

## D6.5 SEARCH DELIVERABLE

### Final Policy Guide: Towards an Evidence-Based ENP

May 2014



**SEARCH**  
SHARING KNOWLEDGE ASSETS:  
INTERREGIONALLY COHESIVE  
NEIGHBORHOODS



EUROPEAN COMMISSION  
European Research Area



Funded under Socio-economic Sciences & Humanities

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## **Sharing Knowledge Assets: InterRegionally Cohesive Neighbourhoods**

### **Final Policy Guide: Towards an Evidence-Based ENP**

SEVENTH FRAMEWORK PROGRAMME  
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**[www.ub.edu/searchproject](http://www.ub.edu/searchproject)**

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## Preface

The *Final Policy Guide* of the **Sharing Knowledge Assets: InterRegionally Cohesive Neighbourhoods – SEARCH – Project** presents the main policy findings based on the research collected in the project. More than one hundred working papers, policy notes and policy briefs have been published based on the research carried out throughout the project duration.

The *Final Policy Guide* synthesises the policy findings reported in the working papers, policy notes and policy briefs produced by the workpackage leaders Ron Boschma, Dimitris Kallioras, Raul Ramos, Raffaele Paci, Simona Iammarino, and the researchers on the project.

This Policy Guide complements the Final Academic Report of the project, which summarises the main research results.

For more information please visit the project webpage ([www.ub.edu/searchproject](http://www.ub.edu/searchproject)).

## 1. Executive Summary

The stunning turn of events in early 2014 that transformed a relatively benign Association Agreement between the EU and the Ukraine has suddenly propelled the European Neighbourhood Policy (ENP) to the fore. This report draws from the SEARCH project's impressive list of original research papers a series of policy inferences and findings that may help policy analysts and officials reorient the ENP more to the satisfaction of EU countries and their neighbouring countries.

Starting from the assumption that improvements to the ENP should be factually-based on the best available data, the project developed an evidence-based approach to policy findings. The many research groups and scholars involved provided key information about policy possibilities that was taken on board in the preparation of this document, as outlined in Section 2.

The main body of the text (sections 3-6) examines the policy content drawn from working research papers concerning: 1. Trade and Foreign Direct Investment, 2. Mobility and Migration, 3. Innovation and Knowledge Flows, and 4. Social Capital and Institutions. From approximately 100 research papers, plus a series of *Policy Notes and Policy Briefs* prepared by research authors, the team responsible for this *Final Policy Report* extracted and evaluated 77 distinct policy findings. The 77 were reviewed internally and externally at the final Policy Conference in Istanbul.

Internal reviews revealed a subset of 39 that team members considered the most relevant, provocative or important for further testing by external experts from the ENCs who then scored how well each fit the regional circumstances, the relative benefits, and potential ease of implementation (section 7). In addition to the scoring of individual policy findings, we text-mined the language of all *Policy Briefs and Policy Notes* to detect potential complementarities between the major fields of inquiry, learning that Trade and FDI tended not to share complementary concepts with the other policy fields. Simulations of regional growth relied upon the relative insularity of Trade/FDI and the others to test alternative policy portfolios.

## 2. Project context and objectives

### 2.1 Project Overview

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 European Neighbourhood Countries (ENCs), while striving to bring peace, prosperity and stability to all. The partnership agreements have been difficult to negotiate in some cases due to internal opposition to expected Acquis reforms or because the value of integration diminished somewhat with the onset of the financial crisis. In extreme cases, some ENCs have withdrawn from partnership negotiations entirely, Ukraine most notably and tragically, but also Armenia, in the face of measures taken by Russia to ensure its own Neighbourhood Policy. This report attempts to document the principal factors affecting integration potentials by conducting rigorous evidence-based research of underlying factors and presenting policy inferences worthy of further consideration.

The main objective of the SEARCH Project is to strengthen integration between the European Union (EU) and the European Neighbourhood Policy 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 ENCs 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 ENCs 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- ENC 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 ENCs.
- To undertake a theoretical and empirical study of the patterns of economic interaction between the EU and ENCs 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 ENCs 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 ENCs 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:

<b>WP</b>		<b>Objectives</b>
<b>WP1</b>	<b>BACKGROUND. ENP: PAST, PRESENT AND FUTURE</b>	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 ENC.
<b>WP2</b>	<b>TRADE FLOWS AND LOCALISATION CHOICES</b>	To undertake a theoretical and empirical study of the patterns of economic interaction between the EU and the ENC, 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.
<b>WP3</b>	<b>PEOPLE MOBILITY AND HUMAN CAPITAL</b>	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 (ENC). Particular attention to be given to the role of intangible assets, including human capital, entrepreneurship and technology diffusion.
<b>WP4</b>	<b>TECHNOLOGICAL ACTIVITIES AND INNOVATION DIFFUSION IN THE EU AND INTERACTIONS WITH NEIGHBOURING REGIONS</b>	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.
<b>WP5</b>	<b>INSTITUTIONAL ENVIRONMENT</b>	To investigate the current status of the social, cultural and institutional environment in the ENC and regions; to identify the impact of current changes on prospects for improved economic development, social cohesion, and stronger integration with the EU area.
<b>WP6</b>	<b>POLICY ISSUES AND RESEARCH IMPLICATIONS: TOWARD AN INTEGRATED ERN POLICY POSTURE</b>	To identify and analyse policy recommendations with the objective of 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 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 ENC's, 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 ENC 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 ENC's 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 ENC 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. For further details about the research undertaken within the SEARCH Framework Programme Project, consult [www.ub.edu/searchproject](http://www.ub.edu/searchproject).

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

## 2.2 Evidence-based policy

The SEARCH project is explicitly focused on enlarging our understanding of what is possible to expand or improve within the framework of the European Neighbourhood Policy (ENP). It is therefore important to stress the sometimes unclear but essential relationships between the evidence and findings that result from well-organised scientific investigations and how to report their implications for maximum policy impact. Researchers are encouraged to select research methodologies and data sources from suitable “hierarchies of evidence” to permit the preparation of reliable evidence-based policies. A template is provided for the inclusion of “Policy Notes” in all study documents prepared by researchers whose project task findings may have implications for ENP.

The SEARCH Project has taken the documentation and reporting of policies drawn from relevant research seriously, as this was an important selection criterion and EC expectations have risen. The reporting guidelines apply to all research findings from the SEARCH project that could have policy relevance. While WP6 had the principle responsibility for preparing an overall Final Policy Report, this task depended wholly on the timely and accurate reporting of the policy research findings from WP2-WP5. Materials intended to guide the reporting, collecting and review of policy evidence were provided to researchers by WP6 at several stages of the project. Recent political developments in the European Neighbourhood Countries (ENCs) place even greater importance on reporting fully the policy implications of our investigations. The purpose of these guidelines was to provide reporting templates early enough in the project and simple enough to reduce the burden of collecting important policy-relevant details.

Some of these details are to be included and expanded upon in the Policy Briefs prepared by each workpackage team. The EC guidelines for Policy Briefs<sup>1</sup> had recently been revised, including many useful suggestions, further references and examples worthy of consideration. However, previous project experience demonstrated the importance of timely policy-relevant research

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<sup>1</sup> *Policy Briefs* are obligatory deliverables, which are to be prepared by WP2-5 and those major SEARCH working papers or reports designated by the coordinator. It is expected that each of the substantive WPs will select and prepare 4-5 *Policy Briefs*. The selection should be announced as early as feasible to the WP6 coordinator. Its template is so designed that information from *Policy Notes* may be directly embedded in the *Policy Brief* document, which means some of the reporting is already available. European Commission. 2010. *Communicating research for evidence-based policymaking*. [ftp://ftp.cordis.europa.eu/pub/ftp7/ssh/docs/guide-communicating-research\\_en.pdf](http://ftp.cordis.europa.eu/pub/ftp7/ssh/docs/guide-communicating-research_en.pdf)

details collected from quite numerous, distant and frequently diffuse team members to support the preparation of Policy Briefs. It was therefore important that Policy Note guidelines be applied by individual teams or members who prepare individual working papers, interim reports and other deliverables in which policy-relevant findings are documented. The guidelines in Appendix I resulted in a 2-3 page Policy Notes addendum that accompanied each SEARCH working paper, interim report or other deliverable at the date of submission.

### **2.3 Measures taken to stimulate policy-orientation in SEARCH**

Templates for the Policy Notes (PNs) were developed as part of WP6 activities and discussed at SEARCH project meetings to clarify what exactly is to be included and why. The PNs were to be submitted contemporaneously with the scientific working paper to ensure timely compliance and to keep the policy focus fully in mind during working paper preparation. Approximately half the PNs completed—drawn principally from the early reporting workpackages—were then evaluated by WP6 staff for completeness in reporting and scored on a spreadsheet that was returned to authors. The overall problems found during this interim evaluation were summarized and highlighted for presentation at the following SEARCH meeting to inform others of where special attention might be needed.

Policy Briefs (PBs) were similarly stressed, building upon EC guidelines and templates, but also including additional guidance suited to the specific orientation of the overall SEARCH project (Appendix I). Three early PBs were carefully evaluated for completeness and coverage of relevant requirements. These evaluations were distributed to all workpackage coordinators to guide their efforts in preparing and revising PBs.

For both Policy Notes and Policy Briefs, considerable effort was spent communicating with authors and coordinators to ensure that everyone understood the importance of extracting sound policy inferences from the basic research<sup>2</sup>. The policy staff also attended every scheduled SEARCH meeting, commented about policy inferences at presentations of SEARCH findings, and kept the entire project apprised of how such inferences would be assembled and distilled in intermediate and final policy documents.

Did this persistence pay off? The ultimate proof of effort will be the effective use of this Guide by policy-making staff, executives and elected officials in the future. A more modest but immediate view can be found by examining the language found in the research documents produced by the SEARCH project as compared with the most-cited published articles on the same general topics. Emerging methods of text-mining permit us to examine the frequency with which key “content” words (this requires omitting many repetitive document headings or parts of speech, e.g. prepositions, articles, etc.) appear in texts. We rely on standard text preparation procedures and Nvivo software to detect in SEARCH work package (WP) papers concerning trade and migration how frequently the term “policy/policies” was used<sup>3</sup>. This frequency can then be compared with the frequency of the same term in the same fields of published literature. We are reasonably certain this procedure is sound, as the first 5 words for each pair of migration

<sup>2</sup> SEARCH project members were extremely cooperative in supplying the necessary Policy Notes and Policy Briefs, which greatly aided the production of this *Guide*.

<sup>3</sup> Details of the procedure and tabular results are available in Appendix II “Text acquisition and analysis”

(WP2 and most cited) and trade (WP3 and most cited) word frequency files are virtually identical. The SEARCH orientation to Europe and its neighbours at national and regional levels is also clear as the WP papers show much higher frequencies for “European” than “American” than published literature, while the terms urban and regional also appear more frequently in WP papers.

Assuming our focus has increased SEARCH scholars’ attention to the need to address policy in the design and discussion in their papers, we should find a higher frequency of mention for “policy”, and we do. Policy as a specific term appears in the SEARCH working papers on migration at the 37th frequency rank, but at the 196th frequency rank in the most highly cited published articles. The difference in frequency rank for trade articles is much smaller (23rd vs. 26th ranks), perhaps due to policy being a very common objective of much trade research. Clearly, the research in this project appears to have taken its policy focus seriously.

### 3. Trade and FDI Policies



#### 3.1 Introduction

The recent EU enlargements of 2004, 2007 and 2013 moved the borders to a new set of countries in the East, which historically had less-intensive economic relations with the EU. These countries were part of the former Soviet Union and are characterised by lower development levels and significant institutional and structural differences. At the same time, in the Southern and the Eastern rim of the Mediterranean Sea, the EU borders countries that are linked to individual EU member states through their colonial past.

Both bordering areas, in the EU East and the EU South, have been gaining in significance in trade, as they include emerging economies, energy suppliers, and large domestic markets, all of which are important to the EU economy. In recognition of this, in 2004 the EU launched the European Neighbourhood Policy (ENP), to extend the benefits of the EU to neighbouring countries, thus increasing stability, security and well-being, and creating a “ring of friends” around the EU’s political borders.

Following suspension of the Doha Development Round of the World Trade Organization, the European Commission began to pursue Free Trade Agreements (FTAs) that reduced tariffs on trade and restrictions on investment for certain economies, as a means of protecting markets and enhancing competitiveness. The FTAs were an initial step along a longer path to Deep and Comprehensive Free Trade Agreements (DCFTAs) with neighbouring countries, going beyond tariff reductions to cover regulatory issues such as investment protection, public procurement and competition policy. DCFTAs were intended as the EU’s ultimate recognition and acknowledgement of democratic and economic reforms by ENC’s, including improved border security, prevention of illegal migration, reduced corruption and ensuring the rule of law. The ENP is based on a prevailing assumption that ENC’s are essentially willing and able to conduct ‘Acquis’-based reforms as the pre-condition for a DCFTA.

The SEARCH project involved multiple avenues of research, resulting in more than 20 working papers, policy notes and policy briefs covering a broad range of trade and FDI policies. We summarise here the most significant findings and policy recommendations from this extensive body of research around the following themes: a) Value of trade incentives to ENC, b) ENC growth and development potential from trade, and c) FDI and trade.

### **3.2 Value of trade incentives to ENC**

To understand the value of trade incentives, we first need to know how important trade between the EU and ENC is from the perspective of each group of countries. As things stand, with the exception of energy exports, ENC are relatively unimportant trading partners for the EU core countries, while the EU is among the leading trade partners for ENC. It is intended that this imbalance reduces over time, as various ENP agreements reach fruition and as EU trade grows. However, empirical evidence shows the growth of exports and imports between the EU27 and ENC remained flat throughout the four years before and the six years after the ENP was established. Growth of ENC trade rose in that period only with the nearby EU12, the five major emerging economies of Brazil, Russia, India, China and South Africa (BRICS), and somewhat more with the USA and the rest of world. Even though an EU15 country is the most important trading partner for ENC, based on research evidence (Petrakos et al., 2013; Kallioras and Pinna, 2013), ENC incentives to increase trade with the EU core appear relatively ineffective, thereby slowing or even potentially halting the willing uptake of ‘Acquis’-based reforms by ENC.

It is possible that the lag in growth of trade with the EU27 may be due to the fact the ENC countries need to satisfy the EU’s conditions before an agreement is reached, combined with delayed, back-loaded benefits of EU trade concessions. The absence of trade growth with the EU27 perhaps reflects an unfortunate fact: ENC may well conclude that trading elsewhere without conditions is preferable to trading with the EU. At the very least, the EU should consider how best to more finely calibrate its conditions and trade concessions to meet the highly specific domestic and trade circumstances faced by bi-lateral partners. Recent events in Armenia and Ukraine reinforce the importance of such considerations.

There are, however, further relevant findings. Since growth of trade with BRICS and the EU12 was positive during this period, we know ENC have begun to fulfil their trade growth potential. Digging somewhat deeper into the trade geography, we can examine the best export market for ENC in 1995 and 2010. The EU was the top market for eight of 16 ENC in 1995, which then dropped to four ENC by 2010. At the same time, Russia rose from the best export market for only one ENC, to the best market for four ENC. The same trend applies to imports, with imports from EU countries falling even faster (Pinna et al., 2013).

All other things being equal, cross-border and regional trade is more likely to involve partners of similar levels of development, allowing for a more balanced and symmetrical interaction. It has been suggested that asymmetry in the geographic direction of trade may pose a barrier to growth for transition economies; with the evidence indicating ENC are best able to use their limited comparative advantages when trading with less advanced or less-sophisticated partners. EU trade policies, incentives and supporting programs should focus ENC trade access and opportunities towards the short term for recent EU accession countries rather than with the core EU15, to maximise the potential of trade as an incentive for reform, which is a cornerstone of the existing

ENP approach. As ENC trade diversifies over time in terms of product mix and quality, ample opportunities for expanded EU15 trade will arise, which might be less likely to arise when trading with Russia or other BRICS partners (Pinna, 2013).

**[Policy inference 1.1: When setting conditions and trade concessions for its least able ENC trade partners, the EU should consider their specific domestic and trade circumstances.]\*<sup>4</sup>**

### 3.3 ENC growth and development potential from trade

#### 3.3.1 Growth potential from trade

Exports and imports to/from the EU are shown by the SEARCH project's findings to contribute to growth of gross domestic product (GDP) in ENCs, thereby highlighting the genuine *value* of trade as a carrot to stimulate ENC reforms. These results are, however, strictly conditional: the analysis further reveals that trade expansion with the EU contributes to ENC growth when this trade is *mainly* with the EU's middle- and low-income members, specifically the Southern and the Central-Eastern members. On the other hand, when trade as a share of GDP with high income EU member states increases, the impact of trade on ENC growth of GDP turns negative (Anagnostou et al., 2013).

**[Policy inference 1.2: EU trade policies should focus ENC trade on recent EU accession countries rather than on the core EU15 countries.]\***

A different but complementary analysis using gravity equations finds distance to be inversely related to trade flows, which is further evidence of the fact that ENCs trade more with their nearest than their more distant core EU neighbours (Kallioras and Petrakos, 2013). These results also mirror the finding above that ENC's trade grew with the EU accession countries but not the EU core countries during the last decade. However, it is important to repeat the essential point that trade with low-medium income, nearby and EU accession countries helps contribute to growth of GDP, rather than to its decline. The EU should openly promote the value of ENC trade with its newest members as an ENC growth stimulant and support such trade with a well-calibrated portfolio of supplementary European Neighbourhood and Partnership Instrument (ENPI) measures designed to accelerate growth in both trading regions.

**[Policy inference 1.3: The EU should support ENC trade with the newest EU members with carefully designed ENPI measures that promote growth in both trading regions.]\***

#### 3.3.2 Development diversification potential from trade

Export diversification is variously defined a change in the composition of a country's existing export product mix or export destination, or as the spread of production over many sectors. There are well known risks in concentrating exports in a few primary commodities: such concentration exposes a country to the negative effects of fluctuations in world demand and to the negative supply-side features of these primary products. In terms of exports, in 2010 the vast majority of

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<sup>4</sup> The Policy Inferences marked with an asterisk (\*) have been tested in survey questions posed to regional policy experts in the ENCs for their benefit, fit and ease of implementation in the respective countries and regions.

the ENC's had higher levels of concentration either in the EU market or the BRICS market, compared to the world market. The same applies to imports, although imports are more diversified than exports in all markets under consideration.

The risk that ENC economies and exports would be locked-in to their present export specialisations might arise as a consequence of two distinct types of trade: trading non-fossil fuel commodities with similar partners (similar partner specialisations reduce opportunities for diversification), and trade with European partners (well-advanced specialisations inapplicable to diversification) by ENC carbon exporters. Either way, an ENC economy will have difficulty restructuring its production system, expanding its comparative advantages and diversifying its export mix.

Recent developments in the international trade literature show the current production structure of a country is affected by its past production structure, through a path-dependent process governed by the *relatedness* of products. Relatedness matters because jumping into new products is far from easy and straightforward, and *relatedness* requires the further application of specific capabilities. Capabilities are not easily transferred across countries: if a country lacks the capabilities needed to produce a new good, it can be very difficult to start producing it. We see the path-dependent process of product diversification as driven not only by each country's past production structure, but also by its trade relationships with other countries. Jumping into new products because of these relationships might (or not) be feasible, depending on the strength of economic incentives or of learning opportunities (which will be fewer with similar trading partners).

Some capabilities are important only for specific products or groups of products (e.g. specific technological knowledge, such as fuel extraction). There are also general-purpose capabilities that are relevant and adaptable to all products. ENC's are more typically characterised by weaker general-purpose capabilities and need to rely much more on the existing links between products requiring related specific capabilities in order to jump into new, diversified industries. Specific-purpose technologies make it very difficult for ENC's to launch new industries that require capabilities they do not presently possess.

In the case of ENC's, we find product relatedness has a strong effect, both in keeping a comparative advantage in old products and in diversifying into new products. Policy aimed at improving and speeding up the diversification process in the short term should focus on favouring the development of closely-related sectors that benefit from present capabilities. Directly favouring the creation of unrelated industries might result in severe failures, since the lack of necessary supporting infrastructure and institutions may doom these initiatives. However, together with these interventions focused on closely related industries, policy makers should consider increasing existing technical assistance and diversifying investment with the aim of promoting long-term improvements in the quality of supporting institutions in ENC's. Creating a favourable environment where firms can emerge and grow more easily, and where returns from innovation can be appropriated by local companies and new innovators, might provide stronger incentives and opportunities for diversification even in very remotely related products, and therefore boost future growth.(Boschma and Capone, 2013).



**[Policy inference 1.4:** Policy aimed at improving and speeding up the industrial diversification process in the short term should focus on favouring ENC sectors most similar to ENC exports.]\*

**[Policy inference 1.5:** EU policy-makers should consider increasing technical assistance and investments to ENCs for long-term improvements in the quality of institutions that support firm emergence and firm growth.]\*

Imports provide powerful incentives for both the EU and ENCs to maintain production in old sectors where they already enjoy comparative advantage, but learning effects from imports appear to arise only in EU countries. The availability of a wide variety of inputs, or of higher quality products in the ENCs, does not stimulate the diversification they need, perhaps because of the lack of suitable institutions and capabilities, and also because of a lack of demand. Therefore, policy aimed at improving institutions might also be very useful in this respect. However, more specific policies might be designed to promote trade flow parity as a whole in ENCs: sectors that are open to international imports should also be opened very soon to opportunities for exports, to support diversification and growth in ENCs.

**[Policy inference 1.6:** Specific EU policies should be designed to promote trade flow balance as a whole in ENCs by reducing trade restrictions in all EU and ENCs.]\*

### 3.4 FDI

#### 3.4.1 FDI potential

Firms may perform international operations including export and import trade, foreign direct investments, international outsourcing, in which international market activities lie at the core of their competitiveness. It is clearly recognised in the literature that the firm's perspective is the most relevant basis on which to formulate policies to better support national export capability, and therefore growth. EU firms may engage in trade, or not, and engage in other international transactions such as foreign direct investments, contracts and arm's length agreements that allow firms to reduce their production costs, to improve their technologies (reducing the gap with leading firms) and to increase their sales. Firms usually internationalise their production activity in three different ways: a) importing inputs and components for use in domestic production; b) the international outsourcing of goods and services (IO), by creating arm's length agreements with companies in foreign markets; or c) increasing productivity through foreign direct investment (FDI).

Drawing on data relating to about 15,000 firms in six long-term member states (Austria, France, Germany, Italy, Spain, and UK) and from a newer member state (Hungary), we find about 70% of these firms are exporters, but less than 6% have the ENCs as the main export destination (first, second or third export partner) and just 2% consider an ENC as its first export target market. While the vast majority of firms export abroad, far fewer firms decide to combine this with internationalisation of production. There appear to be no significant differences between exporters in general and firms which choose to export mainly to the ENCs. Nor does FDI as a percent of turnover – about 27% - differ between firms that export primarily to ENCs and firms exporting elsewhere. The old core of Europe still remains the main location where European firms prefer to carry out foreign production activities (Pinna, 2013). However, this finding is in

fact quite encouraging: ENC already receive levels of FDI entirely comparable with EU FDI, even though ENCs presently lack many of the protections and supports that are offered by EU countries and sought by their firms. Expanding FDI clearly depends upon ENCs pursuing the very ‘Acquis’-based reforms some have resisted, to stimulate trade; the added FDI incentives may then improve the willingness to comply with ‘Acquis’-based reforms. Based on these findings, the EU is advised to continue active promotion of reforms in ENC negotiations with the full expectation that *expanded* FDI, trade and other forms of internationalisation by EU firms is likely to follow.

**[Policy inference 1.7:** The EU is advised to continue promoting ENC reforms with the full expectation that FDI and internationalisation by EU firms will follow.]\*

### 3.4.2 The potential of ‘Acquis’-based reform

A related study examined empirically the relationship between the quality of economic governance in recipient countries and the location of FDI by Multinational Enterprises (MNEs) from EU-15 countries in a wide set of destination countries, including EU new member states, accession and candidate countries, ENCs, and the Russian Federation. Particular attention was devoted to studying the role of the quality of recipient countries’ economic governance framework in driving MNEs’ inward investment decisions.

Economic institutions and governance are drivers of MNEs’ location choices, but not all aspects of a host country’s environment matter to the same degree. Government expenditure, property rights and the legal system positively influence investment decisions, while monetary policy and market regulations do not seem to be relevant drivers. In negotiations with ENCs, the EU is therefore advised initially to stress the need for effective reforms relating to government expenditure, property rights and the legal system, as those most important to FDI, while temporising on changes to monetary policy and market regulation.

**[Policy inference 1.8:** Reforms to government expenditure, property rights, and the legal system should be a priority for EU policies to promote Foreign Direct Investment in European Neighbouring Countries.]\*

It was also noted that MNEs do not all attach the same relevance to the quality of economic institutions and governance: about one-third of MNEs from EU-15 invested in destinations where these are weaker, while two-thirds of investment goes where institutions are of higher quality. MNEs investing in countries with poor institutional practices may appear to be counterintuitive, but there could be situations in which companies believe they can capture advantage from these weaknesses. Such institutional subversion is a particularly well-documented phenomenon in the case of transition economies, where political and economic elites maintain advantage over the rest of the population. It is then possible that some MNEs are drawn towards locations where they can establish influential connections with these elites, which in turn allow them to take advantage of poor governance by obtaining low rents or circumventing market rules.

Even so, it must be born in mind that most MNEs prefer locations where economic institutions are strong. Furthermore, foreign investment attracted by institutional weakness is far more likely to benefit local elites than the economy as a whole. Therefore, in terms of policy implications,

focused and continuing efforts should be made to establish and reinforce strong governance and institutions in ENC. This is not only relevant to attracting global capital but it is also fundamental to stimulate domestic economies. Indeed, improving economic institutions is very likely to be seen as a positive signal by foreign investors overall (Ascani et al., 2013).

**[Policy inference 1.9: Focused and continuing efforts should be made to establish and reinforce strong institutional settings of European neighbouring countries.]\***

### 3.4.3 The potential benefits of FDI from EU investors

The benefits of FDI are sometimes taken for granted. However, there is often little reliable empirical evidence to support the common claim of economic gains from capital investments in the ENC and other transition countries. Nor is there evidence of the size of the (presumed positive) spillovers of European FDI vis-à-vis foreign investments originating from other parts of the world. Thus, it is not known whether the preferential relations offered by EU's European Neighbourhood Policy and related bilateral agreements, and the intensification of economic interactions – including capital flows – that these facilitate, are in fact beneficial for the countries of the region.

The relevant literature has shown that at the national level these spillovers are by and large positive, raising the productivity of domestic firms (albeit often conditional on a range of factors, such as firm sizes, domestic technology and institutions, etc.) and thus of the economy as a whole. But studies for other parts of the world have shown these positive effects often favour the most advanced regions. As a result, FDI can often contribute to a widening of regional disparities in recipient countries. In the ENP context, where spatial asymmetries are often acute and geographical disparities already large, this effect may be particularly difficult to redress.

From the EU side, the ENP provides an institutional framework of association (including preferential trade agreements) which, arguably, gives EU firms a relative advantage, at least in the sense of reducing entry costs and uncertainties such as information asymmetries and legal barriers. If, as it is believed to have happened in the new EU member-states, the framework of association promotes less speculative and more long-term strategic investments, then investments originating in the EU are likely to be more organically linked to the local economies of the host countries, thus, possibly, generating larger spillovers for domestic firms.

The evidence shows FDI originating in the EU 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. It thus seems that the process of association with these regions, which gives a preferential access to European firms in their markets, does not carry a 'hidden' or indirect penalty for ENC firms. Equally interesting, FDI spillovers have not reached their maximum value in the ENC region. In South Eastern Europe, where the involvement of the EU is magnified, such spillovers are very positive and strong, despite the fact that recipient countries in the region share similar initial problems of institutional quality and absorptive capacity with many of the ENP countries. This suggests that further intensification of economic links and capital flows are likely to be increasingly beneficial.

Together with findings of section 1.4.1 above, the overall potential gains to ENC's of EU association are substantially larger than experienced thus far, which may lead ENC's to conclude that benefits to date were not worth the pain of attempting reforms. Future productivity benefits and growth potential from EU-based FDI should be stressed in promotional materials and discussions between EU and ENC negotiators.

#### **3.4.4 Spatial development potential of FDI seen broadly**

The economic growth of ENC's tends to be driven by the performance of a limited number of local economies within nation-states, particularly those most engaged in international trade. These are most frequently urban areas where economic growth concentrates. Indeed, most industrial production, skilled labour and higher paid jobs tend to agglomerate in cities, where geographical proximity promotes ease of communication and creates an environment which favours frequent interactions and the flow of ideas. In turn, this agglomeration limits the diffusion of knowledge beyond the boundaries of economic concentrations.

Accordingly, economic development is ultimately spurred at the local level where knowledge spillover is generated. As a matter of fact, while codified knowledge becomes largely available and accessible as a result of improvements in communication technologies, the tacit knowledge necessary to apply this codified knowledge to new development remains localised, requiring spatial proximity to be transmitted, absorbed and successfully applied.

**[Policy inference 1.10: Research findings that demonstrate strong prospects for future growth from EU-based FDI should be included in relevant materials and discussions between EU and ENC negotiators.]\***

Although the productivity spillovers discussed in 1.4.3 above, are not particularly localised, they tend to be significantly stronger and more positive for firms located in the capital city regions of the recipient countries. As FDI tends to concentrate in these regions anyway, it follows that it acts to amplify regional disparities within countries. European FDI appears to have the strongest contribution to this adverse geographical effect. This risk of such disparities gives EU policy – and ENP in particular – an increased responsibility to implement and support action to reduce spatial disparities and asymmetries in the countries of the EU neighbourhood (Monastriotis and Borrell, 2013).

#### **3.4.5 Spatial development potentials of FDI: the case of Ukraine**

Based on empirical data collected in our SEARCH enterprise survey of 153 foreign firms in three district regions of the Ukraine in 2012, further insights about regional effects of FDI are presented. The data contains information on location choice of MNCs, assessment of institutional quality, and embeddedness within the regional economy. Investors in search of markets are most likely to invest in the *capital region* Kyiv, rather than in the bordering regions Lviv and Kharkiv, due to Kyiv's large market potential, better access to resources, and the higher quality of institutions in the capital. The border region Lviv, enjoys the advantage of being close to the EU border, and with its concentrations of human capital, pulls in labour-seeking FDI. The Kharkiv region, bordering the Commonwealth of Independent States (CIS), retains its old industrial infrastructure as a remnant of Ukraine's planned economy. It continues to attract foreign

investments from CIS firms to serve the local market through historically well-established customer-supplier networks. The overall better institutional quality of the capital region attracts vital FDI firms that place great importance on the institutional environment, emphasising the impact that poor hinterland can have in promoting highly uneven regional development.

**[Policy inference 1.11:** The risk of increasing regional disparities gives an important role to the ENP to support actions that will reduce spatial disparities and asymmetries in the countries of the EU neighbourhood.]\*

Policy lessons from the example of Ukraine could apply to other ENC's that share similar regional structures and levels of economic and institutional development. In all these cases, there are strong reasons to properly balance the Acquis compliance with a calibrated programme of ENPI assistance, as proposed earlier in this chapter. More specifically, programmes to improve specific strategic assets of the key regions and regional governments, such as human capital, concentrated pools of highly skilled labour, and building technology-oriented infrastructures, deserve special attention. Targeted development of local infrastructure is also advised. This implies support of local SMEs, building of customer-supplier networks, and promoting the development of specialised clusters of companies and industries by national and regional governments, as well as public institutional centres. Finally, there is a need to introduce and actively promote improvements in overall quality of regional institutions. The policy guidance here can be summed up as follows: ENPI and related programmes should not be promoted broadly, but must take account of the specific assets of key regions (at national and sub-national levels), the quality of local infrastructures, capabilities, and the quality of regional institutions.

**[Policy inference 1.12:** ENPI and related program supports should not be promoted broadly, but must take account of the specific assets of key regions (at national as well as sub-national levels), the quality of local infrastructures, capabilities, and the quality of regional institutions.]\*



#### 4. Mobility and Migration Policies



##### 4.1 Introduction

A central focus of the ENP is the free movement of people (COM 774, 2007 in Wesselink and Boschma, 2013). At the time of the first ENP negotiations, officials travelling to Brussels from EU neighbouring countries encountered problems in acquiring temporary visas, and partner countries mentioned difficult visa procedures as a disincentive to further integration (COM 726 final, 2006 in Wesselink and Boschma, 2013). Visa negotiations were initiated as a starting point for wider negotiations with the majority of ENP countries in order to make the ENP a more attractive policy for partner countries (Wesselink and Boschma, 2013). The majority of southern ENCs had special visa regulations in existence, and these were then expanded to Ukraine and Moldova, and later considered for Georgia, Armenia and Azerbaijan. However, temporary visas are a relatively small step in the vast array of supports needed to promote mobility of workers between the EU and ENCs. In common with the coupling of trade incentives to political reforms (democracy and human rights), the ENP has used political reforms in ENCs as a condition for changes in EU migration laws. Efforts such as the governance facility (European Commission, 2008a), the Neighbourhood Investment Facility (NIF), and the InterRegional Programme (IRP) have been set up to support reform projects in countries under the ENP remit. The scholarship programme Erasmus Mundus, specifically targeting ENP countries, was set up to continue the success of previous scholarship programmes in fostering cooperation at the university level (COM 774, 2007 in Wesselink and Boschma, 2013).

The evidence collected in the SEARCH project points the way to policies that will complement and strengthen current ENP initiatives on migration and worker mobility, and make them more effective in meeting ENP goals. The following sections summarise these policy findings organised around the themes (1) Benefits of mobility of highly-skilled workers, inventors and research networks, (2) Potentials of wage regulation and measures to protect migrants in the EU, and (3) Benefits of addressing remittance policies.

#### 4.2 Benefits of mobility of highly-skilled workers, inventors and research networks

The policy implications of this research are based on evidence of (1) patterns of labour mobility of highly skilled individuals, (2) the impact of the mobility of highly skilled individuals on economic growth, and (3) the push factors of highly skilled labour flows.

Our results suggest that mobility seems desirable at the aggregate level, although at the inventor level it is a zero-sum game for firms (Moreno, 2013). The policy inference derived from these results is that policies should be directed at promoting inter-regional and international competition for highly-skilled labour, and reducing institutional barriers to highly skilled labour flows. These barriers are higher between ENP countries and EU countries, than within-EU countries, and so there is scope for reducing barriers between EU countries and ENCs (Moreno, 2013).

**[Policy inference 2.1:** Policies should be directed at promoting inter-regional and international competition for highly-skilled labour, and at reducing institutional barriers to highly-skilled labour flows especially between the EU and ENCs.]\*

Labour mobility and research networks have been found to be a crucial factor in the creation of knowledge, and their unequal distribution over geographical spaces explains regional differences in innovation performance and economic development (Moreno, 2013). So, policies directed at encouraging the mobility of highly skilled workers (such as the EC Marie Curie Programme or Framework Programme R&D projects) may have a very important role in fostering innovation in less-innovative regions, and in supporting their economic growth (Moreno, 2013).

The findings of this research contradict what was expected by the researchers. It was not expected that geographical distance would have such a large negative effect on the mobility of highly skilled workers (Moreno, 2013). As a working hypothesis, highly skilled workers might not want to relocate to distances far away from their current colleagues (Moreno, 2013). Moreover, this research has shown that progression towards the European Research Area is hindered by fragmentation of the institutional framework between countries, which impedes international labour mobility (Moreno, 2013). Therefore, policies should be directed at increasing the transparency of recruitment procedures, at improving the portability of social security provision internationally, and at reducing differences in taxation (Moreno, 2013). A possible coupling of such requirements with bilateral ENP instruments – action plans – needs to be used to support such a strategy.

**[Policy inference 2.2:** Policies should support the participation of highly skilled workers in both EU and European Neighbourhood Country research networks.]\*

The findings of this research suggest that research collaborations as currently supported by formal EU programmes stimulate the acquisition of direct knowledge through such collaboration, which also tend to reduce frictions that may restrict labour mobility across Europe (Moreno, 2013). Such benefits of research funding policies could be extended to the ENP area through their inclusion in the building of international research networks.

**[Policy inference 2.3:** Policies aimed at supporting high-skilled worker mobility from ENC's should focus on three measures: (1) making recruitment procedures more transparent, (2) improving the portability of social security provision internationally, and (3) reducing differences in international taxation.]\*

Nieto et al. (2013) find that immigrants are more likely to be over-educated than natives, with this probability being higher for immigrants from non-EU countries. Nonetheless, through years of residence in host countries, the probability of being over-educated slightly decreases for both kinds of immigrants, but the size of the reduction is greater for immigrants from non-EU countries. This means that although immigrants from countries outside EU have a higher probability to be over-educated, their process of assimilation is faster than for immigrants from EU countries. It is worth noting that these differences are not related to horizontal mismatch (differences between their field of the study and their job).

Thus, immigrants experience a higher over-education disadvantage than natives due to the imperfect transferability of the human capital acquired in their countries of origin. However, immigrants accumulate knowledge and experience in the host country and adapt to the local labour market, thus facilitating an assimilation process that reduces the intensity of over-education. The pace of assimilation however is notably slow for immigrants. Therefore there is a certain risk that immigrants from outside the European Union remain permanently trapped in poorly-matched jobs, regardless of their levels of education. Taking into account the wage consequences of over education, this last result implies that the wage gap between natives and immigrants will not disappear after several years of residence in the host country. Policy actions should focus on three different aspects: first, incorporating in the migration policy formal criteria related to education levels and to the match with the current needs in the labour market (i.e., like the Australian points system); second, trying to design a system of assessment and recognition of foreign qualifications in order to give an appropriate signal to the labour market and, third, providing publicly-provided informal training to recent immigrants with appropriate skills to improve the transferability of their skills to the new labour market.

**[Policy inference 2.4:** A program should be developed to assess professional qualifications of ENC migrants, and to provide informal training to immigrants to improve skills transferability to the new labour market.]\*

Miguelez and Moreno (2013a) find that only a subset of countries, and a subset of regions in some of the Northern and Central European countries, are benefiting from the immigration of talented individuals and, as a consequence, these regions are those *potentially* benefiting from knowledge flows and human capital spatial externalities. All in all, from this first analysis it is important to bear in mind that (1), even when controlling for innovation potential and patenting bias, skilled individuals are particularly attracted to a few countries and regions, whilst this phenomenon is very poor or non-existent in other countries; (2), large cities and capital cities register high inward migration rates, most of the time, even in countries that do not have a high level of inward migration—supporting the importance of urban agglomerations as pull factor in attracting migrants; and (3), in some cases, the regions surrounding 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.



The research also confirmed the importance of being located nearby those leading regions and cities in terms of inventors' stocks and inflows, indicating co-location and geography count in attracting talent. When trying to elucidate why these movements are concentrated in space, we uncovered three reasons. First, attractive regions are located nearby because the attractive characteristics of a given region in terms of amenities, job opportunities, social networks, research facilities, multinational firms, contacts with academia, and the like, may well spill over its administrative boundaries. Second, some of these popular regions, especially urban ones, may suffer some kind of congestion effects, such as high land prices, traffic jams, or pollution, which would favour the location of the research agents outside the region, but nearby it at the same time in order to take advantage of the possible existence of agglomeration economies. Finally, we believe that certain European countries are more attractive due to their research prestige, their wage premiums, or their industrial traditions, which make all the regions of these countries attractive for inventors from abroad - a consideration that should be taken into account when defining the global EU research policy.

Since highly-skilled labour mobility tends to be very concentrated in space, few regions will benefit from the knowledge of these highly-skilled workers. Therefore, it is not clear that policies aiming at attracting talent will promote economic convergence. At least, this has not been the case for most European countries, so it is not expected to happen in European neighbouring countries. What policy makers in ENC countries should take into account is that regions hosting the capital city tend to attract more highly-skilled workers and this is where they should focus their efforts in policies designed to attract highly-skilled workers. In this way, the surrounding regions of capital regions will also be able to benefit from these policies.

**[Policy inference 2.5: The EU should consider supporting ENC countries in their efforts to attract high skilled workers to ENC capital cities.]**

Research collaborations between firms and across regions are pivotal for acquiring external knowledge and in creating new knowledge (Miguelez and Moreno, 2013a). The promotion of distant, weak ties embracing as many actors as possible is a plausible and beneficial policy option from a regional perspective. The promotion of cooperation is therefore advisable from a policy viewpoint, especially in linking inventors who are both geographically and economically distant. Consequently, promoting the creation of research networks between inventors in the EU and in the ENP countries is of value, especially bearing in mind that the geographical and the economic distance is greater with the ENP countries, and may boost innovation and, as a result, economic growth. Providing job opportunities and being connected to other regions through networks of collaborations helps, especially for peripheral, backward regions of Europe, as well as regions in ENP countries.

Policy recommendations regarding mobility within the local labour market are not so straightforward. Although mobility seems to be desirable at an aggregate level, and also at the inventor level, it could be understood as a zero-sum game for firms. One policy option is to promote the competition for talent at the interregional and, in particular, the international levels. What, in any case, seems clear is that at the very least, institutional barriers to mobility must be avoided. As these barriers tend to be higher between European Neighbourhood countries and countries in the EU than between EU countries, there is scope for removing barriers in order to spur innovation (Miguelez and Moreno, 2013a).

**[Policy inference 2.6: Institutional barriers to the mobility of high-skilled individuals between the European Neighbourhood Countries and EU countries should be reduced.]**

Migueluez and Moreno (2013b) state that the results of their research provide additional evidence of the role that socioeconomic conditions play in enhancing regional innovation rates. Thus, policies that aim to increase the polarisation and concentration of innovation activities in order to benefit from economies of scale may fail to achieve satisfactory results if the specific economic fabric of a region is not properly taken into consideration. In other words, we should factor in ways of diffusing knowledge, such as through collaboration in research networks, which make investments in R&D and human capital more profitable in economic terms. To sum up, if governments want to obtain the highest returns from each euro invested in R&D and in education, it is advisable from a policy perspective, to promote the participation of highly-skilled workers in networks of research.

Migueluez and Moreno (2013c) state that as labour mobility and research networks have been demonstrated to be a fundamental factor in the creation of knowledge, their unequal distribution could explain regional differences in innovation performance and economic development. In this sense, policies aimed at encouraging the mobility of highly skilled workers or enhancing participation in research networks (as promoted by the European Commission through Marie Curie programs or the Framework Program Projects), especially in less innovative regions, may play a critical role in the creation of knowledge, and subsequent economic growth. Clearly though, the effectiveness of such policies, as shown by the results of this research, crucially depends on each region's capacity to give returns to such labour mobility and on participation in research networks. In this respect, we have provided evidence that those regions that are more knowledge and innovation intensive obtain higher returns, since they are able to translate internal and external knowledge into specific new commercial applications more efficiently than less innovative regions. Therefore, the idea that R&D spending and knowledge production in general spillover to neighbouring regions is not so evident in the absence of a certain level of receptivity to external knowledge (Migueluez and Moreno, 2013c).

**[Policy inference 2.7: ENP policies aimed at encouraging the mobility of high-skilled workers need to take into consideration regional capacities to give returns to such mobility.]**

The SEARCH study perfectly fits the rationale of the Smart Specialisation strategy, recently launched by the European Commission. In order to work out how the Smart Specialisation concept could be applied to regional policy, the concepts of *embeddedness* of the local networks and the local labour force, as well as the idea of *connectedness* to global knowledge hotspots, (by means of learning-linkages in the form of cross-regional alliances and spatial mobility of human capital), are pivotal (Migueluez and Moreno, 2013c).

### 4.3 Potentials of wage regulation and measures to improve conditions for migrants in the EU

#### 4.3.1 Labour market instruments and migrants

Three main policy implications are drawn from this research. First, labour market instruments such as the minimum wage, redundancy costs and the generosity of unemployment benefits interact with one another, some substituting or complementing one another (Cigagna and Sulis, 2013). Second, there is interaction between labour market policies and migration policies, and third, international coordination of migration policies may help attract skilled migrants (Cigagna and Sulis, 2013). Labour market policies show important degrees of complementarity/substitutability among them (see Boer and van Ours, 2008). For example, employment protection legislation and unemployment benefits coverage have the same aim of protecting workers against risk, hence they are imperfect substitutes. However, while higher employment protection of employed persons reduces turnover in the labour market, that protection makes it more difficult for the unemployed to find positions. On the other hand, higher coverage of unemployment benefits can increase mobility. As long as migrants perceive such differences, this will have important implications for the way in which immigrants choose destination countries. In other words, national governments and EU authorities have to take such interactions into consideration when making policy adjustments.

**[Policy inference 2.8:** ENP measures should include clear and transparent information on labour market policies in EU countries, so that potential migrants from Neighbouring Countries are well-informed prior to choosing destination countries. ]

The second important policy implication is that labour market policies interact with migration policies. Hence the effect of possible reforms should carefully take into account such interactions. For example, the introduction of a minimum wage could have both a positive employment effect on native workers and a positive effect on migration flows. If migration policy is not properly calibrated or adequately coordinated, such a large inflow of immigrants could crowd native workers out of jobs, thus cancelling out the potentially positive benefit effects of a minimum wage (Cigagna and Sulis, 2013).

**[Policy inference 2.9:** ENP measures should include clear and transparent information on labour market institutions in EU countries, so that potential migrants from Neighbouring Countries are well-informed prior to choosing destination countries.]

Finally, countries should design and coordinate their migration policies in order to attract the most highly skilled migrants. In fact we obtain quite different results for migrants with low and high skills depending on the area of origin, both for the role of migration policies and employment protection legislation. The negative effect of migration policies on flows is much stronger for migrants from the East of Europe and the Middle East than on average have higher skills, while it is statistically significant but reduced in size for migrants from the North of Africa. Similarly, the potentially attractive role of employment protection is higher for the former group of migrants (Cigagna and Sulis, 2013).

**[Policy inference 2.10:** ENP migration policies need to take into consideration the different impacts they have on migrants from Eastern Europe, the Middle East, and North Africa.]

#### **4.3.2 *Economic crises and ENC-outmigration***

Motellon and Lopez-Bazo (2013) find that the impact of the financial crisis on the probability of losing their job was greater for immigrants from the ENC. The results also indicate that differences in the probability of losing their job for immigrants with respect to natives in terms of educational attainment, occupation and sector, were even greater than differences observed for non-ENC immigrants. In fact, almost the entire gap in the rate of job loss between natives and immigrants from ENC can be attributed to differences in observed characteristics, thus ruling out discrimination against ENC immigrants. In any case, one could argue that what might be behind the results is a phenomenon of job segregation between natives and immigrants, in which discrimination actually takes place through the real possibilities of occupying certain jobs.

Some implications can be derived from Spanish economy. First, the loss of employment for immigrants is an added cost to their own displaced status, especially for recent immigrants. Even for those who are entitled to receive the unemployment benefit, the difficulty of finding another job in a prolonged recession may lead to limited financial resources to meet basic needs. The higher chance of losing one's job and combined with low chance of finding another (as reflected in an unemployment rate for immigrants of around 35%) could force immigrants to return to their home countries. Even if they stay in the host country, a long period without employment erodes both real social integration and assimilation into the labour market (Motellon and Lopez-Bazo, 2013).

In turn, for the host country, and by extension to the whole EU, the presence of a large number of unemployed immigrants has obvious costs. Despite these risks, it is possible that a high percentage of unemployed immigrants decide to stay in the host countries because they have no better alternative in their countries of origin. Even without a job in the EU, they can continue enjoying higher levels of security, as well as of social protection (including unemployment benefits, and health and education services). In that case, at least temporarily, immigrants stop contributing to the system and, consequently, do not help to counteract the effects of an ageing population (Motellon and Lopez-Bazo, 2013).

The reduced ability to maintain employment among immigrants can be seen as a cost also for their countries of origin. First, in terms of the value of remittances, which in the case for countries of North Africa, (especially Morocco and Algeria) where remittances are an important source of external financing. Secondly, because they have to deal with the return of those who decide to come home, especially for the young, more skilled population (Motellon and Lopez-Bazo, 2013).

Finally, migration policies should take into account the effects of business cycle asymmetries on push and pull factors of migration. In particular, as high rates of job losses may discourage potential future immigrants, and thereby hinder the correction of macroeconomic imbalances in sending countries, it could increase the lack of opportunities for a significant portion of its population (Motellon and Lopez-Bazo, 2013).

**[Policy inference 2.11: ENP migration policies need to take into account the dynamic effects of business cycle asymmetries on push and pull factors of migration.]**

These circumstances must be considered when designing and assessing instruments of EU migration policy in the context of the ENP. Despite the obvious difficulties that would surround the implementation of an action of this type, the results suggest that, in the context of the ENP, resources should be allocated to improve the human capital of immigrants, and even of potential immigrants in their countries of origin. Among other effects, an increase in the educational attainment of immigrants would improve their employability and the pace of assimilation into the European labour market.

**[Policy inference 2.12:** The EU should consider directing policies to improve the educational level of ENC immigrants.]\*

#### ***4.3.3 Measures to influence attitudes towards immigrants***

Research carried out in Parts (2013) suggests that countries differ in their attitudes towards immigrants. First, in Western Europe, people tend to worry more about possible threats to economic and social welfare as a result of immigration, while people in Neighbouring Countries tend to perceive immigrants as a threat to local culture and customs. Second, native respondents from New EU Member States had average scores in most aspects of their attitudes to immigration, apart from perceiving that immigrants undermine a country's culture. These findings are useful for developing precisely targeted policy measures to promote pro-immigrant attitudes among different populations.

**[Policy inference 2.13:** Both EU and ENCs would benefit from learning to understand specific fears of its population regarding immigrants, and to base suitable pro-immigrant policies on this knowledge.]\*

#### **4.4 Policy measures to address remittances**

Matanos and Ramos (2013) in their research suggest focusing on remittance policies as part of the overall migration strategy formulated under the remit of the ENP. Remittances are considered important for development in receiving countries (Matano and Ramos, 2013a). In order to augment the potential positive effects of remittances, policy-makers should address the following main targets:

- 1) Facilitate the process of remitting, making it more transparent and official.
- 2) Stimulate and support temporary migration.
- 3) Provide incentives for highly skilled migrants to increase their likelihood of remitting.
- 4) Fostering the temporary migration of skilled migrants who remit larger amounts of money.

Such policies would benefit ENP countries in the following respects:

- 1) Stimulating temporary migration might limit the losses a country faces with permanent migration (such as brain drain).
- 2) Returning migrants will bring back not only the original human capital with which they are endowed, but also the human capital acquired in host countries, thus facilitating positive human capital spillovers in origin countries. Also, returning migrants bring back the social capital acquired during their migration experience.
- 3) Temporary migration allows more flexibility in meeting the demands of host countries, which is often variable and depends on the business cycle.

- 4) Increasing remittances supports the attainment of higher education by receiving individuals, as well as improving welfare.
- 5) Making the process of sending remittances easier increases the probability that funds can be targeted to direct investment in education and other assets in origin countries.
- 6) Supporting temporary migration can reduce the risk of disrupting families that might occur with permanent migration.

Overall, barriers to remittances should be reduced and several policy areas can be addressed to achieve this aim. Support for temporary migration, such as temporary work visas and dual citizenship (Matano and Ramos, 2013a), can make it easier for people to find employment and facilitate trade in services, for example. A second set of barriers relates to remittance fees and double taxation. Such transfer costs make official and legal channels of remittances less attractive for migrant workers, and increase the propensity to use illegal and informal ways of money transfer (Matano and Ramos, 2013a). Moreover, taxing remittances in receiving countries doubles the tax load on money transfer and decreases the attractiveness of legal transfers even further, hindering development in receiving countries (Matano and Ramos, 2013a). A third set of policies should be targeted at infrastructures, such as providing electronic means to transfer money into migrant origin countries (Matano and Ramos, 2013a). Fourth, encouraging migrants to do fewer but larger remittance transactions (as opposed to multiple transactions with small amounts) would help bring down the burden of fixed remittance fees, as well as stimulating increased competition by allowing more institutions to enter in the money transfer business (Matano and Ramos, 2013b).

**[Policy inference 2.14:** The EU should consider developing policies to support temporary migration from European Neighbouring Countries through temporary work visas.]\*

**[Policy inference 2.15:** The EU should support temporary migration through dual citizenship.]\*

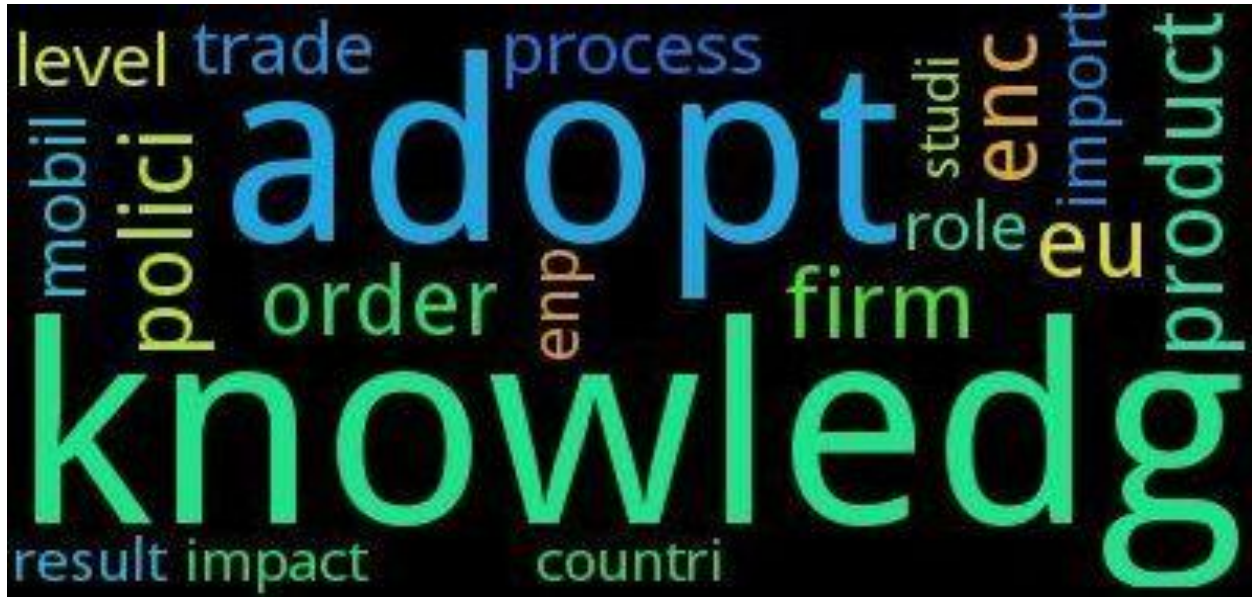
**[Policy inference 2.16:** European Neighbourhood Policy should encourage improved electronic money transfer infrastructures for migrants.]\*

**[Policy inference 2.17:** European Neighbourhood Policy needs to reduce barriers to remittances by reducing monetary transfer costs such as fees and double taxation.]\*

**[Policy inference 2.18:** The EU should encourage migrants to make larger but fewer remittances rather than smaller and more frequent money transfers.]\*



## 5. Technology and Innovation Policies



### 5.1 Introduction

A central pre-condition for catching-up in economic, social and political spheres is the acquisition, innovation and production of technology. Research evidence collected in Workpackage 4 ‘Technological activities and innovation diffusion in the EU and interactions with the EU neighbouring regions’ of the SEARCH Project focused on the investigation of technology flows within and between EU and ENC regions. The results of this research have policy implications in the following areas: (1) value of improving the mechanisms and conditions for knowledge flows, (2) benefits of innovation policies, (3) growth potential from addressing inter-relationships between innovation, FDI and trade openness, (4) growth potential from investments in social capital, and (5) potential for improving the availability of data.

### 5.2 Value of improving the mechanisms and conditions for knowledge flows

Autant-Bernard and Chalaye (2013a) in their research in international knowledge flows state that in order to participate in building a Common Knowledge and Innovation Space, public policies should be developed to support the channels through which knowledge diffuses.

Firstly, the channels through which knowledge diffuses should be reinforced. Since scientific and technological collaborations, built upon historical and commercial linkages due to proximity, are favoured by common language, policy makers should promote mutual knowledge of cultures and languages among EU countries and ENC to promote an intensification of partnerships. The public and private research potential of European countries on the one hand and their immediate physical proximity on the other hand, can offer greater cooperation opportunities than can the USA to neighbouring countries.

A means of encouraging mutual understanding and knowledge of cultures and languages is essential to promote student mobility. This type of flow is mainly determined by the continent of

residence. Policy makers should encourage balanced mobility of students from ENC to Europe, and vice versa. Mobility should not be restricted to academic courses but should also include internships in firms. The feasibility of balancing mobility varies by country and more specifically according to the standard of living (studying in Europe often represents a high cost for families). Balancing mobility depends also on the political context (the current situation in Syria, for instance, prevents balanced mobility).

**[Policy inference 3.1:** The ENP should support the channels through which knowledge diffuses by formulating policies for: (1) the promotion of a mutual understanding of cultures and languages and (2) a balanced mobility of students between the EU and ENCs, both in the academic and the industrial spheres.]\*

Location plays a lesser role in the choice of which country to file a patent in than for scientific and technological collaboration. The protection of intellectual property rights (IPRs) is more important in the downstream phase of the research and innovation processes, and is closely related to markets and export dynamics, which follow a different logic in terms of the importance of location. On the other hand, the geography of production and exports is less concentrated than for scientific and technological collaborations. Policy-makers are therefore advised to collaborate on the formulation of policies for intellectual property regulation (Autant-Bernard and Chalaye, 2013a).

**[Policy inference 3.2:** The ENP should support cooperation between the EU and ENCs in the formulation of policies for intellectual property rights regulation.]\*

Secondly, the actors through which knowledge spreads should be directly promoted. In particular, among ENC inventors and scientists, those coming from Israel, Ukraine and to a lesser extent Egypt, often appear as central agents within the knowledge networks. At the same time, these countries are among the least Europe-oriented ENCs. Improving their orientation towards the EU would therefore help, both directly and indirectly, to foster knowledge exchanges between the EU and the ENCs (Autant-Bernard and Chalaye, 2013a).

**[Policy inference 3.3:** The ENP should support the generation and spread of knowledge flows within and between the EU and ENCs with instruments focused on specific actors and groups such as universities, research institutes, and specific sectors and firms.]\*

The prominent role played by Germany and France in innovation within the EU should be drawn upon to develop additional collaborations and to foster knowledge diffusion between ENCs. French and German inventors and scientists are strongly connected to both EU and ENC countries and could therefore act as knowledge spillover agents between the two areas (Autant-Bernard and Chalaye, 2013a).

The potential role played by the newer Member States should not be neglected. Due to their geographical, cultural and sometimes linguistic proximity to certain ENCs, they may collaborate more easily with partners from other ENCs. Reinforcing their ability to collaborate and exchange knowledge with their closest neighbours should therefore help to create a Common Knowledge and Innovation Space (Autant-Bernard and Chalaye, 2013a).



**[Policy inference 3.4:** The ENP should support countries central for innovation in the EU (such as Germany and France) when creating innovation linkages between EU and ENCs.]\*

The results of the research carried out in the study by Autant-Bernard et al. (2013) on 14 EU countries, (Belgium, Bulgaria, Czech Republic, Estonia, Spain, Greece, Hungary, Iceland, Lithuania, Latvia, Norway, Portugal, Romania and Slovakia) find differences between old and newer EU member countries in corporate innovation rates. Despite these differences, the determinants as well as the type of innovation (generation versus adoption) in the two groups of countries are quite similar. Newer EU countries therefore still suffer from a gap between them and older EU countries, but the forces at work are similar and their potential to generate and adopt innovation is not so different. The gap is more a result of limited absorption capacity and export exposure than to a divide in the innovation process, in which old EU member countries generate innovation and newer EU member countries adopt it (Autant-Bernard et al. 2013).

This suggests that developing countries do generate innovation and can contribute to the Common Knowledge and Innovation Space, or as mentioned in the original SEARCH proposal, lead to the emergence of the European Research Neighbourhood. In order to develop ENC innovation capacity, increasing their export exposure and their internal level of knowledge appear as the main priorities. This would foster the ability of these countries to generate innovation but also to adopt existing technologies (Autant-Bernard et al. 2013). In addition, adoption is strongly influenced by the intensity of collaboration in both old and new EU countries. The ability of firms to adopt externally-generated technologies should therefore be improved by fostering R&D cooperation (Autant-Bernard et al. 2013).

**[Policy inference 3.5:** The ENP needs to acknowledge the interdependencies between external technology adoption and R&D collaboration by implementing policies that support both.]

The empirical analysis in the research of Sebestyen and Varga (2013) produced important findings on the role of space in different processes of knowledge generation. The finding that non-spatially mediated learning in (Framework Programme or patent) collaboration networks significantly enhances research productivity, is evident for both types of knowledge creation in the regression results of the research study. However, spatial proximity plays different roles in patenting and scientific publication. While local agglomeration of knowledge industries, together with patenting carried out in proximate regions, improve patenting prospects, spatially mediated knowledge flows do not seem to be significant sources of science-oriented research resulting in publications. On the contrary, the results suggest a “chessboard-like” spatial arrangement of scientific research institutions, which do not tend to spatially agglomerate. However, it also seems that success in science does not necessarily require agglomeration. This finding has policy relevance as it proves that establishing channels for knowledge flows which contribute to a higher quality of network embeddedness have a positive effect on the productivity of a region (Sebestyen and Varga, 2013).

EU neighbouring country regions where good quality universities and public research institutions are located could potentially build research collaboration networks that are competitive with networks maintained by many European regions (Sebestyen and Varga, 2013). Moreover, intensifying the participation of neighbouring countries in EU Framework Program funded

research projects could result in an increase in research productivity in neighbouring country regions where local universities or public research facilities already have substantial research capacity. This increased research productivity might later form the basis of regional economic development policies that take advantage of accumulated potential of their higher education institutions or public research institutes. Policies aimed at attracting private research labs of industries closely related to the region's research specialization, paired complementary measures such as building human capital assets or physical infrastructure development, could potentially initiate a long running process that possibly ends up in a substantial regional industry concentration (Sebestyen and Varga, 2013).

**[Policy inference 3.6: Policy-makers should extend participation in EU research funding programmes to public research institutions in ENC.s.]**

The results in the study by Miguelez and Moreno (2013) confirm that the production of knowledge in a region depends not only on its own research efforts and internal factors, but also on the knowledge available in other regions, accessible through mobile inventors and bilateral collaborations (Miguelez and Moreno, 2013). In addition, regions benefit more from external knowledge stocks when the transmission is through networks of collaboration than through the movement of highly skilled workers (Miguelez and Moreno, 2013).

In the design of the *Innovation policy in a knowledge-based economy* (European Commission, 2000, p. 5), the European Commission emphasised the importance of knowledge mobility, since, “the importance of tacit and specialised knowledge calls for greater mobility of knowledge workers”. Equally, it was highlighted that, “European heterogeneity or variety can be exploited through networking of firms and scientists, to create a vibrant learning culture in which many different ideas and approaches are available as inputs to firms’ innovation and learning” (p. 6). Our research has empirically confirmed that policies fostering mobility and collaborations amongst inventors leads to higher innovation outputs. Thus, policies that facilitate the mobility of knowledge among firms, stimulate collaborations among firms in their knowledge activities and foster senior knowledge workers visiting other institutions, even when crossing the borders of a region, has a benefit for the EU as a whole (Miguelez and Moreno, 2013).

The empirical analysis carried out by Miguelez and Moreno (2013) supports the hypothesis of the importance of collaborations and, to a lesser extent, of labour mobility, as the means of fostering the geographical diffusion of knowledge. Hence, from a policy perspective, these results illustrate that, R&D and human capital efforts are not the only factors important to generate innovation at the regional level, but that the degree of connectivity with agents external to the region are also important for innovation<sup>5</sup>.

**[Policy inference 3.7: In order to augment innovation capacities within the EU and the ENC.s, policy mechanisms of the ENP should support the creation of linkages between EU, ENC and global actors.]**

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<sup>5</sup> The idea of connectivity is also at the core of the ‘smart specialisation’ strategy recently launched by the European Commission.

### 5.3 Policies for reducing innovation barriers

The analysis by Marrocu et al. (2013) offers relevant and original empirical findings which allow for a better understanding of the processes of knowledge creation and diffusion across Europe and ENC (Marrocu et al., 2013). The policy advice is that regions and countries still need to focus on creating a well-educated labour force, given the strong and pervasive role in determining both the internal creation and the external absorption of knowledge. The impact of graduates on innovation activities is much stronger than formal R&D expenditures (Marrocu et al., 2013).

**[Policy inference 3.8:** The ENP should support the implementation of actions aimed at increasing the endowments of the labour force in ENCs.]\*

Pikalova and Mazurin (2013) analysed the barriers and supports to success of projects for international cooperation (INCO Projects). The policy implications of this research suggest that the ENP address the lowering of regulatory barriers to innovation, supporting the building of institutions for innovation, and instruments for international cooperation between the EU and the ENCs.

#### *Regulatory barriers and information flows*

With regard to raising awareness and communicating good practice in establishing regulatory frameworks to encourage international science, technology and innovation (STI), STI cooperation and foster ethical standards for conducting research at a national level, national policy stakeholders in the EU and NCs must ensure political decision makers are aware of the need to stimulate regulatory frameworks for STI cooperation and of barriers and threats which require urgent action (Pikalova and Mazurin, 2013).

Legal constraints such as intellectual property rights (IPR) IPR and licensing barriers hindering cooperation need to be removed (e.g. for international mobility, protection and utilization of intellectual property, transfer of funds and scientific equipment, shipping of scientific material and samples etc.) and appropriate national legal frameworks should be designed in accordance with international standards. Emphasis should be put both the protection of each other's knowledge and on the trans-national access to knowledge, allowing international exchange of scientific data and results while guaranteeing the rights of individual partners (Pikalova and Mazurin, 2013).

National rules for import and export of scientific material are one of the significant issues hampering international science and technology cooperation with NCs. Procedures need to be simplified to bring national regulations into line with international law (Pikalova and Mazurin, 2013).

**[Policy inference 3.9:** The ENP should encourage the reduction of legal constraints to innovation such as rules for trade in scientific materials, IPRs and licensing.]

A further set of measures to support innovation in ENCs is the access to information. Based on the research carried out by Pikalova and Mazurin (2013) it is recommended that ENCs increase the capacity of their National Information Points and National Contact Points. This could be done by the EU through the assessment of support structures for EU-ENC science, technology and

innovation cooperation, and the provision of professional and accessible information and consultancy services (Pikalova and Mazurin, 2013).

**[Policy inference 3.10:** It is recommended that policy stakeholders in the EU and NCs assess and advance support structures for STI cooperation between the EU and ENC by providing information and consultancy services.]

#### *Linking EU and ENC institutions*

The full openness of EU Framework Programmes for ENC participation could, in addition to supporting direct research links, also enable cooperation with European and international research networks and platforms for ENC researchers (Pikalova and Mazurin, 2013).

Promoting information exchange between national institutions in EU Member States that have expertise in innovation management and entrepreneurship with ENC could support ENC in the development of these competencies. Furthermore, training courses on innovation management and entrepreneurship could be set up within academic or innovation-related institutions in ENC, involving experts from both EU Member States and Neighbourhood Countries, with financial or indirect support (e.g. incentives) from the national authorities (Pikalova and Mazurin, 2013).

**[Policy inference 3.11:** The EU should consider setting up training courses on innovation management and entrepreneurship within academic or innovation related institutions in ENC.]\*

It is recommended by Pikalova and Mazurin (2013) that mutual learning activities between EU and ENC be set up which focus on legislative, tax and IPR issues, as well as on the coherence and coordination of the whole framework, in order to identify good practices, and success stories, but also barriers and failures in both EU Member States and Neighbourhood countries. To implement such international exercises, joint workshops or small conferences could be organised in the scope of Specific International Scientific Cooperation Activities (INCO), funded within the EU Research and Technological Development (RTD) Programme, or at a bilateral level, based on the partnership of individual EU Member States and Neighbourhood countries (Pikalova and Mazurin, 2013).

**[Policy inference 3.12:** The EU should consider supporting mutual learning activities which address legislative, tax and IPR issues and help to identify good practices, and barriers and supports to innovation in these areas.]

Based on the evidence collected in INCO projects, Pikalova and Mazurin (2013) recommended that the EU and ENC engage in joint twinning activities between research centres, institutes, EU, national-level technological platforms and other national and regional technology networks. In addition, the experience gained through the European Technology Platforms can be replicated in ENC by building industry-led technology platforms for the definition of research priorities and action plans on technological areas underpinning growth, competitiveness and sustainability (Pikalova and Mazurin, 2013).

**[Policy inference 3.13:** The EU should consider extending its innovation policy instruments such as twinning activities and technology platforms to ENC.]

*Transfer of good practice between scientists.* To support mutual learning in good scientific practice, the EU is advised to invest in individual capabilities, through joint training activities in science management (Pikalova and Mazurin, 2013). In order to reduce linguistic barriers, the EU could promote knowledge of different languages through supporting the teaching of university courses in different languages in ENC's, international joint supervision of PhD theses between the EU and ENC's, and joint mobility programmes for scientists in the EU and the ENC's (Pikalova and Mazurin, 2013).

**[Policy Inference 3.14:** EU innovation support to ENC's should include joint training activities in the management of science, support learning of different languages in university courses, joint mobility programmes for scientists, and encourage international co-supervision of PhD theses.]

Supporting Pikalova's and Mazurin's (2013) study on the importance of knowledge of languages for international collaboration in research and innovation, Autant-Bernard and Chalaye (2013) find that whether or not a country or region is Francophone plays an important role in international collaboration between some of the EU and some ENC's. They suggest that another means to enhance sharing language could be based on the promotion of one specific language throughout the neighbouring area. The specific role played by French in several ENC's clearly favours their integration within EU knowledge networks. Compared to other areas, and especially the US, the EU does not benefit from its spatial proximity to ENC's alone. EU also holds a comparative advantage based on the number of Francophone ENC's. *Policy makers should strengthen this advantage by promoting Francophone.* In this perspective, the development of new technologies opens new opportunities to teach and exchange knowledge with ENC's in a common language. *Massive Open Online Courses (MOOCs) could in particular be used as a strategic tool to reinforce Francophone and hence knowledge sharing in the area.*

**[Policy inference 3.15:** The EU should consider supporting Francophone through Massive Open Online Courses (MOOC) to facilitate innovation collaboration between the EU and NC's.]

Liargovas (2013) finds that EU27 and NC16 countries place different emphasis on different policy instruments for innovation, depending on their endowments. For example, the successful performance of technoparks, which are the focus of Northern European countries, requires a rich background as regards knowledge creation and the institutional environment to support the generation, diffusion and commercialization of knowledge. On the other hand, Eastern and Southern European countries place emphasis on the development of business incubators. Obviously, the latter require fewer endowments compared to technoparks.

**[Policy inference 3.16:** Technoparks and incubators are innovation instruments which require different conditions for their effectiveness. Policy makers should recognize these differences and support the implementation of these policies only where such specific conditions exist.]

#### 5.4 Growth potential from addressing inter-relationships between innovation, FDI and trade openness

The relationships between the EU and ENC countries have received great attention since 2007 when the EU attempted to develop an integrated policy towards the non-candidate countries on the EU's eastern and southern borders, as an alternative to further enlargement. Among the different ways in which valuable interactions between the EU and ENC are generated, capital transactions represent a key channel and M&A activity is one of the most effective ways for directing capital towards productive sites (Di Guardo et al., 2013).

Our results concerning the determinants of M&A activities among EU and ENC countries provide useful insights to assess whether the European neighbourhood policy (ENP) is becoming effective in offsetting tangible and intangible barriers between the two country groups. *In order to support knowledge flows among ENC and EU countries, international transactions should be supported and encouraged by ENP* because a high density of interactions between firms from the EU and ENC exposes neighbouring countries to the influence of EU-based firms, which often have more advanced technical solutions and organizational practices (Di Guardo et al., 2013).

**[Policy inference 3.17:** The ENP should consider facilitating international capital transactions between ENCs and EU countries as a measure for supporting innovation.]

In the study by Bergman and Ondos (2013a, 2013b) it was found that international patent co-citations between EU and ENCs are increasing, indicating an increase in innovation collaboration. This trend is likely to increase as a host of other policies for FDI and trade openness take hold. A direct implication of these findings is that the EU should support FDI policies that bring innovative firms to ENCs because they will stimulate patenting activity and innovation (Bergman and Ondos, 2013a and 2013b). Moreover, policies promoting trade and people mobility can also be expected to contribute to an expansion of patenting activity (Bergman and Ondos, 2013a and 2013b).

**[Policy inference 3.18:** ENP measures should support FDI policies that bring innovative firms to ENCs.]

As in the case of EU accession country experience, international patent citations may increase in some ENC regions, and decrease in other regions if they are less innovative or unable to capitalise upon related measures of the ENP (for example, FDI, trade, university exchange). The effects of several ENP initiatives will influence which ENC regions can take fullest advantage of potential knowledge flows within relevant citation exchange communities (Bergman and Ondos, 2013a and 2013b).

*ENP border region citations of Western patents can be expected to rise markedly, although the reverse citation flows are extremely unlikely in the short run. In common with accession country experience, developing ENC regions are expected to be citation-knowledge consumers in early rounds, a dependence which may continue indefinitely for all but the most advanced or technically-specialised ENC regions* (Bergman and Ondos, 2013a and 2013b).



In this perspective, *ENP should take care of regional differences also based on their location and on their current innovation endowment* (Bergman and Ondos, 2013a and 2013b).

**[Policy inference 3.19:** The ENP should take account of regional differences in ENC innovation capacities in the formulation of its policies.]\*

Complementing Bergman and Ondos' (2013) study of knowledge flows via patent citations, Di Guardo and Paci (2013) find that various types corporate alliances (Merger and Acquisition, Joint Ventures and Strategic Alliances) provide a valuable channel of interaction and knowledge flow among companies located in the ENC and in EU. The presence and development of these external connections strengthens the competitive conditions of the ENC markets and favours their economic growth.

At the same time, the situation of uncertainty and instability in several neighbouring countries increases the risk involved in international agreements; as a result, companies' willingness to do deals and the number of completed transactions decreases. Moreover cross-border transactions have been shown to be influenced by the historical, cultural, institutional, and geographical proximity between EU and neighbourhood countries (Di Guardo and Paci, 2013).

Overall, the ENP should try to support agreements among firms in EU and ENC through the design of specific instruments devoted to decreasing the risk associated with uncertainty and instability. More generally, the EU should continue and reinforce its policy of supporting the neighbourhood countries in their ongoing process towards more open and competitive internal markets and towards more democratic, efficient and transparent institutions (Di Guardo and Paci, 2013).

**[Policy inference 3.20:** The ENP should design policies to reduce risk and uncertainty in firm alliances between EU and ENCs by supporting ENCs in making markets more open and competitive, and their institutions more democratic, efficient and transparent.]

Results in the paper by Lopez-Bazo and Motellon (2013) suggest that regional differences in export sunk costs might be causing differences across regions in how export levels respond to innovation. Innovation contributes to raising a firm's future productivity and makes products more attractive, making it easier for a company to accommodate the extra costs of exporting its products. Even given the assumption that firms in all regions are similarly effective in translating innovation into higher productivity and competitiveness, it remains the case that geography, agglomeration, and certain regional endowments cause differences across regions in the sunk costs faced by firms. As a result these of regional differences, the benefits of innovation make up for additional cost of exporting in some regions but not in others. This explains the greater effect of innovation on export status for regions with a high extensive margin of exports. Therefore, policies aimed at increasing the number of firms that export in regions with a low extensive margin of exports should encourage generation and adoption of innovation by non-exporting firms and, simultaneously, compensate for the location disadvantage that firms in these regions face (Lopez-Bazo and Motellon, 2013).

More specifically, results from the sample of Spanish firms, and from each of the Spanish NUTS2 regions, can be used to infer the likely effectiveness of policies that aim to promote exports in ENC's:

- 1 Stimulating innovation in products and processes can be an effective policy for increasing the share of exporting firms in ENC's in the medium and long term. Innovation developed by firms within the ENC or generated elsewhere but adopted by firms in these countries, increases competitiveness and thus the chances to export, raising the volume of exports from ENC's.
- 2 To be effective, direct policies aiming to stimulate exports in the short run, should focus on innovative firms from ENC's with a level of productivity above a given threshold. They are the group of firms with the highest chances of success in foreign markets and should be the target of direct policies designed to facilitate sales abroad, for example, by providing information, credits, and easing contacts with potential customers (Lopez-Bazo and Motellon, 2013).

**[Policy inference 3.21:** The ENP should include measures to stimulate exports in the short run by focusing on innovative firms in ENC's with a level of productivity above a certain threshold, because these firms have the highest chance of success in foreign markets.]

### **5.5 Growth potential from investments in social capital**

Di Guardo et al. (2013) state that given the very important role played by political, cultural and social distance, efforts to promote democratic reform and improve human rights should be strongly encouraged by European institutions. As a matter of fact, notwithstanding the merits of the ENP and the goals achieved so far, there remains plenty of unfulfilled potential in deploying the relationships between the EU and the ENC countries in the area of social capital and institutions. Moreover, in relative terms countries such as Belarus, Libya, Syria, Azerbaijan, Russia, Ukraine, Moldova, Egypt, Jordan rank very low in terms of democracy, human rights, the rule of law, good governance and market economy principles, whereas top positions are taken by the most advanced EU countries, namely Sweden, Denmark, Finland, The Netherlands, Austria (Di Guardo et al., 2013).

This calls for more efforts from both sides to accelerate the process of ENC democratic reform and reduce the gap in democracy and human rights. Increased financial assistance and technical support from the EU side and stronger actions towards democratic control, political and civil liberties, competitive elections, freedom of organization and freedom of expression, the fight against corruption and violence from within ENC's is expected to improve the level of cooperation, to increase economic integration and movement of people, to intensify ties and to strengthen peaceful relationships. Ultimately, this enduring process should guarantee widespread democratic shared values that are indispensable for civil and political stability, sustainable long term development and economic prosperity (Di Guardo et al., 2013).

**[Policy inference 3.22:** EU countries should consider measures for strengthening social and institutional capital in ENC's such as for example democratic reform, protection of human rights, political and civil liberties, competitive elections, freedom of organization and freedom of expression, and the fight against corruption in ENC's.]



### 5.6 Scope for improving the availability of data in the Community Innovation Survey (CIS)

As a result of experience of using the CIS dataset to study the innovation diffusion process in the EU countries, Moreno et al. (2013) offer some suggestions for future implementation of CIS data and questionnaires:

- With the available information in CIS, *it is currently impossible to compute any indicator on innovation diffusion for the ENC's. None of them are present in the CIS.* The number of countries covered should be increased.
- Some improvements in the CIS survey could address the main limitations highlighted in this study. In particular, *collecting more quantitative information* about the way innovation is produced would be of great help in econometric and economic analysis. For instance, the shares (or the intensity) of innovation made within a firm, in cooperation or developed by others, should be registered directly for each case. Moreover, the usefulness of the CIS data comes from the possibility to cross-reference several items. Most of these cannot be carried out using aggregated data available on the Eurostat website, because micro-level data are needed. *Increasing the availability of data at the micro level* (which for now is available for only a few EU member states) would thus provide more tractable information and richer analysis of the adoption process and its determinants.
- A second suggestion would be to *try to eliminate the subjectivity in some of the questions of the CIS questionnaire*, in order to be able to better define categories and quantify the answers. Some of the current questions, for instance, ask whether an innovation has been developed “mainly” by other firms or in collaboration. This subjectivity impedes the ability to measure or consistently define the same processes across countries, due to the possible biases related to the subjectivity of the answer. As suggested above, this subjectivity may be partly solved by asking the share of innovation that relies on each type of innovation and not as a result of the interpretation of the word “mainly”.
- *In the present CIS3 and CIS4 questionnaires, the items dealing with the innovation adoption issue, do not provide separate information about diffusion occurring within the country and across countries.* A revision of the question may solve this problem.
- *EUROSTAT should provide a technical annex on how the macro data provided in its web-site have been generated from the micro data.* Aggregation issues and different methodologies may be a problem for researchers who need to know, how the statistical office treated micro data in order to obtain macro ones.
- CIS tells us if a firm has made or adopted an innovation or but gives no indication of *the intensity of such processes*. Therefore, a firm making a small-scale innovation and a big firm generating a lot of innovation are, at the moment, considered equally. *A question (even qualitative) about the importance of innovation in the firm activity could be added.* This question should be asked for each type of innovation (innovation within the firm/ innovation resulting from collaborations / innovation generated by others).
- Another drawback of the CIS is that it does not allow us to assess the intensity of technological flows between EU countries. It does not provide information on the geographical origin of the technologies adopted by firms. This kind of information is crucial for determining whether innovation diffusion arises mainly within countries, or

if significant technological flows occur also between countries. Identifying the countries that derive most benefit from these international flows would also be of interest. According to our results, diffusion arises mainly between Core countries and the highest levels of adoption are recorded for Core countries. But obviously this requires additional investigation.

**[Policy inference 3.23:** The data collected under the CIS survey could be improved by:

- Expanding the survey to ENC's.
- Including more quantitative information and data at the macro level.
- Improved by eliminating the subjectivity in some of its existing questions.
- EUROSTAT should provide a technical annex on how the macro data is collected starting from the micro data.
- A question should be added about the importance of innovation in the activities of the firm.
- The CIS should incorporate questions on the geographical origin of the technologies adopted by firms.]

## 6. Institutional and Social Capital Policies



### 6.1 Introduction

Social capital affects the level of economic development, promotes formation of political openness, democracy, human rights and freedoms in society (Tatarko, 2013). It supports these processes in different ways such as interpersonal and institutional trust, cooperative values and attitudes, sustaining communities and networks of people and firms. Private corporations benefit from trust among their employees and from trusting relations with clients and suppliers, creditors and shareholders. To deepen our understanding of these processes it is important to draw lessons about institutions and policies that encourage the formation of social capital in the European Neighbourhood. (Parts, 2013b).

Research evidence produced in Workpackage 5 “Institutional Environment” of the SEARCH Project has led to policy recommendations that support ENP initiatives for strengthening of institutions that promote economic growth in EU Neighbouring Countries. This chapter summarises the main policy findings on the following topics: (4.2) Importance of social capital and institutional quality for economic growth, (4.3) Benefits of social capital for innovation, (4.4) Influencing institutional quality in ENC’s through the adoption of the ‘Aquis’, (4.5) Recognising the importance of national specificities in institutional reform, (4.6) Use of social capital for entrepreneurship, (4.7) Policies for addressing education mismatch between EU and ENC’s, and (4.8) Law approximation under the ENP.

### 6.2 Importance of social capital and institutional quality for economic growth

Research by Hlepas (2013a) finds that a cooperative predisposition of the population, and public trust in politicians who are involved in negotiations and implementation of measures for European integration and European Neighbourhood policies, are very important within the context of the European Union.

There are important differences in social capital among the “old” EU-15 members, and even more so, among candidate countries and Eastern neighbouring countries. European policies should be calibrated to national needs and deficiencies. Southern European Countries that are currently suffering an unprecedented economic crisis highlighting how deficiencies in institutional quality, elite compliance with legal and ethical norms and cooperative attitudes have not been properly addressed, resulting in low levels of competitiveness, even though democratic institutions and human rights reached high standards in these same countries, which have been following the path of Europeanisation over several decades.

There should be concrete measures to encourage cooperative attitudes and restore confidence in politicians, for example through increasing participation in procedures and institutions, transparent and accountable decision-making, encouraging various forms of voluntary social work etc. Compliance of elites with legal and ethical norms can be promoted through actions to strengthen the rule of law, public awareness and transparent budgeting, while discouraging rent-seeking and free-rider attitudes. Policies should be further developed, with an emphasis on *institutional capacity* and sound governance.

**[Policy inference 4.1: EU policy measures under the ENP should support the formation of institutional capacities and sound governance in ENC.s.]\***

Bartlett et al. (2013) investigated the relationship between institutional quality and growth in EU Neighbouring Countries. According to the comparative analysis of governance indicators, both Ukraine and Moldova are fragile in terms of political stability, freedom of expression and media freedoms, as well as implementation of electoral processes, despite some progress in compliance with democratic principles and the rule of law. Both states are characterised by lower levels of accountability of the government. But most of all, dealing with corruption remains the greatest problem Neighbouring Countries face. This is not surprising, given the political struggles and accompanying social and economic instability in the last decade that made these two countries politically vulnerable, unstable and democratically less-consolidated, especially when compared to the control groups of candidate countries (Croatia and Macedonia) and EU new member states (Bulgaria and Romania) (Bartlett et al., 2013).

The comparative empirical analysis of quality of institutions has reached some key conclusions. Firstly, the prospect of accession to the EU is a powerful driver of institutional convergence. The analyses showed that ENC.s have a much weaker institutional convergence path than accession countries, and a lower level of governance capacity than in the new member states. This may be due to an absence of a clear accession horizon for EU membership, and associated weak and inconsistent European Neighbourhood Policies which place ENP countries in the “realm between accession, integration and external relations policies” (Monastiriotis and Borrell, 2012). However, nominal adoption or transposition of current EU norms and rules does not guarantee successful institutional performance, as the continuing problems in Bulgaria and Romania demonstrate (Bartlett et al., 2013).

Secondly, although Ukraine and Moldova have shown considerable progress over recent years, difficulties in compliance with core democratic standards (rule of law, political and economic freedoms, respect for minorities, free media) persist. Nevertheless, the findings concerning our new “Institutional Quality of Public Services Index” show that capacities for change have

improved based on the considerable improvements in the quality of education in Ukraine, and in the capacity for innovation in Moldova. However, convergence is not complete and the final outcome is far from certain. Given that good governance and democratisation are among the top priorities of the ENP Instruments for Ukraine and Moldova, the EU has so far failed to promote transformative processes and to encourage the complementary evolution of institutions. The EU has not yet fulfilled its potential role as a “transformative power”, shaping faster institutional convergence and improved internal institutional complementarity. Under such circumstances, there is a danger that if they are indefinitely delayed the reform processes will either stagnate or “run out of steam” (Bartlett et al., 2013).

**[Policy inference 4.2: The EU should not delay its pressures on reform processes in ENC.s.]**

Thirdly, institutional reform in ENC.s is strongly and positively related to economic growth. This suggests that attention should be given to the complementarity of the institutional reforms that take place under the process of transition. A corollary of the findings is that reforms that lead to a lower level of institutional complementarity are likely to have a significant negative impact on economic growth. The change in formal institutions brought about by reforms should therefore not be allowed to outpace the (slower) change in informal institutions. In Ukraine and Moldova the likely consequence of ongoing discontinuities in the pace of institutional change could be an increase in corruption and political instability. Reform programmes should therefore focus as much on informal institutions as on formal institutions in the design of policy, in order to create stable democratic change and functioning market economies. For example, the development of endogenous institutions and incentives to eliminate the deeply-rooted tolerance for corruption would contribute greatly to the elimination of the “governance gap” between these countries and the EU (Bartlett et al., 2013).

**[Policy inference 4.3: In countries such as the Ukraine and Moldova reform programs supported by the European Neighbourhood Policy should focus as much on informal institutions as on formal institutions.]\***

Part (2013b) states that cooperative predisposition of the population and public trust of politicians who negotiate and decide on matters of European integration are very important within the context of Europeanisation and EN policies. At the level of individuals, social capital gives people a sense of confidence and security, thus compensating partly for the shortage of money in hard times. However, the case of Southern European Countries that are suffering from political and economic crises, shows that their deficiencies in institutional quality, elite compliance with legal and ethical norms and cooperative attitudes have not been accordingly addressed.

Trust levels tend to increase along with overall economic development and growing incomes, indicating that general pro-growth policies could benefit the creation of social capital. However, policy makers should keep in mind that in countries with low initial welfare levels the effect of growth might be the opposite: in several EU neighbouring countries (e.g. Serbia, Ukraine, Croatia) higher incomes are associated with lower institutional trust and lower acceptance of social norms. In some new member states (e.g. Bulgaria, Hungary, Latvia, Poland) institutional trust has been even lower than in ENC.s, even though these countries are already in the phase of development where growing incomes favour higher institutional trust.

Political authorities could also encourage values that contribute to the development of social capital, such as acceptance of social norms, more cooperative attitudes, supporting various forms of voluntary work, etc. In this respect, compliance of political and business elites with legal and ethical norms has critical importance, as the rest of the public tend to follow the elite's value orientations. Elite compliance can be promoted through actions that strengthen the rule of law, public awareness and transparent budgeting, while discouraging rent-seeking and free-rider attitudes.

In sum, it is not easy to provide uniform policy recommendations for all countries on how to support the creation of social capital. The policies which aim at supporting social capital creation should adjust to the peculiarities of each country and focus on country-specific deficiencies. These peculiarities, including institutional capacity and governance performance, depend on the overall level of economic and democratic development of a specific country, so respective policies should be continuously revised and adjusted.

**[Policy inference 4.4.** The ENP needs to support political authorities in ENC's to invest in value orientations that contribute to the development of social capital, such as strengthening the rule of law, improving transparency, and discouraging rent-seeking and free-riding.]\*

### 6.3 Benefits of social capital for innovation

Lebedeva and Schmidt's (2012) research on values and attitudes to innovation among Canadian, Chinese and Russian students found that there are cultural differences in value priorities:

- Russians prefer the values of Self-Enhancement more often than Canadians do, but the latter prefer values of Self-Transcendence more often than Russians do. Chinese students prefer values of Conservation more often than Russians and Canadians.
- Russians and Canadians prefer values of Openness to Change more often than Chinese students do. These differences, in our opinion, reflect differences in the Traditionalism-versus-Modernism continuum, with Chinese culture tending to be closer to the pole of Traditionalism, whereas the cultural patterns of Russians and Canadians lean towards Modernism.
- There are significant cultural differences in innovative attitudes among Canadian, Russian and Chinese college students. Canadian and Russian' attitudes towards innovation are more positive, while the Chinese are less positive.
- There are certain universal relationships in the three cultural groups, with the values of Openness to Change being conducive to innovative attitudes, and the values of Conservation impeding them. This conclusion is compatible with the results obtained by other researchers (Shane, 1992, 1995; Dollinger, Burke & Gump, 2007).
- There are culturally specific features in some relations of values and innovative attitudes: thus, among Russians the values of Achievement positively relate to innovative attitudes, among Canadians, values of Benevolence negatively relate to innovative attitudes and among Chinese values of Self-Direction have no relations with attitudes towards innovation. We explain these differences by culturally specific value priorities and implicit theories of creativity and innovation.
- The type of Values-Innovation mediation is different in the three countries. Whereas in Russia and Canada values fully mediate the effects of gender and age, this is not true for the effect of gender in China, which also has a direct effect on innovation.



- The regression coefficients of age and gender on values differ between Canada, China and Russia, which reflect cultural differences in the impact of age and gender on value priorities.

We may suppose that in societies where people value tradition, security, conformity (values of Conservation in the Schwartz 'model) any innovation can cause fear, anxiety and mistrust, therefore it is obvious that values of Conservation are negatively connected with acceptance of innovation (Lebedeva and Schmidt, 2012). Values of Openness to Change as contrary positively influence acceptance of innovation. Gender differences might play their role in cultures that are more traditional: women tend to be more suspicious toward innovation.

The findings that there are culturally specific and gender –related relations of values with attitudes about innovation means that we must consider specific features of a culture when introducing innovative patterns to it (Lebedeva and Schmidt, 2012).

**[Policy inference 4.5:** ENP measures should focus on supporting a cooperative attitude and restoration of confidence in politicians to be achieved in ENC's by increasing: (1) public participation, (2) transparency and (3) accountability in political decision-making.]\*

Akcomak and Muller-Zick (2013) reach two types of policy conclusions from the research on the relationship between trust and innovation. Social networks are good for economic outcomes, meaning governments should enhance participation in networks. The EU Framework R&D projects are good examples here, because most applications require a consortium. In this way professional and social links are established throughout the continent (and sometimes outside the continent), which in the long run is very important for diffusion of knowledge. Through this channel social capital can be tied to innovation. So fostering (especially vertical) networks is a policy outcome. If the general trust or social capital index is used as an indicator, then the literature points to complementarity effects to argue either that governments should invest in human capital since education has a great socialising element, or looks at the variables that form social capital/trust in the long run. If the research has a long-run view, then establishing formal institutions as well as education, would support the creation of social capital in future.

This research is about the trust-innovation link so our policy implications are akin to the second observation (i.e., the complementarities and institutions as first best solutions). But in general current EU policies that support the formation of networks (e.g., the Framework Programme), promote education (e.g., lifelong learning) and reduce heterogeneity (e.g., policies on social inclusion, inclusive growth) can foster trust in an indirect way. The new Horizon 2020 research programme set up is also conducive to social capital and trust since inter-disciplinarity is a strong aspect of the program. Forcing scientists and policy makers of different back grounds to come together would result in links across disciplines between and within regions, which is very important for the diffusion of knowledge (Akcomak and Muller-Zick, 2013).

**[Policy inference 4.6:** The European Neighbourhood Policy should promote school curricula that build capacity for and promote positive attitudes toward innovation.]\*

The results obtained by Ozman and Erdil (2013a) reveal strong interaction effects between cultural diversity, diversity in competencies and industry regime. The research highlights that the impact of cultural diversity on innovation depends upon technological opportunities, and the distribution of knowledge. According to the results, no significant effects of cultural diversity on

innovation are detected for low and high technological opportunity regimes. On the other hand, in general, both knowledge diversity and cultural diversity tend to reduce knowledge creation in industries characterised by intermediate levels of technological opportunities.

The underlying reason behind this result can be related to the networks of actors. In particular, it is found that, high degrees of cultural and knowledge diversity tends to reduce the extent of partnerships. According to the results of the simulation analysis, there is also an interaction effect between knowledge diversity and cultural diversity. In particular, the highest knowledge growth, and the highest level of interactions occur when both cultural diversity and knowledge diversity is minimum. This also implies that negative effects of cultural diversity can be offset by promoting cultural homogeneity.

There are various policy implications of these results. Firstly, since the impact of cultural diversity on innovation largely depends on the context of the industry, it is particularly important to consider the nature of knowledge creation in the specific context under question. By knowledge creation we mean the extent to which learning happens through knowledge transfer and knowledge creation. Where both mechanisms determine learning, cultural diversity has a negative impact on innovation. However, in cases where cultural diversity is a necessity, the negative impacts can be offset by employing people/organisations who have similar competencies. In other words, a policy perspective which takes into account diversity in competencies is relevant to promote innovation, when considering the impacts of cultural diversity.

**[Policy inference 4.7: EU policies should support the formation of vertical networks between organisations in EU Neighbouring Countries.]**

Networks of actors also play an important role in this context. In this paper, networks are taken as the main mechanisms through which the impact of diversity manifests itself. In general, the extent of interactions between different actors contributes to learning. On the other hand, to the extent that partnerships are repeated between the same people/organizations, learning and new knowledge creation can be limited.

The findings of Erdil and Pamukcu (2013) point to the following policy implications: EU-related support seems to exert a significant effect on firm-level innovation activities in Turkey even though it accounts for less than 2% of the total public funding. It is worthwhile noting that EU-supported R&D projects are based on international collaborations, while only 1.5 % of R&D and innovation projects supported by national programmes are collaborative. Hence, existing support mechanisms should be strengthened and new policy instruments should be developed both for universities and private sector. Further research is necessary to investigate the success of EU-funded programmes on one hand – and the apparent failure of the schemes organized on the local (subnational) level, on the other.

**[Policy inference 4.8: Policies arising from the ENP in support of innovation need to take into account diversity in firm competencies in ENC.s.]**



#### **6.4 Influencing institutional quality in ENC's through the adoption of the 'Acquis'**

Research by Hlepas (2013c) finds that the adoption of "European acquis", either through legal compliance of the regulative and legislative framework, or through "voluntary" domestic policies in the framework of new Governance arrangements (Open Method of Coordination, "White Paper of Governance") has improved institutional quality and that it has a positive impact on economic development in EU and in the Neighbouring Countries.

In addition to the adoption of the Acquis, other factors that play an important role in institutional quality are the global financial crisis 2007/8, the public debt crisis of the European Southern countries running from 2008 until today, and domestic institutional governance reforms. Different waves and velocities of Europeanisation alongside external and internal driving forces, influence the significant path of institutional quality of each country. Divergent processes of Europeanisation in different countries or groups of countries reflect the "Goodness of Fit" or "Misfit", along with the responses of domestic structures and actors to European and global driving forces.

However, even in cases of improvement of institutional quality, the analysis has shown important differences in government effectiveness, regulatory quality, rule of law and control of corruption, between countries. The legal compliance and adoption of formal criteria has to be complemented with effective implementation of policies, employing more legitimate governance arrangements.

**[Policy inference 4.9: The EU should consider strengthening existing support mechanisms for knowledge transfer in ENC's.]**

**[Policy inference 4.10: EU policies should be adjusted to the particular characteristics of each country.]**

Ozman and Erdil (2014) investigate the relationship between cultural diversity, knowledge diversity and innovation. High levels of cultural diversity are found to be one of the fundamental obstacles in the EU, in the management and coordination of the innovation processes in the European Region.

Cultural diversity has both potential advantages and disadvantages for innovation. The positive effects of cultural diversity are related to increased synergies and spillovers that arise from the association of different viewpoints, and increased opportunities for knowledge recombination. On the other hand, negative effects are related mostly to communication problems and problems which arise in conflict resolution. The research from which the following policy recommendations arise has focused on the interactions between industry characteristics, cultural diversity and knowledge diversity and their relationship to innovation.

The findings of our study provide useful insights for policies that aim to increase innovation performance via collaborations. For example, in an industry lacking innovative success, the reason can be low levels of technological opportunities, rather than communication problems associated with high cultural diversity. If this is the case, policies aiming at effective knowledge diffusion may not be able to achieve their goals. Therefore we propose that an immediate policy domain should be the prioritization of sectors according to their technological opportunity levels.

In shaping innovation and collaboration policies, policy makers should consider the nature of knowledge regimes in specific contexts. In knowledge-intensive industries where innovation occurs through new knowledge creation, as in software and information and communication technologies, a culturally diverse population comprised of similar competences yields high innovation.

However, in low tech industries, where a knowledge regime predominantly favours knowledge diffusion with few opportunities for new knowledge creation, cultural diversity has a smaller impact on innovation. In such cases, complementarities between different competences should be emphasised. In other words, neither too much knowledge similarity nor knowledge diversity is beneficial, rather collaborations between actors of complementary competences yields high innovation.

**[Policy inference 4.11:** The EU should place emphasis on the improvement of legal compliance of countries as well as their institutional capacity.]

**[Policy inference 4.12:** In both low tech and high tech industry contexts, the EU is advised to support collaboration between actors with similar competencies.]

### **6.5 Recognising the importance of national specificities in ENC's in institutional reform**

Kaasa (2013b) finds that countries with a Communist background tend to have much lower levels of governance quality than western economies. Among the latter, Northern European countries have the highest and Southern European countries the lowest governance quality. Among the neighbouring countries, besides the three old western economies, no further lines based on geographical or historical background can be drawn. If the mean values of country groups are considered, a Communist history seems to have a strong influence on governance quality. Among the countries of Middle East, the governance quality in North-African countries is, comparable to the countries that were part of the former Soviet Union. More generally, governance quality is similar in geographically close countries. Hence, there is a strong need to improve governance quality in the countries of former Soviet Union and North Africa; and a cooperation creating policies for improvements seems sensible.

**[Policy inference 4.13:** In high tech industries, the EU is advised to foster collaboration between culturally diverse actors.]

In the study by Bartlett and Popovski (2013) it was found that local governance and social cohesion are important political principles which feature prominently in Ukrainian politics but there are many obstacles to their effective implementation. Despite many discussions about the need for the reform of local government, both in political institutions as well as in civil society, there is no political will to draft an action plan with a view to implementing it. A divided political opposition and diminished civil society mean that there is little impetus to reform the system. The local political elite is still unable to take over the running of local government. The majority of them are still tuned into the centralised model and they do not have the political education to run their local councils independently. Both the psychology of local politicians and the administrative

structure still favour the centralised model. Centralisation has been taking place since 2010, and political and economic power is concentrated in the office of the President and the ruling elite.

The 2008 crisis, on top of the 20 years of economic problems, impoverished the majority of the Ukrainian population, exacerbating their retreat from the political sphere. They felt and still feel that the ruling elite does not want them in the corridors of power. They are invited and wooed to vote but are not encouraged to actively engage in politics. They also perceive the ruling elite as corrupt and guided by personal economic interests. The Ukrainian populace is also deterred from engaging actively in politics as a result of the need to concentrate on economic survival. Networks play an important role in developing and supporting these strategies. These networks are a backbone of the Ukrainian state and society, and as such they are a vital structure of, and play an important function in, all different groups of Ukrainian society. As much as they are helping some Ukrainians to survive they are also helping a smaller minority to enrich themselves.

Since Ukrainian society embraced market forces, financial transactions have become more important in these networks. Corruption has become endemic to Ukrainian society and has permeated not only the economic sphere but also public services such as education, health care and social services. As a result of political centralisation, only lip service is paid to the reform of local government and to the process of decentralization. The process of centralisation, together with the economic recession and high levels of corruption is creating a fragmented society in which there are increasingly fewer connections between different groups in society.

In relation to the above summary of our research results we recommend the following:

1. To discuss, amend and implement the draft laws of 2009; Draft Concept on Administrative and Territorial Structure Reform in Ukraine and the Concept of Local Self-Government.
2. To be able to fulfill the task above it is important to build capacity to discuss, amend and implement the draft laws:
  - 2.1. There are already provisions in the Ukrainian legislation and they need to be put into practice. To enable this there is a need to invest in human capital;
    - 2.1.1. To address the standard of education in primary and secondary schools, as well as regional differences and differences in rural and urban areas.
    - 2.1.2. The number of universities has gone up and the level of education has gone down. The Bologna Agreement needs to be implemented. There is a brain-drain taking place, especially among the best educated.
    - 2.1.3. There is a need for citizenship or civic education. The ruling elite is still immersed in the Communist legacy and is there to rule not to serve. As a result, a majority of population has withdrawn from the political sphere.
3. To address the high levels of corruption in Ukrainian society. Corruption has spread to all levels of Ukrainian society.
4. To invest in the development of civil society, which has diminished in the aftermath of the Orange Revolution.

In sum, Ukraine is a highly centralised state and a fragmented society. Political decisions are made by a small ruling elite that combines political and commercial interests. Centralisation has been taking place since 2010 and the ruling elite pays lip service to the reform of local government. As a result, the present political situation in Ukraine is characterised by the absence of decision-making. The Ukrainian ruling elite does not promote, let alone strengthen, local

government, capacity building and citizens' democratic participation at local and regional levels. Civil society is too weak to put pressure on the President and the Parliament, and Ukrainian citizens show little interest in participation since they do not trust the ruling elite.

**[Policy inference 4.14:** The EU should cooperate with countries of the former Soviet Union and North Africa to improve governance quality in these regions.]

## **6.6 Use of social capital for entrepreneurship**

Bartlett, Popa and Popovski (2013) state that the removal of barriers to entry and growth is an important focus of policy, to stimulate entrepreneurship in the transition economies of ENP. Moldova and Ukraine still have a long way to go in liberalising their economies (Bartlett et al. 2012). The situation is not much different in the non-transition economies of North Africa. In all ENC economies therefore, liberalisation of the business environment is needed to stimulate the further development of small and medium enterprises (SMEs).

The state has an important constructive and supportive role to play in establishing the basic institutional framework in which entrepreneurship can flourish, new firms are encouraged to enter the market, and established firms have appropriate incentives to undertake investment and generate employment opportunities (Tyson et al. 1994; Smallbone and Welter, 2001b, 2010a, 2010b). In addition to macroeconomic stability and secure property rights, governments need to establish an effective institutional support structure for the development of the SME sector (Kolodko 2000). In particular the establishment of formal institutions to monitor and enforce competition, and reduce the ability of large monopolistic firms to stitch up local markets, is an important element of building an institutional framework supportive of a dynamic market economy and economic growth. The Croatian government began to develop an institutional support structure for SMEs in the 1990s, passing a Law on the Encouragement of Small Business Development in 2002. A national strategy for SMEs was adopted in Macedonia in 2002. As yet, such national strategies have not been adopted in the ENP countries.

However, progress with creating a formal institutional framework for the support for SMEs is not the whole of the story. Other missing ingredients include informal institutions, which can either promote or hinder the development of small businesses, including factors such as the extent of corruption, informal norms of business behaviour, and the size of the informal economy. In addition, the degree of interpersonal trust is an important factor. A legacy of ethnic tension can undermine such trust relationships and make it difficult for entrepreneurs to do business on the basis of arms-length anonymous contracting. Instead they are reduced to a smaller circle of business partners who they know personally and can trust to do business with them. Such trust is hard to rebuild if rent-seeking clan or social networks of the former nomenklatura elites reinforce the political connectedness between the large firm sector and the political elite. Such political connectedness supports the monopoly positions of local tycoons, and provides both overt and hidden barriers to small business entry and growth. This drives up business costs and reduces the quality of goods and services, reinforcing the lack of international competitiveness of most economies of the region. Policy makers will need to address these issues in a serious way if the potential of the small firm sector to promote economic growth, in an increasingly difficult global market environment, is to achieve its full potential.

**[Policy inference 4.15:** EU policy-makers should consider supporting Ukraine in the discussion, amendment and implementation of draft laws of 2009 which emphasise: (1) the investment in education and implementation of the Bologna Agreement, (2) investment in citizenship and the development of civil society.]

### **6.7 Policies for addressing the skills mismatch and labour market distortions in ENCs**

The major finding of the study by Bartlett (2013) is that there is a different pattern of skill matching across education qualifications between transition economies and emerging economies in the ENP region. In most countries there is a clear divide between mid-level educated workers with secondary education, who suffer high levels of positive mismatch, and more highly educated workers with a university education who have a better experience in the labour market (as do workers with a very low level of education). This pattern is found in the transition economies such as Croatia and Moldova. It is similar for the Ukraine, with the exception that tertiary-educated workers also suffer high levels of positive mismatch and only a post-graduate qualification ensures easy access to a job. The picture is rather similar in Turkey, with the exception that there is a huge gender bias, with women facing a far greater degree of mismatch than men at almost all levels of qualification. Egypt shows a completely different pattern, with high levels of mismatch among all education groups. Among workers with primary education or lower, the level of negative mismatch is high, while among the more educated with secondary and tertiary levels of education, the level of positive mismatch is high.

Policies need to address the high level of mismatch in the middle level of education achievement. This means reforming secondary vocational schools to replace out-dated curricula and improve the efficiency of school systems. Policy makers need to make the necessary changes to education and training systems. To this end, vocational education systems need to adapt or be reformed. Appropriate changes need to be made in the curricula, in the reallocation of teachers between subjects, in teacher retraining and in school restructuring.

Higher education systems also need attention since there is a growing demand for highly skilled workers, evidenced by the high level of mismatch of university graduates. Even though enrolment in universities has increased, there appears to be much scope for further growth at the tertiary level. However, any further expansion of tertiary education also needs to be well regulated to ensure that the quality of the education experience does not decline.

At the same time, the capacity of the public administration to carry out labour market forecasts or skills forecasts is limited by budget cuts, caps on public sector employment, and a lack of statisticians and labour market experts to carry out the analyses. Contracting out of services may to some extent overcome such limitations, but will not completely solve it. The first priority therefore is to carry out capacity building within public administration to enable appropriate staff carry out, and use, skill mismatch analyses and macroeconomic and sector skill forecasts.

Yet, even if the macro- or sector-level skill forecasts are carried out, and education and training systems are adapted, reformed and restructured, such a top-down approach may still fail to address skill mismatches: future demand for skills may not match projections due to unexpected technological and structural change. For this reason, ENCs should also consider using subsidies

to ensure a greater degree of skill matching, especially for adult training and retraining purposes, and to supplement skills forecasts and skills anticipation activities which are likely to remain especially useful for guiding long-term investments in the provision of initial education.

Finally, research has shown there are substantial and significant common problems of mismatch in the labour markets of both the EU Enlargement and EU Neighbourhood countries. Some specific policy measures could help to reduce this including (i) incentives for older less-skilled workers to retrain and for firms to carry out more and better in-house training for workers of all skill levels; (ii) reform of the secondary and vocational education systems, especially in transition countries; (iii) measures to improve the labour market matching for women workers, such as provision of publicly-provided nursery and kindergarten education for young children especially in the emerging market countries; (iv) encouragement to employers to take on younger skilled workers through job subsidies and internships; and (v) provision of improved skill forecasts to professionals in career and education guidance for adults as well as school leavers.

**[Policy inference 4.16:** To stimulate entrepreneurship in the small firm sector in the EU neighbourhood, policy makers need to address issues that undermine trust relationships such as a legacy of ethnic tensions, rent-seeking clans or social networks of the former nomenklatura elites that reinforce the political connectedness between the large firm sector and the political elite.]\*

**[Policy inference 4.17:** The EU should consider supporting educational reform policies in the Ukraine to address the skills mismatch by updating curricula and improving efficiency of secondary vocational schools.]\*



### 6.8 Law approximation (harmonisation) under the ENP

Harpaz (2013) discusses the approximation of laws under the ENP. He states that, first, the ENP's lack of definition and legal clarity light definitiveness and legalism and the flexible nature of mechanisms of conditionality under which the EU sets out the terms that must be met by ENC's participating in ENP programs, reduces its effectiveness. Second, this light legalism, coupled with the lack of "joint ownership" between the EU and the NCs in formulating and implementing the ENP, should not be perceived solely in a negative light, because there are positive repercussions of these features. Third, the EU should offer a much more comprehensive and generous set of incentives in order to reinforce the mechanisms of positive conditionality and overcome interest groups in ENC that want to veto cooperation. Fourth, positive conditionality should be re-oriented more towards trade and regulatory expectations, as opposed to political expectations. This reorientation is especially warranted *vis-à-vis* ENC's such as Israel, where strong veto players exist. However, given that the ENC's have no prospect of becoming EU Member States in the short and medium term and in light of the (almost ten years) failure of the ENP to offer alternative meaningful incentives, it will be very difficult for the EU to re-establish, at least in the short-term, the credibility of the ENP's positive conditionality.

This difficulty, which is being accentuated during the current crisis in European leadership, in economic and monetary matters, and the ensuing rise in Euro-scepticism), only underscores the importance of instruments of social learning and institutional building in order to enable the ENP to serve as a robust, comprehensive, consistent and long-lasting (economic and political) anchor for reform. The EU should thus do more to establish enhanced cooperation, closer institutional links and networks between the EU technocracy and the technocracies of the various ENC's. Such links and networks may better succeed in advancing, on an *ad hoc* basis, alignment on specific-issues relating to trade, and depoliticising moves towards regulatory and legislative alignment. The EU's Twinning programmes and the full or partial opening of other EU programmes and institutions to ENC's could be an important move. As this research has attempted to establish, the EU is continuing to overcome challenges in the spheres of social learning and institution building. The EU together with the ENC's should rise to these challenges (Harpaz, 2013).

**[Policy inference 4.18:** The EU should consider supporting the Ukraine in lessening skills mismatch in the Ukrainian labour market with specific policies for: (1) retraining workers, (2) encouraging firms to retrain workers in-house, (3) investment in and regulation of educational reforms, (4) improvement of conditions for women workers by public provision of childcare such as nursery and kindergarten, (5) supporting employers to take on younger skilled workers through job subsidies and internships, and (6) improving skills forecasting for future labour market requirements.]

**[Policy inference 4.19:** The EU should offer a much more comprehensive and generous set of incentives in order to reinforce the mechanisms of positive conditionality and overcome veto players in the NCs.]

**[Policy inference 4.20:** Using trade incentives to influence the formation of democracy and human rights in European Neighbouring Countries should be re-oriented towards reform of trade and regulatory practices rather than to purely political reforms.]\*

The results obtained by Lopez-Tamayo et al. (2013) in their research on the effects of the ENP on the institutional, social and economic performance of EU neighbouring countries show that:

- (a) there are significant differences among countries in the ISEPI index;
- (b) the European Union neighbouring countries (ENC) are at the bottom of the league;
- (c) there are some differences between those countries located in the south of European Union and those located in the east;
- (d) between 1995 and 2011, only developed and European Union countries registered an improvement in the ISEPI index.;
- (e) a convergence process to a unique steady-state is not observed in the global ISEPI index;
- (f) a conditional convergence process has occurred during the period. At an individual level, only in the Macroeconomic Environment and Quality of life and labour market conditions has the speed of convergence speed been improved.

The results indicate that ENP has had different effects on different measures in the index and that the evolution of neighbouring countries is quite heterogeneous, taking into account their recent institutional, social and economic performance.

From a policy perspective, these results reinforce the validity of the bilateral action plans that have characterised ENP, recognising the different starting point and particular characteristics of each neighbouring country.

**[Policy inference 4.21:** The EU should do more to establish enhanced cooperative, closer institutional linkages and networks between the EU technocracy and the technocracies of the various NCs.]

In the framework of a European Neighbourhood Policy aimed at setting targets that can be successfully implemented for harmonising intellectual property rights within and beyond the European Union, Favale and Borghi (2013) make the following recommendations:

- The dismissal of the ‘one size fits all’ approach to IPR, international harmonisation, and the adoption of a more balanced approach, will have positive effect on successful implementation of the obligations agreed in the Action Plans and in the related bilateral agreements. This approach has to be pursued with greater determination, especially in the field of ‘automatic’ IPR, i.e. rights that do not depend upon registration and examination (copyright and related rights, unregistered designs).
- Presently, all bilateral agreements between the EU and ENCs include a ‘safeguard clause’ whereby restrictions on trade can be imposed on the ground of protecting IPR. This clause forecloses the application of Community exhaustion of IPR to contracting ENCs, and has the effect of restricting the parallel import of IPR-protected goods from ENCs to EU and *vice versa*. This is a serious barrier to trade. There is a need to explore the possibility of repealing or modifying the ‘safeguard clause’ with respect to those ENCs that show a level of protection comparable to that of the EU (in our analysis: Israel and Jordan).
- Most of the bilateral agreements stress the importance of law approximation and set detailed targets in this respect. It is suggested the focus on PR protection should be shifted to aspects that are more directly relevant to inter-state trade; most importantly this requires the coordination of judicial procedures and enforcement mechanisms.
- Progress has been made in the coordination of financial assistance to develop IPR agencies. Such financial assistance should be paralleled with administrative support from

EU agencies (for example, the Office for Harmonisation in the Internal Market and other inter-European institutions (e.g. the European Patent Office).

**[Policy inference 4.22:** The EU should continue its implementation of bilateral action plans which take into account the different starting points and characteristics of each NC.]

**[Policy inference 4.23:** It is suggested to explore the possibility of repealing or modifying the ‘safeguard clause’ for IPR.]\*

**[Policy inference 4.24:** Policies should shift the focus of bi-lateral agreements on intellectual property rights protection to become more directly relevant to inter-state trade; these include, above all, coordination of judicial procedures and enforcement mechanisms in European Neighbouring Countries.]\*

## 7. Testing SEARCH Policies

The previous section examined in detail a series of 77 individual policy inferences for separate issues (trade, etc.) that resulted from several rounds of internal review by researchers to ensure maximum coverage and clarity of the policy issues. We feel confident that the processes used have yielded a useful set of policy findings. However, we also worked from the proposal stage onwards to subject the policy findings to tests by other evaluative methods. These should help us understand more clearly how individual policy inferences fit within broader frames of reference. More specifically, we have addressed these specific evaluative questions:

1. How relevant are individual policy concepts to ENC regions? In short, which concepts are seen as applicable by external ENC experts and which not?
2. How do broad categories of policy overlap in terms of shared concepts? Are there potential complementarities?
3. How effective are distinct portfolios of policy concepts in generating growth and development? Which offer the likeliest payoffs?

To answer these evaluative questions, we conduct three additional policy tests: External expert review, Text-mining, and Modeling of policy impacts.

### 7.1 External Expert Review

The principal value of expert comments is ENC perspective concerning relative degrees of feasibility and applicability of evidence-based policy inferences. We wish to know how the issues raised by our research might fare in the policy world and in various ENC settings. To this end, we have conducted surveys of policy experts and officials in the ENP East and South. We also take full advantage of our final policy conference to elicit and document relevant insights from participant stakeholders, policy officials, EC representatives and SEARCH members.

#### *Policy Expert Scoring*

To understand the relevance of the policies, we conducted a scoring survey of stakeholders, advisory committee members and regional experts to judge how applicable, beneficial or difficult are the proposed policies. We posed three simple questions to each member, asking for a Likert-scale score for 39 policies and invited further comment as desired. The three questions were:

1. How well does this kind of policy fit the circumstances of your region? (5=Perfect fit, 1=Does not fit)
2. How likely is this kind of policy to benefit your region? (5=High benefits, 1=No benefits)
3. How easy would it be to implement/accommodate this kind of policy in your region? (5=Very Easy, 1=Very Difficult)

The 39 policies to which these questions were applied represent about half of all 77 policies discussed above, particularly those judged by SEARCH members as most interesting, novel or provocative. In all, 12 trade policies (A), 11 migration policies (B), 7 technology policies (C), and 9 institutional policies (D) were scored by regional experts. The overall relevance of these policies can be judged by the equally-weighted sum of overall score averages for fit, benefit and

difficulty. Considering first the 4 groups of policy types, (C) technology policies were on average seen as most relevant (4.16), followed by (A) trade (3.78), (B) migration/mobility (3.74), and (D) institutions (3.66).

The individual policies scored highest by experts are surely the more important consideration. No policy from the innovation group scored among the 24 lowest of 39; and while the mobility/migration group placed 3rd among the 4 groups in average overall score, two of its remittance-related policies (B9 and B10) are among the top 5 most relevant policies, which together include:

C7. The European Neighbourhood Policy should take account of regional differences in European Neighbouring Country innovation capacities in the formulation of its policies.

B10. European Neighbourhood Policy needs to reduce barriers to remittances by reducing monetary transfer costs such as fees and double taxation.

C1. The European Neighbourhood Policy should support the channels through which knowledge diffuses by formulating policies for: (1) the promotion of a mutual understanding of cultures and languages and (2) a balanced mobility of students between the EU and European Neighbourhood Countries, both in the academic and the industrial spheres.

B9. European Neighbourhood Policy should encourage improved electronic money transfer infrastructures for migrants.

A5. EU policy makers should consider increasing technical assistance and investments to European Neighbouring Countries for long-term improvements in the quality of institutions that support firm emergence and firm growth.

As the experts who scored policies were principally from the East ENC region, the following discussion is based on their scores. The policies scored by policy experts are presented in charts that portray the most (highest score) to least (lowest score) relevant policy along a black “\*”-punctuated line depicting average overall scores. However, we should recall this overall score is comprised of the three different dimensions scored by experts that refer to how well policies fit their region (yellow line), the likely benefits to their region (blue line), and the difficulty/ease of implementing or accommodating the policy in their region (red line). The three individual charts in which each dimension establishes its evaluative ranking reveal trend lines that broadly mirror the rank-order slope of the average overall line, but that also reveal some differences that represent possible tradeoffs between fit, benefit and difficulty. Fit and benefit scores lie generally above the average overall score line, while ease of implementation is reflected in generally lower scores, a pattern that holds true for all but one policy (B9).

Having reorganized the data in charts for individual components, we first note high scores for each component: scores for benefits meet or exceed 4.5 for 9 policies, fit meets/exceeds for 6 policies, while ease of implementation attains this high score for only 1 policy. At the lowest score range, ease of implementation scored 3.0 or lower for 7 policies, while comparably low scores for policy fit applied twice and policy benefit dropped to a score of 3.0 only once. The charts included at the end of this section permit one to detect the highest (and lowest) score for each policy by the three scoring criteria.

The 5 policies that attained the highest average overall score listed above were also among the 14 policies that met or exceeded 4.5 for one component. The 9 additional policies that might also be among the first to be considered for implementation by ENC's include:

Policies Fit to Region (score $\geq$ 4.5)

A5. EU policy makers should consider increasing technical assistance and investments to European Neighbouring Countries for long-term improvements in the quality of institutions that support firm emergence and firm growth.

D1. EU policy measures under the European Neighbourhood Policy should support the formation of institutional capacities and sound governance in European Neighbouring Countries.

D3. The European Neighbourhood Policy should promote school curricula that build capacity for and promote positive attitudes toward innovation.

Policies Beneficial to Region (Score $\geq$ 4.5)

A5. EU policy makers should consider increasing technical assistance and investments to European Neighbouring Countries for long-term improvements in the quality of institutions that support firm emergence and firm growth.

A8. Reforms to government expenditure, property rights, and the legal system should be a priority for EU policies to promote Foreign Direct Investment in European Neighbouring Countries.

A10. Research findings that demonstrate strong prospects for future growth from EU-based Foreign Direct Investment should be included in relevant materials and discussions between EU and European Neighbouring Country negotiators.

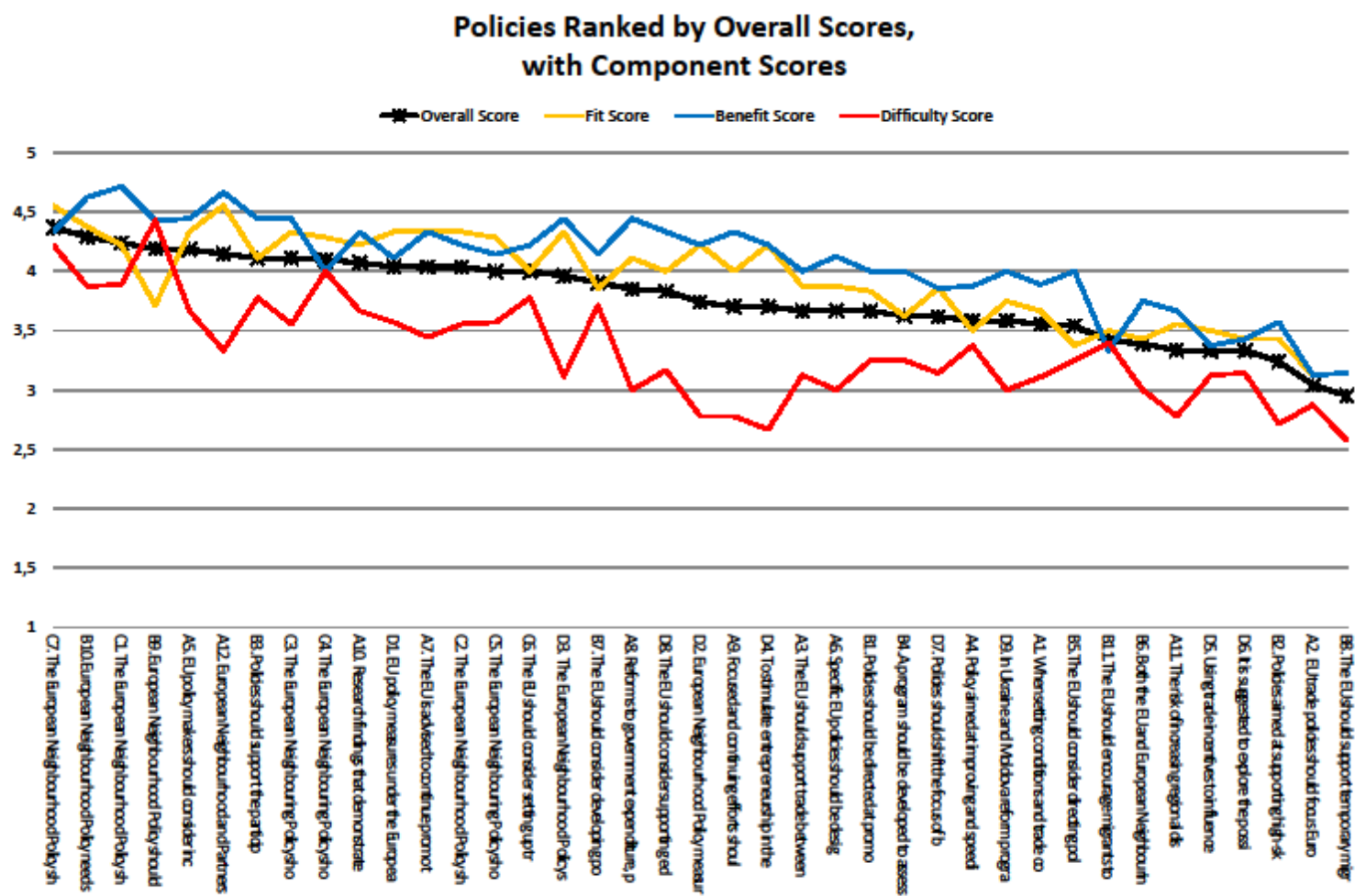
A12. European Neighbourhood and Partnership Instruments and related program supports should not be promoted broadly, but must take account of the quality of local infrastructures, capabilities, and regional institutions, as well as specific assets of key regions (at national as well as sub-national levels).

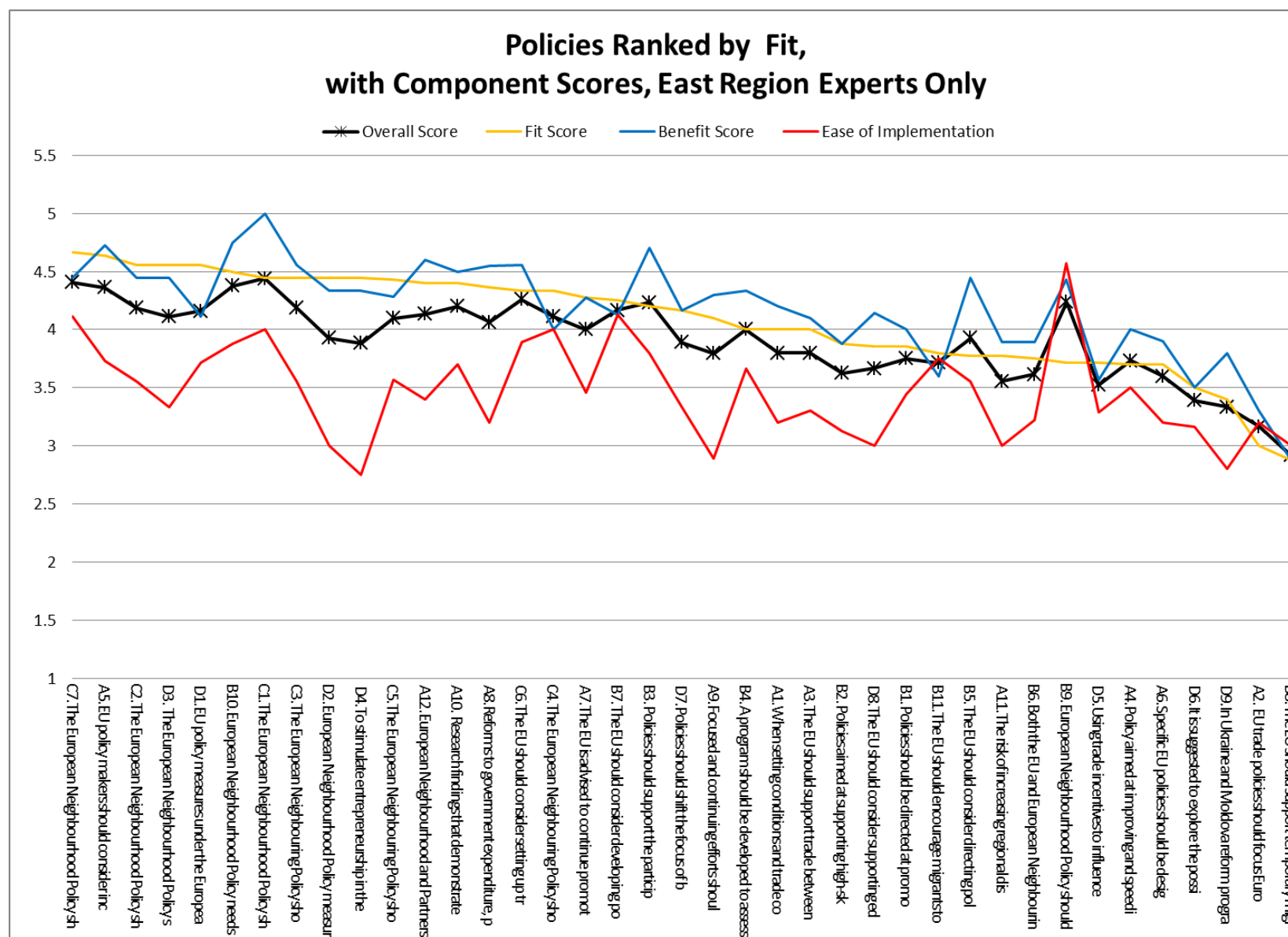
B3. Policies should support the participation of highly skilled workers in both EU and European Neighbourhood Country research networks.

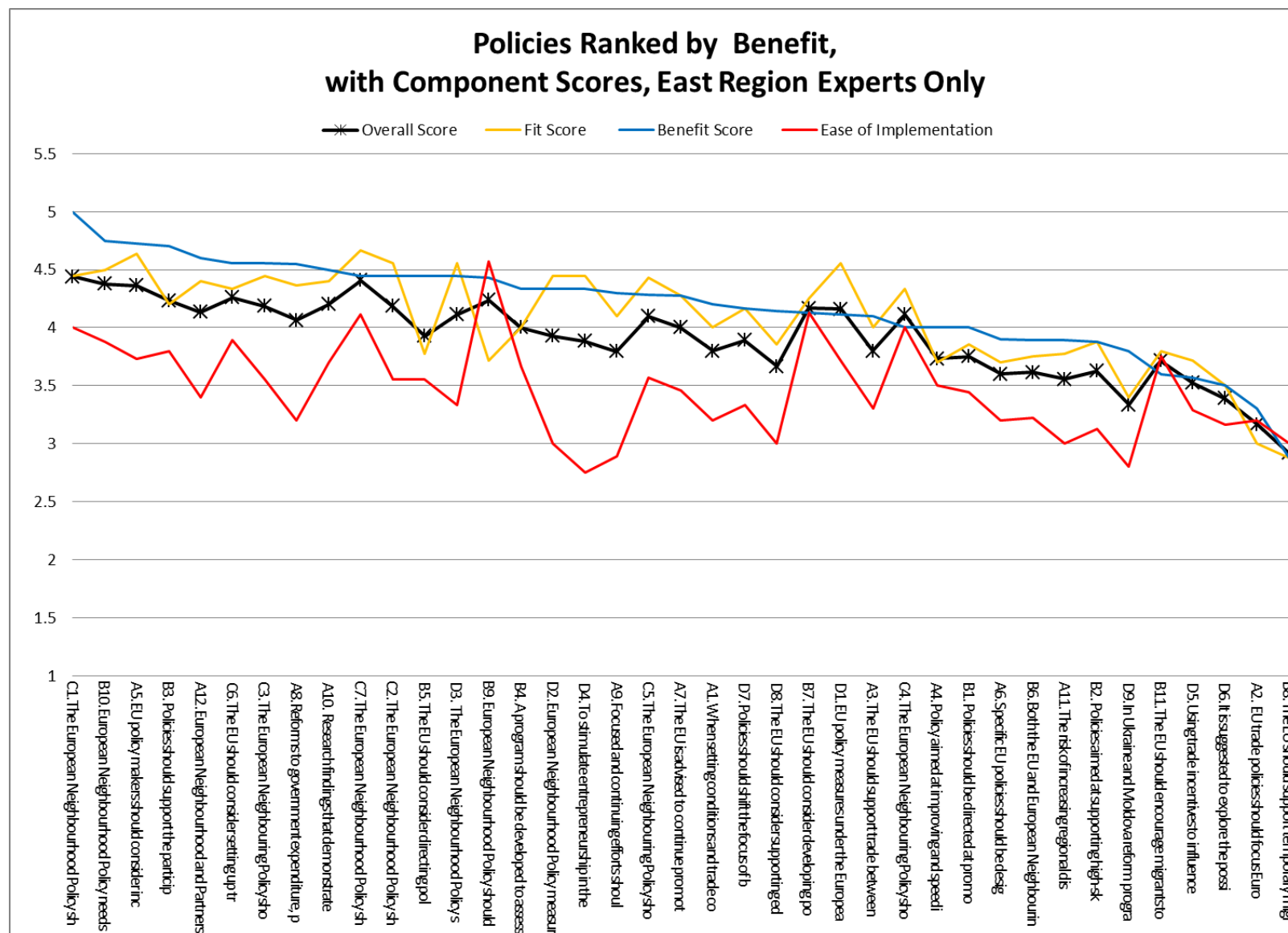
B10. European Neighbourhood Policy needs to reduce barriers to remittances by reducing monetary transfer costs such as fees and double taxation.

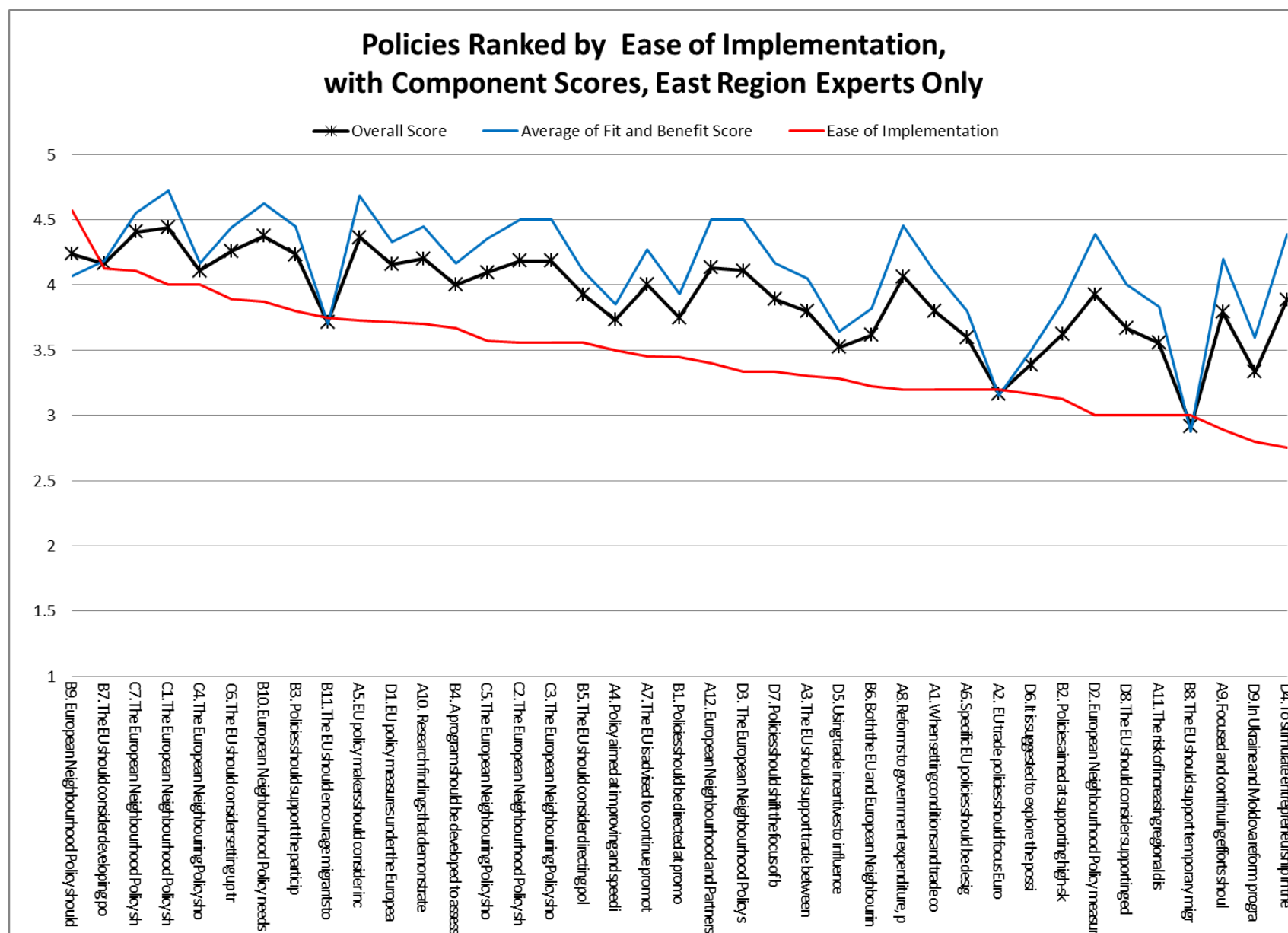
Policy makers doubtless recognize the frequency of implementation difficulties that often compromise otherwise desirable policies. Regional experts have scored the policies from their perspective, one which must also be reconciled with EU negotiators, who may find others equally appealing. These patterns clearly imply tradeoffs between the desirability of an ENP policy and the difficulty of its implementation from the ENC perspective, which could underlie difficulties faced by ENC and EU negotiators. This difficulty emerged from the very beginning of the ENP and continues up to the Ukrainian unwillingness to sign the EU Association Agreement.











## 7.2 Istanbul Roundtables

The Final Policy Conference assembles a large group of policy officials in Turkey who have the advantage of reading sections of this Policy Guide in advance. We take the opportunity to record relevant comments and suggestions that arise during discussions of the policies put forward. The thrust of these comments will be included in relevant portions of the final version of this report.

## 7.3 Text-mined Policy Complementarities

We now go beyond one-at-a-time expert testing of policy concepts by assessing similarities or differences that arise within and across the major policy groups, which is done by evaluating the frequency and connectedness of key words and terms embedded in policy statements. While this assessment can be managed by labour-intensive recording and recalling of words and concepts encountered during the process of extracting the policy inferences from perhaps 10 or 20 documents, this same process becomes impossible for the more than 80 SEARCH policy documents. We therefore take advantage of certain text-mining procedures.

This testing of “connectedness” is done by assembling the texts of individual work packages 2-5 into a master file of all words found in the Policy Notes and Policy Brief texts. As mentioned earlier, those files consist of substantive and meaningful content words that concern policies, less all the repetitive document titles/headings and naturally recurring parts of speech, which requires a combination of informed human decisions and the application of systematic algorithms. In the end, we have 5 files of “content words” for each work package 2-5, plus the sum of work packages 2-5.

We examine further policy-relevant connections by analysing a matrix of source documents according to the rank frequency of all unique and meaningful “content words” found in the collection of 81 policy documents, which together number about 2500. This data base is one to which relatively conventional analytic approaches can be applied, in this case Principal Components Analysis (PCA). PCA detects patterns of co-occurring words or phrases across documents, such that each individual set of co-occurrences is classified as a distinct (orthogonal) “component”. Every component is identified by its set of co-occurring words— according to their strength of association—and the component is rated in terms of how much of the overall co-occurrence (variance) it represents. Finally, PCA permits one to determine which of the 81 documents are most closely associated with each component<sup>6</sup>. Taken together, one can better understand the connections between the various document types (e.g., trade vs. mobility) and the concepts embedded in each, thereby allowing one to understand important complementarities and overlaps.

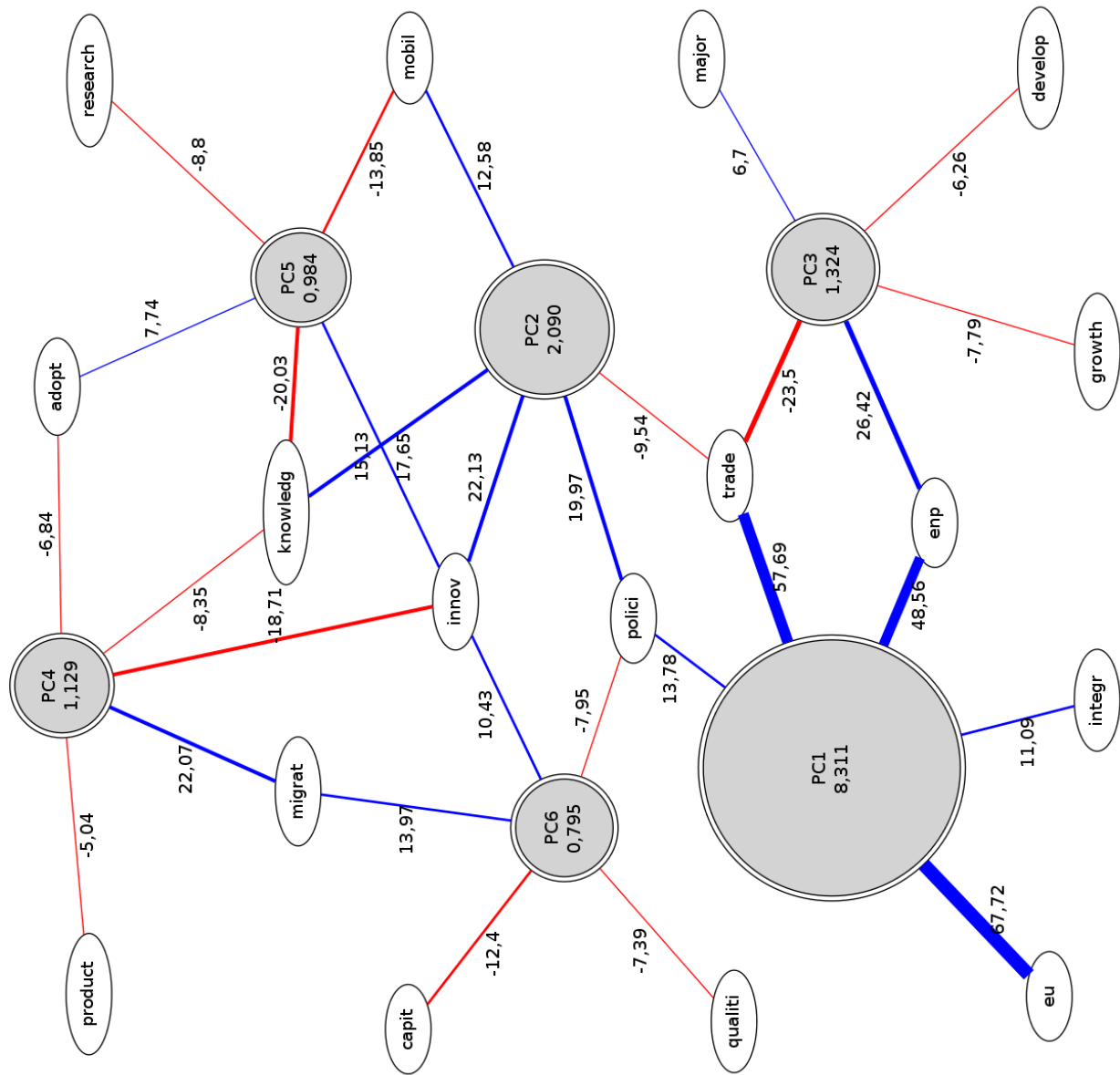
Applying PCA to our policy document data sets<sup>7</sup>, we find the following results. First, a series of 6 distinct components were extracted from the word frequency data, where components 1-4 provide the strongest evidence. These are depicted in the following graphic, which represents the numerical results visually. The size of each component circle is roughly proportional to the

<sup>6</sup> This highly simplified account should be supplemented with a more authoritative and complete description of how PCA is performed and interpreted, e.g. (<http://support.sas.com/publishing/pubcat/chaps/55129.pdf>).

<sup>7</sup> Text mining and related PCA analyses conducted by colleagues Miklos Hornyak and Ferenc Kruzsliz.

numerical amount of total co-occurrence (e.g., 8.310 for PC1 vs. 0.795 for PC6), while proportional-width lines to ovals associate each component to ovals containing the important “content word” shared by several documents (e.g., PC1’s strongest connection is to “trade” oval=57.69). Positive value lines mean much higher than average shared co-occurrence, while negative lines indicate much less than average. We can also see that some important words are important elements of more than one component, either higher or lower than average, although each component consists of unique word and therefore concept combinations.





Principal Components with Eigenvalue (Standard Deviation<sup>2</sup>) - the Cumulative Variance is 0,605  
Value of edge is the word score

We also know which of 81 specific policy documents are associated most closely with each component, which means these documents are the ones most likely to provide complementary information about the useful combinations of policy terms. We focus on the first 10 and second 10 most closely associated documents (as classified by the SEARCH workpackage group, e.g., trade, etc. that produced them) to detect cross-policy complementarities.

The following table is organized into 6 major columns, one for each component. Within each component column is the strength of association for the strongest specific documents 1-10 and 11-20, ranked from top to bottom. Documents with 2, 3, 4 or 5 in the third position represent those focused on trade, mobility, knowledge and institutions, respectively. These are color coded when viewed in digital formats. The lower portion of each component column summarizes the number by type of documents in the most closely associated 1-10 ranked and the next most closely associated 11-20 ranked. Considering the most closely associated documents only, we see that PC1 is dominated by documents produced by the trade working papers, while PC4 is similarly dominated by the mobility working group papers. PC2 and PC3 show fairly even mixtures of association across all four working groups, while PC 5 and PC6 reflect somewhat greater influence from knowledge and mobility work groups, respectively.

Component 1		Component 2		Component 3		First Ten	Component 4		Component 5		Component 6	
pn-2.11_03	0.583	pb-3.3_03	0.329	pn-2.3_03	0.543		pn-3.6_03	0.41	pn-4.17_03	0.256	pn-3.2_03	0.313
pn-2.3_03	0.503	pn-3.15_03	0.272	pn-5.27_03	0.245		pn-3.2_03	0.336	pn-5.17_03	0.255	pn-3.21_03	0.275
pb-2.2_03	0.319	pn-5.17_03	0.226	pn-2.8_03	0.171		pn-3.10_03	0.282	pb-4.2_03	0.216	pn-4.17_03	0.237
pn-2.18_03	0.27	pn-3.14_03	0.211	pn-3.4_03	0.121		pn-3.21_03	0.263	pn-4.16_03	0.215	pn-3.6_03	0.23
pn-2.7_03	0.211	pn-4.18_03	0.2	pb-3.3_03	0.115		pn-3.20_03	0.201	pn-5.10_03	0.214	pb-4.2_03	0.187
pn-2.8_03	0.177	pn-2.15_03	0.197	pb-2.2_03	0.092		pn-3.3_03	0.156	pn-2.15_03	0.178	pn-5.10_03	0.175
pn-5.27_03	0.135	pb-4.2_03	0.184	pb-4.5_03	0.081		pn-3.19_03	0.15	pn-5.5_03	0.172	pn-4.16_03	0.168
pn-2.1_03	0.115	pn-5.19_03	0.181	pn-5.11_03	0.078		pn-3.1_03	0.148	pn-5.9_03	0.142	pn-3.20_03	0.156
pb-2.4_03	0.107	pn-5.15_03	0.171	pb-4.1_03	0.072		pb-3.1_03	0.131	pn-5.19_03	0.127	pn-5.5_03	0.121
pb-2.1_03	0.102	pb-4.4_03	0.166	pb-2.5_03	0.067		pn-5.19_03	0.114	pn-4.28_03	0.089	pn-3.1_03	0.112
pb-2.5_03	0.1	pn-4.17_03	0.164	pn-3.13_03	0.067		pn-3.11_03	0.105	pb-4.3_03	0.085	pn-3.3_03	0.11
pn-2.9_03	0.088	pn-3.2_03	0.163	pn-3.15_03	0.061	Second Ten	pn-5.20_03	0.097	pn-5.11_03	0.085	pn-3.10_03	0.092
pb-4.1_03	0.083	pn-3.6_03	0.163	pb-2.1_03	0.056		pn-3.22_03	0.085	pn-2.3_03	0.082	pn-2.3_03	0.09
pn-2.16_03	0.082	pn-5.10_03	0.163	pn-5.20_03	0.055		pn-5.27_03	0.078	pn-5.27_03	0.081	pn-2.7_03	0.054
pn-3.4_03	0.077	pn-4.16_03	0.16	pn-3.16_03	0.054		pn-3.9_03	0.072	pb-2.3_03	0.076	pn-3.17_03	0.051
pn-2.10_03	0.076	pn-3.19_03	0.156	pb-4.4_03	0.053		pn-2.14_03	0.069	pn-3.10_03	0.071	pn-5.17_03	0.049
pn-2.6_03	0.074	pn-3.10_03	0.15	pb-3.1_03	0.051		pn-5.15_03	0.067	pb-2.2_03	0.07	pn-3.16_03	0.045
pn-5.11_03	0.069	pn-5.5_03	0.143	pb-3.2_03	0.051		pn-3.4_03	0.063	pn-2.14_03	0.069	pn-5.8_03	0.041
pn-2.2_03	0.065	pb-4.3_03	0.135	pb-2.3_03	0.046		pb-3.2_03	0.06	pn-5.8_03	0.067	pn-5.7_03	0.037
pb-4.3_03	0.062	pn-2.14_03	0.132	pn-3.12_03	0.042		pn-3.8_03	0.058	pn-5.22_03	0.064	pn-4.28_03	0.036
Documents	Score	Documents	Score	Documents	Score		Documents	Score	Documents	Score	Documents	Score
9		1		4		Trade Mobility Knowledge Institutions	0		1		0	
0		3		2			9		0		5	
0		4		2			0		5		3	
1		2		2			1		4		2	
5		1		2		Trade Mobility Knowledge Institutions	1		4		2	
1		4		6			6		1		3	
2		2		1			0		1		2	
1		3		1			3		4		3	

What does all this analysis this reveal about overall policy complementarities? The easiest way to see this is to examine separately each component's ensemble of complementary policy concepts AND its most closely associated set of documents. Let us examine the components, starting from most and ending with least important. As we shall see, trade drives the largest and most important set of policy complementarities, while various forms of innovation arise in four of the six policy components. Documents from Trade, Mobility/Migration or Knowledge dominate one or more components, but are absent in others, while Institutions dominate no component but are present in all.

#### Policy Component 1: Dominant Trade Concepts

Trade policy concepts clearly dominate this important component, followed closely by repeated mention of the European Union and the European Neighbourhood Policy. Lesser but significant concepts that revolve around integration and a focus on policy complete this component definition. This combination of concepts is reinforced by noting that 9 of the 10 most closely associated documents originate from the trade working group, the sole exception being a single document from the institutions working group. This set clearly reflects trade as the dominant incentive driving initial efforts to implement ENP as an effective EU integration policy among neighbours, showing little interaction with other policy concepts.

#### Policy Component 2: Knowledge-based Innovation Concepts

The transmission of knowledge and innovation is a clearly indicated policy objective, which obviously also depends heavily upon mobility policies, but which remain wholly unrelated to trade. The clear distinction between the first two sets of policy concepts is important to keep in mind when considering the possibility of complementarities<sup>8</sup>. The overall sense of this set of policy concepts is reinforced by the clear majority of associated documents originating from the knowledge diffusion and mobility working groups.

#### Policy Component 3: Major ENP Concept

This component is defined more by what is not addressed by the document language than what is: concepts embedded here are wholly unrelated once again to trade, as revealed by the fact that trade documents were twice as likely to be unassociated with this component concept than any of the 3 remaining working group documents that showed association. Also unrelated to this component are the words "growth" or "development". The only two positively re-occurring terms in this component are ENP and major, which alone do not reveal much. Consulting the frequency distribution of all co-occurrences of "major" and "ENP" among the 13,500 word pairs found across the 81 documents, the combined term "major ENP" arises 11 times, but no other word preceded by the word "major" occurs more than 3 times. Assuming the term "ENP" precedes other important terms of interest, the same frequency distribution finds 7 two-word combinations in which ENP precedes another word 5 or more times in all documents: growth (which we already know is wholly unrelated), region, state, and undertaking (5 mentions each); south (6), east (8), and countries (140). Therefore, this concept component probably reinforces the major importance of ENP to the various geographies mentioned immediately above.

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<sup>8</sup> The strong distinctions revealed here are further pursued in the policy model simulation tests discussed below.

#### Policy Component 4: Migrating Innovation

Concepts here overlap policy component 2 somewhat in its focus on innovation, although this component stresses migration (not mobility) and is wholly unrelated to issues of knowledge acquisition or transmission. The innovative component inheres in the human capital flows of migrants, which is wholly unrelated to “product” or “adoption” effects on innovation capacities. The component is dominated by selected documents produced by the mobility/migration working group, with none from the knowledge working group.

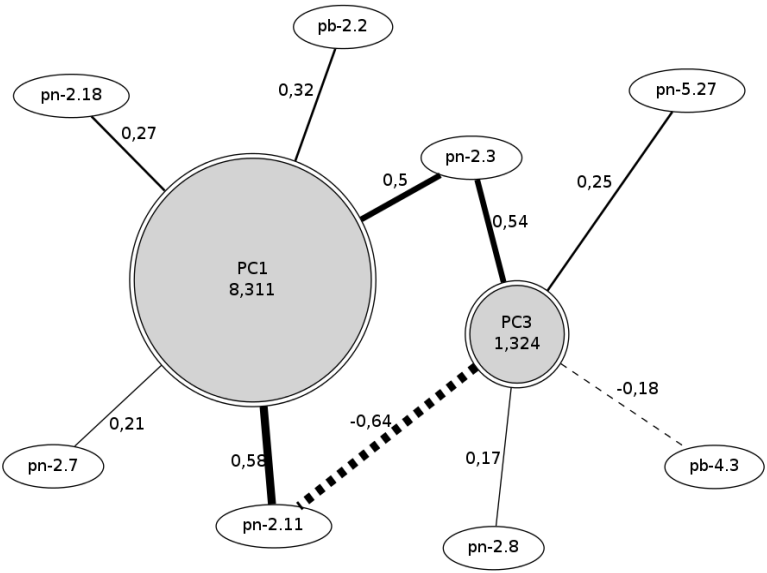
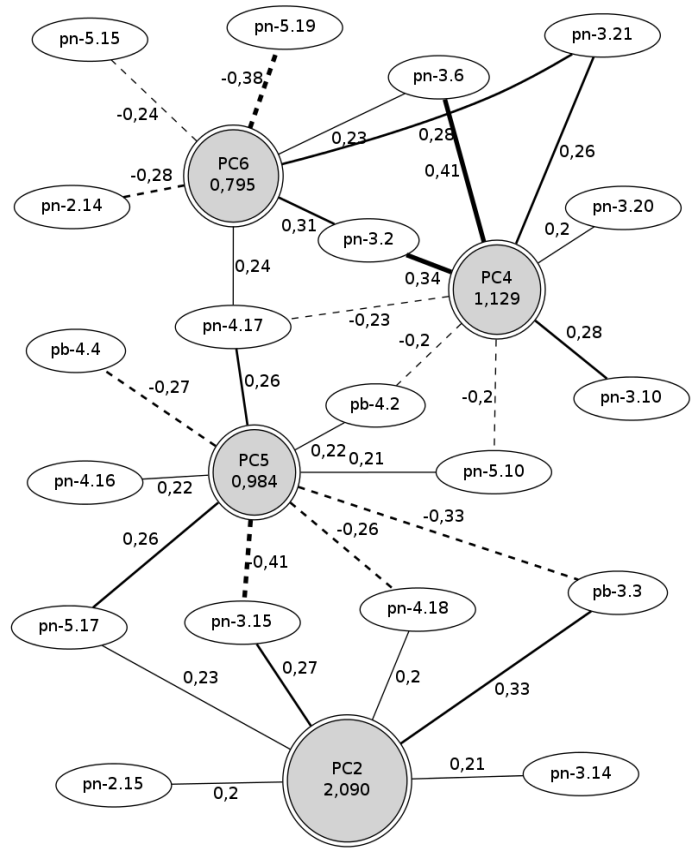
#### Policy Component 5: Innovation Adoption

This is the third policy component with a unique stress on innovation, this time with a stress on innovation adoption. Wholly unimportant are research, knowledge or mobility sources of innovation. Documents originating in the knowledge and institutions work groups are most closely associated with this policy concept.

#### Policy Component 6: Mobile Innovation

In contrast to policy component 4, innovation in PC6 is closely connected to mobility, not to migration. Nor is innovation associated here with the terms capital, quality or policy. Five of top 10 associated documents originate in the mobility/migration working group, five other documents coming from the knowledge or institutions work groups.

Each of the preceding policy components provide a working hypothesis about important complementarities among policy concepts examined in SEARCH documents. Further efforts to specify a portfolio of policy elements could easily begin with any of the component documents of interest, proceeding next to detailed examination of the most closely associated documents for further details. Only some of the documents are sufficiently complementary to be included in 2 or more components, the connections between which may be viewed in the following graphic that clearly depicts the separation of trade- vs. innovation-oriented documents into two distinct component clusters.



Principal Components with Eigenvectors - the Cumulative Variance is 0,605  
Value of edge is the PC loading (documents)

## 7.4 Policy Impact Model

The SEARCH project targets the analysis of the impact of the European Neighbourhood Policy (ENP) on the integration of EU neighbouring countries with the EU. Economic modelling of ENP features has the advantage that it opens the possibility of ex ante simulating the likely impacts or effects of different kinds of policies. Thus it provides a platform for the comparison of several policy options and possible guidance.

The specific model construct chosen is the GMR (Geographic Macro and Regional) modelling approach that has been applied earlier for Cohesion policy and EU Framework Program impact analyses at the levels of European regions, the European Union and Hungary. The particular country chosen for impact analysis is Turkey. This choice is motivated by practical reasons: availability and reliability of data for modelling. Though data collection for Turkey is not a process without difficulties the situation in this respect is relatively more advantageous there as compared to other ENP countries (with the exception of Israel which cannot be considered as a typical ENP country for other reasons). Turkey is an accession country but in several respects its economic, social and cultural features make this country reasonably comparable to many of the ENP countries.

The GMR framework is developed and extended in order to test as many as possible policy suggestions generated in earlier work packages of SEARCH. However, only some policy inferences can be implemented in an economic impact model; those concerning institutions cannot be included. This limitation explains our focus on prescriptions arising from WPs 2, 3 and 4. Instruments implemented in GMR-Turkey reflecting SEARCH policy suggestions are categorized into the following classes:

1. General macroeconomic (space-neutral) policy instruments (such as policies promoting increasing trade with EU countries, incentives for more intense FDI activity, policies supporting temporary migration, specific government tax and expenditure regulations to foster research activities and innovation collaborations).
2. Regional/local (place-based) interventions (such as investment support of SMEs, research subsidies, promotion of more intense local knowledge flows and international scientific networking, physical infrastructure construction, promotion of human capital development by supporting education, place-specific incentives for attracting FDI).

### General features of GMR models

The geographic macro and regional modelling (GMR) framework has been established and continuously improved to better support development policy decisions by ex-ante and ex-post scenario analyses. Policy instruments including R&D subsidies, human capital development, entrepreneurship policies or instruments promoting more intensive public-private collaborations in innovation are in the focus of the GMR-approach.

Models frequently applied in development policy analysis are neither geographic nor regional. They either follow the tradition of macro econometric modelling (like the HERMIN model - ESRI 2002), the tradition of macro CGE modelling (like the ECOMOD model – Bayar 2007) or the most recently developed DSGE approach (QUEST III - Ratto, Roeger and Veld 2009). They also bear the common attribute of national level spatial aggregation. The novel feature of the



GMR-approach is that it incorporates geographic effects (e.g., agglomeration, interregional trade, migration) while both macro and regional impacts of policies are simulated.

Why does geography get such an important focus in the system? And how can the GMR-approach be called “regional” and “macro” at the same time? Geography plays a critical role in development policy effectiveness for at least four major reasons. First, interventions happen at a certain point in space and the impacts might spill over to proximate locations to a considerable extent. Second, the initial impacts could significantly be amplified or reduced by short run (static) agglomeration effects. Third, cumulative long run processes resulting from labour and capital migration may further amplify or reduce the initial impacts in the region resulting in a change of the spatial structure of the economy (dynamic agglomeration effects). Forth, as a consequence of the above effects different spatial patterns of interventions might result in significantly different growth and convergence/divergence patterns.

“Regions” are spatial reference points in the GMR-approach. They are sub-national spatial units ideally at the level of geographic aggregation, which is appropriate to capture proximate relations in innovation. Besides intraregional interactions the model captures interregional connections such as knowledge flows exceeding the regional border (scientific networking or spatially mediated spillovers), interregional trade connections and migration of production factors. Important regional dimensions that may crucially determine the growth effects of development policies include the following aspects. Regional development programs are built on important local specificities (industrial structure, research strengths of the region, size and specialization of human capital etc.).

Models have to capture the effects of policies on local sources of economic growth such as technological progress, investment and employment. The models also need to be able to follow those cumulative agglomeration impacts such as intensifying localized knowledge spillovers and their feedback mechanisms that may arise as a consequence of policies. There are certain additional impacts on the regional economy instrumented by Keynesian demand side effects or Leontief-type inter-sectoral linkages.

Most of the infrastructural programs target better physical accessibility. Impacts of these policies on regions that are (directly or indirectly) affected also have to be reflected. There are different mechanisms through which policies implemented in certain regions affect other territories such as interregional knowledge spillovers and trade linkages and as such these effects also need to be incorporated in model structures.

The “macro” level is also important when the impact of development policies is modelled: fiscal and monetary policy, national regulations or various international effects are all potentially relevant factors in this respect. As a result the model system simulates the effects of policy interventions both at the regional and the macroeconomic levels. With such an approach different scenarios can be compared on the basis of their impacts on (macro and regional) growth and interregional convergence.

### **7.5 Lessons for the use of the *Final Policy Guide***

This Policy Guide is intended to provide the sources and evidence that lie behind various policy inferences drawn throughout the document. As such, it is likely to be of greatest service to policy officers and analysts in various regional, national and EU organizations charged with implementing certain aspects of the ENP. The Guide will be accompanied by a more concise companion document intended for busy policy makers and others who require an overview of what was learned from the SEARCH project, but who lack the time to peruse the detail on offer here. The breadth of the SEARCH project findings found expression in 77 policy options that were initially extracted from over 100 working papers, Policy Notes, and Policy Briefs. These are submitted for full consideration by ENC, EU member country and EC officials in their ongoing recalibration of ENP policy approaches.

A series of internal reviews and comment among SEARCH project members winnowed 77 policy options down to the 39 that were considered useful to test further, due to the fact that some reaffirmed important lessons while others yielded novel or provocative ideas worth testing further. This was the point where our Advisory Committee, along with invited ENC policy experts, provided valuable insights concerning how much these 39 might benefit ENC regions, how well they fit ENC circumstances, and how easily they might be implemented in ENC regions. From them, we learned that 14 were of greatest potential relevance, including five that stood out from the others. Other tests confirmed that policy inferences were in some cases drawn from “silos” of topic focus (e.g., Trade), while others overlapped and revealed important insights for complementary approaches. Drawing a distinction between broad policy portfolios that reflect traditional trade-oriented vs. innovation/knowledge-oriented approaches, results from a regional growth simulation model suggests that

### **Appendix I: Template for *Policy Notes* and *Policy Briefs***

The contents of the *Policy Notes* addendum are laid out below and consist of 3 main parts: 1. Objectives of research re. policy, 2. Scientific/Research methods, and c. Policy value-added. Parts 1. and 2. can be completed as soon as the research design is complete and work is underway, while part 3. requires research results. In total, this should require about 2-3 pages of text. Each section will also help contribute to the preparation of various *Policy Brief* sections, as indicated below.

#### **1. Objectives of Research re. Policy**

Provide 1+ paragraph(s) summary of the principal policy issue(s) that this SEARCH document or task addresses. Mention what may be known or presently controversial about the policy issue(s), its importance by level (EU to local), and its relation to the ENP policy framework. We need to know how this task element could contribute to an overall understanding of ENP policy potentials. (later useful for preparing *Policy Brief* Introduction (p.1) and Objectives and Methodology (p. 4) sections)

#### **2. Scientific/Research Methods**

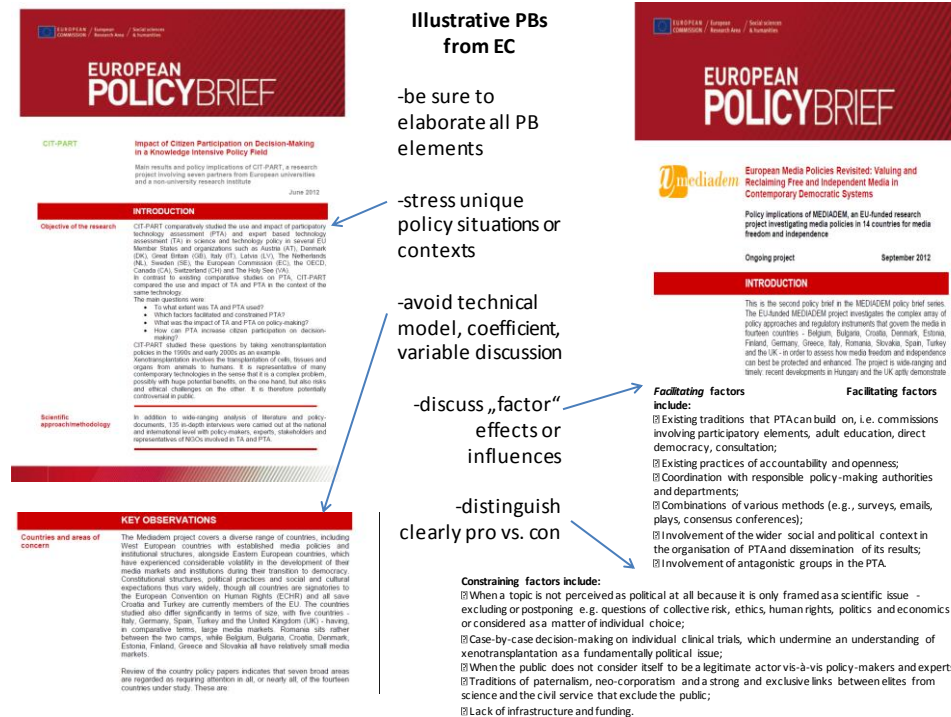
Provide a 1+ page discussion of the research design you have selected and how well-suited it is to understanding the policy research objectives listed in 1. (above). Please include: a. source(s) of evidence, “evidence hierarchy” and policy relevance of the evidence you will analyse in your research, b. analytic methods or models you will employ and their capacity to generate policy inferences, and c. theoretical or conceptual framework you have adopted to guide the research. We want to know how well-suited you think the research results might be as policy-relevant findings. (later useful for preparing *Policy Brief* Introduction (p.1) and Objectives and Methodology (p. 4) sections)

#### **3. Policy Value-added**

Provide a 1+ page summary of the findings that have policy relevance, particularly those that affect policy issues mentioned in 1. (above). Include in your discussion findings that confirm or challenge existing ideas about these policy issues, including key citations about existing views. Mention findings that may imply new or novel policy possibilities, or that uncover major unrecognized questions. Indicate the degree to which findings can be generalized, or if their applicability might be limited by specific geography, institutions or circumstance. If you have ideas about policy recommendations you would like to mention, please include them as well. (later useful for preparing *Policy Brief* Evidence and Analysis (p.2) and Policy Recommendations (p. 3) sections)

Please attach this completed template as the final appendix to the working paper, project report or deliverable of policy relevance. If editing feedback on parts of the addendum would be helpful at an early stage, please forward drafts to the WP6 project team.

Figure AI.1: Policy Brief Templates



## Using Template and Guide for PBs

- Following the revised **Policy Brief template** is required. Please note that it supplies the **length and structure** a Policy Brief should possess.
- A short guide to writing good Policy Briefs is highly recommended. The first few pages provide some useful overviews, but **Annexes 1 & 2 provide the most useful insights and valuable details**.

The stress throughout this guide is to design a **narrative or story-line** that links an original ENP concern with method-derived evidence in support of one or more policy inferences that might lead to action.

What is **not** useful is a simple inventory of findings and another of policy inferences for several loosely related policy domains, where the reader must somehow understand all the missing connections and relationships. This type PB would need to be revised.



## Appendix II: Text acquisition and analysis

### Aim

Text mining was also used to examine whether SEARCH Project *Working Papers* had achieved the project objective of a policy focus. This analysis involved the preparation of a text corpus and querying using basic descriptive text mining such as word frequency and word ranking.

### Method

Word patterns in SEARCH Working Papers were investigated by creating a benchmark against which to compare the word patterns to. As a benchmark two sets of ten most-cited published academic papers on the main topic area for Work package 2 (“Trade Flows and localisation choices”) and Work package 3 (“People mobility and human capital”) were used. Only these two work packages were selected for benchmark comparisons because both trade and migration are older fields for which terminology is relatively stabilised and less diffuse than the topics investigated in Work package 3 (“Technological activities and innovation diffusion in the EU and interactions with neighbouring regions”) and Work package 4 (“Institutional environment”) for which results generated were not considered as valid.

### *Data and analysis*

The data set was built in a series of stages. The first stage in creating the text corpus was to select the documents for analysis from the SEARCH Project and to find and choose the most cited academic papers as the benchmark text. 42 SEARCH working papers were selected in total, 19 from work package 2, and 23 from work package 3, which included all the working papers which had been available up to that point in time. For the benchmark text, a total of 20 scientific publications were selected from the ISI Web of Knowledge database. The most cited scientific publications were searched using the terms “trade” and “migration” (which generated more than 10,000 results) and from which the top ten articles were selected.

In the second stage, the text needed to be pre-processed or “cleaned”. All unwanted text from the documents was removed, such as repeated headers and footers (for example, project ID and page numbers), bibliography, appendices and banners, which left only the text body (title, abstract and body text). This was transferred from the pre-existing PDF files to txt files in unicode format for easy input into text analysis software programs. The data was inputted into the NVivo program and prepared for analysis.

Using the NVivo program, “sets” of data were created to enable results generation on individual groups of file and comparison using word frequency analysis. Word frequency analysis was run

on each set, using stemmed words only, and a minimum word length of four letters. The results were then exported into Excel for search and ranking of word stems for each individual set, thus enabling cross-comparison between the sets of working papers generated in Work package 2 and 3, and in the most cited articles on trade and migration.

Table AII.1: Word frequency and rank

Words	WP3 Migration	Most cited Migration	WP2 Trade	Most cited Trade
TOP 5 Frequency	Migration Incomes Effects Migrants Individuals	Migration Incomes Effects Migrants Individuals	Countries Trading Firms <i>Regions</i> Imports	Trading Countries <i>Products</i> Firms Exports
European (rank)	74	708	36	268
American (rank)	970	436	-	269
Urban (rank)	82	363	848	-
Regional (rank)	5	32	5	169
Policy (rank)	37	196	23	26

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