SEARCH

SHARING KNOWLEDGE ASSETS: INTERREGIONALLY COHESIVE NEIGHBORHOODS

EUROPEAN COMMISSION
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SEVENTH FRAMEWORK PROGRAMME

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Sharing KnowledgE Assets: InteRregionally Cohesive NeigHborhoods

Final Executive Research Summary. SEARCH Project

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www.ub.edu/searchproject

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Preface

The Final Academic Report of the **Sharing KnowledgE Assets: InteRregionally Cohesive NeigHborhoods** – SEARCH – **Project** summarizes the main academic results to emerge from our research. At the time of writing, more than a hundred working papers, together with their corresponding abstracts, press releases and policy notes, have been published.

This report, coordinated by Jordi Suriñach, draws on the contents of these working papers, and the deliverables produced by several of the work package leaders on the SEARCH Project: namely, Ron Boschma, Dimitris Kallioras, Raul Ramos, Raffaele Paci and Simona Iammarino.

This report is to be complemented by a Final Policy Guide, which will provide a summary of the main policy proposals to be derived from the SEARCH Project.

For more details of the Project, please consult our webpage (www.ub.edu/searchproject).

1. Executive summary

The main objective of the SEARCH Project is to strengthen integration between the European Union (EU) and the European Neighbourhood Policy (ENP) countries[1] by focusing on the potential of the European Research Neighbourhood (ERN). The SEARCH Project analyses the impact of the ENP on the integration of the EU and its neighbouring countries in terms of their trade and capital flows, mobility and human capital, technological activities and innovation diffusion, and institutional environment. The aim is to facilitate a better understanding of the conditions characterizing the institutional framework of the ENP countries and their economic interactions with the EU in relation to their peoples, capital, trade, knowledge and innovation.

In order to isolate those objectives, the SEARCH Project is organized in eight work packages. The first six focus on research and policy issues (analysing the interaction in flows of goods, capital, people and knowledge), while the remaining two are concerned with activities of dissemination and management. The main results are summarized in the following paragraphs.

The ENP has accelerated and intensified economic flows between the EU and the ENP countries. However, this interaction has by no means achieved its full potential, there being considerable scope still for the expansion of both trade and capital flows, which suggests that the EU and the ENP countries need to strengthen links further. However, the main mechanism of this policy, 'conditionality' (the progress that ENP countries must make on political and institutional matters linked to the terms of the Deep and Comprehensive Free Trade Agreements (DCFTAs) signed with them – the main policy thrust of the ENP) has not proved to be especially helpful in achieving this goal. The ENP has not produced the anticipated results and the pattern of integration between the EU and the ENP countries is unbalanced and asymmetric. Inter-industry integration has been found to be incapable of narrowing the welfare gap between the EU and the ENP countries. Further, the interaction between the two parties generates spatial side effects (or imbalances), favouring, in the main, state capitals and the most dynamic regions in the ENP countries. The study of capital mobility from the EU to the ENP countries provides evidence of the importance of their institutions, given their role as drivers of the location decisions of the EU's Multinational Companies (MNCs). However, not all aspects of the host countries' economic institutional environments matter to the same degree.

The inability of the ENP countries to compete (successfully) with their more advanced EU counterparts in the markets for capital-intensive and knowledge-intensive economic activities means long-term income convergence cannot be achieved.

In terms of policy making, the idea that the EU can integrate into its core productive system countries with significantly lower welfare levels and significantly different production structures (without incurring any costs) needs to be re-examined.

A high degree of heterogeneity has been observed in the migratory flows of the ENP countries over the last 50 years. While some countries (Israel and Russia) are net receivers of migration, others (Belarus, Egypt and Tunisia) have clearly lost population due to migration. However, while EU countries are not always the main destinations of migrants from ENP countries, migratory pressures from the latter to the EU look set to increase in the future. Against this backdrop, there is a clear need to establish a global EU migration policy and to coordinate this policy with other institutions that impact migration flows, such as the labour market institutions.

Inequality characterizes migrant and native worker wages and employment opportunities in EU labour markets. Even when immigrants are highly qualified, there is no guarantee of their finding success in the new labour market. Yet, a suitable system for the assessment and recognition of foreign-acquired educational degrees and/or publicly provided informal training to recently arrived immigrants should improve the transferability of their skills to meet EU needs. However, if EU migration policy is selective in terms of attracting human capital, the risk that ENP countries will suffer a brain drain increases significantly. Remittances and policies promoting temporary migration in fact help to alleviate this problem. Returning to the country of origin has additional benefits: first, returning migrants take with them the education and work experience acquired abroad together with the social capital they have amassed and, second, they can return with the savings they have managed to accumulate. It is also vital that the preconditions for a better integration of immigrants be created in order to ensure a more sustainable and higher rate of economic growth in the long run through the creation of social capital.

[1] In this Report the "ENP countries" are also referred to as "European Neighbourhood Countries (NCs)"

Our results regarding knowledge flows highlight the important role played by knowledge diffusion and research networks in enhancing the regional innovation endowment of both EU and ENP countries, although a high degree of heterogeneity is again apparent. Knowledge transfer is significantly favoured by the spatial proximity between the agents engaged in the innovation process, as well as by the intentional relations they build within aspatial networks, such as those shaped by institutional, technological, social and organizational ties. Cooperation between firms is found to be the main determinant of the adoption of innovations, while a key role seems to be played by the level of trust manifest by people within each country, by simplified procedures, and by high levels of education. The presence of aspatial relationships, including institutional, historical, cultural, cognitive, social and organizational links, is also shown to facilitate the exchange of knowledge, thereby fostering innovation diffusion and the creation of research networks. Here, the latter form part of the integration process, since our results point to a positive and significant impact of R&D collaboration on regional innovation performances. However, this impact is not systematic and requires local absorptive capacities.

In the case of cross-border knowledge flows, it appears that the degree of internationalization of innovative activities is extremely limited when they involve countries with very different economic backgrounds and levels of development. Nonetheless, such relationships have increased over time and the largest countries, in particular, are becoming important partners of the EU countries. Our results also show that agreements signed between firms represent an important channel of knowledge exchange in the whole gamut of activities carried out before, during and after the agreement is entered into.

In conclusion, for the ENP countries, prospects of cross-border knowledge flows resulting from inter-firm agreements and innovation and research networks are very important and potentially rewarding. However, they still face certain difficulties and impediments in becoming successfully engaged with appropriate knowledge bases and, thus, in taking full advantage of these potential benefits, due to the presence of major differences in terms of institutional, cultural, social and economic risk factors.

Finally, the quality of national and institutional environments is of primary importance in ensuring the success of economic activities, innovation, development policies and economic growth. The ENP area is characterised by strong heterogeneity in its institutional background, and in most of these countries the institutional environment needs to be improved substantially. ENP countries still fall well short of EU standards in terms of the quality of their institutional environment, although there are marked differences within the ENP area itself. Therefore, considering that one of the objectives of the ENP is to reduce the institutional gap between the EU and its Neighbouring Countries, institutional cooperation and integration is an element that emerges as a key building block of future European initiatives towards the ENP area. Clearly, institutional cooperation should be tailored according to country specificities in terms of institutional weaknesses, hindrances and challenges.

Our findings indicate that the ENP should no longer be seen as a tool for instilling ‘European’ values within its neighbourhood or for achieving narrower economic (i.e., market access) and political (i.e., security and stability) objectives. From the research perspective, at least, our results point to the need to build on local experiences and the specific characteristics that prevail at the local level and to consider that the NCs do not only represent an opportunity to bolster the Union’s stability and to provide market opportunities for the EU member states. The ENP countries should also be seen as potential current and future partners for the sharing of knowledge and skills, for adapting and improving innovations, and for sharing lessons about respective experiences. Likewise, the focus of ENP on market enlargement issues has proved unsatisfactory, as it does not allow the gap between the EU and ENP countries to be reduced. It is therefore time to bolster the upstream development factors and mechanisms that might enhance a country’s ability to benefit from external knowledge: institutions, education, etc.

2. Summary description of project context and objectives

The European Union (EU) has progressively established partnership agreements to strengthen cooperation with its neighbouring countries. In 2004 the European Neighbourhood Policy (ENP) was established with the objective of avoiding the emergence of new frontier divisions between the enlarged EU and its immediate neighbours, while striving to bring peace, prosperity and stability to all.

The main objective of the SEARCH Project is to strengthen integration between the European Union (EU) and the European Neighbourhood Policy (ENP) countries by focusing on the potential of the European Research

Neighbourhood (ERN). The SEARCH Project analyses the impact of ENP on the integration of the EU and neighbouring countries in terms of their trade and capital flows, mobility and human capital, technological activities and innovation diffusion, and institutional environment. The aim is to facilitate a better understanding of the conditions characterizing the institutional framework of the ENP countries and their economic interactions with the EU in relation to their peoples, capital, trade, knowledge and innovation. SEARCH seeks to enhance the implementation of the European Neighbourhood Policy (ENP) on the understanding that "one-size-fits-all" policy recommendations are inappropriate given the bilateral nature of the EU-ENP country agreements.

The specific objectives are as follows:

- To provide a framework for a theoretical and empirical understanding of the relationships forged between the EU and the European Neighbourhood Policy (ENP) countries.
- To undertake a theoretical and empirical study of the patterns of economic interaction between the EU and its neighbouring countries (NCs) and to estimate the sub-national (i.e., regional) impact of these interactions.
- To analyse the role of labour migration and its economic and social consequences (costs and benefits) both for the EU and its neighbouring regions.
- To investigate the extent to which the innovative performance of the regions (EU-27 and NC-16) depends on endogenous ability in knowledge creation or on the capacity to absorb, adopt and imitate other regions' knowledge and innovations.
- To identify the impact of changes to the institutional structures of the ENP countries and regions on prospects for (a) improved economic development and social cohesion, and (b) for stronger integration with the EU and, in particular, with the New Member States (NMS).
- To extract country specific policy guidelines for policymakers in the EU and the European Neighbourhood Policy (ENP) countries to support the development of higher levels of economic integration for the enhanced growth, competitiveness and cohesion of the two areas.
- To disseminate the research findings to both policymakers and academic researchers at European, national and regional levels, in order to improve both future neighbourhood policy making and future academic research in the area.

The SEARCH Project is organized in eight work packages. The first six involve research and policy issues and their objectives are listed below:

WP		Objectives
WP1	**BACKGROUND. ENP: PAST, PRESENT AND FUTURE**	To provide a framework for the theoretical, empirical and policy analyses of work packages WP2-WP6, establishing a foundation for relationships between the EU and the ENP countries.
WP2	**TRADE FLOWS AND LOCALISATION CHOICES**	To undertake a theoretical and empirical study of the patterns of economic interaction between the EU and the ENP countries, to project future trends and to identify the effects of higher levels of economic integration on the growth, competitiveness and cohesion prospects of the two areas.
WP 3	**PEOPLE MOBILITY AND HUMAN CAPITAL**	To analyse the current and potential future role of labour migration and its economic and social consequences (costs and benefits) both for destination (EU regions) and origin regions (neighbouring countries). Particular attention to be given to the role of intangible assets, including human capital, entrepreneurship and technology diffusion.
WP4	**TECHNOLOGICAL ACTIVITIES AND INNOVATION DIFFUSION IN THE EU AND INTERACTIONS WITH NEIGHBOURING REGIONS**	To investigate the innovative performance of the regions (EU-27 and NC-16) to determine the extent to which this performance depends on the endogenous ability for knowledge creation, on the one hand, and on the absorptive capacity of regions to adopt and imitate, on the other.
WP5	**INSTITUTIONAL ENVIRONMENT**	To investigate the current status of the social, cultural and institutional environment in the ENP countries and regions; to identify the impact of current changes on prospects for improved economic development, social cohesion, and stronger integration with the EU area.
	POLICY ISSUES AND	To identify and analyse policy recommendations with the objective of

WP6	**RESEARCH IMPLICATIONS: TOWARD AN INTEGRATED ERN POLICY POSTURE**	contributing to evidence-based policy making and integrated European Research Neighbourhood policies.

More specifically, the objectives of WP1 are: a) to review the literature examining the economic and social consequences of the most recent EU enlargement and the ENP with regard to the following issues: socio-economic cohesion and regional disparities, intensities of economic interactions including trade linkages, labour migration, capital flows, knowledge flows and research collaboration; b) to review the ENP policy framework and its historical development in order to provide reliable background information for the other work packages; c) to develop a conceptual framework for the assessment of the impact of differentiated/incomplete integration on both new member states (NMS) and the European Neighbourhood Policy (ENP) countries, with special reference to the sub-national level of regions (Neighbouring Regions both inside and outside the EU); d) to provide guidelines for the whole project regarding possible focus countries for the undertaking of in-depth surveys and qualitative research.

The specific objectives of WP2 are: a) the analysis of trade patterns between the EU and its neighbouring countries and the potential impact of these on growth, structural change and cohesion in both areas; b) the analysis of the locational choices of EU mobile investment, the direction and drivers of capital mobility and their impact on the EU new member states and neighbouring countries; c) the assessment of the efforts being made by domestic and foreign firms to invest in technological and organizational capacities with a particular focus on the impact of localized institutional environments; d) the analysis of the intra-country spatial effects of higher levels of trade and investment interaction in both the EU and its neighbouring countries; and e) the discussion of the policy options at the EU level that take into consideration the effects of integration and attempt to increase and spread its benefits on both sides of the EU's external borders.

The specific objectives of WP3 are: a) to develop migration flow scenarios between the EU and ENP regions paying attention to two main concerns: specific migration legislation and policies applied in the EU and patterns of international specialization in the regions of the EU; b) to analyse the spatial differences in the returns to human capital as a potential explanatory factor of worker mobility from and to the neighbouring countries and the difficulties encountered when seeking to integrate in host labour markets; c) to explore the factors that account for the variation in remittance flows and to determine whether remittances actually contribute to human capital formation in neighbouring countries; d) to explore how schooling and work experience acquired by immigrants in host countries can affect economic growth at points of origin; e) to analyse the influence of migration flows and attitudes towards ethnic diversity on social capital formation and, hence, on the economic growth of the EU's regions; f) to provide policy suggestions, both for public and private institutions at European, national and regional levels, concerning the impact of migration flows on human and social capital and, consequently, on the economic outcomes of both receiving and sending regions.

WP4 specifically examines a) the way in which internal and external factors (including, human capital, social capital, institutions, public policies, spatial spillovers) impact innovation activities and, consequently, regional economic performances. b) Moreover, it examines the process of innovation diffusion and research networking so as to determine the extent to which the EU and EN countries have succeeded in establishing valuable collaboration procedures. Throughout the analysis, specific attention is devoted to the economic dynamics of the countries (and regions) that have recently acceded to the EU (EU-12), the aim being to learn more about the evolution that the neighbouring countries might undergo in the near future as a result of the reinforcement of the integration process. c) Useful policy recommendations are derived from all the preceding research activities at both the European and the ENP country levels.

WP5 turns its attention to the following critical factors: a) the specific features of social capital in the ENP region; b) the impact of cultural diversity and individual values on innovation; and c) the relationship between the institutional environment and upgrading dynamics at system, industry, firm and individual levels.

Finally, the goal of WP6 is to present an overview of potential EU policy options for strengthening cohesion across the EU-27 and NC-16 in the mid- to long-term, with a particular emphasis on the ENP.

For further details about the research undertaken within the SEARCH Framework Programme Project consult www.ub.edu/searchproject.

3. Description of the main S&T results/foregrounds

3.1. Background. ENP: Past, Present and Future

3.1.1. Taking Stock of ENP Research Projects

In Wesselink and Boschma (2012a) we provide an overview of the empirical literature dedicated to studies of the ENP and its impact on trade, migration, innovation and education, and the institutional environment, social capital and cultural diversity. The main conclusions to be drawn are that most empirical studies have focused on trade; migration has received less attention; only a few studies have examined innovation in the ENP countries; and, no studies explicitly examine the role of the ENP in the institutional environment, cultural diversity and the effects of social capital on innovation. In the research projects conducted, three main gaps can be identified. First, most of the research fails to examine the effect of specific policy measures, but rather tends to analyse change over a period of time, which means the impact of all policies implemented in that period are measured. Second, almost all the studies conduct their analyses at a national level, the sub-national level being rarely considered. Third, most of the reforms carried out as part of the ENP are very recent, and most studies do not have access to up-to-date data that would enable them to evaluate the impact of these reforms.

3.1.2. New Economic Geography and Economic Integration: a review

In Ascani, Crescenzi and Iammarino (2012a) we summarize the main insights offered by New Economic Geography (NEG) with respect to the economic integration that has been achieved between countries and regions. What emerges from reviewing the theoretical framework provided by NEG is the fundamental ambiguity regarding the response of spatial economic processes to the gradual removal of trade barriers. Most, but not all, NEG models predict a bell-shaped association between the agglomeration of economic production and welfare in a limited number of locations and an intensification of trade liberalisation. In these circumstances, trade barriers not only constitute the 'natural' trade obstacles of tariffs and quotas, but they also include other elements such as different regulatory frameworks as well as different languages and cultures. As such, full economic integration is impossible without integration first having been achieved in a number of non-economic elements. Empirical studies of the impact of the EU's enlargement eastward have also been reviewed. Most of this research seems to suggest that economic integration leads to a restructuring of industry in Central-Eastern European Countries (CEECs) and that relocation patterns characterise most of the economic geography of such countries. Divergence and polarisation between regions in the new EU member countries appear to be among the main consequences of enlargement, with more favoured regions (metropolitan and regions bordering the EU) *taking off* while the others tend to stagnate or even decline. It remains to be seen if the ENP has a similar divergent effect on its neighbouring countries.

3.1.3. Regional Economic Development: a review

In Ascani, Crescenzi and Iammarino (2012b) we analyse the main concepts explored in the regional and local economic development literature. First, the rationale for a regional approach to development in a context of the growing internationalisation of the world economy is explored. Then, the relevance of local social and institutional characteristics is discussed on the understanding that favourable conditions for development result from a highly context specific combination of rules, norms and social relations that encourage and facilitate knowledge diffusion and exploitation mostly at the local level. The claim is made that the frequent ineffectiveness of top-down policies employed to spur regional development points to the importance of adopting a bottom-up approach to economic development. Finally, it is argued that growing demands for the decentralisation of powers and resources from central governments to regional and local administrations, which have been witnessed in most parts of the world over the last few decades, can be interpreted as an acknowledgement that regional forces and characteristics are particularly relevant in shaping local paths of development in a context of increasing globalisation. In this framework, therefore, decentralisation represents the capacity of heterogeneous regions and territories to tailor specific development strategies so as to address their particular needs and to influence their own destinies.

3.1.4. Overview of the European Neighbourhood Policy: Its History, Structure, and the Policy Measures Implemented

In Wesselink and Boschma (2012b) we provide a factual description of the history of the ENP, its institutional structure and the policy measures implemented to date. The roots of the ENP can be traced to a 2003 European Commission communication. Over the last seven years, the strategy has matured into a multifaceted policy, thanks to the gradual development of new institutional structures responding to specific gaps. The ENP replaces, or subsumes, a number of previous regional and thematic policies, which are described in detail in the research paper. At the outset, the ENP was financed by existing funding instruments for the various regional and thematic policies it was designed to replace. In

2006, the European Neighbourhood and Policy Instrument was introduced as the main source of funding for the ENP. In addition, the European Investment Bank had specific investment instruments at its disposal for the leverage of funds from the European Neighbourhood and Policy Instrument for the implementation of investment projects in neighbouring countries. The ENP is characterised by an interregional element, a broader division into two regional groups (East-South) and includes bilateral agreements signed with each ENP country, with the exception of those that do not fulfil basic requirements regarding democracy and human rights. The most important policies and reforms carried out in relation to these three aspects are discussed in the working paper. The review concludes, however, that the interregional and regional approaches taken by the ENP have been only weakly developed, given the low degree of activity undertaken in these two areas by the ENP. By contrast, the bilateral approach has been much more actively pursued in some instances, with several countries showing themselves to be especially reform-minded. However, other countries have made practically no progress in implementing the reforms proposed by the ENP.

3.1.5. Political and Political Economy Literature on the ENP: Issues and Implications

In Monastiriotis and Borrell (2012a), we analyse the ENP from the perspective provided by politics and political economy. Seen in this light, the ENP sits – sometimes uncomfortably – between the realms of accession/integration and external relations. Given the policy's emphasis on strengthening security (internally) and stability (externally), and the fact that it is built largely on pre-existing conditions of accession (so-called 'conditionality'), the main body of literature concerned with the ENP lies in the fields of political science and international relations – and, less so, in that of political economy. Consequently, much less emphasis is given to the role of the ENP as a tool for economic development and convergence. The political/institutional literature focuses on a number of issues related to the rationale, instrumentation and implementation of the ENP. The analyses conducted can be grouped in three distinctive but inter-related categories. The first concerns the ultimate scope of the policy. Here, the ENP is seen to be struggling to meet, what are at times, two conflicting objectives: on the one hand, the establishment of a common security policy with the EU's neighbours and, on the other, the management of the latter's (real, perceived or potential) accession aspirations. Related to this, the second concern is the role the EU plays in this process and, in particular, the tensions that exist between its normative aspiration to instil 'European' values within its neighbourhood and its more self-interested goal of achieving narrower economic (market access) and political (security, stability) objectives. Third, and finally, a more central question concerns the overall effectiveness of the policy, given the above tensions. The use of conditionality, modelled as it is on the experience of past enlargements, has a number of unintended, but negative, consequences, since it blurs the objectives and scope of the policy and 'entraps' the EU into a constantly deepening process of institutional convergence and integration – which either becomes ineffective due to the absence of the prospect of accession or makes the objective of 'containing accession aspirations' largely impractical. In this process, adherence to the objectives of democratisation, market openness and integration becomes piecemeal and, thus, the overall goal of strengthening security and stability through the economic and political development of the EU's external periphery is potentially compromised.

Our findings indicate that the ENP should no longer be seen as a tool for instilling 'European' values within its neighbourhood or for achieving narrower economic (i.e., market access) and political (i.e., security and stability) objectives. From the research perspective, at least, our results point to the need to build on local experiences and the specific characteristics that prevail at the local level and to consider that the NCs do not only represent an opportunity to bolster the Union's stability and to provide market opportunities for the EU member states. The ENP countries should also be seen as potential current and future partners for the sharing of knowledge and skills, for adapting and improving innovations, and for sharing lessons about respective experiences. Likewise, the focus of ENP on market enlargement issues has proved unsatisfactory, as it does not allow the gap between the EU and ENP countries to be reduced. It is therefore time to bolster the upstream development factors and mechanisms that might enhance a country's ability to benefit from external knowledge: institutions, education, etc.

3.2. Trade Flows and Localisation Choices

3.2.1. Analysis of Evolving Trade Patterns in EU and Neighbouring Countries

The aim of this task is to undertake an in-depth study of ENP trade flows to and from the EU, and the rest of the world, in order to provide insights into the evolution in the size, direction and composition of these flows as well as into the impact of trade on the growth of the ENP. The policy framework is critically analyzed in several research papers: Liargovas (2013a) examines the complex EU trade policies in relation to the ENP countries, including the restrictions that arise from EU sectoral policies (such as the Common Agricultural Policy); additionally, the research findings reported in Pinna (2013), Artelaris, Kallioras, Petrakos and Tsiapa (2013), and Boschma and Capone (2013a) provide the basis for this current task.

Our analysis covers the period 1995-2011 and so we are able to gauge the latest shifts in trade structures resulting from the recent economic and political reforms implemented in the EU economy (i.e., the euro, the enlargement eastwards, and the on-going financial and economic crisis), in the ENP countries (i.e. the "colour" revolutions, and the Arab "spring"), as well as in the ENP itself.

First, a rough outline of the EU-ENP countries' trade relations is offered by examining aggregate EU-ENP trade activity data at the national level. Following this macro perspective, an attempt is made to verify whether (and, if so, the extent to which) the trade component of the ENP, and, in particular, the DCFTAs – the main policy thrust of the ENP – contributes to "reproducing" the well-established "core-periphery" EU spatial pattern of development in the EU-ENP economic space. Here, relations of dominance between the EU and the ENP countries are detected. Specifically, when trade relations with a partner country are not sufficiently strong (i.e., exports (imports) to (from) a partner country are lower than a specified threshold), then: a) it is "easier" for a country under consideration to change its trade partner, and b) the impact on the country under consideration is "lighter" when the partner country decides to change trading partner or when the partner country is not able to maintain the same level of trade activity (for example, during recession). This rationale continues to hold even when special trade relations have been established (such as those entered into in the DCFTAs, which characterize the trade component of the ENP).

To complete the outline of the EU-ENP countries' trade relations, we sought to detect the determinants of export flows from the ENP countries to the EU. Given that the ENP countries operate under the so-called conditions of "neighbourhood Europeanization", it is important to determine whether (and, if so, the extent to which) ENP export flows to the EU are driven by market forces or, alternatively, they result from a set of less detectable, political considerations. The irregularities detected in the geographical direction of export flows indicate that there is a bias in the geographical pattern of ENP country exports to the EU. Plotting the coefficients of irregularity in the geographical direction of export flows (CIGDEF) against the per capita GDP of the ENP countries reveals the possible implications of this geographical irregularity for the economic performance of the ENP countries.

Unlike most empirical studies in the trade literature, we also conduct an analysis of EU-ENP trade relations from a micro perspective. Specifically, we draw on firm-level trade data. The point of view provided by the firms is especially useful in identifying and evaluating how the increased worldwide integration of both real and financial markets has affected the overall economy. Indeed, firms undertake international operations and, hence, are at the core of competitiveness. Thus, helping to put countries firmly on the path towards growth can be achieved by examining firms and their characteristics. Thus, we study the export decisions of EU firms, identifying their principal destinations and examining the intensive and extensive margins of their trade, in an attempt at addressing questions about the relative importance of the EU with respect to its alternative trade partners. The intensive margin considers changes in the diversification of a set of goods that are commonly traded over a period reflecting any inequality in the allocations of active export lines (i.e., it is concerned with higher volumes of existing products and destinations). The extensive margin, by contrast, considers the effect of newly traded (or disappearing) goods on diversification (quite simply, it is concerned with new products and destinations). Furthermore, the EU firms that decide to export to the ENP countries can be compared with the EU firms that do not have the ENP countries as their principal partner, in order to shed greater light on their specific characteristics (including employment levels and labour productivity).

Finally, the impact of the EU-ENP countries' trade relations on the economic growth of the latter is assessed. Has EU-ENP trade activity stimulated the economic growth of the ENP countries and, if so, to what extent? More specifically, in keeping with procedures proposed in the empirical literature on causality, the ENP trade-growth nexus is examined.

Over the last 15 years, the ENP countries have started to implement trade liberalization policies. Under the ENP framework, they have strengthened their trade relations with the EU, entering into DCFTAs in order to open up trade in agricultural products and to ratify agreements on the accreditation and acceptance of industrial products. This does not disguise the fact that the main reason why the EU has signed these DCFTAs with the ENP countries (as it keeps firmly to the road of bilateralism) is its objective to enhance the substance of trade agreements, promoting more comprehensive trade relations with its neighbours, and, thus, drawing its neighbours gradually closer to the Single Market. Indeed, the EU-ENP countries' trade activity has expanded significantly in absolute terms. For Kallioras (2013), this is a clear sign of the increased interaction – if not integration – of the ENP countries with the EU. Yet, despite this important trend, our study of the EU-ENP countries' trade relations generates some, equally important, concerns about the progress of the DCFTAs and the overall success of the ENP. The political upheaval in the ENP-South region and the slow implementation of reforms in the ENP-East region "legitimize" such concerns.

There would appear to be a consensus that acquiring closer relations with the EU acts as a very strong stimulus for, and facilitator of, economic, political and institutional development, providing as it does not only the incentives but also the (financial) resources to promote economic restructuring and greater institutional capacity building. It should therefore come as no great surprise that in countries in dire need of economic restructuring, socio-political transformation and development, the process of European integration – in all of its facets (i.e., economic integration, political approximation and policy harmonization) – has gone largely unquestioned. In this regard, the ENP countries are no exception. However, along with the aforementioned benefits (which are, indeed, too strong to be overlooked), the process of European (economic) integration is giving rise to additional processes, the overall nature and impact of which remain ambiguous.

From a macro perspective, an examination of the EU-ENP countries' trade activity (Kallioras, 2013) reveals that for the vast majority of the EU-ENP country partnerships there is either a neutral relation or the EU countries dominate the ENP countries. This provides strong support for those that claim the DCFTAs are helping "reproduce" the well-established EU "core-periphery" spatial pattern of development within the EU-ENP economic space. Clearly, the EU-ENP trading area resembles a "hub-and-spoke" system, consolidating a spatial pattern of unequal (trade) relations between the EU and its neighbours. This makes it quite evident that neoclassical arguments to the effect that the market forces released in the process of economic integration (or even under the conditions of "neighbourhood" Europeanization) are, overall, beneficial for the least developed economies (leading as they will to greater cohesion) are difficult to verify.

If we examine the geography (i.e., the size, direction and composition) of EU-ENP trade relations (Petrakos, Kallioras and Artelaris, 2013), then what is observed is the diminishing importance of the EU in ENP trade shares, mainly at the expense of the BRIC countries (despite the fact that the EU remains the main trade partner of the ENP countries), the relative lack of importance of the ENP countries in the EU trade shares (the vast majority of EU trade is intra-EU) as well as the low intra-ENP trade shares (an indication that the ENP area is still fragmented with weak demand/supply chain links). These trends may be attributed to the fact that EU-ENP trade relations have evolved in a somewhat unbalanced and asymmetric way, given that the ENP countries tend to be locked in an inter-industry type of trade integration with their more advanced EU counterparts. These trade relations – the outcome of the inability of the ENP countries to compete in markets for capital-intensive and/or knowledge-intensive activities, even though they provide an alternative (and perhaps the only feasible) route for the exploitation of locally available skills – are no guarantee of long-term income convergence. In the specific case of the ENP countries that do not enjoy a comparative advantage in the primary fuel commodity sector, trade relations of this type are a good indication (given the recent experience of the Southern EU member-states) that trade deficits may be quickly "converted" into fiscal deficits. Thus, bearing in mind that the ENP area is highly sensitive in both economic (i.e. low levels of welfare provision) and demographic (i.e. sizeable rural population) terms, the current perspectives of the ENP may lead the (non-fuel producing) ENP countries to gravitate towards different trade poles (e.g. the BRICs) that offer less unbalanced and less asymmetric trade relations.

Overall, the gravity model, when applied to ENP exports to the EU (Kallioras and Petrakos, 2013), shows that gravitational logic holds. High levels of GDP and population in the ENP and the EU countries, relative proximity, low income differentials, common land borders and past colonial relations are among the factors that favour an increase in exports from the ENP to the EU countries. When these circumstances do not hold, EU-ENP trade activity is hindered. More specifically, the estimator of the ENP countries' GDP, although positive, indicates the inability of these countries to diversify and expand their export bases and, thus, implement export-led growth strategies. Unquestionably, the inability of the ENP countries to compete (successfully) with their more advanced EU counterparts in the markets for capital-intensive and knowledge-intensive economic activities prevents long-term income convergence. The positive estimator of the ENP countries' populations is indicative of their great potential for exporting. This finding is a good indicator for the EU to create, via its external trade policy, the necessary conditions to promote ENP exports to the EU market. The reluctance shown by the EU to raise its tariff barriers, especially those imposed on agricultural products, is not beneficial to the promotion of trade, placing major hurdles in the path of ENP countries as they seek to export the products in which they specialize to the EU market. Moreover, the negative sign of the distance estimator between the EU and the ENP countries indicates that the ENP exports to the EU countries are not spatially dispersed throughout the EU market. On the contrary, they exhibit a strong pattern of spatial concentration, since adjacency exerts a strong influence on the formation of trade areas, while distance has a negative effect on trade activity. Clearly, given that the EU-ENP trade area is not without (natural and/or artificial) barriers to interaction, a number of cases exhibit a geographical pattern that is not "normal", in the sense that the direction of ENP exports is not driven solely by the parameters captured in the corresponding gravity model. Geographical irregularity in the pattern of ENP exports exerts a negative, though not strong, effect on the economic performance of the ENP countries. At this juncture, it should be stressed that for many ENP countries (mainly those in the ENP-East region), the launch of the ENP led to the normalization of their trade activity patterns with the EU (above all, with the new EU countries).

An extremely important finding reported by Boschma and Capone (2013b) regarding EU-ENP trade relations is the inability of the ENP countries to implement export-led growth strategies promoting the diversification (expansion) of their exports bases. Indeed, over time, the sectoral composition of export flows from the ENP countries to the EU has remained, more or less, unchanged. The degree of relatedness between export products shows that, both in the EU and the ENP countries, the evolution of the export mix has been strongly path-dependent (i.e., countries tend to retain their comparative advantage for products that are strongly related to their current productive structure, while they also diversify in related or similar products). This effect is much stronger for the ENP countries, which is indicative of the presence of different types of capability (i.e., the EU countries are able to diversify into less closely related industries because of their general-purpose capabilities, while the ENP countries have to rely much more heavily on the relatedness between products and the specific capabilities required in producing them). The analysis of country diversification, however, suggests that, although path dependence matters, the possibility remains that the network of relations in which countries are embedded might change the direction and the intensity of the process.

This situation holds because there is potential for the ENP countries to strengthen their links with the EU countries. The micro analysis conducted by Pinna, Schivardi and Licio (2013) at the firm level reveals that although roughly 70% of EU firms are exporters, of these less than 6% have ENP countries as their main (i.e. first, second or third) export destination and just 2% have an ENP country as their primary export destination. Based on the results from the gravity model and according to national trade data, the analysis of firm-level trading stresses the fundamental role played by geographical and cultural proximity in explaining EU trade flows. If we focus on the specific characteristics (including, for example, employment and productivity levels) of the EU firms exporting to the ENP countries, no significant differences can be identified when a comparison is made with their counterparts that export to other (non ENP countries) destinations. An examination of the intensive and extensive margins of their trade shows that exporting areas have a differential impact on the firms' propensity to export as well as on the volume of their exports. EU firms trade predominantly with other EU firms (thus, confirming that EU trade is mostly intra-EU), although, in terms of volume, exports outside the EU are much more consistent. In the specific case of extensive margins, the decision of EU firms to export (or not) is affected primarily by intra-EU trade.

Having obtained a picture of the level and nature of EU-ENP trade relations, the next step is to determine the overall impact of these trade relations on the economic growth of the ENP countries. The analysis of EU-ENP trade activity (Anagnostou, Kallioras and Petrakos, 2013), undertaken for the EU as a whole and for specific EU sub-groups (namely, EU core, old EU periphery and new EU periphery), shows that the long-run causality between trade indicators (i.e. indicators of openness and integration) and growth depends on the EU trading partners. While the higher-income subpanel (i.e. EU core) shows a negative causality, the lower-income countries (i.e. EU periphery) exhibit a positive relationship between growth and trade indicators. Indeed, in terms of trade openness and integration, the analysis shows that trade expansion with the EU contributes to ENP growth mainly when the latter trade with middle- and low-income EU members, that is, the Southern and the Central-Eastern EU countries. In this case, the expansion of trade as a share of GDP is beneficial for ENP growth. By contrast, when the expansion of trade as a share of GDP is attributable to high-income EU members, the impact on growth is negative. The analysis also shows that with existing productive capacities and structures, the GDP growth of the ENP countries stimulates the expansion of trade relations as a share of GDP only with middle- and low-income EU member states. Hence, the growth-led openness and openness-led growth hypotheses are only supported in the case of low-income EU traders. Given that the EU-ENP trade relations represent a "North-South" type of integration, this is a finding of extreme importance, casting doubt on the mainstream win-win models of trade and development.

3.2.2. Capital mobility between EU and neighbouring countries

The aim of this task is to examine the location choices of multinational companies in transition economies and to study capital mobility between the EU and its neighbouring countries. The general objective includes conducting a theoretical discussion and an empirical analysis of capital mobility between the EU and the ENP countries so as to assess the impact of firms' localization decisions on the economic social divide between the enlarged EU and its neighbours. A wide range of research methodologies are employed and significant research findings are employed, the latter having significant implications for policy making. The analysis covers the period 2003-2012, focusing primarily on the period following the launch of the ENP and drawing on both secondary and primary data.

While the EU has increased its interaction with the ENP countries, EU (multinational) firms have had the opportunity to exploit a larger number of markets, obtaining access to a broader set of locations in which to invest and to set up their foreign operations. We study the investment patterns of multinational companies (MNCs) in this set of locations that enjoy geographic proximity to the EU. Investigating the location strategies of MNCs is important since the presence of foreign-owned firms is widely believed to be beneficial for domestic firms. Indeed, it is thought that the more advanced

technology and skills associated with MNCs can benefit domestic firms by increasing the productivity of local factors and innovative performance. Thus, the potential effects that MNCs might exert on recipient economies justify the in-depth investigation of the location strategies of these international actors. Of course, the global activities of MNCs are important in their own right. In fact, over the last twenty years, the volume of FDI has increased dramatically and the attraction of MNC affiliates is now at the heart of policy agendas in most countries. Ascani, Crescenzi and Iammarino (2013c) study the location behaviour of EU MNCs. Their evidence suggests that economic institutions do matter for MNCs' strategies: first, countries in which the government plays a large role in the economy tend to discourage foreign investors; second, secure property rights and an effective legal system are important for foreign firms; third, stable inflation rates and reliable currencies are positively associated with MNC decisions; fourth, fewer regulatory constraints and market burdens do not appear to be significant drivers of MNC choices as MNCs do perceive the different levels of integration between EU and the destination countries when selecting a location for investment; and, finally, MNCs have heterogeneous tastes regarding the recipient countries' economic institutions as indicated by the variables of Legal System & Property Rights and Sound Money, it emerging that there is a small number of European firms that select locations in which these economic institutions are not so strong.

From the perspective of the EU, the ENP provides it with an institutional framework of association (including preferential trade agreements) that, arguably, offers EU firms a relative advantage, at least as regards reducing entry costs and uncertainties (including, information asymmetries and legal barriers). If, as is believed to have happened in the new EU member-states, the framework of association facilitates less speculative and more long-term strategic investments, then EU-originating investments are likely to be more organically linked to the local economies of the host countries and so should be capable of generating larger spillovers for domestic firms. This hypothesis is examined by Monastiriotis and Borrell (2013b) who apply a standard production-function approach to their estimation of the productivity spillovers accruing to domestic firms as a result of the presence of foreign investments. They then examine how these spillovers vary both for groups of countries engaged in different processes with regards to EU association and separately for investments of EU and non-EU origin.

A number of other empirical studies (Zvirgzde, Schiller and Revilla-Diez, 2013b; 2013c) have been undertaken using data from an enterprise survey, conducted in three Ukrainian regions (Kyiv, Lviv and Kharkiv), with 153 foreign-owned firms. The conceptual framework of the study deals not only with the place-specific characteristics of the receiving country, but also with the broader motives of foreign firms opting to invest in local capabilities in the host region, including the management perspective of investors as regards the value added of their decision making. This approach provides a comprehensive picture of the patterns presented by location decisions for FDI in transition economies and, more specifically, in Ukraine. In particular, a complete theoretical framework for the location choices of MNCs is provided by integrating institutional and proximity components into the empirical findings concerning the traditional economic factors that attract FDI to certain localities within transition economies (in this case Ukraine), and the institutional and proximity parameters of regions that attract or repel MNCs, so as to to determine the impact of the institutional environment and the proximity advantages of certain regions on the propensity of foreign firms to invest in certain regional host markets. The empirical survey conducted among foreign firms operating in Ukraine was coupled with an empirical survey conducted among 305 domestic firms operating in the exact same Ukrainian regions (i.e., Kyiv, Lviv and Kharkiv). The study considers four forms of innovation: product innovation – that is, significant change/s to the characteristics of a product or the introduction of a completely new good or service; process innovation – that is, significant change/s to the methods of production or delivery; organizational innovation – change/s that lead to the implementation of new organizational practices i.e., business methods, workplace organization, or changes in the firm's external relations; and marketing innovation – change/s in marketing methods, including new product designs, new packaging, new methods of product placement and promotion, pricing of goods and services.

Controlling for the traditional drivers of location behaviour, the study of capital mobility from the EU to the ENP countries provides evidence of the significant role played by institutions. Overall, economic institutions are found to be relevant drivers of MNCs' location choices. However, not all aspects of the host countries' economic institutional environments matter to the same degree. Indeed, if economic institutions are distinguished between those concerned with government expenditure, property rights, the legal system, monetary matters and market regulations, then those concerned with government expenditure, property rights and the legal system have a positive impact on the decisions of foreign investors to undertake operations in the ENP countries, while the others do not seem to be relevant. Of course, there are standard elements (including the size of host markets, market potential, agglomeration forces, trade costs and geography, wages, and education levels) that, also, contribute to shape MNCs' strategies. Taking the analysis one step further, it is interesting to note that the heterogeneity in MNCs' preferences as regards economic institutions impacts location strategies. Thus, the indicators of property rights, the legal system and monetary institutions vary somewhat in the impact they have on MNCs' preferences. As far as heterogeneity in the monetary affairs of economic institutions is concerned, it might be that there are underlying differences at the MNC individual level with respect to the favoured

method for financing their subsidiaries' activities. Thus, MNCs that undertake operations in locations with high rates of inflation may set up affiliates that borrow money externally from local financial markets rather than internally from the parent company. Importantly, most MNCs prefer locations where economic regulations are better enforced.

The ENP has thus transformed the EU's external relations with its closest neighbours, linking them inexorably with processes of institutional adaptation (Europeanization) and economic integration (trade liberalisation and preferential agreements). Because of this, and despite its political and foreign policy origins, the ENP has today become one of the EU's main economic policy instruments, accelerating and intensifying economic flows and interactions between countries and between businesses across the two regional blocks. Within the ENP countries, the examination of the size and direction of productivity spillovers, generated by EU and non-EU FDI, accruing to the domestic economies offers a plethora of interesting findings. In the case of the countries in the ENP-East region, in particular, EU-originating FDI appears to have a "productivity advantage" over investments from other parts of the world, in the sense that it tends to generate greater productivity spillovers for domestic firms or, at least, less significant negative effects. Although theoretically it is possible that this result may emanate purely from the technology and other advantages held by EU firms relative to other investors, in practice it is difficult to argue that the EU's MNCs would be systematically more advanced than the MNCs based elsewhere. If this is the case, then it can be argued that at least part of this productivity advantage is related to the process of EU association, which gives preferential access to EU firms in the host economies and harmonises their institutional and legal environments. Of course, FDI spillovers, including those from the EU, have not yet reached maximum values in the ENP region. The example of countries in the south-eastern region, where the involvement of the EU is greatest, indicates that these spillovers are very positive and strong, despite the fact that the recipient countries share similar problems of institutional quality and absorptive capacity to those suffered by many of the ENP countries. This, in turn, suggests that further approximation with the countries of the ENP region and further intensification of economic links and capital flows may prove to be increasingly beneficial for the domestic economies.

Taking into account the above trends, the EU has had a fundamental effect on the market orientation and on the external political and economic relations of the countries in its neighbourhood. This influence, and the gravitational pull of the EU economy (even during the Euro zone crisis), means that the countries in the EU periphery can neither choose or control the pace at (and areas in) which the processes of integration and market openness take place. In this sense, the EU shares the responsibility, with the countries concerned, to address any adverse consequences and any imbalances generated by these processes of approximation and openness. From this perspective, the issue of spatial imbalance, and in particular of the impact that the processes of approximation and openness may have on this, is not only important but also an issue of shared EU responsibility. Although the evidence we present has yet to be tested with other datasets and model specifications (and, as such, must still be considered tentative), our results provide a clear indication that the effects of FDI in the European periphery, and particularly of European FDI in these areas, are favouring geographical differentiation and regional disparities. If this were to be the case, then the 'neighbourhood' policies of the EU must acquire a much more specific geographical focus, and implement actions that might identify and correct the regional imbalances being generated by what are otherwise well-intentioned and probably, on the whole, beneficial policies.

The case of Ukraine would appear to verify these findings. The results of the empirical analysis conducted in Ukraine show that market-seeking investors are most likely to invest in the capital region (Kyiv) as opposed to the border regions of Lviv and Kharkiv. The capital's greater market potential, better access to resources and higher institutional quality attract greenfield investors. Lying on the EU's border, the Lviv region, other than its absolute advantage of its proximity to the Union, attracts investors thanks to its concentration of human capital. These findings are in line with the assumption regarding the relative lack of post-Soviet legitimacy of the western region Lviv, whereas in the border region of Kharkiv, which lies close to the Commonwealth of Independent States (CIS), the old industrial infrastructure, the remnants of the Soviet's planned economy, is still evident. This state of affairs leads to the attraction of foreign investment originating from the CIS to serve the local market with pre-established customer-supplier networks. Overall, the better institutional quality of the capital region results in its attracting FDI, as firms consider the institutional environment of the location to be good. This supports arguments that identify the institutional environment as a pull factor for FDI inflows, but it also points to uneven government support of regional economic systems, leading to an imbalance in regional development. These findings have the following policy implications: (a) There is a need to develop region-specific strategic assets (including human capital, concentrated knowledge pools, highly skilled labour and technology-oriented infrastructures) to provide a locational advantage for target regions; (b) There is a need to encourage investing firms to serve the local market as opposed to their using the regional economic systems as their sole resource bases; (c) There is a need to introduce equal government support in terms of overall regional institutional quality and preferential government treatment to both the capital and border regions. This should lead to the development of FDI-friendly local institutional frameworks, which can positively affect FDI inflows, since institutional quality does have an important impact on inward foreign investments.

The empirical analysis reveals the relationship between the factors that impact the firms' innovation activities and the output of these activities. Firms located in Kyiv are more likely to be product-innovators, while those sited in Lviv are more likely to be process-innovators. Indeed, the overall propensity of firms in Lviv to innovate appears to be higher than that of their Kyiv counterparts. However, care should be taken in claiming that Lviv firms are more innovative than those in Kyiv, since process innovations *per se* are less technology and capital intense. Border regions still perform quite poorly with regard to absorptive capacity parameters, namely R&D investment and involvement of R&D-related staff, in comparison to the capital region. Overall, foreign-owned firms outperform their domestic counterparts in terms of innovation progress. Greenfield FDIs are the most innovative firms, whereas new domestic private firms perform the worst. This is further supported by evidence that domestic firms have much lower absorptive capacities in comparison to those of the subsidiaries of MNEs that introduce new knowledge and technologies. In any case, a high quality institutional environment is a key factor for the innovation propensity of firms. Thus, when the institutional framework is supportive of firms, it impacts positively on their innovation performance, but when faced by a thick institutional environment, this becomes burdensome for business agents as they are unable to introduce innovations.

Three policy implications can be identified: First, there is a need to introduce more support for the border regions to reduce uneven regional development, with the capital outstripping the periphery on most indicators; second, the government needs to support domestic firms, so as to reduce the technology gap between foreign-owned and domestic firms; and, third, the absorptive capacity of local firms needs to be increased, so as to boost product innovation in high-tech sectors, given that the introduction of new products is essential for the growth of the manufacturing sector. To achieve this last objective there is a need, first, to ensure there is sufficient financial support for the firms' innovation activities, permitting them to invest in R&D as well as in the training of employees (two essential parameters of their absorptive capacity) and, second, to introduce more research-based education programs in higher education, so that local human capital has the skills to innovate. Moreover, high quality labour conditions for local personnel should be introduced, promoting highly competitive and prestigious work environments, so that employees have sufficient motivation to work in tech-related industries.

3.2.3. Spatial implications of integration and expansion of capital flows in and out of the EU

The general objective of this task is to investigate the spatial implications of trade and FDI flows between the EU and the ENP countries so as to shed some light on a set of countries of which we know comparatively little (not only at the regional but also at the national level). The study overcomes limitations of data availability at the regional level, either by data mining (and the compilation of databases) or by undertaking indirect estimations. Taken together, the research papers provide a good overall insight into the issues raised. The analysis covers the period 1987-2010 and is, basically, reported in Petrakos, Kallioras and Tsiapa (2013) and Beenstock, Felsenstein and Rubin (2013a), but some earlier and related results were disseminated in Monastiriotis and Borrell (2013b) and Zvirgzde, Schiller and Revilla-Díez (2013b, 2013c).

The experiences of Europe, and elsewhere for that matter, show that the processes of socio-economic transformation and internationalization in countries of medium or medium-low levels of development can have major implications for the spatial organization of their economies and the spatial patters of their population and productive activities. The project set out to investigate these patterns of spatial inequality in the ENP countries and the determinants of these processes, paying particular attention to the impact of economic growth and greater integration into the European economy. To date, the analysis of capital mobility has identified important implications at the regional (i.e., sub-national) level. In particular, Monastiriotis and Borrell (2013b) reveal that productivity spillovers accruing to domestic firms due to the presence of foreign investments (while not particularly localized) tend to be significantly stronger and more positive for firms located in the capital regions of the recipient countries, irrespective of the location of the foreign firms. As FDI tends to concentrate in, or near, capital cities, it follows that it acts also to exacerbate within-country spatial disparities. European FDI appears to make the strongest contribution to this adverse geographical effect, partly because its impact is stronger at the national level. This finding raises important concerns about the role and consequences of foreign capital inflows in the former transition countries of the eastern and south-eastern periphery of Europe. Processes of transition, development and internationalization (openness) have long been recognised as being related to widening regional disparities, as they benefit, at least in their initial stages, the most dynamic, outward-looking and human-capital abundant sectors of an economy. In a similar vein, Zvirgzde, Schiller and Revilla-Díez (2013b, 2013c), focusing on Ukraine and, in particular, the regions of Kyiv, Lviv and Kharkiv, verify the predominance of the capital region, Kyiv, with its better institutional quality serving to attract foreign firms.

Particular attention has been given to Israel, the most developed of the ENP countries, as the study investigates whether FDI polarizes regional inequality in host countries. Drawing on time series data for Israel, the study shows that regional capital stocks vary directly with the stock of national FDI and other variables, and that the sensitivity of regional capital stocks to FDI varies by region. Then, drawing on regional panel data, the study shows that regional wages vary directly

with regional capital-labour ratios. In this way, a link is established between FDI and regional wages via regional capital. Finally, the factors driving regional wage inequality, as measured by the variance in regional wages, are decomposed. One of the factors identified is the polarizing effect of FDI on regional wages. The study indicates that the regional dynamics of the outer EU periphery tend to be characterized by spatial selectivity and an environment that is, in general, unfavourable for the regions that lag behind. Over the last decade, regional inequalities have increased significantly in most ENP countries, reaching levels that are unusually high by European standards. Some countries have experienced a core-periphery pattern of development with metropolitan regions dominating the national economy and the laggards facing major obstacles in the race to catch up. The empirical model reveals that disparities at the national level exhibit a pro-cyclical behaviour, increasing in periods of expansion and decreasing in periods of slow growth or recession. Moreover, the model suggests that long-term processes embodied in the level of development tend to favour a more equal spatial allocation of activities and resources. However, this balancing effect occurs at a level of development that most ENP countries are unlikely to attain in the immediate future. The model employed indicates that, with the exception of public policy, all other drivers of regional growth (i.e. growth level, per capita GDP level, integration with EU in terms of trade and FDI) tend to favour the more advanced and the metropolitan regions. By contrast, the structurally weak regions that are in the periphery and which lag behind can be expected to experience inferior growth and increased pressure in their productive base due to integration and competition from their more advanced European partners.

In the case of Israel, the analysis verifies that FDI increases regional capital stocks unequally, thereby exacerbating regional differences in labour productivity. Since regional wages vary directly with labour productivity a mechanism is established between FDI and regional wages. However, if regional labour supplies are elastic, the increase in wages induces employment, which mitigates the increase in wages, thereby offsetting the polarizing effect of FDI, partially and even totally. Since the elasticity of the regional labour supply varies directly with internal migration, the polarizing effects of FDI on regional wage inequality may be mitigated by a public policy that encourages internal migration. Overall, the findings of the analysis show that the polarizing effect of FDI on regional inequality may be considerable. The regional sensitivities to FDI shocks in Israel reflect distinct core-periphery differences. Of course, in a small country such as Israel, this effect is likely to be less significant than in larger countries (as is the case of many ENP countries) where the physical distances between centre and periphery are greater. In larger countries such as Morocco, Egypt or Ukraine, FDI may not reach entire regions, which would naturally exacerbate the polarizing effect of FDI. Therefore, in other ENPs, which are much larger than Israel, the polarizing effect of FDI is likely to be even greater.

3.3. People Mobility and Human Capital

3.3.1. Analysis of future migration patterns from East Europe and North Africa to the European Union and from third countries to ENP regions

The first task conducted in this section concerned with related with people mobility and human capital seeks to fulfil several objectives. First, it is concerned with compiling statistical information about migration flows to and from EU countries, the goal being to predict their evolution over time so as to provide benchmark scenarios for policy analyses. Specifically, two datasets have been compiled (Ramos, 2013): the MIG-SEARCH[2] and the MIGEU-SEARCH databases[3]. Second, several analyses (Cicagna and Sulis, 2013; Royuela, 2013a, b; Beenstock and Felsenstein, 2013) have been carried out for ENP countries, as well as for a number of other countries, in an effort to identify the "push and pull" factors of migration. These analyses have been conducted for the whole set of European countries, using gravitational models and spatial econometric techniques, for a period that extends from the beginning of the 1990s until 2010. The research undertaken has also analysed the interactions between migration policies and institutional policies across the European countries. Likewise, a case study of migration patterns between CIS countries and Russia is reported (Denisenko and Choudinovskikh, 2013; Denisenko and Varshavskaya, 2013).

[2] The MIG-SEARCH database includes data for nearly 200 countries covering a period that extends from 1960 to 2010. It provides information about bilateral migration flows and stocks and several variables related to the economic, social, political and cultural push and pull factors identified in the literature.

[3] The MIGEU-SEARCH database provides similar information but limited to the EU27 countries and for a shorter time period (2002-2007); however, annual data are available. Indeed, the MIGEU-SEARCH focuses specifically on intra European migration flows using annual data before and after the last country accessions to the EU.

The analysis of migration flows to and from ENP countries reveals several interesting features. First, there is considerable heterogeneity in the migration trends of the ENP countries over the last 50 years. While some countries, such as Israel throughout the whole period and Russia over the last thirty years, have been net receivers of migration flows, other countries, such as Belarus, Egypt and Tunisia, have lost population to migration during the period. Second, migration from the ENP countries is highly concentrated in a number of destination countries given their geographical proximity or strong political, economic or colonial ties. For example, most migrants from Algeria and Tunisia move to France while most migrants from countries in the ENP-East region move to Russia. As such, European Union countries are not always the main destination of migrants from the ENP countries: for instance, Egyptian emigrants opt for Saudi Arabia as their primary destination, those from Lebanon prefer to migrate to the United States while those from Syria opt for Jordan, Kuwait or Saudi Arabia. Third, migration flows between ENP countries have been quite considerable in more recent years. Today, about 10% of the total population in the countries of the ENP-East region was born abroad, while this figure is around 5% in the countries of the ENP-South region and Russia. In the EU-27, the stock of foreign born population stands at around 10%.

Analyses of the push and pull factors of migration reveal several interesting features. First, the important role played by networks has been identified. Indeed, bilateral migration increases with the size of population in the countries of origin and destination, and also with migration stocks, which can be interpreted as evidence of the facilitating effects of networks. Geographic distance discourages migration while geographic contiguity, linguistic proximity and the existence of former colonial ties have a positive and significant effect. An examination of the economic determinants shows that while a higher GDP at the point of destination attracts migrants, the GDP at the point of origin does not seem to have the same importance in pushing migrants – except for ENP countries where the latter does appear to be more relevant. When the gravity model is applied to migration flows, having first discounted the effects of the aforementioned push and pull factors, the analysis based on the MIG-SEARCH database reveals that migration flows from ENP countries to the rest of the world are higher than they should be according to the model. When we focus solely on flows from ENP countries to the EU, this "surplus" migration is even greater. This result is clearly indicative of the strong ties between these countries and the EU and suggests that the ENP is likely to increase migratory pressure in these countries in the future.

Royuela (2013a) also examines the importance of urbanization and agglomeration economies in seeking to identify the factors that attract migrants. Specifically, urbanization and the increasing size of large cities act as pull factors. This would appear to account for the large inflow of immigrants from ENP countries to Southern Europe where cities have undergone constant growth in recent years. In examining the relationship between urbanization in ENP countries and migration flows, Royuela (2013b) reports a positive relationship between development and urbanization. This suggests that pursuing a strategy of urbanization in these countries should help progressively weaken the push factor for international migration in terms of the relative degree of underdevelopment that characterizes these countries with respect to their neighbouring regions.

In the case of migration policies, Beenstock and Felsenstein (2013) show the effects of spatial spillovers to be relevant. In particular, they show that the push and pull factors at work at the points of origin (ENP countries) and destination (EU countries) depend on the rate of development in their neighbours and that migration shares to a given destination are dependent on migrant shares in neighbouring countries. Specifically, their analyses show that an EU country's immigration is strongly and positively influenced by that of its neighbours and vice versa. Likewise, emigration from an ENP country to the EU is strongly and positively influenced by emigration from its neighbours and vice versa. The same applies to the volatility of immigration. The volatility of immigration from an ENP country to an EU country varies directly and strongly with the volatility of immigration from the ENP country's neighbours as well as the EU country's neighbours. This finding has important policy implications as it stresses the fact that, due to these strong spatial spillover effects, parochial immigration policies are destined to fail and also that EU policies that encourage immigration from specific ENP countries will tend to induce immigration from these countries' neighbours. The same studies also report weak evidence of the attractiveness of the welfare generosity of the EU destination countries as a pull factor among ENP emigrants. The same is true for the effectiveness of enforcement measures against illegal immigration from the ENPs. While these results are not strong enough to support substantive policy prescriptions, they do imply that reduced economic growth in the EU and cuts in welfare are unlikely to reduce the flow of immigration from ENP countries.

Cicagna and Sulis (2013) also focus on the interaction between migration and labour market institutions in host countries. In particular, they seek to evaluate the quantitative effect of employment protection legislation, coverage of union bargaining agreements, the generosity of unemployment benefits and the presence of the minimum wage on bilateral migration flows in a set of nine European countries during the period 1990-2005. Their results show that, first,

stricter migration policies have a negative effect on migration flows. Second, employment protection and minimum wages have a positive effect on migration flows while higher union power (proxied by coverage of bargaining agreements) and coverage of unemployment benefits have less significant effects on flows. Finally, the impact of labour institutions is higher in countries in which the strictness of migration policies is not so great, indicating the relevance of the interaction between migration policy and institutions in host countries.

In the case of Russia, Denisenko and Choudinovskikh (2013) and Denisenko and Varshavskaya (2013) carry out an analysis of migration flows between CIS countries and Russia and examine the characteristics of the migrants and their integration in the Russian labour market. Russia is one of the main countries of destination for immigrants from ENP-East countries and, as such, it is interesting to analyse the pattern of migration flows as well as immigrant integration in the labour market. The analysis shows that the Russian labour market is becoming increasingly attractive for young migrants, mostly, from Central Asian countries, with low levels of education, professional training and knowledge of the Russian language. So, even if Russia attracts a consistent share of migrants from ENP countries, most of its migration still originates from Central Asian Countries. The slow integration of immigrants in the Russian labour market shows that its system of attracting skilled migrants is not effective. Indeed, the mechanism for selecting foreign workers (by profession and qualification) from the CIS countries does not appear to meet the needs of Russian employers. However, the scale of migration flows from CIS countries to Russia is still enormous despite the recent economic crisis.

3.3.2. Analysis of differences in returns to human capital, skill mismatches and migration in EU regions

The aim of the second task is to examine the relationship between migration and labour market outcomes so as to shed some light on the labour market integration of migrants. Here, our first concern are the job opportunities of migrants and the impact of the crisis on the employment of both native and immigrant workers. Motellón and López-Bazo (2013) examine the situation in Spain drawing on data from the 2008-2009 Labour Force Survey. The specific question they raise is whether the pattern of assimilation observed throughout the period of growth was maintained into the economic crisis. Here, they seek to take into account the fact that job losses in Spain since the start of the crisis have not affected all groups of workers equally. Specifically, the employment figures show that immigrants have been hit harder than natives. Thus, the authors analyse whether a native and an immigrant worker with similar characteristics have the same probabilities of maintaining or losing their jobs or whether, on the contrary, the immigrant is more likely to suffer the effects of the crisis in the labour market, thus revealing a form of discrimination against this group.

Secondly, Ramos, Matano and Nieto (2013) examine wages. They begin by reviewing the literature analysing the wage gap between native and immigrants, a major concern for the labour market integration of immigrants. The main empirical findings reported by this literature are that, first, immigrants typically face a significant wage gap on arriving in the host country and, second, that this gap tends to diminish the longer they remain in the host country. Recent contributions also argue that the wage disadvantage experienced by immigrants on their arrival can generally be attributed to the limited transferability of the human capital they have acquired in their home country. The reason for this may lie in the lower quality of the education system at the point of origin or in their different cultural backgrounds but, whatever the case, the relevant fact is that newly arrived immigrants lack sufficient human capital for their host country's labour market.

Nieto, Matano and Ramos (2013) approach this same issue from a different perspective. They analyse the specific question of the skills mismatch of migrants by drawing on the Adult Education Survey (AES) for 2007. Their aim is to determine whether there is a difference in the probability of immigrants from EU countries, immigrants from non-EU countries and natives presenting a skills (both vertical and horizontal) mismatch. They also examine the role of immigrant assimilation, i.e., whether immigrants are able to reduce the probability of their presenting a skills mismatch the longer they reside in the host country. Finally, they seek to explain the differences in the probability of skills mismatches presented by the three groups (two subgroups of immigrants and natives).

The results concerning employment opportunities show that while in Spain there were no substantial differences between the rates of job loss of natives and immigrants before the current crisis, following its initial impact in late 2008, there was a continuous widening of the gap between the two groups. Motellón and López-Bazo (2013) confirm that in the case of immigrants from developing countries, differences in human capital and occupational and sectoral segregation are unable to explain this widening gap fully. This means that there are indeed differences in the probability of job loss between immigrants and natives that present similar personal characteristics, and who work in analogous occupations and firms. The explanation for this seems to lie in the existence of a form of discrimination against

immigrant workers, whereby companies tend to lay off immigrant workers first despite their sharing many characteristics with native workers. However, these differences may be due to the effect of certain unobservable characteristics, such as the imperfect transferability of human capital. In any case, it is worth stressing that discrimination and/or unobserved characteristics only contributed to the existence of a significant gap between natives and immigrants after the impact of the crisis had been felt. This conclusion for all immigrants in Spain is not immediately extrapolated to the specific case of immigrants from ENP countries. In fact, Motellón and López-Bazo (2013) provide evidence showing that the impact of the crisis on job loss has been even greater for immigrants from ENP countries. Likewise, the difference in educational attainment, and occupational and sectoral distribution with respect to natives was even greater than that observed for immigrants from non-ENP countries. In this case, almost all of the gap in the rate of job loss can be attributed to differences in observed characteristics, thus ruling out discrimination against immigrants from ENP countries. In any case, it could be argued that what might lie behind the results is a phenomenon of segregation, in which discrimination actually takes place through the real possibilities of occupying certain jobs.

As for the relationship between wages and a favourable/unfavourable policy framework for immigrants, Ramos, Matano and Nieto (2013) show that the immigrant/native wage differential is not so great in those countries that apply more favourable policies, even if this is the result of the better relative situation of medium-skilled workers and not directly attributable to the situation of the more highly qualified workers. Whatever the case, the wage gap faced by immigrants in EU-15 countries is clearly lower than that encountered by immigrants arriving in EU-12 countries. However, while the results do suggest that these policies do have some impact on the labour market integration of immigrants, the authors recognise that it is not possible to disentangle which part of the effect can be attributed to this particular measure, and which part to other migration policies or even to 'non-migration policies'.

In relation to the skills mismatch, Nieto, Matano and Ramos (2013) draw the following conclusion. As regards the horizontal mismatch (i.e., the degree of adjustment between the workers' education and that required to perform their job), their findings show that there are no significant differences in the probability of immigrants and natives presenting a horizontal mismatch once other observable characteristics have been controlled for. As regards the vertical mismatch (i.e., the mismatch between a worker's educational level and that required for their job), their results change. Indeed, immigrants are more likely to be overeducated than native workers (29% higher probability). This probability is even higher if we consider immigrants from non-EU countries (46%). Nonetheless, with the increase in the number of years of residence in the host country, the probability of being overeducated falls slightly for both kinds of immigrant, but the extent of this reduction is higher for immigrants from-non EU countries. Thus, although immigrants from countries outside the EU have a higher probability of being overeducated, their process of assimilation is faster than that experienced by immigrants from EU countries. Furthermore, when the authors apply decomposition methods to the differences between native and immigrant probabilities of being overeducated (thereby allowing them to understand which part of this difference is due to differences in the observable characteristics of these groups and which part is due to differences in the returns to these characteristics), their findings change depending on the group being analysed. As for the difference in the probability shown by immigrants from EU countries and natives of being (vertically) overeducated, the authors find that 61% of this difference can be explained by differences in their respective characteristics. Thus, immigrants from EU countries present a higher probability of being overeducated, because they have poorer observable characteristics than those presented by natives. As for the difference in the probability shown by immigrants from non-EU countries and natives of being (vertically) overeducated, 81% of this difference can be explained by differences in coefficients, i.e., immigrants from non-EU countries suffer a penalization in terms of remuneration with respect to natives, although both have the same endowments.

Taken together these findings describe host labour markets for migrants that are characterized by a lack of equality between migrant and native workers in terms of their wages and employment opportunities. Yet, even when immigrants are highly qualified, there is no guarantee of success in the EU labour market. However, the results summarised above do show that the wage differentials between immigrant and natives are lower in those countries operating more favourable migration-oriented policies, even if this is the result of a better relative situation of medium-skilled workers than it is of the situation faced by more highly qualified workers.

3.3.3. Analysis of the determinants of remittances and human capital formation in neighbouring countries

The aim of the task conducted here is to provide evidence of the relationship between remittances and human capital from two different perspectives. First, we seek to identify the determinants of remittance flows by specifically looking at the role of education. This is a question that, considered as a whole, has implications for the migration policies of

both sending and recipient regions. With this goal in mind, Ramos and Matano (2013) turned their attention to Spain. Specifically, they analyse whether more highly educated migrants are more or less likely to remit (the extensive margin) and, in those instances where they do remit, whether they send more or fewer remittances than their less educated counterparts (the intensive margin). Studying immigration in the Spanish labour market is a matter of great interest, because in a relatively short period of time Spain has become a country with significant and heterogeneous migration flows.

A second objective sought in conducting this task was to determine the effect of remittances received from abroad on household schooling decisions in the sending regions. Indeed, remittances can play an important role in increasing human capital in ENP countries as not only do household financial conditions improve but also expectations of greater opportunities are generated by the possibility of migrating. The aim here is to determine whether remittances can be considered, from a policy perspective, a useful channel for fostering human capital formation in the migrants' countries of origin and, as a result, for increasing economic growth in these countries. Matano and Ramos (2013) examine the impact of remittances on education outcomes drawing on microdata for Moldova. Their interest in Moldova is determined by the fact that it is a country characterized by a relatively consistent share of migrants in its economically active population (around 25% in 2008) and where migration is largely temporary in nature (as opposed to permanent), unlike the situation in more traditional migrating countries.

Finally, the task includes the report of a case study that examines the profiles of returning migrants in Morocco. This is closely related to the study of remittances since temporary migrants are more likely to send remittances. The analysis carried out by Ibourk and Chamkhi (2013) presents an in-depth view of the characteristics of immigrant profiles.

The results of the first part of Ramos and Matano's (2013) analysis which addresses the determinants of remittances in Spain reveal a marked negative association between education and remittances at the extensive margin, and a strong positive relationship at the intensive margin. Combining the two margins shows that, in general, more highly educated migrants do tend to remit significantly more. However, the evidence is mixed if we take into account the origins of the migrants and their intentions to return. In particular, the authors find a substantially different effect for immigrants from Morocco, Ecuador and Romania (the three main immigrant groups in Spain) compared to immigrants from the rest of the world, a difference that seems to be related to their levels of education and their intentions to return, although they do not fully account for the difference. If we examine the results for the determinants of the annual amount remitted, education has a positive and significant effect, whereas plans to return are found to be insignificant. The results indicate, however, that the two decisions are in some way linked. Finally, the dummy variables associated with the three main countries of origin reveal clear differences: thus, while the remittances of Moroccan immigrants differ from those remitted by the rest of the world, Ecuadorians send much more (17%) and Romanians send substantially less (-20%). The factors underpinning these differences have not been identified but would appear to be related to institutional and cultural differences that are clearly relevant for understand the mechanisms explaining remittance behaviour.

In the second part of their study Matano and Ramos (2013) examine the relationship between remittances and education outcomes in the countries of origin. Their estimates of the effect of remittances on children's education are generally significant and decrease in magnitude as more controls are added to the estimation. The highest fall occurs when the migrants' level of education is included in the estimation, where the marginal effect of remittances drops from 0.083 to 0.055. This means that belonging to a family that receives remittances increases the probability of attending a higher level of education by around 6%. Moreover, the results indicate that there is no statistical difference between being resident in an EU or a non-EU country. This means there is no differentiated impact of remittances on education outcomes for those families that have a migrant family member living in the EU and those with a family member resident elsewhere. The authors' findings show that problems of endogeneity cause an attenuation bias in the estimates of the relationship between remittances and education attendance. In fact, belonging to a family that receives remittances increases the probability of finishing higher education by around 34%.

The analysis of the profiles of returning migrants in Morocco carried out by Ibourk and Chamkhi (2013) shows that returning migrants are very different in terms of their profiles and stated motivations for returning. Three main profiles have been identified. The first profile is associated with the first waves of migration, i.e., those born in rural areas, typically with a low level of education, who went to work in Western Europe (primarily France, Belgium, Netherlands and Germany) in unskilled jobs and trades. The main motivation for returning is their "preference for the native country" and "the desire to benefit from the purchasing power differential" between the host country and the native country. The second profile is associated with those who emigrated to complete their education abroad. This group differs from the first category as their pre-migratory socioeconomic features are clearly more advantageous than those presented by the first group. Moreover, the characteristics of migrants in this group confirm the complementary nature of the initial training received in the native country and that acquired in the host country. In this instance, returning is

seen as the successful conclusion of the migration project. However, this depends on the opportunities in the job market in the native country as well as the opportunity to carve out a successful career. The third profile differs from the other two because the migrants' decision to return is not taken voluntarily (rather it has been forced or imposed by the prevailing circumstances). The profile is marked primarily by the clandestine nature of the migration; the young age of the migrants on departure; a relatively recent emigration date, and a medium educational level (middle/high school level). This group tends to be based in southern Europe (Spain, Italy, Greece, etc.) and, as stressed, the migrants show no tangible interest in returning. The results of the analysis also allow us to conclude that policies encouraging return migration may be a legitimate alternative to the increased mobility of labour across the world from both perspectives, that of host and of origin countries.

3.3.4. Analysis of the role that highly skilled labour mobility can have as a source of knowledge diffusion and, hence, as a source of economic growth. Prospects for the case of the neighbouring countries

Although the core focus of the ENP is on trade and economic reforms, other research areas, including migration policies, institutional reform and collaboration in research and higher education also form part of the broader policy, and each of these elements should contribute to the ultimate goal of creating a ring of stable, friendly and prosperous countries around the EU (Com 393 final, 2003). The objective of this task is to analyse the current and potential future role of highly skilled labour migration and its economic consequences for destination regions. Particular attention is given to the role of certain intangible assets, including human capital and R&D, as we analyse how highly skilled labour migration may permit higher returns to be obtained from investments made in these intangible assets. The research also identifies the determinants of the geographical mobility of skilled individuals.

To achieve this objective, Moreno and Miguélez (2013a-e) first describe the inflows and outflows of inventors in the EU regions (NUTS 3 level) with special emphasis on their spatial pattern. In particular, they seek to determine if the geographical movements of inventors are a phenomenon bounded in space. Second, we seek to identify the poles of attraction or expulsion (or "brain circulation") of talent within the European regions and their relation with the characteristics of the regional economies. Third, we assess the importance of inventors' mobility across firms as a mechanism for diffusing knowledge and, therefore, as a driver of regional innovation. Finally, we analyse the factors that enhance the migration of highly skilled workers, taking into account the specific role played by geographical distance. Here, the case study reported by Chepurenko (2013) also analyses the migration of Russian researchers to the EU with the support of the Humboldt Foundation (FRG). This study of the specific involvement of highly skilled Russian experts in present-day cross-border academic mobility allows us to determine whether the growing internationalization of Russian science will hinder or promote the brain drain. It also enables us to assess the role of Western Foundations in this context.

In performing their exploratory analysis in order to detect the focuses of attraction of talent throughout Europe, Moreno and Miguélez (2013a-e) observe that: first, the attraction of skilled individuals is limited to just a few countries and regions, whilst this phenomenon is poorly developed or non-existent in other countries. The regions receiving the highest levels of immigration of talented individuals lie in the countries of northern and central Europe. Second, large cities and capital cities most frequently register high values of inward migration flows of highly skilled workers, even in poor performing countries, which lends further support to theses concerning the importance of urban agglomerations. Third, in some cases, the regions surrounding these large or capital cities are even more magnetic, pointing to the existence of spillovers of attractive features and/or crowding-out effects from the capital region.

More specifically, when analysing the origin-destination flows of highly skilled workers across European regions, they find that a large proportion of the inflows (44%) throughout the whole period (1990-2006) come from regions located within the ten nearest neighbours of a given region. What is more, more than 30% of them come from the five nearest neighbours. However, the striking feature is that more than 76% of those inflows come from a region located within the same country. All in all, it seems clear to us that the migration movements of inventors are geographically mediated. Finally, it is shown that more than 40% of the inflows during the whole period are concentrated in just 20 regions. The same applies for the outflows of highly skilled workers. Here, it is important to note that 17 regions are included in both top rankings, corroborating the fact that only a subsample of regions participate in this phenomenon.

On average, the distance covered by inventors' migratory movements between 2002 and 2005 was 397 kilometres – approximately the distance by road between Paris and Luxembourg. This figure is relatively low and is around half the distance found in a similar study conducted for the US. Additionally, the average distance covered by the migratory

movements increased by around 25 kilometres from the period 1996-1999 to that of 2002-2005, suggesting that, over time, distance is becoming less important as an explanation of inventors' geographical mobility.

The authors report that the effect of inventors' mobility is highly significant and that it has a positive impact on patenting activity. This might be due to the fact that knowledge, especially that of a tacit nature, is mostly embedded in individuals. By moving, inventors are moving the knowledge capital they have accumulated. Their movement across firms must therefore contribute to knowledge exchange between firms. Skilled workers take their knowledge with them and share it in their new workplaces with their new colleagues, at the same time as they provide their new employer with this knowledge. In return, they acquire new knowledge from their new colleagues, establish new links and social networks for future collaborations based on trust and, in general, promote new combinations of knowledge.

The same applies to a variable that proxies the participation of highly skilled workers in research networks, which also has a positive and significant impact on the patenting activity of a region. The rationale behind this is that the simple cross-fertilization of previously unconnected ideas will lead to better knowledge outputs and that individuals connected within a collaborative framework will be more willing to learn from each other than is the case of isolated inventors. Moreover, collaborative research projects may achieve scale economies and thus reduce research costs by eliminating the duplication of research efforts among participants in a network. Additionally, professional relationships of this nature enhance trust and cooperative behaviour between individuals, thus raising the level of social capital, which has been shown to be a further requisite for innovation and knowledge transmission.

However, the study does not present evidence in favour of the idea that in regions with high levels of mobile workers, the investment made in R&D or in human capital is more profitable than that made in regions with lower levels of labour mobility. Thus, the idea that mobility favours knowledge diffusion is not confirmed. On the contrary, the study does find that regions with higher numbers of individuals connected within a research network may well obtain higher returns on their R&D investments and on the stock of human capital, probably due to the fact that their inventors are more likely to learn from each other, with faster access to new and complementary knowledge. Similarly, individuals connected within a collaborative framework are more willing to learn from each other than is the case of isolated inventors. Additionally, participating in networks reduces the degree of uncertainty and provides fast access to different kinds of knowledge. All this points to the fact that belonging to a research network may involve higher returns of knowledge endowments, such as R&D and human capital investments, or regional innovation.

When analysing the existence of regional variations in the returns to labour mobility and research networking, the authors observe that the highest values for the impact of labour mobility are obtained for most of the regions in West Germany, Austria, Denmark and Switzerland, as well as for some regions in the Netherlands, North France, North-East Italy, Finland and Sweden. On the contrary, the non-significant or lowest values of the labour mobility impact are recorded in almost all the Eastern countries and the Mediterranean countries (Spain, Portugal, Greece and the South of Italy).

From this research it can also be concluded, therefore, that the regions that benefit from knowledge originating from other regions – both in the form of mobile skilled workers and research networks – are not overly concentrated in the core of Europe. In other words, some peripheral regions might enjoy sizeable advantages – in terms of returns on knowledge – from building knowledge linkages with distant knowledge *hotspots*, unlike core regions that more than likely source their knowledge from their local pools of ideas or those in their immediate vicinity. An interesting result emerges when the research network variable is broken down according to the geographical scope of the linkages (those with other European regions, with the US, with specific East-Asian countries and with the remaining OECD countries). Only research networks with the US and the remaining OECD countries prove to be significant. The underlying logic of this exercise suggests that when external knowledge is the same for existing parties in the region, it can be absorbed locally, but new knowledge will not add greatly to existing local knowledge. A possible interpretation of this is that the collaborations maintained between inventors in Europe and other OECD countries or the US generate fewer redundant pieces of knowledge, which would allow creativity to be enhanced.

When seeking to identify the main drivers of the geographical mobility of skilled individuals, such as inventors, across Europe's regions, the authors find that that physical separation from the inventors' former workplace is a critical predictor of their spatial movements. Other more meaningful distances are also significant predictors of inventors' mobility patterns, such as social/professional connections, the institutional framework, or technological and cultural similarities. However, these measures are unable to account for the role of physical distance. The authors also obtained evidence of the relevant role played by amenities and job opportunities as attractors of talent.

The results from the case study conducted in Russia by Chepurenko (2013) are in line with the previous findings reported by Miguélez and Moreno. Specifically, the process of transition in a globalized world has led to major changes in the circumstances faced today by Russian scientists. In Russia in the 1990s, alarmist estimations predominated of the losses to be expected from the brain drain of Russian scientists. However, in more recent times, the brain drain has come to be seen in a different light. First, the establishment of a Russian scientific 'diaspora' abroad has occurred – whereby Russian scientists, far from being undermined (and far removed form the predominantly negative discourse), benefit from their inclusion within international academic circles and so help in the modernisation of the Russian economy and society; and, second, the experience of some other countries (including China, India and Brazil) in using the knowledge and skills of former immigrant scientists in the economic modernization of their societies has became a special area of interest.

3.3.5. Analysis of social capital, tourism flows and migration

The research carried out in completion of this task focuses on the determinants of attitudes towards migration, the interactions between immigrants and the creation of social capital, the specific situation of first- and second-generation immigrants within schools and an analysis of the potential relationship between tourism and migration flows.

In doing so four specific objectives have been analysed: the first objective is to identify the determinants of attitudes towards migration in two countries: Estonia and Russia. The second objective is to map the basic characteristics of immigrant as compared to native populations, including their endowments of social capital, and to analyse the relationship between the specific components of social capital, native values and attitudes towards immigrants in "old" and "new" EU member states. The third objective is to examine education as a determinant of future attitudes towards migration. In fact, one of the factors that appears crucial in the creation of social capital at the community level is ethnic and linguistic heterogeneity. For this reason, it is essential to analyse educational outcomes of young immigrants. The analysis focuses on the gap in the literacy of young immigrant children in Italy and, in particular, on whether the latter is significantly influenced by a pupil's age when emigrating, their length of stay, and country of origin. Finally, the fourth objective is to examine the relationship between tourism and migration using Israel as a case study.

Public attitudes towards immigration are important since policy makers typically rely on citizen perceptions for shaping their migration policies. The theories that explain the determinants of attitudes towards immigration are diverse and interdisciplinary. Generally, they can be divided into two groups – individual and collective theories. Individual theories of attitudes towards immigrants place the emphasis on individual drivers, such as the level of education (human capital theory), personal income, employment status (individual economic theories), and cultural conflicts in which there is a lack of understanding on the part of natives towards immigrants (cultural marginality safety approach). Collective theories focus on aggregated variables, such as the number of immigrants in a country (contact theory), level of unemployment and unemployment growth rate (collective economic theories). Empirical research has shown that many factors influence public attitudes towards immigration: demographic (e.g., age, sex, race), economic (e.g., income), social and cultural (e.g., religion, media, information sources, actual and perceived social norms, ethnicity, lifestyle), psychological (e.g., personality type), political (e.g., left-wing/right-wing ideologies) and geographical (e.g., location, proximity to immigrants).

The most relevant finding in this context is perhaps the high degree of heterogeneity in public attitudes towards migration at the country level. For instance, Demidova and Paas (2013) confirm that the determinants of attitudes towards immigrants differ in Estonia and Russia, as is also the case between "old" and "new" European Union countries. However, while the surveys provide a reliable description of the variation in attitudes towards migration among different groups of citizens and over time, they only provide a limited understanding of the factors that underlie these differences in attitude and the changes they experience over time. The fact that some characteristics are associated (correlated) with particular attitudes does not necessarily mean that they are the causal factor. For this reason, and in order to improve our knowledge of the formation of public attitudes, researchers have also started to analyse the relationship between migration and social capital. Social capital operates by encouraging cooperation between economic entities and thus it lowers the transaction costs of business activities, while helping to increase social cohesion in society as a whole. In its broadest sense, it refers to the internal social and cultural coherence of society, the trust, norms and values that govern interactions between people and the networks and institutions in which they are embedded. As an attribute of a society, social capital can be understood as a specific characteristic of the social environment that facilitates cooperation between people. The key idea of this argument is that communities can provide more effective and less costly solutions to various principal-agent and collective goods problems than can markets or government interventions. Moreover, social capital helps to reduce transaction costs related to uncertainty and the lack of information. As such, it can be said that social capital gives "soft", non-economic solutions to economic problems.

As shown by Parts (2013), the relationship between migration and social capital is complex and it is still not very well understood. In particular, it could be assumed that migration flows increase ethnic and cultural heterogeneity, thus leading to larger social distances and lower levels of social capital in host countries; however, on the other hand, the human capital of immigrants should act in the opposite direction, thus making it important to attract, first of all, well-educated and high-skilled immigrant labour. For this reason, it is important to achieve a better integration of immigrants in society through a higher "social proximity" of citizens to these newcomers.

There is also a growing body of literature that argues that, along with education, one of the factors that appears to be crucial in creating social capital at the community level is ethnic and linguistic heterogeneity. Social distance is a very broad concept, referring as it does to the cognitive relationship of two cultures that come into contact within an individual, and it is influenced by many factors, including an immigrant's length of residence. Moreover, according to linguistic scholars, social distance is one of the socio-cultural factors affecting the second language acquisition of immigrants, the latter being crucial for their integration in the host country. In this case, the learning conditions may also impact learning processes: in poor learning conditions, the second language learner (immigrants) believes his or her language to be more dominant than the target language group (natives), and feel there is no, or less, need to learn the target language.

The analysis of the learning outcomes of first- and second-generation immigrant children in Italy shows that interventions at younger ages are likely to be more effective. In particular, the results obtained by Di Liberto (2013) suggest that the estimated gap between first- and second-generation students takes more time to close for upper secondary school students than it does for pupils at lower grades. So, if the late arrival of foreign children is the result of national migration policies on family reunification, these results suggest that the possible benefits of delaying immigrant family reunification need to be set against the costs of providing students with remedial support.

Finally, tourism is a key industry in many ENPs and its importance in some of these countries cannot be overstated. Moreover, it also serves as a channel for broader socio-economic objectives. Since tourists can be a source of new ideas, new types of demand and standards, tourism might generate positive externalities that serve to bolster social capital, efficiency and productivity in host countries. Thus, tourism might be an important conduit for social and economic change. For this reason, the relationship between tourism and immigration is also examined within this task. Ostensibly, tourism and immigration would seem to be independent in the short term, since factors affecting tourism (airfares, substitute prices, habit persistence, exchange rate fluctuations and the like) would not seem to affect immigration. Similarly factors affecting immigration decisions (employment, social benefits, etc.) are unlikely to affect tourism. In the longer term, however, matters may be different. There may also be common factors such as terror and geo-political upheavals that have mutual and reciprocal impacts. Within this context, Israel has been used as a case study to investigate these relationships. While not the archetypical ENP country, the Israeli case is instructive being considered a mature tourism destination. The share of tourism in the national economy is not inordinately large as in some other ENP countries. Indeed, tourism does not even constitute a specific sector in Israel's national accounts. Its direct contribution to GDP is estimated at about 2 per cent and its total contribution (direct +indirect) is estimated at 8 per cent. This is in contrast to other ENPs, where the share of tourism in the economy has varied widely over the last two decades. For example, tourism's share of GDP in Egypt has fluctuated from 8.8% in 1990 to 15.7% in 2005 to 14.3% in 2012. Furthermore, European tourists account for a large share of total tourism in Israel. Tourist arrivals in recent years total around 2.8 million, with five European countries serving as the origin for over 60 per cent of incoming tourism (Russia 13%, France 10%, Germany and the UK 6%, Italy and Ukraine 4%). However, Israel provides a unique natural experiment for this relationship, with clear before and after (with/without treatment) effects resulting from disruptions to both tourism and immigration attributable to geo-political and domestic shocks. The literature review for the Israeli case shows that most studies posit a one-way relationship with the stock or number of immigrants driving the flow of tourists. The motivation behind this one-way flow is generally presumed to be VFR (visiting friends and relatives) and as such, the flow is conceived as a short-run variant of standard travel behaviour with friends and relatives replacing landmark attractions or business motives. However, when considering a potential bidirectional relationship, the main drivers of tourism are hypothesized to be immigrants, real exchange rates and global tourism. The analysis conducted by Beenstock, Felsenstein and Ziv (2013b) focuses on whether the increase in the number of immigrants and tourists over time is causally related, or whether the relation is simply spurious. Although tourism and immigrants are highly correlated, the authors show that tourism does not cointegrate with the number of immigrants and other potential determinants of tourism. Similarly, panel cointegration tests reject immigration-led tourism hypotheses. Nor do they find that immigration depends on previous shocks to tourism. Indeed, tourism and immigration seem to be entirely unrelated phenomena.

3.4. Technological Activities and Innovation Diffusion in the EU and Interactions with the Neighbouring Regions

3.4.1. Measures of innovative performance and common patterns of innovative activities in EU and ENP countries.

Innovation is a key factor in the economic growth process, but there is considerable heterogeneity across territories in terms of their capacity to create knowledge and innovation, and, as a result, in terms of their ability to exploit available ideas and technologies. This task describes the main characteristics of technology and innovation by drawing on indicators of R&D expenditure and patents for the EU and ENP countries (Usai, Dettori and Gagliardini, 2013a). Surprisingly, ENP countries almost always lie below the ten thousand dollar GDP per capita threshold and, as a result, rank in the bottom positions in terms of the Human Development Index. The only exception is Israel, ranked 17 out of 187 countries, which means it can be considered a country with a high level of human development. Moreover, low levels of literacy and schooling constitute one of the most crucial obstacles to growth in these countries. The authors report considerable heterogeneity in the productive structures of the countries and a large divide between Europe and the ENP countries. This gap is even greater when measured in terms of technological activity and performance. Thus, there is a marked difference in R&D expenditure and in the production of innovations for which patents are sought: the EU-15 invest a relatively high share (almost 2%) of their income (c. 220 million euros) in R&D; the 16 ENP countries as a whole spend around 13 million, an R&D intensity of slightly less than 1% of their GDP, a share which is, nevertheless, slightly higher than that of the new EU member states. Larger disparities are observed in patenting activity. The EU-27 is in general very active in patenting, especially EU-15 countries which record an average of 30 thousand patents per country. By contrast, the ENP countries, Israel apart, register very low levels of patenting activity. In general, all the indicators confirm the large gap between the EU and ENP countries and the great heterogeneity among the latter.

3.4.2. Analysis of the determinants of innovative activities at a regional level and their impact on ENP countries

This task is devoted to the determinants of innovative activities and the analysis of the factors affecting the innovative capacity of a region in terms of knowledge creation and diffusion.

On the whole a set of original results are reported in the various studies conducted. Among the traditionally recognized determinants of innovation, manufacturing activity and formal R&D expenditure remain the key determinants of the capacity of regions/nations to innovate. However, attention should also be focused on two additional factors given their pervasive role in enabling an economy to articulate its internal capacity to create knowledge and to absorb external knowledge: these factors are human capital (measured in terms of the level of education of the labour force) and the international openness of firms. Usai, Dettori and Gagliardini (2013b) confirm the widespread belief that knowledge transfer is significantly favoured by the spatial proximity of agents involved in the innovation process, as well as by the intentional relations they develop within aspatial networks, such as those shaped by institutional, technological, social and organizational links. Their comparison of the strength of regional associations captured by various dimensions of proximity reveal that technological proximity is ranked first, followed by that of geographical proximity. Interestingly, the weakest relations are associated with social and organizational networks. Moreover, evidence of considerable complementarities between the various dimensions of proximity is found (Marrocu, Paci and Usai, 2013).

The great diversity presented by regions and nations results not only from their level of development or their resource endowment for innovation, but it also reflects the high degree of heterogeneity in their efficiency in exploiting these resources. Major differences are found between Europe's core (rich, industrialized countries) and periphery (relatively poorer, of recent accession and the ENP countries) at the regional as well as at the national level (Foddi and Usai, 2013). Yet, the results provide evidence of a process of convergence (albeit slow) between regions, and suggest that this convergence is mainly attributable to a closing of the technology gap and to a significant enhancement in efficiency. By contrast, this element of efficiency resulting from the scale dimension has been in decline in all the regions of Europe, but most markedly in the countries of recent accession.

Interesting results concerning the role of internationalisation have been obtained from survey data for Russian manufacturing firms (Golikova, Gonchar and Kuznetsov, 2013). Once the authors take into account the selection process, which shows that more productive and larger manufacturing firms are the ones most likely to start exporting

and importing, their results indicate a significantly higher impact of learning effects for continuous exporters than for new export entrants and non-exporting firms. Learning effects for importing firms are also higher than they are for exporters and seem to be higher for those firms that import technological machinery than they are for those that import raw materials.

A common finding presented in the two papers examining public policies (Liargovas, 2013b; Montmartin, 2013) is that different countries place different degrees of emphasis on different instruments. Techno-parks, the recent focus of Northern European countries in this regard, require a rich background in knowledge creation and an institutional environment that is prepared to support the generation, diffusion and commercialization of knowledge. In Eastern and Southern Europe, increasing emphasis is being given to the development of business incubators, which foster a different type of entrepreneurship and require fewer endowments than those required by techno-parks. As for public financial support for investment in R&D activities, an even greater variety of country profiles is found in terms of their preferred instruments, intensity and dynamics. Overall, the core EU countries tend to give increasing priority to indirect support at the expense of direct subsidies, while no real trend can be identified for New European countries and other developing countries.

Overall, these results have some interesting and potentially useful implications for the current and future design of cohesion policies within EU and between the EU and ENP countries.

3.4.3. Analysis of the indicators of innovation diffusion and research networks

This task includes studies of innovation diffusion and research networks, the research being based either on the direct study of the recent experiences of ENP countries or on indirect evidence from the economic dynamics of those new member states (EU-12) that have recently acceded to the EU. The studies employ micro data drawn from the Community Innovation Survey (CIS) and indicators of knowledge transfer, including patents, citations, co-inventorships, inventor application inventor links and inter-firm agreements.

The first general consideration, and one highlighted in various studies, is the lack of adequate information on innovation creation, diffusion and adoption in the ENP countries, which to some extent hinders the full analysis of the question in hand. As such, greater efforts are required on the part of the Community Statistical Offices to provide homogeneous and comparable data on the technological activities of the ENP countries.

Results from the CIS suggest that developing countries (the New-Member States-NMS12[4]) do innovate and, as such, contribute to the overall knowledge space, but there is an obvious need for them to increase their export exposure and their internal level of knowledge in order to foster the ability to generate more innovations and at the same time to adopt existing technologies. Evidence from the EU shows that internal R&D capacities and exports are important drivers of knowledge and innovation production and diffusion (Moreno, Autant-Bernard Chalaye, Manca and Suriñach, 2013; Moreno and Suriñach, 2013a; Autant-Bernard, Guironnet and Massard, 2013). These results are also useful in relation to promoting the future development of ENP countries.

Turning to examine cross-border knowledge flows, it would appear that the degree of internationalization of innovative activities is extremely limited between countries with markedly different economic backgrounds and levels of development (Dettori, Gagliardini and Usai, 2013). However, such relationships are strengthening over time and the largest countries, in particular, are establishing themselves as important partners for the European countries. More specifically, only a weak connectivity is observed between ENP countries in terms of their co-invention and co-authorship networks. France, Germany and the UK play central roles in these knowledge networks linking the EU with the ENCs (Ondos and Bergman, 2013a). The Framework Programme network has been responsible for strengthening connectivity between ENP and reducing previous levels of heterogeneity. These new links build upon both historical and trading links, and are often favoured by the sharing of a common language. Analyses of EU-ENP country research networks established via specific scientific international cooperation activities (INCO) highlight the fact that such collaboration promotes knowledge diffusion and research networks between the EU and ENP countries, thus promoting innovation diffusion.

In general, knowledge flows are heavily influenced by the different dimensions of proximity between countries. Geographical distance and proximity are clearly still important, but cultural and historical linkages can also impact on the probability of exchanges, be they market mediated or the result of an externality.

[4] Includes the New Members from Central and Eastern Europe that joined the EU in 2004

The key finding to emerge from all the contributions is that the capacity of a territory to innovate does not solely depend on the internal creation of new knowledge but it is also affected by its capacity to absorb and efficiently exploit external knowledge. Indeed, countries characterised by strong R&D and human resources and high innovation output present the highest adoption rates. This lends support to the idea that innovation adoption requires an absorption capability and, as such, innovation creation and adoption are shown to be concurrent phenomena.

Another common conclusion reached in the studies concerns evidence that firms and territories are better able to develop technological competences (either by creating them internally or absorbing them from outside) when they can exploit a wide range of transmission channels, other than simply that of geographical proximity. The presence of aspatial relationships, such as institutional, historical, cultural, cognitive, social and organizational links, is shown to facilitate knowledge exchange.

3.4.4. Analysis of the effects of the internal market and intangible assets on innovation diffusion

This task analyses the effects of the internal market (IM) and intangible assets on innovation diffusion.

The impact of IM policies on the diffusion of innovation has been studied by taking into consideration the direct impact of the IM on the channels of transmission (cooperation, competition and trade) and its indirect impact on the degree of innovation adoption (Manca, Moreno and Suriñach, 2013). The study stresses that the main determinant of innovation adoption is cooperation and here a key role seems to be played by the level of trust established among people within a country, by improvements to communications and the simplification of bureaucratic procedures, as well as by high levels of education. Competition is identified as another factor that affects the adoption of product innovations acquired directly from external firms, albeit to a much lesser extent. Competition, moreover, is negatively affected by the level of public ownership within each country, by the level of transfers and subsidies, as well as by administrative burdens.

Moreno and Suriñach (2013b) report an overall positive relationship between innovation diffusion and productivity changes at the country level. This relationship is most strongly affected by countries that record a smaller reduction in productivity with an increase in their innovation adoption rate (for example, Estonia, Bulgaria, Latvia, Spain, Portugal, Luxembourg and Hungary). Moreover, when disaggregating by product and process innovation adoptions, the relationship is more clearly positive (above all in the case of process innovations) than in the more general case. This could reflect the fact that the introduction of a new production process makes firms more efficient, allowing them to reduce costs and increasing the productivity of each worker. Additionally, the estimation of a growth equation shows that countries that increase their innovation adoption rates tend to present higher productivity growth rates. Therefore, it seems that providing incentives to firms to increase their innovation adoption rates (be this in the form of cooperating with other enterprises or incorporating innovations produced by other enterprises) has a positive impact on productivity growth. By contrast, the impact of increasing R&D expenditure is not so clear, depending more closely on the type of innovation being carried out. Thus, countries that take steps to increase the number of firms engaged in extramural R&D or the number of firms providing training tend to record greater productivity growth. However, the outcomes are not so clear if the type of innovation that is encouraged is intramural R&D through the acquisition of machinery or the market introduction of innovations.

Finally, Miguélez and Moreno (2013f) find that collaborations and, to a lesser extent, mobility, foster knowledge diffusion across the European regions. Hence, from a policy perspective, these results illustrate that, not only R&D and human capital efforts are important for generating innovations at the regional level, but also a good degree of connectivity of agents with the outside world, providing them with access to global knowledge hotspots, is useful for innovation. This concept of connectivity, among others, lies at the core of the ‘smart specialisation’ strategy recently launched by the European Commission.

3.4.5. Analysis of the impact of networks of firms on the process of cross-border technological diffusion

There is a high degree of consensus among researchers and policy makers concerning the belief that technological innovation is one of the key drivers of successful economic performance at both national and regional levels. A large body of literature also highlights the fact that the stock of knowledge available in an economy can result from domestic efforts to produce new technology but it may also be the result of a process of technological diffusion of external knowledge. This process of absorption of external knowledge can be generated by several types of interaction involving economic agents: participation in research programs, co-patenting, co-publications, patent citations, inventor mobility,

and inter-firm agreements. All these interactions can create social links and networks between firms, inventors and researchers, thus facilitating knowledge exchange and the diffusion of technological innovation. In this task we analyse these issues paying specific attention to the role of inter- firm agreements, research cooperation and patent citations in the EU and ENP countries.

The analysis of inter-firm agreements in the period 2000-2012 is based on data for mergers and acquisitions (M&As), joint ventures and strategic alliances. The results published by Di Guardo, Marrocu and Paci (2013), Usai, Marrocu and Paci (2013) and Di Guardo and Paci (2013b) show that inter-firm agreements represent an important channel of knowledge exchange generated in the various activities undertaken before, during and after the signing of a deal. The ENP market is still immature in terms of the number of such transactions, with a significant proportion being announced but never finalised. Moreover, firms in ENP countries are definitely more active in terms of M&A than they are with regard to strategic alliances, and more frequently they are found to act as targets as opposed to bidders in such deals. In some countries (Libya, Syria, Egypt, Azerbaijan and Belarus) the proportion of transactions that are actually finalised is low, indicating the degree of uncertainty associated with the political situation, the high degree of corruption and the low indexes related to the ease of conducting business. All these factors hinder the completion of acquisitions, especially with international partners. In other countries there is considerable resistance to international integration owing to political and institutional factors and the fear of granting too much control to foreign multinationals. A study of international M&As and alliances shows that cross-border transactions and, thus, technological flows are affected by historical, cultural, political, economic and geographical links. In general, firms seeking entry to culturally and politically distinct markets encounter an increase in the costs and risks associated with their transactions. Additionally, the probability of a deal being struck between an EU and ENP country is positively related to their relative masses (population) and the levels of economic development (GDP per capita) of the two countries (acquirer and bidder), while it is negatively related to distance measures. In essence, if two countries are distant in terms of their spatial, cultural, and institutional dimensions, the chances of their concluding a bilateral deal (and so benefiting from knowledge flows) are not high.

A more specific analysis of knowledge flows between the EU and the ENC based on patent citations (Ondos and Bergman, 2013b) shows the limitations of ENP countries that rely on innovative knowledge flows derived solely from FDI. While EU accession countries quickly established strong links with patent knowledge bases in the EU-15, the ENP regions appear to have steadily lost these linkages over a 30-year period, not only with the EU-15, but also with North America, Japan, and even with other ENP regions. The sole exception is the very slow growth in knowledge linkages with the EU accession countries, albeit starting from an extremely small base. Much greater efforts will be required to enable ENP countries to adopt and incorporate external patent knowledge into the design and production of their goods and services. Unfortunately, ENP countries appear to have steadily withdrawn from the orbit of advancing innovations just as the EU is seeking to implement its ENP.

A detailed survey of cross-border innovation cooperation between Russian firms (Kuznetsova, Roud and Bredikhin, 2013) indicates that the economic interactions between Russian and EU firms are still determined in the main by traditional import and export channels. Despite certain improvements in international trade and technology transfer since the start of the transition to a market economy in Russia, major improvements still have to be made to strengthen collaboration between the EU and Russia as regards their scientific, technological and innovative activities. The main characteristic of international cooperation, in contrast with domestic networking, is the focus on process and organizational innovations as the main objectives for joint development. In these joint undertakings, Russian companies tend to provide production capacities and technological skills while their partners provide technology capital (machinery and equipment) and knowledge of international markets.

In conclusion, for the neighbouring countries the prospects of stronger cross-border knowledge flows resulting from inter-firm agreements and innovation and research networks are very important and potentially rewarding. However, the ENP countries continue to face many difficulties in engaging with appropriate knowledge bases and so struggle to take full advantage of these potential benefits given the presence of sizeable differences in terms of their institutional, cultural, social and economic risk factors.

3.4.6. Analysis of European R&D collaborations in EU research Framework Programmes

The fundamental role played by research networks in innovation diffusion has been confirmed by previous studies. Here, in this specific task, researchers analysed the spatial and temporal evolution of R&D collaborations in EU Framework Programmes in order to evaluate a potential policy option to promote the involvement of EU neighbour

regions in EU research networks. The results have important implications for the creation of a Knowledge Space and for promoting regional convergence.

The preliminary results reported by Hazir and Autant-Bernard (2013) point to a positive and significant impact of R&D collaborations on regional innovation performances, but that this impact is not systematic. The results of the knowledge production function, including both spatial and relational neighbourhoods, suggest that external knowledge matters for innovation and, in addition, they show that two types of neighbourhood (geographical and relational) play equally important roles as sources of external knowledge. In this regard, our results corroborate past studies on the role played by space in knowledge diffusion. Moreover, they show that EU policy, as implemented in the Framework Programmes, appears to be an effective way of diffusing knowledge among European regions. The study also reveals that while the effect of contemporaneous flows from neighbours is small in magnitude, they do play a part over time because evidence is reported of the impact of past inventive activity on current inventive activity. This highlights the need to consider dynamic effects for a better assessment of the importance of knowledge flows from neighbourhoods. It also means that the weak cross-sectional dependence may prove to have an important impact in the long run, due to the aforementioned temporal dependence. This may well explain therefore the existence of regional clusters with persistently different levels of innovative activity.

However, the positive impact of inter-regional flows of knowledge is not systematic (Varga and Sebestyén, 2013). First of all, some regions are only weakly integrated into these global networks. Peripheral regions (in geographical as well as in relational terms) can thus find it difficult to access external knowledge. Second, among the connected regions, marked differences exist between the Central and Eastern European countries-CEE-Obj 1, on the one hand, and non-CEE regions, on the other. While knowledge transferred from FP networks acts as an additional input of patenting in CEE-Obj 1 regions, network knowledge plays no role in patenting in the regions of the old member states. On the other hand, it is clear that localized learning is extremely important for regions located in EU-15 as far as patenting is concerned, while knowledge flows from neighbouring regions play no role in the innovation of CEE Obj 1 regions. Thus, it can be concluded that as they are able to rely on local knowledge inputs, participating in FP programs does not appear relevant for patenting in the regions of the old member states (at least not in the specific areas of information science and technology). Yet, as local sources are not sufficiently supportive for innovation in CEE Obj 1 regions, they tend to rely more on external knowledge transferred from research networks dedicated to innovation. Our findings are important as they suggest that strengthening research excellence and international scientific networking in laggard regions (such as the regions of the CEE and ENP countries) could be a viable option to increase regional innovativeness, which in combination with other policies could form the basis for the systematic support of regional development.

In order that ENP countries might be included, and so as to study all the fields covered by the EU Framework Programmes, Pikalova and Korobeynikova (2013) shift the focus from regional to national data. They provide an in-depth analysis of the structure of R&D collaborations examining specifically EU-EECA[5] and EU-Russia project cooperation under FP5-7 in the period 1998-2012. The overall number of S&T projects jointly implemented by EU and EECA countries increased from FP5 to FP7 indicating a growing mutual interest in S&T cooperation as well as in joint participation in the EU RTD Framework Programmes. The analysis shows intensive development of cooperation in such priority scientific areas as Information and Communication Technologies (ICT), Environment, Health and Social Sciences and the Humanities, as well as in the area of International Cooperation (INCO). The analysis of the types of EU and EECA organisations involved in joint FP5-7 projects shows that the most intensive S&T collaboration has been between the Research and Higher Educational Institutions of the EU and EECA countries. It should be noted that the number of firms involved increased during the implementation of FP-7. Closer cooperation between EU and EECA Research, Higher Educational and Industrial Organisations could lead to further improvement of EU-ECCA cooperation in the sphere of innovation. Currently, Russia is the most successful and most international S&T cooperation 3rd-party country in terms of its overall participation in the programme, the total amount of EU collaboration funding received and the number of collaborative actions launched. Russia cooperated with nearly all the EU MS within FP5-7, but its three main partners were Germany, France and the UK in the areas of ICT, Nanotechnology and INCO. Case studies examining the functioning of EU-EECA research networks identify the added value and the barriers to EU-EECA collaboration. According to the partners, the three main categories of added value generated within the research networks are: a) the establishment of EU-EECA research networks; b) the promotion of the EU Framework RTD Programme in EECA countries; and c) the relevance of the project research to the country's S&T priorities. Among the barriers impeding the setting-up and implementation of international research, they point to: a) the lack of financial

[5] Eastern European and Central Asian Countries (EECA): Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine and Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

support for international cooperation; b) the lack of personal contacts in international research networks, c) the difficulty in accessing international networks and platforms for researchers. The results of the case study can be usefully used in drawing up recommendations as to how to overcome these barriers and so improve S&T cooperation between the countries involved in international research.

3.5. Current Status of the Social, Cultural and Institutional Environment in Neighbouring Countries and Regions, and Prospects for Improved Economic Development, Social Cohesion and Stronger Integration with the EU Area

3.5.1 Analysis of the features of social capital in the ENP area

This task offers an empirical overview of the past and present state of social capital in Europe, distinguishing between "old" EU-members, new member states, and neighbouring countries. Additionally, we explore alternative determinants of social capital, such as socio-demographic factors, political and institutional factors, and ethnic value orientations. Likewise, the effect of social capital on individuals' monetary attitudes and nations' economic performance and competitiveness are analysed. Considering all the contributions, a broad picture of the specific features of social capital in the three country groups can be drawn.

Parts (2013) investigates the dynamics and the determinants of social capital in different country groups in Europe. Four factors of social capital are identified: general trust, institutional trust, formal networks and social norms. A comparison of the levels of social capital shows that in the case of all its components the levels were lower in the new member States-NMS[6] than they were in Western Europe (WE)[7]. In less developed ENP countries institutional trust and social norms appeared to be stronger than in the NMS, but lower than in WE. Between 1990 and 2008, the average level of social capital fell in the NMS and increased in WE. However, the experiences of individual countries were more diverse and no obvious generalisations can be made on the basis of country groupings. The results of the regression analysis show the most influential determinants of social capital to be education and satisfaction with democracy. Therefore, the main policy implication seems to be the need to support investments in educational systems and in improving democratisation processes in order to increase the level of social capital.

Hlepas (2013a) shows that there are marked differences in the social capital of the "old" EU-15 members, but that these differences are even greater among the candidate countries and Eastern neighbouring countries. When comparing the relations between different components of social capital, it appears that levels of generalized trust do not correspond in most cases to levels of elite compliance with norms and public trust in politicians. On the contrary, it seems that generalized trust reflects levels of cooperative predisposition in everyday life and towards others, but that it is mostly culturally embedded. Levels of elite compliance with norms and public trust in politicians, on the other hand, seem to reflect historically embedded authority and the acceptance of the state, of public institutions and of political power. Satisfaction with institutional performance also seems to enhance public trust in politicians. All in all, the evaluation of the data identifies a clear positive relation in nearly all countries between public trust in politicians, on the one hand, and institutional quality and elite compliance with norms, on the other.

Tatarko and Schimdt (2013) set out to assess the effect of social capital on an individual's economic behaviour in a case study conducted among Russian adults. Their results show that higher levels of trust, tolerance, and civic identity are associated with adverse monetary attitudes. This means that when social capital decreases, people try to compensate by accumulating financial capital. Greater social capital, on the other hand, by providing social support that serves as an alternative source of security, influence and protection, may reduce this dependence on money. An important finding from this research is that the component of social capital that is associated most frequently and strongly with monetary attitudes is civic identity.

Tatarko (2013) undertakes a cross-cultural analysis of the impact of value orientations on socio-psychological capital, which in turn can lead to higher social capital. Based on a sample of three ethnic groups in Russia (Russians, Chechens and Ingush), the study demonstrates that although the impact of individual values on socio-psychological capital obeys a certain logic, it may be culture-specific. Values of "Self-Transcendence" have a positive impact on the socio-

[6] Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.
[7] Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and Great Britain.

psychological capital of a multicultural society, whereas values of "Self-Enhancement" influence it negatively. "Openness to Change" values positively influence civic identity but have a negative effect on perceived social capital. Finally, "Conservation" values positively affect the civic (Russian) identity of the representatives of the Ingush ethnic group.

Finally, Akçomak and Müller-Zick (2013) seek to isolate the causal link between the level of trust in an economy and its innovation performance. The paper highlights the fact that social networks are valuable for securing better economic and innovative outcomes. By improving social networks it is possible to strengthen collaborations and the circulation of knowledge. Similarly, the need to invest in human capital is another recommendation to emerge from the paper, since education has a great socialising effect, thus reinforcing networks.

3.5.2 Analysis of the impact of cultural diversity on innovation performances

Here we examine the possible impact of a country's culture and diversity on its national innovation performance and economic success.

First, Kaasa (2013a) explores the possible effect of different cultural dimensions on innovation performance (power distance, uncertainty avoidance, masculinity-femininity and individualism-collectivism), covering as many EU-countries and neighbouring countries as possible. The results indicate that all four cultural dimensions have a significant influence on innovation. The study also finds that countries can be grouped differently according to different cultural dimensions, but that these cultural dimensions often seem to balance each other out: countries may present different combinations of cultural dimensions, but they still perform equally well in matters of innovation. Hence, their ultimate innovation performance is influenced by different cultural dimensions that may or may not balance each other out in a particular country. The indicator of the combined support provided by culture for innovation was calculated and this appeared to explain quite well the differences in the innovation performance of different countries. As for any policy implications, it needs to be acknowledged that to change culture is a highly complicated or even impossible task. However, were it to be possible, at least to some extent, for example, by promoting certain beliefs and attitudes, such policy should focus on those cultural dimensions that need to be changed in a particular country. Given that in different countries different cultural dimensions can hinder innovation, a thorough investigation of what dimension(s) should be prioritised is of great importance.

Second, Hlepas (2013b) examines the impact of cultural diversity and ethnic fractionalization on different aspects of national performance. The results show that the widely accepted assumption that cultural diversity and ethnic fractionalization have negative impacts on economic performance, human development, etc. could not be confirmed in many neighbouring countries and new member states, while it could not be confirmed at all in the EU-15 states. In countries adhering to the path of Europeanisation for a long period, in long-established democracies, in countries with good governance and strong institutional performance, cultural diversity does not seem to have any perceivable negative impacts on national performance.

Third, Periac (2013) studies the impact of cultural diversity on innovation, using the concept of social capital as a channel between cultural diversity and innovation. After analysing the possible impact of cultural diversity on innovations through two aspects of social capital – cohesiveness and heterogeneity of links, the results broadly confirm the positive impact of generalized cohesiveness. Region-industries that display networks of co-inventorship (between local inventors) that are denser than expected, given the number of local inventors, appear more innovative than the others, controlling for other influencing factors. This suggests that collaboration between local inventors (inventors of a specific industry that live in the same region) should be encouraged, regardless of their cultural attributes, in order to foster the innovation of the related region-industry. Regarding the other aspect of social capital, the results did not confirm the role of heterogeneity of links in the innovation processes.

Fourth, Ozman and Erdil (2013) study the interaction effects between cultural diversity, knowledge diversity and knowledge regime in an organizational context, where actors interact and exchange knowledge through networks. The results reveal that the extent to which cultural diversity yields more learning depends on the characteristics of the knowledge regime, as well as on the extent of knowledge diversity within the population. In particular, in intermediate degrees of technological opportunities, cultural diversity has a negative impact on innovation.

Finally, Lebedeva and Schmidt (2013), Lebedeva, Osipova and Cherkasova (2013) and Lebedeva and Grigoryan (2013) analyse empirical evidence of the role culture and individual values play in people's attitudes to innovation in different cultural and regional groups with a particular focus on Russian regions. Their findings show that there are cultural

differences in attitudes to innovations: the more modern a culture is, the more positive its members attitudes to innovations tend to be. Their examination of different values shows openness to change promotes and conservation impedes acceptance of innovations. The empirical evidence that there are culturally specific relations of values with attitudes to innovation confirms the fact that we must consider specific features of a culture when introducing innovative patterns to it.

All in all, these research papers give a manifold picture of the relationship between cultural background, cultural diversity and economic, including innovation, performance. It can be concluded that culture really does matter for innovation and, hence, for economic performance. It should be taken into account that culture is a very broad phenomenon and different dimensions and aspects have to be considered when creating policies based on our knowledge of the impact of culture on innovations. Care should be exercised because different cultural dimensions in different countries may hinder innovation and every case (country, region) should be analysed separately. While cultural differences between countries/regions are found to be significant and are worth considering, the differences and diversity within countries or regions appear not to be a problem, contrary to the widely accepted assumption of the negative impact of cultural diversity and ethnic fractionalization. This is in accordance with the result that while cohesiveness seems to be important for innovation, heterogeneity of links appears not to be important.

3.5.3 Analysis of the quality of national institutional environments

The aim of this task is to examine the current condition of national institutional environments in the countries of interest and to assess the relevance of institutional change in bridging the development gap.

In Bartlett et al. (2013), the institutional convergence of the ENP countries to the EU is shown to be weaker than that of the candidate countries. Certain institutional elements, including political stability, governmental accountability, freedom of the media and control of corruption are important for the success of economic policies. However, the nominal adoption or transposition of EU norms and rules are no guarantee of successful institutional performance as the continuing problems in Bulgaria and Romania demonstrate. Moreover, although Eastern ENP countries have shown considerable progress in recent years, they lag behind other countries in creating a stable rule of law, political and economic freedom, respect for minorities and free media and are still considered as only partly free societies with respect to their political and civil liberties. The convergence targets have yet to be reached and the final outcome is far from certain. Moreover, the EU has yet to play an important role as a "transformative power", shaping faster institutional convergence and there is a danger that the reform processes will either stagnate or "run out of steam" if the EU does not take a more decisive role in the process. In sum, the process of institutional reform is incomplete due to the absence of a clear European perspective. Reforms need to focus as much on informal institutions as they do on formal institutions. For example, the development of institutions that can promote improvements in social capital and so counter the deeply rooted tolerance of corruption would contribute greatly to the elimination of the "governance gap" between these countries and the EU. Finally, our research suggests that the capacity for change is improving given the considerable improvements that have been made in the quality of education and in the capacity for innovation. Some of these results are confirmed by López-Tamayo, Ramos and Suriñach (2013), who analyse whether the ENP has changed the institutional, social and economic performance of the EU's neighbouring countries.

The analysis reported by Hlepas (2013c) suggests, in line with a number of previous studies, that institutional reform is a positive force for economic development. While this does not mean that a country's global competitiveness is shaped solely by its institutions, it does suggest that institutional change may have beneficial effects. The study argues that, at the macro level, the Europeanization process demonstrates that incremental progress has been made in the quality of national institutional environments and in the global competitiveness of the countries in question. The adoption of the "European *acquis*", either by legally complying with the regulatory and legislative framework, or by "voluntarily" introducing domestic policies in the framework of new Governance arrangements, has certainly enhanced institutional quality and had a positive impact on economic development in the EU and neighbouring countries. Notwithstanding, notable differences have also been detected in the trends of convergence and divergence presented by countries and groups of countries. These trends also vary over time. Thus in the period of so-called "enlargement euphoria", up to 2006, candidate countries under strong pressure to Europeanise improved their institutional quality as they sought to meet the EU-15 convergence criteria, but the period after 2006 was characterised by evident stagnation. Even among the core EU-15 countries a divergent pattern can be detected. Southern European countries, including Greece, Italy, Portugal and Spain, diverge from EU-15 mean criteria after 2006, indicating a deterioration in their institutional quality, while northern countries recorded values above the EU-15 means.

Kaasa's (2013b) exploratory analysis of governance indicators reveals that most post-communist countries tend to have lower levels of governance quality than western economies. Among the latter, North European countries present the highest levels of governance quality while South European countries present the lowest levels. Indeed, it seems that a communist past has a marked influence, given that those countries that belonged to the former Soviet Union (with the exception of the Baltic states that are already in the EU) have the lowest levels of governance quality. Finally the quality of governance among the countries of the Middle East and North Africa is comparable to that of countries that belonged to the former Soviet Union.

Revilla-Diez, Schiller and Zvigzde (2013) compare post-communist economies with high performing Asian countries (which are managing to outstrip their competitors in terms of economic growth) and suggest several reasons why the former lag behind. First and foremost, post-socialist states failed to replace the mechanisms of the old regime with new efficient institutions. Second, the minor institutional changes that were attempted were unsuccessful because of the little faith remaining in the role of the state and because of the poor fit with the existing informal institutional environment. In this respect the path dependence of institutions can be addressed by the fact that institutional transformation tends to be endogenous. Furthermore, institutions are clearly place dependent, with regimes being shaped within specific regional contexts. Thus, the more institutions become embedded in their regional contexts, the less adaptable they become to change. Third, in contrast to the countries of East Asia, these transition economies failed in their attempts to establish strong supportive links between government and business. While in East Asia governments have never sought to replace the market, in post-Soviet states governments have tried to rule despite the market, demonstrating little support for market forces.

Finally, Erdil and Pamukçu (2013) suggest that national support for innovative activities has had a positive impact on economic performance in Turkey. Moreover, they report that while support granted by local administrations tends not to be effective, EU-funded projects are highly likely to lead to innovation, albeit that this funding represents only a very small percentage of support for innovation.

All in all, these papers offer a comparative view of the state of national institutional environments in ENP countries. The comparison with EU countries, both old and new, suggests that the speed of the process of convergence of institutional quality towards European norms and values remains slow, although some progress has been made. Good institutional quality appears to be extremely important in the ENP area as a means of encouraging economic actors to become involved in economically productive activities and to trigger economic development. For this purpose, institutional change and reform are greatly needed.

3.5.4. Analysis of local business culture and the development of SMEs

This is a critical area of research for policy since a successful SME sector is believed to reduce unemployment, create jobs, boost innovations and, ultimately, promote economic development.

Bartlett, Popa and Popovsky (2013) examine the development of entrepreneurship in Eastern ENP countries. What emerges from their analysis of the obstacles to the development of SMEs and the creation of an improved local business culture in transition countries is the need for policy makers to take steps to eliminate barriers to entry so as to stimulate local entrepreneurs. The liberalisation of the business environment can have marked benefits for the development of SMEs. Similarly, public policy should also seek to generate a more favourable institutional framework in which SMEs can flourish and invest. In this respect, economic stability and secure property rights are two essential building blocks. Furthermore, the creation of an effective institutional support structure to sustain the SME sector, especially in terms of enforcing market competition, is required.

Zvirgzde, Schiller and Revilla-Díez (2013d) assess the quality of different characteristics of the institutional environment and show that the development of SMEs is strengthened when the local institutional framework is solid. Institutions are found to matter both in their formal and informal manifestations. This is especially relevant when networks and personal contacts facilitate business activities. Of particular interest is the fact that foreign multinational enterprises tend to place a higher value on the importance of personal contacts in business activities than do domestic firms. Here, it seems highly plausible that foreign firms need to be aware of local norms and rules in their efforts to compete with domestic firms and, thus, their strategies and behaviour have to be adapted to the local environment.

Overall, these research papers discuss the role of institutions, local business culture and the development of SMEs in the ENP countries. ENP countries are highly heterogeneous entities and, as such, these papers are unable to examine them all. However, a valuable picture is provided by undertaking a number of specific case studies. Thus, local

entrepreneurship is frequently found to suffer from strong institutional frictions and from a business environment that fails to provide incentives to SMEs to invest and upgrade their activities. This has negative implications for innovation and employment. Foreign firms, however, can play a crucial role in improving the local business culture by establishing ties with domestic firms based on market connection or cooperation. Importantly, national policy makers, seeking to stimulate the SME sector, need to consider the potential benefits accruing from measures that strengthen institutions and which guarantee the correct functioning of markets.

3.5.5 Analysis of the institutional structure of vocational education and training (VET) systems

Bartlett's (2013) paper, "Skill mismatch, education systems, and labour markets in EU Neighbourhood Policy countries", examines the capacity of educational systems in the ENP area to provide a skilled workforce that matches local labour demands. The paper identifies an inverted-U shaped pattern of mismatch across education groups. A particularly severe mismatch emerges among those with a secondary education in transition countries, especially those who graduate from vocational schools in which the curricula fail to meet labour market needs and where funding for equipment is relatively constrained. In emerging markets, the mismatch is higher among highly educated university graduates. There is also clear evidence of a gender bias in these mismatch patterns. In terms of policy recommendations, the paper suggests that public policy should be informed by labour market forecasts and concludes that there is a need to restructure and reform vocational education and training systems in most ENP countries. Policy measures could include incentives for older, low-skilled workers to retrain and for firms to provide better in-house training. Other measures include plans to improve the inclusion of women in the labour market, special tools to encourage firms to hire young workers, and the stimulation of spillovers from foreign firms to domestic companies through labour mobility.

3.5.6 Analysis of local governance and social participation

In this task we analyze the links between local governance, quality of life and social cohesion. These institutional aspects appear to be fundamental in providing a favourable environment for market transactions to occur. The quality of local governance systems is a key element for instituting bottom-up development strategies based on collective action and social inclusion. Against this backdrop, the papers outline the main strengths and weaknesses of local governance in the ENP area.

Hlepas (2013d) undertakes a comparative analysis of the various indicators used to measure such intangible notions as the degree of trust of people in governments, their trust in local authorities, and their satisfaction with life and social cohesion. These data provide the basis for a subsequent discussion on local governance and quality of life. The study suggests the existence of a strong correlation between levels of social cohesion and satisfaction with local and national governance. Thus, high levels of trust in government at all administrative scales correspond to high scores in national institutional quality.

Bartlett and Popovski (2013) examine the ways in which social participation and social cohesion are related to local governance. Although social cohesion and local governance are relevant political principles in Ukraine, there are many hindrances to their effective implementation. Both social cohesion and social capital entail participation based on a process of inclusion, promoting trust and developing networks. However, developing trust and networks are as much processes of exclusion as they are of inclusion since they establish boundaries. It is very much up to society's members as to how these boundaries are perceived and maintained. Participation also means inclusion and the blurring of boundaries. Therefore, a space for negotiations depends on dialogue between a country's citizens, its civil society organizations and state institutions.

The last paper by Turkeli and Erdil (2013) identifies a fluctuating trend in the field of the ENP knowledge asset and reports that scholarly response in the field of ENP is highly synchronous with and sensitive to (though not necessarily as immediate content) the developments in the realm of ENP. Moreover, the study highlights the need for initiating or enhancing the conditions of cooperation/co-creation so as to broaden and deepen the ENP knowledge asset in both the EU and the European Neighbourhood.

3.5.7 Analysis of legal issues affecting outsourcing manufacturers and knowledge transfers

Harpaz (2013) claims that the ENP's ambitious agenda, coupled with its ten years of operation, when examined in the light of its potential benefits, raised expectations of the comprehensive alignment of the legislation of the ENP countries and of significant socio-economic reforms. Yet the results of the ENP on the eve of its tenth anniversary are much less impressive and the initial high hopes for a comprehensive and systematic legislative and regulatory alignment have not been realised. Extensive scholarship, including that conducted by the SEARCH Consortium, indicates that such alignment is limited, partial, selective and uneven. In this respect the ENP, which was modelled on the institutional and procedural experience of the successful enlargement policy and which adopted the enlargement's ethos, instruments, and procedural and institutional aspects, bears in fact a closer resemblance to the unsuccessful European Mediterranean Policy. Harpaz (2013) addresses this disappointing state of affairs by offering a typology and analysis of the various factors that hinder the more meaningful realization of the approximation of legal agendas embodied in the ENP. Drawing on scholarship that examines the effectiveness of "accession Europeanisation" and relying on the work conducted in the spheres of external governance and Europeanisation, the study analyses the various factors that hinder the more meaningful realization of "neighbourhood Europeanisation", classifying them according to whether they pertain to the ENP itself (e.g., lack of meaningful incentives, lack of definitiveness and weak mechanisms of conditionality), to the EU (e.g., expectation-capacity gap, weakening trade prominence), to the ENP countries (e.g., local perceptions, veto players, institutional weakness and high adaptation costs) or to the interface between the EU and its ENP countries (institutional and normative mismatch). The analysis is conducted in a comprehensive and holistic manner, thus seeking to avoid an EU-centric perspective, which is characteristic of much of the scholarship in this area.

Favale and Borghi (2013) review the role of the ENP in relation to intellectual property rights (IPR), in general, and that of the focus countries, in particular, concluding that the IPR status in European neighbouring countries varies greatly. Certain similarities can be detected within the policy sub-groups (Eastern European, Southern Mediterranean and Black Sea countries), but this is not a general rule. Since barriers to trade can occur not only as a result of the absence of IP norms but also owing to the dysfunctional infrastructure enforcing such rights, IPR assessment needs to be considered in context. The mixed scenario regarding the general progress of the European Neighbourhood Policy corresponds to the picture presented by the analysis of the detailed country reports. While on the one hand general progress can be detected in the implementation of IP legislation and in the signature (or at least advanced negotiation) of several international treaties and multilateral conventions, IPR infringement rates and piracy present only a marginal decrease. In sum, while the adoption of the EU intellectual property framework appears to be a leap forward in terms of IPR protection in neighbouring countries, on its own it cannot lower the barriers to trade if it is not matched by substantial improvements in the social, legal and economic systems of these countries.

Finally, Yalciner, Durukan and Ertan (2013) examine the national regulatory framework for intangible assets (IAs). In section 3.5.2, we proposed that intangible assets play a decisive role in the innovation capabilities of companies. As an evolving concept, intangible assets embody a variety of opinions and certainly require further study. However, there is a broad consensus regarding the high knowledge dimension of these assets and IPR forms an important part of this. Surely, intangible assets are not limited by intellectual property rights. Yet, this approach serves as a useful basis to integrate the intellectual capital into the real value of a company and thus to benefit from innovative efforts. Our view of IAs emphasises the legally protectable intellectual capital of the company, which places IPR legislation at the core of the study. We have carried out an existing structure analysis of Turkey's IPR system with its main actors and we provide an implementation framework for certain IP rights.

However, there are certain criticisms that we have not addressed in this study. First, in Turkey general provisions are mostly arranged according to European provisions and international agreements. However, these arrangements were made in the guise of law-amending ordinances and some parts of these arrangements have been cancelled by the Supreme Court. In addition, constant modifications have been made to these arrangements and these changes have destroyed what was legally systematic. Furthermore, there are no legal arrangements for protecting trade secrets. Another important problem with IPR in Turkey concerns the protection of digital property rights. Deterring the copying and diffusing of digital assets is not very advanced, although stealing digital property carries a harsh penalty according to general provisions; however, the cases take a long time to come before the courts.

4. Final Remarks

The SEARCH Project has set itself the general objective of undertaking both theoretical and empirical studies of the patterns of interaction between the EU and the ENP countries, projecting future trends and identifying the effects of higher levels of economic integration on the growth, competitiveness and cohesion prospects of both areas. The ENP is a unified policy framework for the EU's neighbouring countries, offering conditional, preferential economic and political relations in exchange for the recipient countries' adherence to its principles. The ENP aims at strengthening the prosperity, stability and security of the EU, creating a "ring of friends" around the EU's political borders.

Most empirical studies of the ENP to date have focused on trade; migration has received less attention; only a few studies have examined innovation in the ENP countries; and, no studies explicitly examine the role of the ENP vis-à-vis the institutional environment, cultural diversity and the effects of social capital on innovation. New Economic Geography suggests that full economic integration is not possible without the prior integration of a number of non-economic elements. Divergence and polarisation between regions appear to be among the main consequences of the ENP, with more favoured regions (metropolitan and those bordering the EU) *taking off* while the others tend to stagnate or even decline. Additionally, the regional and interregional approaches taken by the ENP have been only weakly developed, judging by the low amount of activity in the Southern and Eastern regions of the ENP. By contrast, the bilateral approach has been much more actively pursued in some instances, with several countries showing themselves to be especially reform-minded. However, other countries have made practically no progress in implementing the reforms proposed by the ENP.

In the SEARCH Project, we first analyse the economic relationships between EU-ENP countries, studying in depth trade and FDI flows. Constituting what could be described as a "carrot and stick" tactic, Deep and Comprehensive Free Trade Areas (DCFTAs – the main policy thrust of the ENP), consider mandatory compliance with the *acquis communautaire* a pre-condition for trade negotiations (and agreements) between the EU and the ENP countries. This means that even though the possibility of accession is not an option for the majority of the ENP countries (i.e. the "carrot" component is extremely weak), they choose to operate under conditions of "neighbourhood Europeanisation", which is tantamount to economic integration. Despite its political and foreign policy origins, the ENP has transformed the EU's external relations with its immediate neighbourhood, linking these countries inexorably with the processes of institutional adaptation (Europeanisation) and economic integration (trade liberalisation and preferential agreements). Thus, the ENP has today become one of the EU's main economic policy instruments, accelerating and intensifying economic flows and interactions between the EU and the ENP countries (and their businesses as well).

The study of trade flows and localization decisions exploits a wide array of standard, as well as more sophisticated, research methodologies. Primary and secondary data sources drawn upon here refer to different spatial and sectoral levels, and cover the period from 1995 to the present and so capture the latest shifts taking place in both the EU and the ENP countries, as well as those corresponding to the launch of the ENP itself. The study sheds light on a wide set of countries that has remained, largely, unexplored, especially at the regional (i.e. sub-national) level, and it provides valuable insights for both academic theory and policy making.

The ENP has, indeed, accelerated and intensified economic flows between the EU and the ENP countries (as well as between their respective businesses). However, the interaction between the EU and the ENP countries has yet to reach its full potential, which suggests that further approximation between the EU and the ENP countries is needed. To this end – and given that, up to now, the ENP has not produced the anticipated results – a discussion concerning the need to reinvigorate the current perspective on the ENP is *ante portas*. Such a discussion (if and when it eventually occurs) should take into a consideration a number of extremely important points. The first is that the pattern of integration achieved to date between the EU and the ENP countries is uneven, unbalanced and asymmetric. Inter-industry integration is in no position to narrow the welfare gap between the EU and the ENP countries. The second point is that the interaction between the EU and ENP countries generates spatial side effects (or imbalances), favouring, in the main, the state capitals and the most dynamic regions in the ENP countries. Should these points be taken into consideration, the ENP may be able to pave the way for a deeper and more sustainable integration between the EU and its neighbours.

To be successful, EU policy towards the ENP countries needs to acquire a deeper level of understanding of the interactions between the international and the regional dynamics in these neighbouring countries. This is by no means an easy task. Challenging mainstream policy perspectives, the research team, after contemplating a number of (uncomfortable) policy dilemmas, offers a set of policy recommendations that should lead the EU in the right direction.

These policy recommendations are contained in the corresponding policy notes, policy briefs and the final policy guide.[8]

Another key issue related to the ENP concerns flows of people. International migration flows are driven by differences in development between the EU and ENP countries. However, there is considerable heterogeneity in the migration trends of the ENP countries over the last 50 years. While some countries, such as Israel throughout the whole period and Russia over the last thirty years, have been net receivers of migration flows, other countries, such as Belarus, Egypt and Tunisia, have lost population to migration during the period. Migration from ENP countries is highly concentrated in a number of destination countries given their geographical proximity or strong political, economic or colonial ties. Therefore, an interesting result is that European Union countries are not always the main destination of migrants from ENP: for instance Egyptian emigrants opt for Saudi Arabia as their primary destination, those from Lebanon prefer to migrate to the United States while those from Syria opt for Jordan, Kuwait or Saudi Arabia and, in fact, migration flows between ENP countries show a clear upward trend. Migratory pressure from ENP countries to the EU will also increase in the future. Against this backdrop, there is a clear need to establish a global EU migration policy and to coordinate this policy with other institutions that impact migration flows, such as the labour market institutions.

The analysis of immigrant experiences in EU labour markets reveals a lack of equality between migrants and native workers in terms of wages and employment opportunities. Even when immigrants are highly qualified, there is no guarantee of their finding success in the new labour market. Yet, a suitable system for the assessment and recognition of foreign-acquired educational degrees and/or publicly provided informal training to recently arrived immigrants should improve the transferability of their skills to meet EU needs. However, if EU migration policy is selective in terms of attracting human capital, the risk that ENP countries will suffer a brain drain increases significantly. Our results show that remittances and policies promoting temporary migration in fact help to alleviate this problem. Returning to the country of origin has additional benefits: first, returning migrants take with them the education and work experience acquired abroad, together with the social capital they have amassed from their migration experience and, second, they can return with the savings they have managed to accumulate during their time abroad.

The Great Recession has had a major impact on the situation of immigrants in EU labour markets, particularly for those that originate from developing countries such as those in the ENP. The loss of employment for immigrants is an added cost to their own displaced status, especially for recent immigrants. The lack of opportunities for a significant portion of their populations clearly jeopardises the integration of immigrants in society. In this context, the successful integration of immigrants requires, as a precondition, that public opinion is at least not opposed to them. Although the presence of immigrants can increase the ethnic and cultural heterogeneity of a society extending social distances, it can also contribute to the creation of social capital if the society is able to establish an environment that facilitates cooperation. In sum, our research has shown that it is vital that the preconditions for a better integration of immigrants be created in order to ensure a more sustainable and higher rate of economic growth in the long run through the creation of social capital.

A further issue related to human movements is knowledge flows and their impact on the innovative performance of countries and regions in the European Union (EU-27) and in the ENP. We aim at understanding the extent to which this performance depends, on the one hand, on the endogenous ability in knowledge creation and, on the other, the capacity to absorb, adopt and imitate other regions' innovations taking advantage of different types of research and technological networks.

In particular we analyse the way in which internal and external factors (including, human capital, social capital, institutions, public policies, spatial spillovers) impact innovation activities and, consequently, regional economic performances. Moreover, we examine the process of innovation diffusion and research networking so as to determine the extent to which the EU and ENP countries have succeeded in establishing valuable collaboration procedures. Throughout the analysis specific attention is devoted to the economic dynamics of the countries (and regions) that have recently acceded to the EU (EU-12), the aim being to learn more about the evolution that the neighbouring countries might undergo in the near future as a result of the reinforcement of the integration process. In all the contributions, the ultimate purpose of the research activities has been to derive useful policy recommendations at both the European and the ENP country levels.

Our results highlight the important role played by knowledge diffusion and research networks in promoting regional innovation endowment in both EU and ENP countries albeit characterised by a high degree of heterogeneity.

[8] See www.ub.edu/searchproject

If we consider the determinants of innovation, our results confirm the widespread consensus that knowledge transfer is significantly favoured by the spatial proximity between the agents engaged in the innovation process, as well as by the intentional relations they build within aspatial networks, such as those shaped by institutional, technological, social and organizational ties. Cooperation between firms is found to be the main determinant of the adoption of innovations, while a key role seems to be played by the level of trust manifest by people within each country, by simplified procedures, and by high levels of education. The presence of aspatial relationships, including the aforementioned institutional, historical, cultural, cognitive, social and organizational links, is also shown to facilitate the exchange of knowledge, thereby fostering innovation diffusion and the creation of research networks.

An examination of cross-border knowledge flows indicates that the degree of internationalisation of innovative activities is extremely limited between countries with markedly different economic backgrounds and levels of development. However, such relationships are strengthening over time and the largest countries, in particular, are establishing themselves as important partners for the European countries. Results also show that inter-firm agreements represent an important channel of knowledge exchange generated in the various activities undertaken before, during and after the signing of such deals.

As for the impact of R&D collaboration on regional innovation performance, the studies identify a positive and significant effect, albeit one that is not systematic. More specifically, the analysis of EU-EECA and EU-Russia project cooperation under FP5-7 shows that the overall number of S&T projects jointly implemented by EU and EECA countries has increased over time. The study also indicates growing mutual interest on the part of the EU and EECA in S&T cooperation as well as in joint participation in the EU RTD Framework Programmes.

In conclusion, for the neighbouring countries the prospects of stronger cross-border knowledge flows resulting from inter-firm agreements and innovation and research networks are very important and potentially rewarding. However, the ENP countries continue to face many difficulties in engaging with appropriate knowledge bases and so struggle to take full advantage of these potential benefits given the presence of sizeable differences in terms of their institutional, cultural, social and economic risk factors.

Finally, the quality of national and institutional environments is of primary importance for ensuring the success of economic activities, innovation, development policies and economic growth. The ENP area is characterised by considerable heterogeneity in its institutional characteristics; however, in most instances the institutional environment of these countries needs to be improved substantially.

In the SEARCH project we analyse a wide range of issues related to social capital, cultural diversity, individual values, national institutional settings, business culture, educational systems, local governance and the legal and regulatory framework. These are all essential ingredients for economies to perform well.

The majority of papers suggest that ENP countries still lag some way behind EU standards in terms of the quality of their institutional environment, although there are major differences within the ENP area itself. Therefore, bearing in mind that one of the objectives of the ENP is to reduce the institutional gap between the EU and Neighbouring Countries, institutional cooperation and integration are key building blocks for future European initiatives in the ENP area. Clearly, institutional cooperation should be tailored according to country characteristics, examining institutional weaknesses, hindrances and challenges.

ENP should no longer be seen as a tool for instilling ‘European’ values within its neighbourhood or for achieving narrower economic (i.e., market access) and political (i.e., security and stability) objectives. From the research perspective, at least, our results point to the need to build on local experiences and the specific characteristics and to consider that the Neighbouring Countries do not only represent an opportunity to bolster the Union’s stability and to provide market opportunities for the EU member states. The Neighbouring Countries should also be seen as potential current and future partners for the sharing of knowledge and skills, for adapting and improving innovations, and for sharing lessons about respective experiences. Favouring local initiatives and tailoring measures to improve creative and absorptive capacities are therefore crucial. Likewise, the focus of ENP on market enlargement issues has proved unsatisfactory, as it does not allow the gap between the EU and ENP countries to be reduced. It is therefore time to bolster the upstream development factors and mechanisms that might enhance a country’s ability to benefit from external knowledge: that is, its institutions, education, *et cetera*.

5. Potential Impact

Studying the patterns of economic interaction between the EU and the ENP countries is an ambitious undertaking. To date, very few studies of this nature have been reported. The SEARCH Project has addressed many of the central objectives as outlined in the 2010 FP7 SSH Work Programme. More specifically, perhaps, the SEARCH Project has contributed to the consolidation of the European Research Area by forming a multinational research team, cooperating with researchers from ENP countries (including Israel, Morocco and Ukraine), as well as others from Turkey and Russia, and by communicating the results to a wider international audience. The primary means for exploiting the results of the SEARCH Project and, thus, guaranteeing the projects added value in terms of its academic rigour and contribution to European policy making, is through the research team's dissemination activities.

To fulfil all the objectives of the SEARCH Project, the researchers have worked in two main areas. First, the number of academic contributions has been highly significant with the publication of more than 100 scientific papers. Moreover, in keeping with one of the main objectives of the SEARCH project, for each scientific contribution we have produced a policy note, a press release and an abstract so as to disseminate our findings among the target audience (of academics, mass media, social stakeholders and policy makers). We have also created an open source database, accessible via our SEARCH webpage, and designed with the aim of undertaking future research on the relationship between EU and ENP countries.

It should perhaps be stressed that these scientific results are the tools from which policy proposals – one of the main goals of the SEARCH project –can be derived. Impacting social stakeholders and policy makers is another target of the SEARCH project, since these actors work most directly with the citizens and have a good knowledge of the problems that can arise in the implementation of new programmes and policies. For this reason, one of the areas in which we expect to have greatest impact is among policy makers and social stakeholders, including NGOs, associations and networks operating in fields closely related with NCs. Thus, we provide policy suggestions (contained in the aforementioned policy notes), policy briefs and the Final Policy Guide for all these actors[9].

The research findings of the contributions made under WP2 (Trade flows and localisation choices) indicate that concentration forces currently dominate the operation of most ENP countries. By contrast, dispersion processes are predicted at higher levels of development. Due to their current low levels of economic development, the vast majority of the ENP countries experience a cumulative and path-dependent process of growth, while the celebrated dispersion effects predicted by the neoclassical school of thought are unlikely to occur for many years yet. In terms of policy making, the research findings of WP2 suggest that economic integration is not always beneficial. Indeed, trade partners and the mix of products/activities are reported to be important. The idea that the EU can integrate into its core productive system countries with significantly lower welfare levels and significantly different production structures (without incurring any costs) needs to be re-examined. In any case, the benefits accruing from the process of economic integration contribute to the increase in regional inequalities. The pro-cyclical nature of regional inequalities establishes a new framework for the debate about regional policy in low-income countries.

From an academic perspective, it is our expectation that the results and methodological advances made within WP3 (People mobility and human capital) can help to promote the analysis of the current and future impact of the ENP. For instance, the database on bilateral migration flows and on the various push and pull factors constitutes an important part of our research and is made freely available, under the SEARCH project's open data policy, to other institutions so that the current research can be extended and our policy analysis can be replicated and validated.

Several key policy proposals can be derived from our research into migration. For instance, we conclude that regulated temporary migration programmes could benefit countries of origin and destination alike. In the case of ENP countries, they could provide a solution for the lack of local employment opportunities, while for the EU, they can provide a solution to demographic imbalance and ageing populations. However, the existence of strong spatial spillovers clearly points to the need for a globally defined EU migration policy in coordination with other interrelated policies, including those regulating EU labour markets. Our research has also shown that further efforts need to be devoted to improving the transferability of skills of highly qualified immigrants when they first arrive in the EU. However, if EU migration policy is much more selective in terms of attracting human capital, the brain drain risk in the ENP countries increases significantly. Remittances and policies promoting temporary migration could alleviate the problem and even contribute to improving educational outcomes in the ENP countries. Finally, a key issue in the current context of the economic

[9] See www.ub.edu/searchproject

downturn is that EU countries should adopt policies that seek to promote the integration of immigrants in society so as to achieve a higher and more sustainable rate of economic growth in the long run through the creation of social capital.

As for the contribution of WP4 (Technological activities and innovation diffusion in the EU and interactions with the neighbouring regions), our point of departure here has been to describe the innovation endowment of the ENP countries and their research networks by examining existing relationships between EU and ENP countries. More specifically, this Work Package has led to a round table discussion in which researchers (with a high degree of specialisation on matters related to innovation) from seven different institutions and seven different countries have been able to compare their experiences. Moreover, the aim here has been to involve other researchers and policy makers from other institutions so that we might extend the current research and also replicate and validate our policy analyses.

The research activity undertaken within WP4 has sought to formulate policy suggestions for the EU and its neighbourhood policy in relation to the determinants of innovation and the process of innovation diffusion. Moreover, the outcomes should serve as the basis for evaluating the future impact of the enlargement of the EU. We have been able to classify the traditional determinants of innovation (i.e., those that are widely accepted in the literature) on the basis of their efficiency for enhancing innovation in the ENCs. This result is of great importance because, in terms of the EU's neighbourhood policy, it should enable policy makers to choose the most efficient tools for promoting growth.

Results regarding the diffusion of innovation and research networks have shed light on the importance of the past relationships established between countries. The presence of aspatial relationships, such as institutional, historical, cultural, cognitive, social and organizational ties, have also proved to facilitate the exchange of knowledge and to foster innovation diffusion and the creation of research networks. Here, these results need to be taken into account if the goal is to facilitate the innovation diffusion process. Indeed, diffusion can be enhanced when economic agents operating in different contexts are able to communicate more easily, thus reducing knowledge barriers, be they tangible or intangible. In other words, proximity between agents and firms can reduce transaction costs and facilitate knowledge transmission.

A further result that would appear to have a potentially important impact on policy is that concerning EU policies implemented through the Framework Programme. Our results show that this should be an effective way of diffusing knowledge among European regions. However, our results also suggest that the positive impact of inter-regional flows of knowledge is not systematic. Peripheral regions (in geographical as well as in relational terms) remain weakly integrated into these global networks and, so, suffer the problems of accessing external knowledge. Thus, if we consider the ENP regions in close proximity to these peripheral regions, we need to take this result into account when considering and organising the participation of extra-EU institutions within the Framework Programme as a means of diffusing knowledge.

Finally, in WP5 (Institutional environment) we have undertaken research examining the current status of the social, cultural and institutional environments of the ENP region, and the way in which ENP countries might respond to institutional changes and transformations while achieving economic development and stronger integration with the EU. These objectives are relevant for both academic research and policy making.

The research papers undertaken in WP5 on future academic activity should serve to enrich and encourage the development of a strand of literature that looks at institutional issues from the perspective of the ENP. Examining the role of social capital, cultural diversity and local governance in ENP countries remains in its early stages and greater research efforts are needed to identify the implications and policy lessons that might be drawn from these elements, even if we bear in mind the aforementioned heterogeneity of institutional arrangements within the ENP area.

As regards policy making, WP5 provides an extremely relevant outlook on the institutional dynamics at play in the ENP area, with valuable options for the implementation of policies and programmes. Nonetheless, institutions are strongly path-dependent in character and difficult to transform. Therefore, stakeholders should consider that the effects of measures aimed at short-term institutional change are unlikely to be successful.

6. Further Research

The research results obtained in the SEARCH Project serve to identify a number of pressing topics and key policy issues concerning the implementation and future improvement of the ENP. It is our expectation that some of the ideas raised here will be used in drawing up a roadmap for the future analysis of the relationships of trade, foreign direct investment, the location of multinationals, human mobility, the creation of human and social capital, the main

mechanisms underpinning the production and exchange of knowledge between the EU and ENP countries, the cultural diversity in innovative activities and the impact of institutions on the development of ENP countries; and that the project might serve to establish the lines that need to be investigated further, by academics and in future projects such as this one, with the goal of improving the future application of the ENP.

One central aspect that requires further research – and this applies to all the issues raised here – is the need to undertake additional analyses at the regional level. The lack of data at this level is problematic and needs to be addressed, given the relevance of this territorial dimension for the vast majority of variables analysed. What are required are data describing flows of trade, FDI, human capital, knowledge, social capital and institutions at this regional level.

The literature to date examining the ENP has tended to focus, primarily, on political (i.e. diplomatic and security) issues. At the same time, the literature that focuses on the economic role of the ENP seems to adopt, with very few exceptions, a somewhat narrow perspective failing to undertake specific empirical analyses. Having studied the patterns of economic interaction (i.e. trade flows and localization choices) between the EU and the ENP countries, the SEARCH Project can contribute to a richer understanding of the economic linkages and development prospects of both regional blocks as well as to the evolution of their political relations. Clearly, this research is an ongoing activity and we are committed to undertaking further studies even on completion of the SEARCH Project.

As mentioned, the lack of (publicly available) data at the regional level, for a substantial period of time, constitutes a major obstacle for the analysis of trade and capital flows. In particular, data for the ENP regions are extremely limited in their coverage, and where available tend to be so only at a highly aggregated level. To overcome this problem, the research team has had to compile the SEARCH Database. This database contains stylized facts (i.e., economic, structural and demographic data), obtained from the National Statistics Agencies of the ENP countries and for the regions of the ENP countries. Moreover, the team has conducted local surveys, employing local experts, to extract the primary data required to complete the research.

Even though this lack of regional data has in part been mitigated and papers examining the spatial implications of trade and FDI flows have been published, the research team hopes to be able to deal with the issue more extensively. To improve future data availability, the research team hopes to develop a scientific method for the indirect production of reasonable regional trade and FDI estimates, utilizing the national-sectoral data sources available. At the same time, the team is committed to further enriching the SEARCH Database.

While several studies have sought to identify the "push and pull" factors of migration (including those operating in the ENP countries), our main contribution to the study of human flows concerns the analysis of the interdependencies that have developed between countries/regions in relation to different policy areas. Further research needs to attempt to identify the mechanisms underpinning these interrelationships and to provide a more complete assessment in terms of these specific policy areas (i.e., health care, pension systems, *et cetera*). The consideration of the regional dimension, particularly as regards the border regions, is also highly relevant for future research. However, the lack of detailed sub-national data hinders this task.

A further aspect that requires greater attention from academics is the migration of more highly skilled workers. In this regard, our research has identified various dimensions that could usefully be expanded in the future. For example, more research is needed to shed light on the knowledge transfer between the EU and ENP countries that occurs as a result of the circular migration of highly qualified immigrants (above all scientists) within this geographical area.

Until recently, the analysis of the microeconomic determinants of remittances has received much less attention than labour migration. Our research however stresses the relevance of remittances as a channel for improving educational outcomes in ENP countries. The growing availability of such datasets in other countries should enable us to expand our analyses and to test whether the evidence we have obtained is robust to the consideration of new territories.

Finally, we are still some way from obtaining a perfect understanding of the way in which migration can contribute to the creation of social capital, and as a result, enhance growth perspectives both in countries of origin and destination. Our analysis stresses that favourable public attitudes are an essential pre-condition for a better integration of immigrants in their new countries, but there is considerable heterogeneity in this regard according to the case studies we report.

Our examination of technological and knowledge flows has allowed us to make a considerable contribution to the existing literature, thus improving our understanding of the key mechanisms underpinning the production and exchange of knowledge between EU and ENP countries. Given the importance of external cooperation and knowledge transfer in enhancing the domestic technological capacity of the ENP countries, future research needs to be devoted to the

conducting of in-depth analyses at the micro level to determine the way in which potential interconnections between economic agents (workers, firms, research centres, institutions) are affected by the external environment in terms of their economic, institutional and social conditions.

Finally, our study of the institutional framework operating in the ENP countries has identified several elements that require further analysis. The relationships, complementarities and differences between the formal and informal institutions active in the ENP countries, the cultural diversity evident in their innovative activities, the attitudes towards social inclusion and improved local governance are major issues requiring further research in the framework of EU-ENP institutional integration. While elements such as social capital have been widely examined, other issues touched upon in the SEARCH project must constitute a roadmap for our future research efforts. Among these, for instance, there is the need to further our understanding of the way in which vocational education and training systems operate in the ENP area as well as gaining more insights into the inter-dependencies that have been established between local business environments and global capital. These questions have received some attention in the framework of the ENP, but further empirical analyses are crucial if we are to gain a better understanding of the interplay between institutional environments and the main economic and social actors.

While some examples of research conducted at the regional level can be identified, most studies to date have been conducted at the national scale, primarily because local institutional data for the ENP countries remain scant. Future research, however, needs to focus more closely on the local level and this will require the conducting of local surveys and the collection of primary data.

7. Deviations from initial proposal

No significant deviations from the initial proposal have been made in completing the project. However, when examining flows of knowledge, we were obliged to change the territorial unit of analysis because of the lack of data for the ENP countries at the sub-national level. In addition, the innovation activity of most ENP countries is largely negligible and, so, a regional breakdown would have been of limited significance.

Annex I: List of Working Papers

Work Package 1: Background. ENP: Past, Present and Future

Task 1.1 Taking Stock of Research Projects on the ENP

- Edzard Wesselink, Ron Boschma (2012a), Taking Stock of Research Projects on the European Neighbourhood Policy. SEARCH WP 1.1. http://www.ub.edu/searchproject/wp-content/uploads/2014/01/WP-1.1.pdf

Task 1.2 New Economic Geography and Economic integration: a review

- Andrea Ascani, Riccardo Crescenzi, Simona Iammarino (2012a), New Economic Geography and Economic Integration: A Review. SEARCH WP 1.2. http://www.ub.edu/searchproject/wp-content/uploads/2012/02/WP-1.2.pdf

Task 1.3 Regional Economic Development: a review

- Andrea Ascani, Riccardo Crescenzi, Simona Iammarino (2012b), Regional Economic Development, A review. SEARCH WP 1.3. http://www.ub.edu/searchproject/wp-content/uploads/2012/02/WP-1.3.pdf

Task 1.4 Overview of the European Neighbourhood Policy: Its History, Structure, and Implemented Policy Measures

- Edzard Wesselink, Ron Boschma (2012b), Overview of the European Neighbourhood Policy: Its History, Structure, and Implemented Policy Measures. SEARCH WP 1.4. http://www.ub.edu/searchproject/wp-content/uploads/2012/02/WP-1.4.pdf

Task 1.5 Political and Political Economy Literature on the ENP: Issues and Implications

- Vassilis Monastiriotis, Mireia Borrell (2012a), Political and Political Economy Literature on the ENP: Issues and Implications. SEARCH WP 1.5. http://www.ub.edu/searchproject/wp-content/uploads/2012/02/WP-1.5.pdf

Work Package 2: Trade Flows and Localisation Choices

Task 2.1 Analysis of trade patterns over time in EU and neighboring countries

- Panagiotis Liargovas (2013a), EU trade policies towards neighboring countries. SEARCH WP 2.1. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-2.1.pdf
- Anna Maria Pinna (2013), Is the EU the best trade partner for its neighbors? SEARCH WP 2.2. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-2.2.pdf
- Panagiotis Artelaris, Dimitris Kallioras, George Petrakos, Maria Tsiapa (2013), The geography of trade relations between the EU and the ENP countries: Empirical analysis and implications for theory and policy-making. SEARCH WP 2.3. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-2.3.pdf
- Ron Boschma, Gianluca Capone (2013a), Relatedness and diversification in EU and ENP countries. SEARCH WP 2.4. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-2.4.pdf
- Dimitris Kallioras (2013), Trade activity between the EU and the ENP countries: A "reproduction" of the "core-periphery" pattern? SEARCH WP 2.6. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.06.pdf
- George Petrakos, Dimitris Kallioras, Panagiotis Artelaris (2013), The geography of trade relations between the EU and the ENP countries: Emerging patterns and policy recommendations. SEARCH WP 2.7. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.07.pdf
- Dimitris Kallioras and George Petrakos (2013), The determinants of trade activity among the EU and the ENP countries. SEARCH WP 2.8. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.08.pdf
- Ron Boschma, Gianluca Capone (2013b), Mind your step: The heterogeneous effect of relatedness on the diversification process in EU and ENP countries. SEARCH WP 2.9. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.09.pdf
- Anna Maria Pinna, Fabiano Schivardi Fabiano, Vania Manuela Licio (2013), The European firms' export activity to the neighboring countries. SEARCH WP 2.10.

http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.10.pdf

- Anagnostou Ageliki, Dimitris Kallioras, George Petrakos (2013), Integrating the neighbors: A dynamic panel analysis of EU-ENP trade relations. SEARCH WP 2.11. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.11.pdf

Task 2.2.: Capital mobility among EU and neighboring countries

- Daria Zvirgzde, Daniel Schiller, Javier Revilla Diez (2013a), Location choices of multinational companies in transition economies: A literature review. SEARCH WP 2.5. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-2.5.pdf
- Andrea Ascani, Riccardo Crescenzi and Simona Iammarino (2013c), MNEs location decisions in EU neighboring countries and economic institutions. SEARCH WP 2.12. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.12.pdf
- Vassilis Monastiriotis, Mireia Borrell (2013b), Origin of FDI and domestic productivity spillovers: Does European FDI have a "productivity advantage" in the ENP countries? SEARCH WP 2.13. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.13.pdf
- Daria Zvirgzde, Daniel Schiller, Javier Revilla-Diez (2013b), Location choices of multinational companies in Ukraine. SEARCH WP 2.14. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.14.pdf
- Daria Zvirgzde, Daniel Schiller, Javier Revilla-Diez (2013c), Impacting innovation behavior of foreign and domestic firms: The case of Ukraine. SEARCH WP 2.15. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.15.pdf

Task 2.3.: Spatial implications of integration and expansion of capital flows in and out of the EU borders

- Vassilis Monastiriotis, Mireia Borrell (2013b), Origin of FDI and domestic productivity spillovers: Does European FDI have a "productivity advantage" in the ENP countries? SEARCH WP 2.13. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.13.pdf
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- George Petrakos, Dimitris Kallioras, Maria Tsiapa (2013), Regional inequalities in the European Neighborhood Countries: The effects of growth and integration. SEARCH WP 2.16. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.16.pdf
- Michael Beenstock, Daniel Felsenstein, Ziv Rubin (2013a), The effect of FDI on regional inequality in the ENPs: Evidence from Israel. SEARCH WP 2.17. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/SEARCH_Working-Paper_2.17.pdf

Work Package 3: People Mobility and Human Capital

Task 3.1 Analysis on future migration patterns from east-European countries and north-African areas to the European Union regions and from third countries to ENP regions

- Raúl Ramos (2013), Analysing Migration Flows From and To ENC Through the MIG-SEARCH databases. SEARCH WP 3.1. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP_3_1.pdf.
- Claudia Cigagna, Giovanni Sulis (2013), On the Potential Interaction Between Labour Market Institutions and Immigration Policies. SEARCH WP 3.2. http://www.ub.edu/searchproject/wp-content/uploads/2013/06/WP_3_2_revised.pdf
- Vicente Royuela (2013a), International Migration and Agglomeration Economies. SEARCH WP 3.3. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP_3_3.pdf
- Michael Beenstock, Daniel Felsenstein (2013), Modelling ENP-EU Migration in a Spatial Gravity Framework. SEARCH WP 3.4. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP_3_4.pdf
- Vicente Royuela (2013b), International Migrations as Determinant of the Urbanisation Rate. SEARCH WP 3.5 http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP_3_5.pdf

- Mikhail Denisenko, Olga Choudinovskikh (2013), Migration within CIS countries. SEARCH WP 3.6 http://www.ub.edu/searchproject/wp-content/uploads/2013/02/WP_3_6.pdf
- Mikhail Denisenko, Yelena Varshavskaya (2013), Migrants at the Russian Labour Market: Characteristics, Status, Mobility. SEARCH WP 3.21. http://www.ub.edu/searchproject/wp-content/uploads/2013/07/WP_3_21.pdf

Task 3.2 Analysis of differences in returns to human capital, skill mismatches and migration in EU regions

- Raúl Ramos, Alessia Matano, Sandra Nieto (2013), Immigrant-Native Wage Gaps and the Returns to Human Capital. SEARCH WP 3.7. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP_3_7.pdf
- Sandra Nieto, Alessia Matano, Raúl Ramos (2013), Skill mismatches in the EU: Immigrants vs. Natives. SEARCH WP 3.8. http://www.ub.edu/searchproject/wp- content/uploads/2013/01/WP_3_8.pdf
- Elisabet Motellón, Enrique Lopez-Bazo (2013), Crisis, immigration and job loss. SEARCH WP 3.9 http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP_3_9.pdf

Task 3.3 Analysis of the determinants of remittances and human capital formation in neighbouring countries

- Alessia Matano, Raúl Ramos (2013), Remittances and Educational Outcomes: Evidence for Moldova. SEARCH WP 3.10. http://www.ub.edu/searchproject/wp-content/uploads/2013/05/SEARCH-WP-3.10.pdf
- Raúl Ramos, Alessia Matano (2013), Remittances, education and return migration. Evidence for immigrants in Spain. SEARCH WP 3.11. http://www.ub.edu/searchproject/wp-content/uploads/2013/05/WP_3.11.pdf
- Aomar Ibourk, Amine Chamkhi (2013), Microeconometric analysis of determinants of return migration of North African Immigrants. SEARCH WP 3.20. http://www.ub.edu/searchproject/wp-content/uploads/2013/07/WP_3.20.pdf

Task 3.4 Analysis of the role that high-skilled labour mobility can have as a source of knowledge diffusion and therefore as a source of economic growth. Prospects for the case of the neighbouring countries

- Ernest Miguélez, Rosina Moreno (2013a), Skilled labour mobility: Tracing its spatial distribution. SEARCH WP 3.12. http://www.ub.edu/searchproject/wp-content/uploads/2013/05/WP_3.12.pdf
- Ernest Miguélez, Rosina Moreno (2013b), Research networks and inventors' mobility as drivers of innovation: Evidence from Europe. SEARCH WP 3.13. http://www.ub.edu/searchproject/wp-content/uploads/2013/05/WP_3.13.pdf
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- Ernest Miguélez, Rosina Moreno (2013d), Are geographical movements of inventors and the formation of research networks a phenomenon bounded in the space? SEARCH WP 3.15. http://www.ub.edu/searchproject/wp-content/uploads/2013/05/WP_3.15.pdf
- Ernest Miguélez, Rosina Moreno (2013e), The determinants of inventors' interregional mobility between EU regions. SEARCH WP 3.16. http://www.ub.edu/searchproject/wp-content/uploads/2013/05/WP_3.16.pdf
- Alexander Chepurenko (2013), Academic brain drain and its implications for scientific manpower reproduction in Russia. SEARCH WP 3.17: http://www.ub.edu/searchproject/wp-content/uploads/2013/05/WP_3.17.pdf

Task 3.5 Analysis of social capital, tourism flows and migration

- Olga Demidova, Tiiu Paas (2013), A comparative analysis of people's attitudes towards immigrants in Estonia and Russia. SEARCH WP 3.18: "http://www.ub.edu/searchproject/wp-content/uploads/2013/07/WP_3.18.pdf
- Eve Parts (2013), Social capital, national values and attitudes towards immigrants: Empirical evidence from the European Union and Neighbouring Countries. SEARCH WP 3.19. http://www.ub.edu/searchproject/wp-content/uploads/2013/07/WP_3.19.pdf
- Adriana Di Liberto (2013), Length of the stay in the host country and educational achievement of immigrant students: the Italian case. WP SEARCH WP 3.22. http://www.ub.edu/searchproject/wp-content/uploads/2013/07/WP_3_22.pdf
- Michael Beenstock, Daniel Felsenstein and Ziv Rubin (2013b), International Immigration and Tourism to ENP Countries: Some Evidence from Israel. SEARCH WP 3.23. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/wp_3_23.pdf

Work Package 4: Technological Activities and Innovation Diffusion in the EU and Interactions with the Neighbouring Regions

Task 4.1 Measures of innovative performance and common patterns of innovative activities in EU and NCs.

- Stefano Usai, Barbara Dettori, Elisa Gagliardini (2013a), The technological activity of neighbouring countries: a preliminary overview. SEARCH WP 4.0. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/WP4.0.pdf

Task 4.2: Analysis of the determinants of innovative activities at regional level and on the impacts on the NCs

- Emanuela Marrocu, Raffaele Paci, Stefano Usai (2013), Knowledge production function and proximities. Evidence from spatial regression models for the European regions. SEARCH WP 4.1 http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.1.pdf.
- Marta Foddi, Stefano Usai (2013), Technological catching up among European regions. Lessons from Data Envelopment Analysis. SEARCH WP 4.2. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.2.pdf
- Stefano Usai, Barbara Dettori, Elisa Gagliardini (2013b), A country-level knowledge production analysis with parametric and non parametric methods. SEARCH WP 4.3. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.3.pdf
- Victoria Golikova, Ksenia Gonchar, Boris Kuznetsov (2013), The effect of internationalization on innovation in the manufacturing sector. SEARCH WP 4.4. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.4.pdf
- Panagiotis Liargovas (2013b), Do Business Incubators and Technoparks affect regional development? A comparative study in the EU27 and the NC16 countries. SEARCH WP 4.5. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.5.pdf
- Benjamin Montmartin (2013), Business-funded R&D intensity: impact and complementarity of public financial support. SEARCH WP 4.6. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.6.pdf

Task 4.3: Descriptive analysis of knowledge diffusion and research network

- Rosina Moreno, Corinne Autant-Bernard, Sylvie Chalaye, Fabio Manca, Jordi Suriñach (2013). Design and construction of a set of indicators for innovation production and adoption in EU countries. SEARCH WP 4.7. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.7.pdf
- Rosina Moreno, Jordi Suriñach (2013a), Characterisation of innovation adoption in Europe. SEARCH WP 4.8. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.8.pdf
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- Barbara Dettori, Elisa Gagliardini, Stefano Usai (2013), Knowledge networks and internationalization of innovative activity across European and Neighboring countries. SEARCH WP 4.10. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.10.pdf
- Slavomir Ondos, Edward Bergman (2013a), European Integration as Policy Metaphor for future EU-EN Knowledge Sharing. SEARCH WP 4.11. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.11.pdf
- Tamás Sebestyén, Attila Varga (2013), Interregional Knowledge Network Quality and Research Performance: Do Objective 1 and EU 12 Border Regions Follow Different Patterns than the Rest of Europe? SEARCH WP 4.12. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.12.pdf
- Corinne Autant-Bernard, Sylvie Chalaye (2013), Knowledge diffusion between European Neighboring Countries and the European Union. SEARCH WP 4.13. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.13.pdf

- Anna Pikalova, Alexander Mazurin (2013), Analysis of knowledge diffusion and EU-Neighbouring Countries research networks based on the outcomes of interviews with INCO projects' consortium members. SEARCH WP 4.14. http://www.ub.edu/searchproject/wp-content/uploads/2013/02/WP-4.14.pdf
- Chiara Di Guardo, Raffaele Paci (2013a), Firms' alliances in the European Neighboring Countries. SEARCH WP 4.15. http://www.ub.edu/searchproject/wp-content/uploads/2013/01/WP-4.15.pdf
- Enrique López-Bazo, Elisabeth Motellón, (2013), Firm exports, innovation, … and regions. Lessons from Spain. SEARCH WP 4.19. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/WP4.19.pdf

Task 4.4: The effects of Internal Market and Intangible Assets on innovation diffusion

- Fabio Manca, Rosina Moreno, Jordi Suriñach (2013), The role of the EU Internal Market on the adoption of innovation. SEARCH WP 4.16. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/WP4.16.pdf
- Rosina Moreno, Jordi Suriñach (2013b), Study of the impact of the IM and the diffusion of knowledge on productivity change and economic growth. SEARCH WP 4.17. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/WP4.17.pdf
- Ernest Miguélez and Rosina Moreno (2013f), Do labour mobility and technological collaborations foster geographical knowledge diffusion? The case of European regions. SEARCH WP 4.18. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/WP4.18.pdf

Task 4.5: The effects of firms networks in the process of cross-border technological diffusion

- Slavomir Ondos, Edward Bergman (2013b). Emerging Knowledge Networks: EU-ENC Patent Citation Links SEARCH WP 4.20. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/WP4.20.pdf
- Stefano Usai, Emanuela Marrocu, Raffaele Paci (2013). Networks, proximities and inter-firm knowledge exchanges SEARCH WP 4.21. http://www.ub.edu/searchproject/wp-content/uploads/2013/09/WP4.21.pdf
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Task 4.6: The effects of research networks within the EU Framework Program

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