Helmann et al., 2000; Glaeser and Shleifer, 2002; Sonin, 2003). Indeed, weaker institutions might facilitate rent-seeking or moral hazard behaviour, or simply allow capturing a share of host countries' public resources, through lobbying, subsidies or less legalized channels – such as, in the case here, corruption. Such MNE behaviours has proved to differ across sectors and functions: previous research has shown that MNEs in high or medium technology manufacturing choose to locate in places where the institutional environment is more adequately protected, while MNEs operating in low-technology and less sophisticated sectors may consider strong regulation in business as an obstacle (Ascani et al. 2013; 2015).[9] Hence, mechanisms of institutional subversion (Helmann, 1998) might be easily reflected in our results for manufacturing considering the highly heterogeneous group of countries analysed, that include both transition and developing countries, often characterised by notable institutional flaws. On the contrary, the institutional environment takes the expected positive sign when the analysis shifts to FDI in services, which include operations aiming to provide financial and business services, soft infrastructure and more knowledge-intensive content activities – as also the attractiveness of stronger human capital in the sector seems to point out – and that tend to take into consideration business regulation, transparency and enforcement of contracts as pre-requisites for their location.

6. Conclusions

This paper aimed at providing a first investigation of the drivers of global FDI in the broadly defined EU neighbourhood. The area constitutes an interesting case in terms of attractiveness towards global MNE investments, both for its geographical closeness and its political and economic linkages with the 'core' of the European Union. The different degrees of integration with the EU, and the relatively recent access of most neighbourhood countries to global markets, reflect their large heterogeneity in terms of economic, social and political characteristics, which also entails large variation in their attractiveness towards foreign capital.

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[9] To be noted that our manufacturing aggregate includes also extraction and processing of coal, oil and natural gas, which may prove particularly reactive to less regulated institutional settings.

By employing data on greenfield investment projects occurred in the EU NMs and neighbourhood in the period 2003 to 2008, we explored the drivers of FDI by sector and business function. What emerges from the general empirical analysis is a clear market-seeking and efficiency-oriented rationale behind FDI in the EU neighbourhood. Interestingly, strong co-location patterns of FDI appear along different axes – national origin of the investor, industrial sector, and business function – supporting the existence of path-dependency, cumulative causation mechanisms and possible virtuous (or vicious) cycles in the impact of globalisation on the EU neighbourhood.

The findings of this paper are largely in line with previous empirical evidence highlighting the significance of global capital flows towards EU NMs as compared to other areas in the EU neighbourhood. In fact, EU NMs are characterised by large and growing internal demand, a comparatively stable institutional environment, and relatively low labour costs. Most importantly from a political point of view, they benefit from the EU membership. However, Russia is the single country that receives most foreign investment in manufacturing and services, plausibly due to the relevance of its huge internal demand for MNEs' strategies.

In interpreting our empirical results and the descriptive evidence presented, we notice that the rest of the EU neighbourhood tends to remain peripheral in the strategies of MNEs, with few exceptions represented by countries such as Turkey and Ukraine, and to a lesser extent, Egypt and Morocco. These economies are far less integrated both politically and economically with the 'core' of the EU, but they are central economic actors in their regions and it is likely that MNEs oriented towards the exploitation of new markets and low-cost labour force will look at them with growing interest.

The present study provides an initial investigation of the patterns of FDI in the EU neighbourhood which can be informative for policy makers at the EU, national and regional levels in both areas. The growing importance of the ENP and the intensification of the economic and institutional relationships between the EU and other important actors

in the area, such as the Russian Federation, Turkey, the Balkans and the economies in North Africa, should be accompanied by a better understanding of the economic processes at work. In this respect, the evidence about the role of internal markets of destination and the educational levels of the workforce in attracting FDI can be framed within national and EU-wide regional and industrial policies to encourage, on the one hand, the internationalisation of European firms – particularly those in the current EU periphery – towards their neighbours and, on the other, the upgrading of skills and capabilities in the recipient economies. Policies supporting human capital and skill formation and training – at different educational levels – are indeed crucial not only to spur technological and innovation progress in the neighbourhood, but also to support shifts to higher value-added activities and skill renewal potentially offered by offshoring to the EU peripheral regions geographically closer to the ENP area. Furthermore, improving institutional quality in the neighbourhood is imperative in order to reduce rent-seeking and inefficiencies that are detrimental to the host economies, and tend to increase internal inequality through the reinforcement of the dominant elites: enhancing the quality of institutions may also attract more sophisticated activities and reduce the current emphasis on purely market-seeking investments. Further research-based evidence is certainly needed to inform policy intervention on which specific tools are best suited to leverage global flows to upgrade local tangible and intangible assets and reinforce regional growth on both sides of the EU border.

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Table 1: FDI into the EU neighbourhood, 2004-08.

Country	Investment projects	%
New Member States		
Bulgaria	735	6.53
Czech Republic	651	5.78
Estonia	207	1.84
Hungary	806	7.16
Latvia	293	2.60
Lithuania	236	2.10
Malta	8	0.07
Poland	1,043	9.26
Romania	1,341	11.91
Slovakia	446	3.96
Slovenia	109	0.97
Subtotal	5,875	52.18
Accession and Candidate countries		
Albania	49	0.44
Bosnia and H.	96	0.85
Croatia	183	1.62
Macedonia	45	0.40
Montenegro	19	0.17
Serbia	302	2.68
Turkey	436	3.87
Subtotal	1,130	10.03
ENP Southern countries		
Algeria	208	1.85
Egypt	253	2.25
Israel	120	1.07
Jordan	111	0.99
Lebanon	66	0.59
Libya	88	0.78
Morocco	269	2.39
Syria	88	0.78
Tunisia	137	1.22
Subtotal	1,340	11.92
ENP Eastern countries		
Armenia	47	0.42
Azerbaijan	113	1.00
Belarus	80	0.71
Georgia	69	0.61
Moldova	43	0.38
Ukraine	526	4.67
Subtotal	878	8.00
Russia	2,039	18.11
Total	11,262	100

Source: Authors' elaborations on FDi-Markets data

Table 2: FDI into the EU neighbourhood by business function, 2004-08.

Country	HQ & Innovation		SMLD		Production	
	Investment	%	Investment	%	Investment	%
New Member States						
Bulgaria	82	4.5	328	6.9	325	6.9
Czech Republic	101	5.6	271	5.7	279	5.9
Estonia	34	1.9	103	2.2	70	1.5
Hungary	118	6.6	349	7.3	339	7.2
Latvia	25	1.4	191	4.0	77	1.6
Lithuania	28	1.6	153	3.2	55	1.2
Malta	1	0.06	3	0.06	4	0.08
Poland	107	5.9	394	8.3	542	11.5
Romania	223	12.4	568	12.0	550	11.7
Slovakia	48	2.7	159	3.4	239	5.1
Slovenia	14	0.8	65	1.4	30	0.6
Subtotal	781	43.1	2,584	59.4	2,510	53.3
Accession and Candidate countries						
Albania	9	0.5	19	0.4	21	0.5
Bosnia and H.	13	0.7	32	0.7	51	1.1
Croatia	16	0.9	94	2.0	73	1.6
Macedonia	3	0.2	9	0.2	33	0.7
Montenegro	1	0.06	8	0.2	10	0.2
Serbia	52	2.9	119	2.5	131	2.8
Turkey	91	5.1	171	3.6	174	3.7
Subtotal	185	10.2	452	10.4	493	10.5
ENP Southern countries						
Algeria	50	2.8	77	1.6	81	1.7
Egypt	43	2.4	91	1.9	119	2.5
Israel	69	3.8	30	0.6	21	0.5
Jordan	23	1.3	44	0.9	44	0.9
Lebanon	15	1.3	33	0.7	18	0.4
Libya	18	1.0	18	0.4	52	1.1
Morocco	33	1.83	104	2.2	132	2.8
Syria	20	1.1	18	0.4	50	1.1
Tunisia	32	1.8	33	0.7	72	1.5
Subtotal	303	16.7	448	10.3	589	12.5
ENP Eastern countries						
Armenia	19	1.1	14	0.4	14	0.3
Azerbaijan	32	1.8	50	1.1	31	0.7
Belarus	19	1.1	45	1.0	16	0.3
Georgia	17	0.9	32	0.7	20	0.4
Ukraine	132	6.5	237	5.0	168	3.6
Moldova	4	0.2	14	0.3	14	0.3
Subtotal	223	12.3	392	9.0	263	5.6
Russia	319	17.6	866	19.9	854	18.1
Total	1,811	100	4,350	100	4,709	100

Source: Authors' elaborations on FDi-Markets data

Table 3: FDI into the EU neighbourhood by macro-sector, 2004-08.

Country	Manufacturing		Services	
	Investment	%	Investment	%
New Member States				
Bulgaria	358	6.0	323	6.8
Czech Republic	401	6.7	226	4.8
Estonia	112	1.9	90	1.9
Hungary	476	7.9	292	6.2
Latvia	174	2.9	117	2.5
Lithuania	125	2.1	100	2.1
Malta	6	0.1	2	0.04
Poland	605	10.1	413	8.7
Romania	748	12.5	552	11.6
Slovakia	310	5.2	125	2.6
Slovenia	59	1.0	43	0.9
Subtotal	3,374	56.3	2,283	47.9
Accession and Candidate countries				
Albania	18	0.3	23	0.5
Bosnia and H.	48	0.8	48	0.8
Croatia	100	1.7	100	1.7
Macedonia	16	0.3	19	0.3
Montenegro	3	0.05	3	0.05
Serbia	171	2.9	122	2.6
Turkey	214	3.6	200	4.2
Subtotal	570	9.5	515	10.8
ENP Southern countries				
Algeria	89	1.5	102	2.2
Egypt	102	1.7	127	2.7
Israel	49	0.8	65	1.4
Jordan	44	0.7	65	1.4
Lebanon	18	0.3	47	1.0
Libya	21	0.4	39	0.8
Morocco	108	1.8	152	3.2
Syria	25	0.4	48	1.0
Tunisia	68	1.1	61	1.3
Subtotal	524	8.7	706	14.8
ENP Eastern countries				
Armenia	14	0.2	26	0.6
Azerbaijan	35	0.6	64	1.4
Belarus	31	0.5	46	1.0
Georgia	17	0.3	39	0.8
Moldova	19	0.3	20	0.4
Ukraine	229	3.8	276	5.8
Subtotal	345	5.8	471	9.9
Russia	1,180	19.7	792	16.7
Total	5,993	100	4,767	100

Source: Authors' elaborations on FDi-Markets data

Table 4: FDI determinants into the EU neighbourhood

Dep Var: FDI count	(1)	(2)	(3)	(4)	(5)
Market size	2.80***	2.89***	2.74***	3.21***	3.11***
	(0.909)	(0.936)	(0.917)	(0.846)	(0.866)
Market potential	2.64**	2.62**	2.91***	2.12**	2.47**
	(1.103)	(1.124)	(1.094)	(0.999)	(1.027)
Control of corruption	0.47*	0.43	0.44	0.39	0.44*
	(0.273)	(0.274)	(0.278)	(0.248)	(0.260)
Education level	1.28	1.33	1.28	1.11	1.27
	(0.848)	(0.876)	(0.890)	(0.757)	(0.786)
Average wage	-3.15***	-3.18***	-3.10***	-3.49***	-3.53***
	(0.863)	(0.879)	(0.874)	(0.803)	(0.811)
National colocation	0.004**				
	(0.00155)				
Sector colocation		0.004**			
		(0.00214)			
Function colocation			0.001		
			(0.000781)		
Sector colocation by nationality				0.062***	
				(0.0124)	
Function colocation by nationality					0.027***
					(0.00660)
Observations	170	170	170	170	170
National dummies	Yes	Yes	Yes	Yes	Yes
Pseudo R-squared	0.28	0.28	0.28	0.30	0.29
log likelihood	-573.4	-573.8	-574.7	-564.7	-569.1

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5: FDI determinants in the EU neighbourhood by business function

Dep Var: FDI count	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	HQ & Inno			SMLD			Production		
Market size	9.11	8.15	8.90	-1.11	-1.16	-1.29	-0.96	-0.087	-0.37
	(6.577)	(6.321)	(6.500)	(5.929)	(6.122)	(6.273)	(3.141)	(3.187)	(3.156)
Market potential	-1.21	-1.24	-2.84	-5.77	-5.87	-6.07	1.20	0.10	0.65
	(5.315)	(5.179)	(5.285)	(6.632)	(6.911)	(6.949)	(3.552)	(3.484)	(3.451)
Control of corruption	0.56	0.69	0.44	-1.02	-0.91	-0.92	2.27**	2.10**	2.22**
	(1.323)	(1.334)	(1.328)	(0.995)	(0.986)	(0.987)	(0.992)	(1.001)	(0.998)
Education level	14.24***	15.19***	14.25***	-3.60**	-3.64**	-3.74**	3.11	4.88	5.17
	(4.476)	(4.775)	(4.580)	(1.624)	(1.639)	(1.648)	(3.588)	(3.624)	(3.555)
Average wage	6.36	9.57	9.39	2.71	2.56	2.77	0.43	-0.05	-0.09
	(6.390)	(7.011)	(7.111)	(3.785)	(3.823)	(3.903)	(2.307)	(2.312)	(2.330)
National colocation	-0.02			-0.01			0.01		
	(0.012)			(0.009)			(0.010)		
Sector colocation		-0.04**			-0.01			0.025*	
		(0.02)			(0.011)			(0.014)	
Function colocation			-0.015***			-0.002			0.011**
			(0.005)			(0.003)			(0.005)
Observations	170	170	170	170	170	170	170	170	170
National dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.28	0.30	0.30	0.16	0.16	0.16	0.15	0.16	0.16
log likelihood	-56.40	-55.30	-55.34	-100.1	-100.2	-100.2	-95.21	-94.57	-94.38

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: FDI determinants in the EU neighbourhood by macro-sector

Dep Var: FDI count	(1)	(2)	(3)	(4)	(5)	(6)
		Manufacturing			Services	
Market size	-1.96	-1.63	-1.61	4.06	4.13	4.26
	(3.725)	(3.737)	(3.720)	(3.832)	(3.688)	(3.683)
Market potential	-2.37	-2.92	-2.91	0.43	0.45	0.11
	(3.745)	(3.755)	(3.639)	(3.154)	(3.059)	(3.106)
Control of corruption	-3.19***	-3.16***	-3.15***	1.55**	1.51**	1.46*
	(0.923)	(0.930)	(0.933)	(0.776)	(0.750)	(0.754)
Education level	-5.00***	-4.75**	-4.71**	4.22**	4.33**	4.28**
	(1.919)	(1.983)	(2.000)	(2.012)	(2.016)	(2.015)
Average wage	0.67	0.47	0.44	-1.93	-1.49	-1.15
	(2.374)	(2.365)	(2.385)	(3.157)	(3.133)	(3.155)
National colocation	-0.003			-0.0004		
	(0.007)			(0.010)		
Sector colocation		0.001			-0.008	
		(0.009)			(0.012)	
Function colocation			0.0004			-0.004
			(0.003)			(0.004)
Observations	170	170	170	170	170	170
National dummies	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.16	0.16	0.16	0.12	0.12	0.12
log likelihood	-104.4	-104.4	-104.4	-107.9	-107.8	-107.7

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix 1

Table A: List of variables

Variable	Description	Source
	Dependent	
FDI_{it}	Count of FDI in country i at time t	FDi Markets
	Independent	
Demand		
Market Size$_{it-1}$	GDP of country i at time *t-1*.	WDI
Market Potential$_{it-1}$	Sum of distance-weighted GDP of all third countries c from location i at time *t-1*.	WDI / CEPII
Institutions		
Control of Corruption$_{it-1}$	Composite indicator ranging from -2.5 to 2.5, with higher values associated to more control of corruption in country i at time *t-1*.	WGI
Labour		
Education Level$_{it}$	Ratio between secondary school age population and total population in country i at time *t-1*.	UNESCO
Average Wage$_{it}$	Per capita GDP in country i at time *t-1*.	WDI
Co-location		
National Co-location$_{it}$	Cumulative average stock of investment in country i from the same country of origin.	FDi Markets
Sector Co-location$_{it}$	Cumulative average stock of investment in country i in the same sector of activity.	FDi Markets
Function Co-location$_{it}$	Cumulative average stock of investment in country i in the same business function.	FDi Markets
Sector Co-location$_{it}$ by nationality	Cumulative average stock of investment in country i in the same sector of activity from the same country of origin.	FDi Markets
Function Co-location$_{it}$ by nationality	Cumulative average stock of investment in country i in the same business function from the same country of origin.	FDi Markets