DOCUMENTSIEMed.

10

SEARCH
Research and assessment on Euro-Mediterranean relations

EUROPEAN COMMISSION
European Research Area

SEVENTH FRAMEWORK PROGRAMME

SEARCH

Research and Assessment on
Euro-Mediterranean Relations

IEMed.

European Institute of the Mediterranean (IEMed.)

Consortium formed by:

Ministry of Foreign Affairs and Cooperation

Government of Catalonia

Barcelona City Council

President:

Artur Mas

President of the Government of Catalonia

Vice-Presidents:

José Manuel García-Margallo

Minister of Foreign Affairs and Cooperation

Joana Ortega

Vice-President of the Government of Catalonia

Xavier Trias

Mayor of Barcelona

Executive President:

Senén Florensa

Board of Trustees - Business Council:

Corporate Sponsors

Fundació Abertis
Banc Sabadell
Caixa Bank
Iberia
Gas Natural Fenosa
Manubens
Port de Barcelona
Port de Tarragona
Repsol

Partner Institutions

Cambra de Comerç de Barcelona
ESADE
Foment de Treball Nacional
IESE Business School
Pimec
Societat Econòmica Barcelonesa d'Amics del País

The IEMed is a think tank for the identification and interpretation of the challenges in the Euro-Mediterranean area and for the preparation of proposals to confront them. It offers spaces for reflection and debate as well as advice and assistance to cultural and cooperation projects in the Mediterranean. Moreover, it promotes the participation of civil society in the Euro-Mediterranean space through several networks and in collaboration with entities from the social, economic and cultural worlds.

DOCUMENTS**IE**Med.

Published by the European Institute of the Mediterranean
Coordination: Javier Albarracín
Proof-reading: Neil Charlton
Layout: Sintagma, Creaciones Editoriales, SL
ISSN: 978-843-383864

January 2015

The collection **DOC**UMENTS**IE**Med. seeks to disseminate studies, reports and work documents closely linked to the current Euro-Mediterranean agenda. It is a descriptive approach to the main issues in the region, an indispensable tool to promote analysis of and reflection on the Euro-Mediterranean field.

Project funded by the European Union

EUROMED

This publications has been produced wiht the assistance of the European Union. The contents of this publication arethe sole responsability of the author and can in no way be taken to reflect the views of the European Union or European Institute of the Mediterranean.

SEARCH

Research and Assessment on Euro-Mediterranean Relations

CONTENTS

Section 3: Investment and Trade

Section 4: Labour Mobility

Presentation

Presentation

Senén Florensa, President of the Executive Committee, European Institute of the Mediterranean (IEMed)

The European Union Neighbourhood, both the east and the south, is going through the biggest transformations in decades. New economic, political, financial and social dynamics are taking place, deeply altering the status quo and redefining the relations between each of the neighbouring countries and the European Union. These changes are taking place simultaneously at a regional, national and sub-regional level, thus adding complexity and volatility to the processes and the outcomes. In such a historical context, the need to acquire deeper and more comprehensive understanding of the causes and the processes is more acute that ever.

The European Institute of the Mediterranean (IEMed) has among its objectives the promotion of value-added knowledge and the improvement of the stakeholder's awareness of the dynamics taking place in the Mediterranean. As a member of the SEARCH Project, and with this clear interest of better understanding the Southern Neighbourhood and its interactions with the EU, the IEMed has compiled in this document several of the most significant papers prepared throughout the project with a focus on Mediterranean dynamics.

The development of the Search Project (Sharing KnowledgE Assets: InteRregionally Cohesive NeigHborhoods) has two main objectives: the first is to analyse the main features of these multifaceted dynamics through multidisciplinary networking, and collect relevant data needed for the comprehensive understanding of the changes; the second objective, and based on this analysis, is to prepare policy inceptions induced by the scientific findings in order to suggest policy proposals that could improve relations between the EU institutions and Member States and the neighbouring countries.

The stakeholders and decision-makers who manage today's changing scenario need access to updated information, facts, data and ideas that can inspire new, creative and value-added policies in the main fields that make up the complex relations between the EU and its southern neighbours.

To achieve this aim, the SEARCH Project has advanced in the understanding of the patterns of economic interaction between the EU and its neighbouring countries, thus projecting future trends and identifying potential effects of higher levels of economic integration.

Trade flows between the EU and neighbouring economies, a key element of their interaction, have been studied along with the factors that determine investment location choices. The result of this research should help to better understand the logics of decision-making from the private sector and inspire policies that can improve the international attractiveness of some of the neighbouring regions.

SEARCH has also explored how neighbouring economies interact with the EU in the field of innovation, a domain that is increasing its relevance in the cooperation schemes to be established between the EU and its southern neighbours.

As labour migration is a consolidated and growing trend in EU relations with its southern neighbours, SEARCH has studied its economic and social consequences, both for the EU destination regions as well as for the neighbouring regions. The analysis of the resulting migration flows, remittances and human capital formation have also been key elements in the project.

The qualitative dissemination of all these findings, together with the resulting specific policy proposals among national and international decision-makers, academic environments and civil society at large is at the core of both the SEARCH Project and the IEMed. This compilation document serves this purpose with the clear objective of inspiring ideas and policies among the stakeholders but also encouraging civil society to strengthen relations at all levels among European Union societies and institutions and its southern counterparts.

Section 1

Education, Innovation and Knowledge

Institutional Environment, Economic Performance and Innovation in Turkey

Erkan Erdil and Teoman Pamukçu, Science and Technology Policies Research Center (METU-TEKPOL), Middle East Technical University, Ankara, Turkey

E-mail: erdil@metu.edu.tr and pamukcu@metu.edu.tr

Abstract

This paper investigates the relationship between economic performance and innovation in Turkey, while also taking into account the crucial mediating effect of the institutional environment. We carry out an in-depth analysis of the recent shifts in STI policy-making in Turkey. The emphasis is on the innovation support policy instruments, and their effectiveness, as well as on the formulation of national STI targets, sector priorities and targets in the field of human resources. A number of concerns are expressed for the effectiveness of policy instruments and for the attainability of national STI targets. In the second part, using firm-level data from an innovation survey pertaining to 2008-2010, an econometric exercise is conducted in order to test for the effectiveness of innovation support in Turkey. Innovation support is treated alternatively as an exogenous and endogenous variable. Findings indicate a positive impact innovation support in general. Innovation support granted by local authorities is not effective while EU-funded projects lead to innovation although they constitute an extremely low share of total innovation supports.

Keywords

Institutional Environment, Science, Technology, Innovation, Economic Performance, CDM Model, Turkey

JEL Classification

O1, O31, O38, B23

1. Introduction

Turkish economy ranks 18th in the 2011 list of world economies with $774,983m (€598,997m[1]) of total Gross Domestic Product for current prices (IMF, 2012).[2] The country has a population of 74.7m[3] (TURKSTAT, 2012), accounting for 14.87% of the population of the EU27 (EUROSTAT, 2012).[4] 67.4% of the population are between 15-64 years of age and half is younger than 29.7. The Gross Domestic Product (GDP) per capita in 2011 was €7,137 (TL17,553).[5] While the annual average growth rate was 4.2% between 2009 and 2011 in real terms, Turkey achieved a GDP growth of 8.5% in 2011 with constant prices. The GDP realized in the first three quarters of 2012 was €37,732m (TL87,655m) with a growth rate of 2.6% (TURKSTAT, 2012).[6]

The R&D intensity in Turkey was 0.86% in 2011[7] (TURKSTAT, 2012). While it is below the EU27 average of 2.03% (EUROSTAT, 2012),[8] the gross expenditure on R&D increased by 20.4% compared to the previous year. According to TURKSTAT, 45.8% of R&D expenditures were financed by business enterprises, 29.2% by the government sector, 20.8% by the higher education sector, 3.4% by other national sectors and 0.7% by foreign funds in 2011.[9] The Business Expenditure on Research and Development (BERD) undertaken in Turkey in 2011 was €1,958.8m (TL4,817.3m).[10] It has increased by 58%[11] in real terms since 2008. In 2011, the Higher Education R&D (HERD) was €2,063m (TL5,073.4m). This represents an increase of €835m (TL2,053m) since 2008 (a 68% increase in real terms). Government Expenditure on R&D (GOVERD) stood at €429m (TL1,263.5m) in 2011 representing an increase of €100m (TL247m) since 2008 (a 30% increase in real terms) (TUBITAK, 2012). The government earmarked an amount of €1.2b[12] (TL2.8b) for funding R&D in 2013.[13] The number of full-time equivalent (FTE) R&D personnel increased to 92,801 in 2011 from 67,244 in 2008, according to TURKSTAT.[14] The private sector employs 45,408 FTE R&D staff and universities employ 35,644 FTE R&D personnel while 11,749 FTE R&D personnel are employed by the public sector.

The main changes in the research and innovation system in 2011 that still have impacts in 2012 were the reorganization of three key ministries: the Ministry of Science, Industry and Technology (MoSIT) replaced the former Ministry of Industry and Trade after the

1. €1=$1.2938 (Central Bank of Turkey's effective sale rate for 30.11.2011).
2. http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx
3. http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=10736
4. http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/main_tables
5. At 1998 prices, €1=TL2.4593 (Central Bank of Turkey's effective sale rate for 30.12.2011). http://www.tuik.gov.tr/PreIstatistikTablo.do?istab_id=1221
6. Constant prices, €1=TL2.3231 (Central Bank of Turkey's effective sale rate for 28.09.2012). http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=10955
7. http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=10931
8. http://epp.eurostat.ec.europa.eu/portal/page/portal/science_technology_innovation/data/main_tables
9. http://www.turkstat.gov.tr/HbGetir.do?id=10931&tb_id=2
10. €1=TL2.4593 (Central Bank of Turkey's effective sale rate for 30.12.2011).
11. www.tuik.gov.tr/PreIstatistikTablo.do?istab_id=1
12. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
13. http://www.tbmm.gov.tr/butce/2013/konusma_30_Ekim_2012.pdf
14. http://www.turkstat.gov.tr/HbGetir.do?id=10931&tb_id=3

elections in June 2011. The science, technology and innovation-related duties of the MoSIT are defined as the development, implementation and coordination of the S&T and innovation policies, and the promotion of the R&D and innovation projects, activities and investments. The Ministry of Development (MoD) replaced the former State Planning Organization and is responsible for providing advice to the government and preparing national plans, policies, strategies and programmes, and coordinating regional development agencies, among other things. The newly created Ministry of Economy (MoE) is responsible for developing and implementing foreign trade and foreign direct investment policies, and investment incentives, among others. These ministries, along with the other high-level bodies in the national innovation system, are represented in the Supreme Council of Science and Technology (BTYK), which is responsible for the overall coordination of the national innovation policy.

National R&D targets of Turkey for 2023 were agreed by the BTYK on 27 December 2011. These are as follows:

- Achieving an R&D intensity of 3% (from 0.84% in 2010);
- Increasing business R&D expenditure as a percentage of GDP to 2% (from 0.36% in 2010);
- Increasing the number of FTE researchers to 300,000 (from 64,341 in 2010);
- Increasing the number of FTE researchers in the private sector to 180,000 (from 25,342 in 2010).

The National Science, Technology and Innovation Strategy 2011-2016 adopted in December 2010 by the BTYK focuses on human resources development for science, technology and innovation, transformation of research outputs into products and services, enhancing interdisciplinary research, highlighting the role of SMEs, R&D infrastructures and international cooperation. It also identifies automotive, machinery and production technologies, ICT, energy, water, food, security and space as focus areas. In line with this, the strategy puts special emphasis on keeping the balance between focused areas and bottom-up research (TUBITAK, 2010; IUC, 2011).

In addition to the National Science, Technology and Innovation Strategy 2011-2016, at the BTYK meeting in December 2011 the following new items were identified for the improvement of the research and innovation performance of the country:[15]

- Setting up a coordination board to secure integration, coherence and a target-oriented approach in R&D, innovation and entrepreneurship support mechanisms;
- Developing policy tools to activate and increase the number of R&D intensive start-ups;
- Developing policy tools to trigger innovation and entrepreneurship in universities;

15. http://www.tubitak.gov.tr/tr/kurumsal/bilim-ve-teknoloji-yuksek-kurulu/toplantilar/icerik-bilim-ve-teknoloji-yuksek-kurulu-23toplantisi-27-aralik-2011

- Promoting entrepreneurship culture;
- Improving public procurement and public right of use in such a way to foster innovation, localization and technology transfer;
- Promoting science centers;
- Developing policy tools to stimulate domestic patent licensing.

In accordance with the National Science, Technology and Innovation Strategy 2011-2016 and decisions taken in December 2011, in the 24th meeting of BTYK in August 2012, the new decisions were mainly directed towards increasing the quality of educational infrastructure. In the 25th meeting of BTYK in January 2013, six new decisions mainly on the e-government infrastructure were taken. Moreover, in this meeting, it was decided to include health as an S&T priority area.

Based on the key indicators and issues, the following challenges are identified for Turkey:

- Promoting research commercialization from universities;
- Increasing the number of innovative high-growth start-ups;
- Increasing R&D and innovation capabilities of the private sector (in particular, micro, small and medium enterprises [MSMEs]);
- Focusing on sectors and thematic areas of importance;
- Increasing availability and quality of research personnel.

In Turkish R&D and innovation policy, there is a clear shift from horizontal focus to sectoral focus. Another remarkable shift is the move from research to innovation. In general, research and innovation started to play a more important role in the overall national/regional policy mix and there is now an increased commitment to develop and implement a strategic, coherent and integrated policy framework.

The process of the harmonization with the EU *acquis* contributes to the above efforts, as it has done so far. Although not yet a Member State, Turkey's strategies and efforts in the field of S&T and innovation are, to a large extent, in line with the ERA pillars/objectives. In addition, R&D objectives of Turkey are in parallel with the ERA targets. The ERA developments have been closely followed by the policy-makers, and the BTYK launched the "Turkish Research Area" (TARAL) in 2004 with inspiration from the ERA.

For the short and medium term, it is important that innovation is placed at the heart of the development and growth process, and is integrated and embedded in each policy area. It is expected that the new governance system and existing high-level commitment for achieving the new targets set for 2023 will contribute to the enrichment of the policy mix with the design and implementation of new instruments.

2. Theoretical Background

Like many other developing countries, Turkey pursued an import substitution-based development strategy from the early 1960s to the year 1980, when this strategy was abandoned. During this period, the science and technology policies implemented were strongly influenced by the characteristics of this strategy (Katz, 1994; Rath, 1994): indeed, when it came to providing public support to technological activities of firms the focus was solely on the supply side of the R&D process, with the government determining which kind of R&D activities to support and how to support them. Besides a low level of direct public funding of business R&D, the promotion of business R&D activities was achieved mainly by the exemption from import duties and accelerated depreciation of capital goods used in R&D laboratories. The two basic assumptions behind these policies related to the supposedly linear nature of the innovation process (from basic research to applied research to commercialization of new products, excluding any interactions and feedback between the different stages of this process) and the existence of knowledge only in codified form. This conceptualization of technology also led to the creation of a public infrastructure for scientific and technological research by the State consisting mainly of public research institutes and laboratories, and university labs which were supposed to create *and* transfer new knowledge to the business sector. Little or no consideration was given to the demand side of new technology creation and utilization, taking little or no account of the needs of firms in this field.

The abandoning of import substitution-based industrialization in the developing world in the 1980s and the concomitant adoption of more outward economic policies radically changed science and technology policies therein (Hall and Maffioli, 2008). Indeed, a demand-driven approach substituted the previous supply-driven one and led to the exclusive funding of projects prepared and submitted by final users. Therefore, demand of the beneficiary (firms) has since determined priorities in the field of innovation and the allocation of resources to innovative activities. The main funding instrument of the post-1980 period has been direct subsidies to firms which are non-reimbursable and matching grants and for which the beneficiary is required to participate in the financing of eligible projects – in other words, total project cost is not covered (*co-financing* principle).

Another major characteristic of innovation polices of the post-1980 period was the initial neutral character of these policies and their later evolution to targeted or selective policies (Teubal, 1996; Lall and Teubal, 1998). The initial non-discrimination was justified by the need to not interfere with the market allocation of resources and provide important and flexible support to innovation activities in order to facilitate their routinization, initially in the business sector. More targeted and strict criteria were to be applied in the subsequent mature stage. In addition, no competition between firms existed for the allocation of resources but later more competitive mechanisms were adopted – such as the call for innovation project proposals.

The case for government support for innovation can be built both on the findings of mainstream economic theory and on the evolutionary approach. Starting with the former, innovation activity is related to several sources of market failure: inability to assign and protect property rights, information asymmetry and risk aversion.

The outcome of innovation efforts might be hard to appropriate. Although the system of intellectual property rights offers some protection, it is usually quite expensive to use[16] and secrecy might be hard to keep, given the modern means of communication, the reliance on teamwork in research and the professional mobility of skilled workers and researchers. Some discoveries are commercially applied only after a longer period of time and not necessarily in the kind of product (or even the kind of industry) they were initially expected to support. These factors discourage innovation, unless a firm has a long-term technology strategy, a considerable budget for patent protection and, ideally, a variety of products in its portfolio.

External funding is another problem for a firm willing to engage in R&D activities. The inherent innovation asymmetry makes it hard for the investor to assess the usefulness of a given project and to monitor the adequacy of a firm's efforts. A possible consequence is thus a "funding gap" (Hall and Lerner, 2010). Information asymmetry can result in credit rationing, i.e. a complicated and hard to use procedure for accessing the capital by innovative firms, to avoid the negative phenomena of adverse selection (attracting bad R&D projects) and moral hazard (inefficient work or excessively risky projects), (cf. Tirole, 2005).

Like other market failures the "funding gap", problems can be amended by market forces, in this case by actors such as venture capital firms or so-called angel investors (Goldberg and Goddard, 2011). However, this is more likely to mitigate the problem in developed countries, with strong innovation sectors. The evolutionary approach in the economics of innovation has developed further arguments in support of government aid for innovating companies (Metcalfe, 1995). Here the key concept is that of technology capabilities of firms (Pavitt, 1990), i.e. their ability to adapt, create and commercially exploit new technologies, and that of the system of innovation (Edquist, 2006). From this point of view, the development of new technologies is to a smaller extent a reflection of a competitive equilibrium than it is a result of processes of variety generation and selection. The role of technology policy is to facilitate these processes by enhancing firms' technology capabilities, supporting co-operation in the system and preventing the phenomenon of lock-in, among other things (Metcalfe, 1994).

16. According to the estimates by van Pottelsberghe and Meyer, the average cost of obtaining a patent in 2008 was about $2,000 in the USA, while in Europe it was between $17,000 and $35,000 (in purchasing power parity), depending on the country scope of protection. See van Bruno van Pottelsberghe, 2008.

3. Turkish National Innovation System

3.1 National Research and Innovation Priorities

The BTYK approved the National Science, Technology and Innovation Strategy (2011-2016) on 15 December 2010. The continuation of the pace of the improvement of R&D and innovation capacity achieved through the National Science and Technology Policies Implementation Plan for 2005-2010 has been one of the main motives behind the new strategies. The strategies aim at disseminating culture of multilateral and multidisciplinary R&D and innovation cooperation, stimulating sectoral and regional R&D and innovations dynamics, encouraging SMEs to become stronger actors within the national innovation system, and enhancing the contribution of research infrastructures to the knowledge creation capacity of the Turkish Research Area (TARAL).[17]

As explained by TUBITAK, in order to meet these aims, mission-oriented approaches in areas with strong RDI capacity, need-oriented approaches in areas with a demand for gaining acceleration, and bottom-up approaches including basic, applied and frontier research are identified under the new strategy, and the strategic framework has been set in such a way that it comprises three vertical axes and six horizontal axes that cross-cut the vertical ones (Figure 1).

The National Science, Technology and Innovation Strategy (2011-2016) defines the following strategic areas to focus on increased science, technology and innovation performance:

- Target-oriented approaches in the areas where Turkey has R&D and innovation capacities;
- Demand-oriented approaches where further R&D and innovation efforts are needed;
- Bottom-up approaches (including basic, applied and frontier research).

The cross-cutting objectives for these three areas are set as follows:

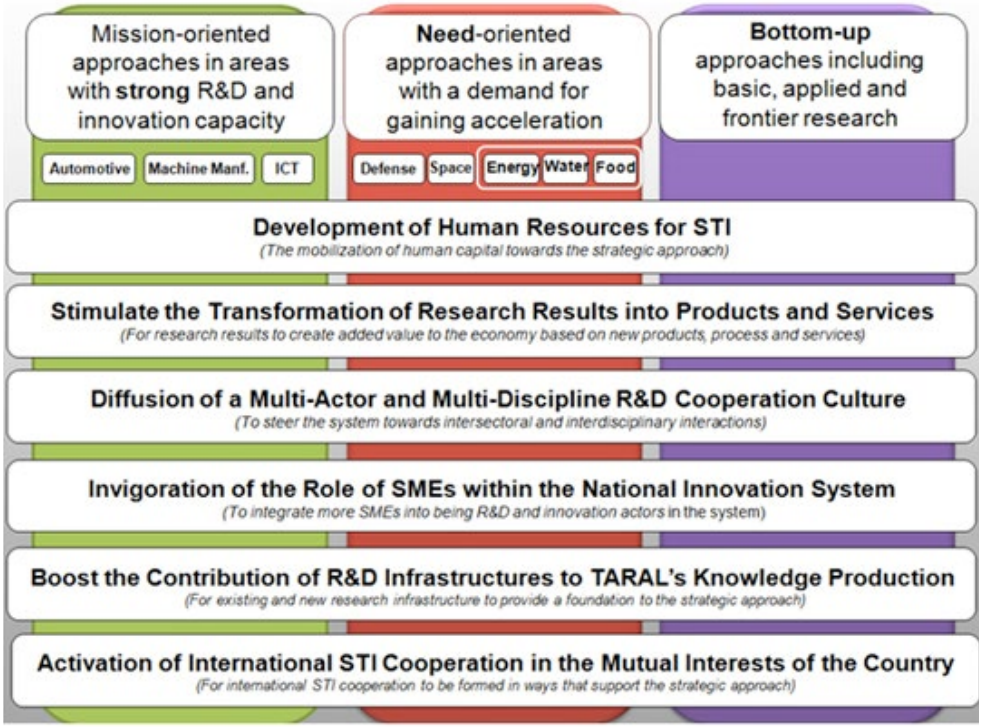
- Developing human resources for science, technology and innovation;
- Stimulating the transformation of research results into commercial products and services;
- Diffusing a multi-actor and multi-discipline R&D cooperation culture;
- Strengthening the role of SMEs within the National Innovation System (NIS);
- Increasing the contribution of R&D infrastructures to knowledge production of the Turkish Research Area (TARAL);
- Activating international science, technology and innovation cooperation for the benefit of the country.

17. http://www.tubitak.gov.tr/sid/2415/pid/2400/index.htm

Moreover, the national R&D targets of Turkey for 2023, which were agreed by the BTYK on 27 December 2011, include the following:

- Achieving an R&D intensity of 3% (from 0.84% in 2010);
- Increasing business R&D expenditure as % of GDP to 2% (from 0.36% in 2010);
- Increasing the number of FTE researchers to 300,000 (from 64,341 in 2010);
- Increasing the number of FTE researchers in the private sector to 180,000 (from 25,342 in 2010).

Figure 1. Strategic Framework of the National Science, Technology and Innovation Strategy (2011-2016)



Source: TUBITAK (http://www.tubitak.gov.tr/tubitak_content_files/BTYPD/strateji_belgeleri/UB-TYS_2011-2016.pdf)

As noted above, automotive, machinery and production technologies, ICT, energy, water, food, security and space were identified as priority sectors under the strategy. The health sector was also recently added as a new S&T priority sector in the 25th BTYK meeting in January 2013. The National R&D and Innovation Strategies were developed and approved for Energy, Water and Food by the BTYK in December 2011. This indicates a clear shift in R&D and innovation policy-making from a horizontal to sectoral focus.

Another remarkable shift is the move from research to innovation. While the National Science and Technology Policies Implementation Plan for 2005-2010 was mainly characterized by outlining research-oriented strategies, the National Science, Technology and Innovation Strat-

egy (2011-2016) started to discuss aims to transform research outputs into products and services. Finally, the BTYK decisions taken at its meeting on 27 December 2011, as noted above, put high emphasis on innovation, and link innovation with entrepreneurship.[18]

TUBITAK announced four new support programmes in 2012: the first measure is the "Support Programme for Individual Entrepreneurs", which is a multistage programme aiming to support individual entrepreneurs to transform their technology and innovation focused business ideas into enterprises.[19] The other two measures are directed to improve R&D performance in priority research areas. The "Support Programme for Research, Technological Development and Innovation Projects in Priority Areas" targets private sector companies whereas the "Programme for Supporting R&D Projects in Priority Areas" was directed towards researchers from both academia and private/public research centers.[20] [21] Furthermore, TUBITAK revised its "Support Programme for Research and Development Projects of Public Institutions" in the same period.[22] The programme is now accepting project applications to specific calls announced by TUBITAK regarding public institutions' needs. For this aim, TUBITAK has invited the public institutions to determine their priority needs that can be resolved by R&D projects. Finally, the "Support Programme for Technology Transfer Offices" aims to commercialize knowledge and technology in universities, to establish collaboration between universities and the private sector, and to produce knowledge and technology demanded by the industry. This new programme was announced in November 2012 and deadline for applications was the end of December 2012.[23] TUBITAK received around 40 project applications for this programme (BTYK25, 2013).

The new priorities also include governance improvements. The new decision of the BTYK for the coordination and coherence between policy measures is an important commitment in this respect. In addition, the creation of the new Ministry of Science, Industry and Technology in June 2011, which is given the responsibility for the development, implementation and coordination of the S&T and innovation policies, increases the priority of governance improvements in the policy agenda.

When the national priorities are compared with the structural challenges presented in Section 2, it is observed that the current priorities recognize and address the challenges identified, as explained above.

The new policy changes are not yet reflected in the policy mix of measures as they have very recently been introduced. The characterization of the policy instruments to foster public and private R&D investment is summarized below.

18. http://www.tubitak.gov.tr/tr/kurumsal/bilim-ve-teknoloji-yuksek-kurulu/toplantilar/icerik-bilim-ve-teknoloji-yuksek-kurulu-23toplantisi-27-aralik-2011
19. http://www.tubitak.gov.tr/tr/destekler/sanayi/ulusal-destek-programlari/icerik-1512-bireysel-girisimcilik-asamali-destek-programi
20. http://www.tubitak.gov.tr/tr/destekler/sanayi/ulusal-destek-programlari/icerik-1511-tubitak-oncelikli-alanlar-arastirma-teknoloji-gelistirme-ve-yenilik-p-d-p
21. http://www.tubitak.gov.tr/tr/destekler/akademik/ulusal-destek-programlari/icerik-1003-oncelikli-alanlar-ar-ge-projeleri-destekleme-programi
22. http://www.tubitak.gov.tr/tr/destekler/kamu/ulusal-destek-programlari/icerik-1007-kamu-kurumlari-arastirma-ve-gelistirme-projelerini-dp
23. http://www.tubitak.gov.tr/tr/destekler/akademik/ulusal-destek-programlari/icerik-1513-teknoloji-transfer-ofisleri-destekleme-programi

Route 1: Promoting the establishment of new indigenous R&D performing firms

As part of the broader industrial and innovation policy framework, the leading programmes aim to encourage the creation of new technology-based firms including the new "R&D, Innovation and Industrial Application Support Programme" of KOSGEB and "Technoentrepreneurship Support Programme" of the MoSIT. The former is the follow up of the "R&D and Technological Innovation Support Programme", replaced in mid-2010. The programme is composed of two sub-programmes: the R&D and Innovation Programme, and the Industrial Application Programme. 850 projects were funded with a support budget of €15.88m[24] (TL37.00m) in the scope of the R&D and Innovation Programme as of November 2012. The number of supported projects was 150 and the total support amount was €2.58m (TL6.00) for the Industrial Application Programme in the same period.[25] The programme also supports technology incubators (called "Technology Development Centers") of KOSGEB, which are established in cooperation with universities and local chambers to support technology start-ups.

As of November 2012, the MoSIT allocated €32.62m[26] (TL76m) to 741 entrepreneurs to start their technology-based business in the 2009-2012 period. A total amount of €12.02m (TL28m) was allocated to the supported projects in 2012 (BTYK25, 2013).

Route 2: Stimulating greater R&D investment in R&D performing firms

The primary focus of the measures in Turkey is on increasing the R&D investments of companies in general. The main instruments implemented for this purpose cover subsidies in the form of grants and soft loans as well as fiscal incentives. The leading measure is the "Support Programme for Industrial R&D Projects", which aims to increase R&D activities of the private sector and is implemented by TUBITAK. By November 2012, €106m[27] (TL247m) was provided to R&D projects of the private sector under this programme. From 2005 to 2012, 108 projects were funded by this programme (BTYK25, 2013). Together with this programme, two different programmes exist with comparably lower budgets, namely the "SME R&D Support Programme" and the "Support Programme for International Industrial R&D". The former is a programme directed towards SMEs that do not engage in R&D activities which will be explained in the next section. The latter is funded through EUREKA and ERA-NET call. In this programme, 30 projects with €3.26m[28] (TL7.6m) budget were funded in 2005-2012 period. The "R&D projects Brokerage Events Grant Programme" supports activities of R&D performers to introduce their R&D project ideas.[29] 59 projects with €0.45m (TL1.06m) budget were funded with this scheme in 2002-2012 period.

24. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
25. http://kosgeb.gov.tr/Pages/UI/Baskanligimiz.aspx?ref=23
26. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
27. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
28. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
29. http://www.tubitak.gov.tr/tr/destekler/sanayi/ulusal-destek-programlari/icerik-1503-proje-pazari-destekleme-programi

Another similar measure is the Technology Development Project Support Programme of TTGV. The amount provided as soft loan to the supported projects was €2.58m[30] (TL6m) in 2012. The funding provided to the new and ongoing projects were €9.87m (TL23m) in 2011 and €12.88m (TL30m) in 2010. Under the Advanced Technology Projects Support Programme (ITEP), which was initiated in 2011, TTGV allocated €4.98m[31] ($6.93m) for selected projects (BTYK25, 2013).

Tax incentives are provided under the "Law of Technology Development Zones" and the "Law on Supporting Research and Development Activities". The former provides tax exemption to R&D activities of tenants of technoparks, while the latter is used by companies located outside the technoparks and employing at least 50 FTE researchers in case they have been entitled as "R&D Centre" by the MoSIT. As of November 2012, there were 2,037 companies with 16,677 R&D personnel in 32 active technoparks. The MoSIT granted the "R&D centre" status to 138 companies as of November 2012 (BTYK25, 2011). The amount of support between 2008-2011 is €2,180.26m[32] (TL5,080m). Total number of patents from R&D centers reached 1,080 in 2012, which represents a 12.62% increase as compared to 2011. On the other hand, the total number of researchers in these R&D centers was 10,242 at the end of 2012 (MoSIT, 2012). Their amount of R&D expenditures between 2008 and 2010 was €2.06m[33] (TL4.8m) (MoSIT, 2011).[34]

The KOSGEB programme mentioned in route 1 above also covers this route and route 3 below.

Route 3: Stimulating firms that do not yet perform R&D

Apart from the aforementioned KOSGEB support for SMEs, the only scheme available to stimulate firms that do not yet perform R&D is the "SME Funding Programme" implemented by TUBITAK. It aims to increase the number of R&D projects carried out by SMEs by offering much faster and easier access for funding. €34.16m[35] (TL79.6m) and €32.23m (TL75.1m) was provided to the R&D projects of SMEs in 2011 and 2012, respectively. In 2012, an amount of €21.03m (TL49m) was allocated to the projects under this programme as of November 2012 (BTYK25, 2013).

Route 4: Attracting R&D-performing firms from abroad

Attracting FDI is one of the priorities of the government. However, there are no direct measures for pulling research-intensive FDI. The "Law on Supporting Research and Development Activities", which provides fiscal incentives for R&D activities of firms employ-

30. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
31. €1=$1.33 (Central Bank of Turkey's effective sale rate for 30.10.2012).
32. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
33. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
34. http://sagm.sanayi.gov.tr/Files/Documents/web-ar-ge-istatistik-26-0-08082012101635.docx
35. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).

ing at least 50 researchers, is expected to be used as a stimulus to attract foreign firms which would like to locate their R&D branches outside their home countries. The tax exemptions provided under the "Law of Technology Development Zones" have been instrumental in attracting 70 R&D-performing firms from abroad. Their total amount of investments reached €513.53m[36] ($683m) as of December 2012 (MoSIT, 2013).[37]

Route 5: Increasing extramural R&D carried out in cooperation with the public sector

The topic has been on the political agenda for a very long time. One of the programmes implemented for this purpose is the "Industrial Thesis (San-Tez) Projects" support programme by the MoSIT. By November 2012, the MoSIT provided €76.82m[38] (TL179m) to the projects supported under this programme. The funding provided to the projects in 2011 and 2012 was €13.73m (TL32m) and €26.18m (TL61m), respectively (BTYK25, 2013). In 2011, TUBITAK introduced the "Technology Transfer Support Programme for SMEs" aiming to promote technology transfer from universities to SMEs. However, this programme was extended to all types of establishments. Five project applications were received in 2011 and 7 out of 21 applications were funded in 2012 (BTYK25, 2013). Finally, as a part of the "Support Programme for Research Projects of Public Institutions", it is possible for public bodies to create consortiums with the private sector, universities or public research institutes to conduct joint R&D activities. Since this programme is more related to the increasing R&D in the public sector (and since R&D collaboration with third parties is not mandatory for public organizations), it is covered under route 6 below.

Route 6: Increasing R&D in the public sector

Involvement of the public sector in R&D activities is another topic that has been debated for more than a decade. The "Support Programme for Research Projects of Public Institutions" aims to address the R&D needs of public organizations. As part of the programme, the public administrations need to identify their needs, which could be solved through R&D projects (also see route 5 above). The total budget allocated for supported projects is €190.13m[39] (TL443m) as of November 2012 (BTYK25, 2013).

In the Turkish policy mix of measures, route 2 has been given higher importance when compared with the number of measures in other routes. It is expected that with the new policy measures to be introduced to implement the new strategies and decisions of the BTYK, the balance and efficiency of the policy mix will improve in the near future.

From the above programmes, only KOSGEB's "R&D and Technological Innovation Support Programme" was evaluated in 2010. The evaluation results indicate that the "Tech-

36. €1=$1.33 (Central Bank of Turkey's effective sale rate for 30.10.2012).
37. http://sagm.sanayi.gov.tr/userfiles/file/GENEL%20BR%C4%B0F%C4%B0NG%2007_01_13.doc
38. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
39. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).

nology Development Centers" established under this programme have proved to be successful in the creation of technology start-ups.

Route 7: Supporting Innovative Activities

The programmes under this route support various innovative and collaborative activities. The "Patent Applications Support Programme" supports applications for national and international patents.[40] In the period between 2007 and 2012, the total amount of supports reached €6.78m[41] (TL15.8m) for 7,357 projects (BTYK25, 2013). The "University-Industry Collaboration Grant Programme" commenced in August 2011. This programme aims to transfer knowledge and technology in universities and public research centers to the industry and the ultimate target is to commercialize unexploited idle knowledge[42]. Until November 2012, 7 projects were funded out of 26 project applications (BTYK25, 2013). The "Support Programme for Technology Transfer Offices" aims to commercialize knowledge and technology in universities, to establish collaboration between universities and the private sector and to produce knowledge and technology demanded by the industry. This new programme was announced in November 2012 and the deadline for applications was the end of December 2012.[43] TUBITAK received around 40 project applications for this programme (BTYK25, 2013). Finally, the "Establishment of Scientific and Technological Collaboration Networks and Platforms" programme aims to establish and enhance collaborative activities among institutions and establishments engaged in natural, engineering, health and social sciences and relevant technological fields.[44] It also aims to produce substantial outputs through these networks. However, this programme is under revision and new project proposals are not accepted. In the 2007-2012 period, 18 projects were funded with €5.11m[45] (TL11.9m) (BTYK25, 2013).

In sum, expected aims and influences of all of the above routes can be summarized as follows:

- Expanding R&D and innovation investments of the private sector (public-private sector 50%-50% ratio);
- Formation of R&D culture and structure in more firms, especially in SMEs;
- Acquiring project and source management skills;
- Providing the transformation of covered information to uncovered — codified — information by documenting the profits (tacit to codified knowledge transformation);
- Constituting collaboration between universities and industry;

40. http://www.tubitak.gov.tr/tr/destekler/sanayi/ulusal-destek-programlari/icerik-1008-patent-basvurusu-tesvik-ve-destekleme-programi
41. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).
42. http://www.tubitak.gov.tr/tr/destekler/sanayi/ulusal-destek-programlari/icerik-1505-universite-sanayi-isbirligi-destek-programi
43. http://www.tubitak.gov.tr/tr/destekler/akademik/ulusal-destek-programlari/icerik-1513-teknoloji-transfer-ofisleri-destekleme-programi
44. http://www.tubitak.gov.tr/tr/destekler/sanayi/ulusal-destek-programlari/icerik-1301-bilimsel-ve-tekn-isblg-aglari-ve-platf-kurma-girisimi-proj-isbap
45. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).

- Increasing the number of successful firms which are able to compete with world markets;
- Improving local products and services to decrease imports;
- Increasing productivity and product quality by improving product technologies;
- Getting financial success and new expansion opportunities through project outputs.

3.2 Challenges

Turkey is treated as a "modest innovator with a below average performance" in the Innovation Union Scoreboard (IUS) 2011.[46] In terms of average economic growth, Turkey had 8.5% real GDP growth in 2011, which is considerably above the EU27 average (1.5%). For Turkey, the improvement of innovation performance from 2010 has been well above the EU27 average (1.1%) in IUS 2011 with a value of 2.4%. According to the IUS 2011, the relative strengths are in "Open, excellent and attractive research systems", "Finance and support", "Innovators" and "Economic effects". However, the relative weaknesses are listed as "Human resources", "Firm investments" and "Intellectual assets". The Innovation Union Competitiveness (IUC) Report[47] also highlights a specific relative strength of Turkey in the quality of its scientific production, with 6.9% of its scientific publications among the top 10% of those most cited worldwide (IUC, 2011). IUC 2011 points out that in terms of human resources intensity and knowledge intensity of the economy, Turkey is behind the countries with similar industrial structure and knowledge capacity. It is mentioned that "Turkey's R&D profile is weaker than that of the EU average, in particular new doctoral graduates and patenting activity."[48]

Both the IUS 2011 and IUC 2011 reports underline high growth for "Business R&D expenditure", "PCT patent applications" and "Community trademarks". The annual growth rate for "Business R&D expenditures" is 1.3% for the EU27, while it is 12.8% in Turkey. This growth rate represents the highest growth performance among the countries studied in IUS 2011. Such a trend is also observed for "PCT patent applications". Turkey has the third highest growth rate (8.8%) in this indicator while the EU27 average has a declining rate with 0.8%. The same tendency is also observed for "PCT patent applications in societal challenges" defined as climate change mitigation and health although these challenges were not in the S&T priority areas in Turkey for 2011. The 25th BTYK meeting convened in January 2013 decided to include health as an S&T priority area. According to IUC 2011, "PCT patent applications in societal challenges may not reflect the patenting dynamics of Turkey." The annual growth in "community trademarks" is 12.8% in Turkey as compared to the EU27 average of 8%. However, the growth performance in "community designs" is the worst among all indicators. It decreases by 6.2%, being one of the worst performances among the countries in IUS 2011.

46. http://www.proinno-europe.eu/inno-metrics/page/innovation-union-scoreboard-2011
47. http://ec.europa.eu/research/innovation-union/pdf/competitiveness-report/2011/iuc2011-full-report.pdf#view=fit&pagemode=none
48. http://ec.europa.eu/research/innovation-union/pdf/competitiveness-report/2011/country_review.pdf#view=fit&pagemode=none, pp. 250.

The IUS 2011 underlines that growth performance in "Human resources", "Open, excellent and attractive research systems", "Finance and support" and "Firm investments" is above average. Growth in the main research and innovation indicators between 2000-2009 (R&D intensity, business R&D expenditures on R&D, public expenditures on R&D, new doctoral graduates, scientific publications within the 10% most cited scientific publications worldwide and PCT patent applications), except for patent activity in societal challenges, is reported in the IUC 2011.

According to IUS 2011, the growth rate in "new doctorate graduates" is 10.7% in Turkey, which is the second highest growth rate among the countries in IUS 2011. "Population completed tertiary education" indicator also has a higher growth rate (6.8%) as compared to the EU27 average (3.8%). In terms of "Finance and support", the growth rate of "R&D expenditure in the public sector" in Turkey (9.1%) is also higher than the EU27 average of 4%.

The IUC 2011 report also highlights Turkey's improvement in human resources for research and innovation and in knowledge transfer from public research to business enterprise over the period 2000-2008 as measured by the public sector expenditure on R&D financed by business enterprise as % of GDP. "This is particularly important given the relatively good performance of Turkey in scientific quality output" (IUC, 2011).

According to the Global Competitiveness Report 2012-2013[49] of the World Economic Forum, Turkey is in the stage of transition from efficiency-driven economies to innovation-driven economies. In the Global Competitiveness Index, Turkey ranks as 43 and exhibits good performance as compared to previous rank of 59. Turkey's performance in the innovation pillar is comparable with other "efficiency-driven economies" with a rank of 55. Under the innovation pillar, Turkey scores relatively well in the "government procurement of advanced technology products" (32nd), "availability of scientists and engineers" (41st out of 144 economies), "PCT patent applications per million of population (42nd) and "capacity for innovation" (48th). Moderate performance is observed in "company spending on R&D" (56th). On the other hand, university-industry collaboration in R&D (70th) and quality of scientific research institutions (88th) remain areas of concern for the country.

The National Science, Technology and Innovation Strategy 2011-2016, adopted in December 2010 by the BTYK, focuses on human resources development for science, technology and innovation, transformation of research outputs into products and services, enhancing interdisciplinary research, highlighting the role of SMEs, R&D infrastructures and international cooperation. It also identifies automotive, machinery and production technologies, ICT, energy, water, food, security and space as focus areas. In line with this, the strategy puts special emphasis on keeping the balance between focused areas and bottom-up research (TUBITAK, 2010 and IUC, 2011).

49. http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

In addition to the National Science, Technology and Innovation Strategy 2011-2016, at the 23rd BTYK meeting in December 2011, the following new items were identified for the improvement of the research and innovation performance of the country:[50]

- Setting up a coordination board to secure integrity, coherence and a target-oriented approach in R&D, innovation and entrepreneurship support mechanisms;
- Developing policy tools to activate and increase the number of R&D intensive start-ups;
- Developing policy tools to trigger innovation and entrepreneurship in universities;
- Promoting entrepreneurship culture;
- Improving public procurement and public right of use in such a way to foster innovation, localization and technology transfer;
- Promoting science centers;
- Developing policy tools to stimulate domestic patent licensing.

In the 24th meeting of BTYK in August 2012, the following new decisions mainly directed towards increasing the quality of educational infrastructure were taken:[51]

- Carrying out studies directed to the evaluation of the situation for incerasing the quality of education;
- Developing and accessing the digital content for primary and secondary education;
- Encouraging and accesing the development of digital lecture content for the undergraduate level;
- Carrying out studies on the revision of the education programmes and design of education contents directed to the aim for the students to gain essential skills;
- Carrying out studies on the foreign language education system of the primary and secondary education and developing alternative education methods;
- Restructuring the scholarship programmes for graduate study abroad;
- Organizing science fairs for students of the primary and secondary education;
- Restructuring the university entrance system;
- Performing the preparation activities for the participation in the EU Framework Programme Horizon 2020.

In the 25th meeting of BTYK in January 2013, the following six new decisions, mainly on the e-government infrastructure, were taken:[52]

- Monitoring the highly-gifted individuals strategy of 2013-2017;
- Carrying out studies on e-government management model;

50. http://www.tubitak.gov.tr/tr/kurumsal/bilim-ve-teknoloji-yuksek-kurulu/toplantilar/icerik-bilim-ve-teknoloji-yuksek-kurulu-23toplantisi-27-aralik-2011
51. http://www.tubitak.gov.tr/tr/kurumsal/bilim-ve-teknoloji-yuksek-kurulu/toplantilar/icerik-bilim-ve-teknoloji-yuksek-kurulu-24toplantisi-7-agustos-2012
52. http://www.tubitak.gov.tr/tr/kurumsal/bilim-ve-teknoloji-yuksek-kurulu/toplantilar/icerik-bilim-ve-teknoloji-yuksek-kurulu-25toplantisi-15-ocak-2013

- Completing the firm accreditation system for public procurement of e-government applications;
- Carrying out studies on the establishment of the National Database Centre;
- Public procurement of software needs of public institutions;
- Determining health as an S&T priority area.

The aforementioned items are in line with the challenges and weaknesses highlighted in the previous ERAWATCH Country Reports[53] and TrendChart reports[54] of Turkey.

Based on above discussion, the following challenges are identified for Turkey:

- Promoting research commercialization from universities: This can take place in various forms, such as university start-ups and spin-off, mobility of researchers and students, contract research projects, joint research projects, innovative public procurement, licensing, consulting, trainings, formal and informal networks, competitiveness clusters, and so on. This fact is also underlined by the Global Competitiveness Index in which Turkey has a relatively weak performance. The above-listed new decisions of the 23rd meeting of BTYK and the National Science, Technology and Innovation Strategy 2011-2016 focus on this challenge. The enrichment of the policy mix with a variety of measures (financial, non-financial, etc.) will help to address this challenge.

- Increasing the number of innovative high-growth start-ups: This is an important challenge facing the innovation and economic performance of the country. The underdeveloped venture capital and business angels market, as well as a limited number and variety of policy measures for start-up creation, are crucial impediments for the establishment and development of innovative businesses in Turkey. It is also a barrier for encouraging educated and qualified human sources to see entrepreneurship as a career option. Insufficient early stage funding is also an obstacle for the development of the venture capital industry as it helps generate a large deal flow for venture capital investments. The BTYK decisions of December 2011 recognize this challenge and aim to address it through new policy measures. Furthermore, the Undersecretariat of Treasury carries out studies for improving the framework conditions for angel investments, and the "Entrepreneurship Council" established in January 2012 aims to increase the number of innovative and technology-based start-ups.[55]

- Increasing R&D and innovation capabilities of the private sector (in particular, micro, small and medium enterprises [MSMEs]): The low levels of absorptive capacity of the business sector, particularly that of MSMEs, are a barrier to increasing R&D

53. http://erawatch.jrc.ec.europa.eu
54. http://proinno.intrasoft.be/index.cfm?fuseaction=country.showCountry&topicID=108&parentID=52&ID=41
55. http://www.sanayi.gov.tr/NewsDetails.aspx?newsID=2292&lng=tr

and innovation performance. MSMEs constitute 99.9% of the total enterprises and 78% of employment in Turkey, according to KOSGEB. Micro enterprises constitute the majority of MSMEs. They are mainly active in traditional, middle to low-tech sectors, such as garments (14%), furniture (14%), metal products (14%), wood products (10%) and food (8%) (KOSGEB, 2011).[56] There are policy measures for increasing R&D and innovation investment of the private sector and SMEs, and the National Science, Technology and Innovation Strategy 2011-2016 highlights the role of SMEs. It is important to design and implement specific measures (such as support for R&D/innovation vouchers and knowledge-intensive service activities) for enhancing the learning capabilities, absorptive capacity, and R&D and innovation capabilities of MSMEs and other private sector companies.

- Focusing on sectors and thematic areas of importance: It is important for Turkey to focus on priority sectors, technology areas and specific thematic fields for building capacities and addressing key challenges of today and tomorrow. This requires incentives and measures specifically designed and government funds strategically channeled to these areas. As noted above, with the new National Science, Technology and Innovation Strategy 2011-2016, priority areas were identified. In addition to these areas, stimulating innovation in traditional sectors and addressing societal challenges such as climate change mitigation and health can help increase innovation outputs and outcomes due to the intensity of enterprises in the former, and the size of societal needs in the latter.

- Increasing availability and quality of research personnel: As evident from indicators, Turkey is behind countries with similar industrial structure and knowledge capacity with respect to human resources intensity, and on the knowledge-intensity of its economy (reflecting both manufacturing and services) (IUC, 2011). This has long been recognized as one of the challenges of the Turkish research and innovation system by the government, and specific interventions have helped improvements in trends. Current strategies and action plans indicate ongoing commitment in this area. Further efforts and diversified measures are needed to develop human resources in a way that the absorptive capacity of companies is enhanced, and the quantity and quality of researchers are increased. The BTYK decisions of December 2011 and August 2012 support the steps to be taken to tackle this challenge.

The functional dynamics of NIS in Turkey together with inducement and blocking mechanisms are summarized by Table 1.

56. http://www.kosgeb.gov.tr/Pages/UI/Baskanligimiz.aspx?ref=23

Table 1. Functional dynamics of Turkish NIS

FUNCTIONS	INDUCEMENT	BLOCKING
• Research Development	• new structural changes and improvements in Turkish NIS system	• needs of some structural arrangements in NIS actors since the significant changes and developments in the Turkish NIS are in a relatively short period of time • insufficient budget allocation from Turkish government
• Knowledge development		• concerns about brain drain • no regular monitoring and evaluation mechanism for policies and programmes • limited number of nationwide thematic and mission-oriented programmes
• Knowledge diffusion	• existence of Networks and Platforms Support Programme, Industrial Thesis Projects Programmes, TTOs, Techno Parks	• insufficient funding levels, underdevelopment of the venture capital (VC) and business angel sector • fewer tools to enhance public-private collaboration • no long tradition of scientific collaboration with other countries • no regulation for TTOs • no policy priority for fostering knowledge circulation in NIS system • low use of international cooperation apart from EU programmes
• Increasing R&D	• existence of tax incentives • promising and improved collaboration between firms, research actors and universities	• no innovation oriented procurement policy • limited sectoral and regional research programmes
• Market Formation		• mutual dialogue

3.3 Europeanization of National Policies

Considering the evolution of the Turkish research and innovation policy and the current policy direction, it is possible to conclude that the policy mix will continue to become more innovation and entrepreneurship focused. Until the recent developments, the policies and strategies were based on a linear view of innovation, which is heavily focused on research. For the short and medium term, it is important that innovation is placed at the heart of the development and growth process, and is integrated and embedded in each policy area.

It is expected that the existing high-level commitment for achieving new targets set for 2023 will contribute to the enrichment of the policy mix with the design and implementation of new instruments. At this stage, it is also important to evaluate existing measures in terms of their complementarity, effectiveness, efficiency, impact, relevance, coherence and sustainability. In addition, it is foreseen that the funding allocated for different categories of policy measures is balanced and different types of funding, including venture capital, are made available for innovation activities.

With the new governance structure, it is expected that a more effective system will be created to coordinate research and innovation policy-making and implementation both vertically (between the different layers of the national innovation system) and horizontally (across the key actors — the ministries, government departments and implementing agencies). This process can be supported with further developing and improving competencies, capabilities and institutional capacities of the organizations in the system. Another important dimension in the short run is the creation of an innovation-friendly regulatory and legislative framework and environment (academic promotion, venture capital, exit markets, company formation, operation, dissolution, and so on).

The process of the harmonization of the EU *acquis* contributes to the above efforts, as it did so far. Although not a Member State yet, Turkey's strategies and efforts in the field of S&T and innovation are, to a large extent, in line with the ERA pillars/objectives (see Annex for details). In addition, Turkey's R&D objectives are in parallel with the ERA targets. The ERA developments have been closely followed by the policy-makers and the BTYK launched the "Turkish Research Area" (TARAL) in 2004 with inspiration from the ERA. TARAL, a platform for public, private and NGO stakeholders to coordinate future R&D priorities and collaboration, is aimed to be integrated with the ERA. In this respect, Turkey participates in the common programmes and is determined to be involved in the initiatives carried out at the European level. Further improvement of policy coordination across policy levels and in the policy mix would contribute to the alignment with the ERA pillars.

In the 24th BTYK meeting, one new decision was taken about the participation process for the EU Framework Programme, the Horizon 2020. Turkey actively participated in the 6th and 7th Framework Programmes as an associated country in the EU cohesion process. In the 7th Framework Programme, Turkish partners have taken €145,1m[57] in funds (TUBITAK, 2012). For the Horizon 2020, TUBITAK is the responsible organization for EU negotiations in collaboration with the other public institutions.

4. Data and Methodology

The Community Innovation Survey is the principal survey of innovation activities of firms in the European Economic Areas and the EU candidate and associate countries. Moreover, a few dozen other countries ran one or more editions of their own "CIS-like" enterprise surveys, based, like the original CIS, on the Oslo Manual (see below). Started in 1993, the actual CIS is coordinated by the Eurostat, implying that there is a "core questionnaire" present in every national study (additional questions are included by the national statistical offices). Initially, the survey ran every four years but since 2004 the frequency increased. Currently, there is a "full" survey organized every four years, and a "reduced" version, with a shorter core questionnaire, two years after every full survey. The Turkish Statistical Institute has conducted innovation surveys based on CIS methodology since the mid-1990s.

Our research is particularly challenging from the methodological point of view, because it combines problems related to the analysis of innovation surveys, and those inherent to the evaluation of government intervention. The former include modeling the complicated relationship between innovation input and output (and, often, firm productivity). The latter is caused by possibly non-random selection of firms that are subject to government support.

As for modeling innovation activities, the standard procedure in the literature has become the CDM model, called this in honor of the authors of the seminal 1998 paper: Crépon, Duguet and Mairesse. The CDM model is an integrated model linking sequentially firm-level innovation input to innovation output to firm-level performance (Figure 2).

Figure 2. The scheme of a CDM model

Innovation input (decision and investment) → Innovation output → Productivity

Innovation input of firms is measured through their R&D activities while their innovation output is proxied by an indicator of the degree of innovativeness such as the share of innovative products in firms' sales, innovative sales per employee or the number of patents obtained. Labor productivity, or if possible total factor productivity, is used to measure performance at the firm level.

57. €1=TL2.3363 (Central Bank of Turkey's effective sale rate for 30.10.2012).

The problem of non-random selection of firms for government intervention can be addressed by applying the Heckman procedure, consisting of two steps. In the first one, the probability of obtaining government support is modeled using probit, and, in addition a new variable called Inverse Mills Ratio (IMR) is estimated. In the second step, innovation performance of a firm is modeled but instead of using the government support as an explanatory variable, one includes IMR in the right-hand side. As shown in (Heckman, 1976) and (Heckman, 1979), the statistical significance of the coefficient associated with IMR can be interpreted as an indicator of a statistically significant relationship of the original treatment variable (in this case – government support) "net" of the selection bias.

Ideally we would like to combine the two models, i.e. to precede the CDM model sketched in Figure 2 by a government support equation, calculate the respective Inverse Mills Ratio and use it in the next steps. The problem is that the CDM model itself relies on the Heckman procedure (see below). Working with two IMRs proved difficult due to a small number of explanatory variables available in the CIS dataset and resulting collinearity. Consequently, we developed two empirical strategies: one following the CDM model but assuming government support exogenous, and another controlling for the endogeneity of support but assuming a simplified version of the innovation performance equation.

Below, we first present the CDM model, then we introduce the shortened version of the CDM model used in our analysis, and finally we discuss the model accounting for the possible endogeneity of government support.

The CDM model

The idea of the CDM approach is to model in a sequential manner different stages going from the innovation input to its output and finally the impact of the latter variable on firm performance (cf. the sequence in Figure 2): hereafter, we will first present different equations that form the CDM model, as they were initially introduced in (Crepon, 1998:44).

Modeling R&D propensity and intensity of firms

R&D is modeled within the framework of a generalized Tobit model. In this model, the first equation is related to the propensity to invest in R&D or the R&D decision of firms. It is expressed as a latent variable, rd_i^*, which is given by equation (1) (i indexes firms)

$$rd_i^* = \beta X_i + u_i \qquad (1)$$

The left-hand side variable is a latent variable which is not observed. It proxies something like the expected present value of benefits accruing to firms due to launching R&D activities. The first element of the right-hand side is a vector containing explanatory variables for the R&D decision and an associated vector of coefficients. The second element is a random disturbance term.

In a second stage, we introduce the variable rd_i which, contrarily to rd_i^*, is observedand takes the value of 1 for those firms where the latent variable is negative or zero, and the value of 0 if it is positive.

$$rd_i = \begin{cases} 1 \quad if \quad rd_i^* > 0 \\ 0 \quad if \quad rd_i^* \leq 0 \end{cases} \qquad (2)$$

The second equation of the generalized Tobit model relates to R&D intensity of firms or equivalently to their R&D expenditures – whether expressed in absolute values or normalized by sales. The R&D effort of the firm is noted by the latent variable rde_i^*, which is modeled as a function of a number of explanatory variables – contained in the vector W, with an associated coefficient vector $\propto$ – and a random disturbance term v_i:

$$rde_i^* = \alpha W_i + v_i \qquad (3)$$

The unobserved latent variable rde_i^* is linked to the observed actual R&D expenditures of firm i – to be denoted by rde_i – in the following way:

$$rde_i = \begin{cases} rde_i^* = \propto W_i + v_i \quad if \;\; rde_i = 1 \\ 0 \qquad\qquad\qquad if \;\; rde_i = 0 \end{cases} \qquad (4)$$

Equation (2) is called the selection or decision equation and takes into account all the firms while the outcome equation (4) concentrates on those firms conducting R&D activities. Error terms in equations (1) and (3) are assumed to be bivariate normal with zero mean, variances σ_v^2 =1 and σ_u^2. The correlation coefficient between the two error terms is denoted by $\rho_{uv} \neq 0$.

Innovation output (knowledge) equation

R&D activities carried out by firms might give rise to new knowledge, triggering innovation(s). The innovation or knowledge production function is given by the following equation:

$$Inno_i = \delta rde_i + \gamma Z_i + \varepsilon_i \qquad (5)$$

The coefficient δ is of particular importance since its estimate – magnitude and sign – will inform us about the impact of R&D conducted by firms on their innovation activities. Vector Z contains firm-specific control variables. In the original CDM model, this equation is estimated only on the sample of innovative firms and an indicator of the extent of selection bias thus introduced – the Mills ratio obtained from the estimation of equation (2) – is included in the vector of explanatory variables, i.e. Z. The statistical significance of this variable informs us about the importance of the selection bias issue. However, in recent empirical applications of the CDM model, all the firms, whether they innovate or not, are included in the estimation of equation (5). Data on R&D expenditures for non-innovative firms comes from the unconditional prediction of R&D investment based on equation (4) and observed R&D investment in equation (5), rde_i is replaced with the expected or predicted value of the same variable based on equation (4), i.e. rde_i^*. Proceeding in this manner enables the researcher to circumvent the selection bias problem since *all* the firms – whether they are innovative or not – are used in the estimation of the equation (5).[58]

Different indicators of innovation output are used as dependent variable in equation (5): (i) the share of innovative products in sales, (ii) decision to carry out products and/or process innovations (or any other type of innovation) or (iii) number of patents applied for or acquired. In case binary indicator(s) is (are) used, univariate or bivariate/trivariate probit equations can be estimated, using simulated maximum likelihood methods in the last two cases.

Productivity equation

The performance indicator used in CDM studies is measured through firm-level productivity, especially through labor productivity since data on firm-level capital is seldom available. In case a constant return to scale Cobb-Douglas production function is adopted, the basic formulation is:

$$y_i = \gamma k_i + \delta Inno_i + \theta W_i + \tau_i \qquad (6)$$

Where *y* is labor productivity (output – however measured – per worker), *k* is a proxy of physical capital per worker (measured often by investment per worker), *Inno* is innovation or knowledge input proxied by different alternative variables (see supra) and *W* denotes additional control variables.

In order to alleviate endogeneity of *Inno* variable in equation (6),[59] predicted values of this variable based on equation (5) are used in the Cobb-Douglas production function. From this stage on, differences arise as to the sample used in estimations and to the relationship assumed between innovation output and productivity. Indeed, using

58. For non-innovative firms, values of all the variables relating to innovation activities are set at zero as no data is available for them.
59. Due to unobserved constant or slowly changing firm-level factors, omitted variables or reverse causality which may affect both the productivity and innovation output.

predicted values of *Inno* some studies estimate equation (6) on the whole sample comprising innovative and non-innovative firms while others use only non-innovative firms to investigate the direction and magnitude of the impact of innovation output on firm productivity. Besides, some studies assume the existence of a bi-directional causality between productivity and the outcome of innovation activities of firms and estimate therefore equations (5) and (6) in a simultaneous equation framework – on the sample of innovative firms only.

CDM-based models estimated

The model to be estimated for Turkey – called the *core model* in the next section – will include two parts and three equations. The first part includes innovation decision and innovation expenditure equations which are estimated by the Heckman procedure. The second part contains the innovation output equation and is estimated by probit. The selection issue in the first part of the model is addressed by the Heckman selection model, which does account for non-innovators while estimating the innovation expenditure equation. As for the innovation output expenditure equation, which is estimated using data only on innovating firms, the selection issue is handled by the inclusion in the equation of the inverse Mill's Ratio obtained from the previous stage. No productivity equation is estimated in the *core model* and the effect of innovation support will be estimated on innovation expenditure (input additionality) and innovation output (output additionality). The model has a certain affinity with the Microdata project, i.e. a (OECD, 2009) study of innovation activities in firms in 18 countries (discussed in more details in the next subsection)

The choice of independent variables in each specific equation is discussed in the results section. The innovation decision variable is a firm-level variable and takes the value of 1 if a firm has positive innovation expenditures – which is rather a broad definition but it is used in (OECD, 2009) – 0 if innovation expenditures is nil. Data on innovation expenditures is available in innovation surveys and this variable is used in our study as innovation expenditures per capita. As to the innovation output indicator, a dummy variable taking the value of 1 if s firm introduces innovation new to the market – i.e. radical innovations –, otherwise zero is used in the model.

In the Turkish CIS, a representative sample is collected for the entire economy, hence including mining, manufacturing, industry other than manufacturing, and services. In the case of Turkey, we were able to match the innovation survey with data coming from another data set, namely the Structural Business Survey for the year 2010. This enabled us to use in the econometric exercise variables not included in the innovation survey, such as production, value added, exports, imports, and so on. The main point is that an indicator of firm-level productivity was constructed, which enabled us to add the productivity equation to the CDM model. The specification and estimation of the model was carried out in accordance with the (OECD, 2009) study and will be examined below.

Endogenous support model

Apart from model with exogenous government support, we consider a model in which support depends on firms' features. In the first step of a model with endogenous support, we estimate parameters of the binary choice model:

$$\text{sup\_}inn_i^* = \mathbf{z}_i\boldsymbol{\alpha} + \varepsilon_i, \qquad \varepsilon_i \sim N(0,1), \tag{7a}$$

$$\text{sup\_}inn_i = 1\{\text{sup\_}inn_i^* \geq 0\}, \tag{7b}$$

where:

$$\mathbf{z}_i = \begin{bmatrix} 1 & medium_i & large_i & manhigh_i & manmedhigh_i & manmedlow_i \end{bmatrix}.$$

After estimation of parameters of model (7a)-(7b), we calculate expectations of unobservable variable $\text{sup\_}inn_i^*$ in the following way:

$$E\left(\text{sup\_}inn_i^* \middle| \text{sup\_}inn_i^* \geq 0\right) = \mathbf{z}_i\hat{\boldsymbol{\alpha}} + \frac{\phi(\mathbf{z}_i\hat{\boldsymbol{\alpha}})}{\Phi(\mathbf{z}_i\hat{\boldsymbol{\alpha}})}, \tag{8a}$$

$$E\left(\text{sup\_}inn_i^* \middle| \text{sup\_}inn_i^* < 0\right) = \mathbf{z}_i\hat{\boldsymbol{\alpha}} - \frac{\phi(\mathbf{z}_i\hat{\boldsymbol{\alpha}})}{1-\Phi(\mathbf{z}_i\hat{\boldsymbol{\alpha}})}. \tag{8b}$$

In the last step, we estimate parameters of binary choice model for radical innovation:

$$radical_i^* = \mathbf{w}_i\boldsymbol{\beta} + \xi_i, \qquad \xi_i \sim N(0,1), \tag{9a}$$

$$radical_i = 1\{radical_i^* \geq 0\}, \tag{9b}$$

where:

$$w_i = \begin{bmatrix} 1 & medium_i & large_i & manhigh_i & manmedhigh_i & manmedlow_i & group_i & \exp_i & \hat{k}_i \end{bmatrix}$$

and

$$\hat{k}_i = \begin{cases} \mathbf{z}_i\hat{\boldsymbol{\alpha}} + \dfrac{\phi(\mathbf{z}_i\hat{\boldsymbol{\alpha}})}{\Phi(\mathbf{z}_i\hat{\boldsymbol{\alpha}})}, & if \quad \sup\_inn_i = 1, \\ \mathbf{z}_i\hat{\boldsymbol{\alpha}} - \dfrac{\phi(\mathbf{z}_i\hat{\boldsymbol{\alpha}})}{1-\Phi(\mathbf{z}_i\hat{\boldsymbol{\alpha}})} & if \quad \sup\_inn_i = 0. \end{cases} \tag{10}$$

5. Findings and Discussion

Core part

We start with the discussion of the sequential model, and then proceed with the presentation of the model with endogenous support.

How can government support be controlled in a CDM-like model? One way is to follow the OECD methodology and to include a support dummy in the innovation expenditure equation. However, government support might be conducive for innovation in other ways than just monetary: it might facilitate co-operation with important actors in the innovation system (e.g. R&D institutes), help attract new talents,[60] or mobilize the firm for a more efficient performance. To verify that, we estimate the sequential model including the government support variables also in the second step – the equation explaining the decision of the firm to include radical innovation.

The choice of right hand side variables in the sequential model was an outcome of a longer process including several trial estimations. We first discuss the selection equation (whether the firm had innovation expenditure or not). The starting point was the model estimated for 18 countries in (OECD, 2009) where the variables included in the selection were dummies for: group membership, exporting activities, collaboration with other firms in innovation activities, and the firm being large. Moreover, the authors included variables describing the role of the barriers to innovation faced by the firm (in a 0-3 Likert scale). We decided to exclude barriers to innovation activities, because this variable proved problematic in the OECD study (and so it did in previous studies of ours). While the OECD model includes industry dummies as controls, we used industry categories defined by technology intensity. Although the OECD study is restricted to firms with positive innovation expenditure only, we did not want to lose the information, so our models are estimated on the whole sample of companies. Consequently, the collaboration dummy that is technically available only for innovating firms, was extended so as to indicate zero in case of non-innovators. The OECD model includes pretty much the same variables in the "outcome equation", i.e. in the model explaining the amount of innovation expenditure, and in addition to that the dummy indicating public support for innovation. We roughly follow that methodology.

60. A related effect was hypothesized by Lerner in his analysis of the American SBIR programme: the government support could have been a kind of "quality certificate" enabling the firm to raise funds from private sources.

Finally, the innovation performance equation is estimated only on the set of firms that did declare positive innovation expenditure. The log of innovation expenditure per employee is the main vehicle of innovation in this equation. However, as explained above, we also consider a version of the model that includes support variables in this step. We had to give up on several other explanatory variables (e.g. group, firm size) because they proved strongly correlated with the Inverse Mills Ratio we are including here and thus could be causing collinearity.

The results of the basic model are presented in Table 2.[61] Larger firms are more likely to have innovation expenditure in Turkey, and so are firms from more advanced industries in terms of technology. Not surprisingly, government support has a statistically significant and positive impact on innovation expenditure. The probability to introduce radical product innovation increases with innovation expenditure (although it does not apply to all sources of support). The coefficient was insignificant. When the support dummy is also included in the innovation performance equation, innovation expenditure becomes insignificant (Table 3). The support obtained from central government is associated with a better innovation performance in Turkey. While these results indicate the importance of government support, they are a bit puzzling (innovation expenditure insignificant, mixed results with respect to the kinds of support).

Therefore, we turn to the model with endogenous support (Table 4). While firms that are larger, operate in more advanced industries, are group members and exporters have a better chance of obtaining government support, even when this fact is controlled for, the recipients of public aid are more likely to introduce product innovations new to the market, as indicated by the positive and statistically significant coefficient for the *sup_IMR* variable, i.e. the respective inverse Mills ratio. Note that the *variable sup_ino* used in the above model is the most general definition of the support: it stands for public aid obtained from *any* source.

Extension of the model

As mentioned previously, we matched the Turkish innovation survey with two other databases containing firm-level data for Turkey. This enabled us to replicate the CDM model estimated for 18 countries in the OECD Microdata project as examined in (OECD, 2009). We extended the OECD model by using *any* innovation support, three different types of innovation support granted by central government, by local authorities and through funds coming from the EU. Secondly, we used the methodology suggested in Griffith et al. (2006) which allows us to estimate the innovation output and productivity equations for *all* the firms present in the sample, not only for innovators – which significantly increased the number of observations used in regressions.

In the sequel, we first present the CDM model used in the OECD Microdata project (OECD, 2009). We then estimate it on Turkish data which, it should be recalled, is

61. For the variables used in the model, see Table A1 in the appendix.

based on a sample of firms covering all the sectors – not solely the manufacturing sector. We then estimate and discuss *different* extensions of the OECD model with the emphasis being each time on the impact of innovation support granted to firms on their innovation expenditures and innovation output.

The CDM model used in the OECD Microdata Project[62]

The CDM model used in (OECD, 2009) for a number of countries that agreed to participate in the project has the following characteristics.

First, the model is estimated only for innovative firms, defined as those firms having both positive innovation expenditures and innovative sales. Secondly, endogeneity and selectivity issues are addressed within the model. Third, a core model containing variables available to all the countries participating in the project was specified in order for the countries to be able to estimate the same equations. Finally, only variables obtained from innovation surveys are used in the project.

The CDM model used in the OECD project involves three stages and consists of four equations. We analyze them below by putting the emphasis on the dependent and explanatory variables included in different equations of the model on the one hand, and on the methods used to alleviate selectivity and endogeneity. The *first stage* of the CDM model explains innovation propensity (decision) of firms and the volume of innovation expenditure through a generalized Tobit model. As mentioned in (OECD, 2009: 128), the limited availability of data on non-innovative firms in innovation surveys leads to the selection of these variables in the first stage.

Box 1. Methodology of the OECD model

Innovation decision
Dependent variable: a binary variable if a firm innovates, zero otherwise
Explanatory variables: firm size, group dummy, exporter dummy, importance of obstacles to innovation dummies (due to knowledge, costs, and market), industry dummies
Innovation expenditures
Dependent variable: innovation expenditure per employee
Explanatory variables: group dummy, exporter dummy, cooperation dummy (clients, suppliers, other agents), public financial support dummy

62. See also chapter 3 ("Innovation and productivity: estimating the core model across 18 OECD countries") in OECD, 2009.

Remember that the first equation is called the decision equation while the second one is called the outcome equation. In order to correctly identify the coefficients of the model, some exclusion criteria must be satisfied: certain coefficients included in the decision equation must be excluded from the outcome equation. In our case, these variables are firm size and obstacles to innovation dummy variables.

The second stage of the CDM model consists of the specification and estimation of a knowledge production function. As the model is estimated only on innovative firms, the inverse Mills ratio, estimated in the aforementioned first stage, is used here as an explanatory variable to correct for a possible selection bias. Predicted innovation expenditures obtained from the first stage, rather than actual expenditures, are used here to correct for endogeneity of innovation expenditures in the knowledge production function.

Box 2. Methodology of the OECD model (cont)

Knowledge production function
Dependent variable: innovative sales per employee (logarithm)
Explanatory variables: firm size, group dummy, process innovation dummy, importance of obstacles to innovation dummies (due to knowledge, costs, and market), industry dummies, inverse Mills ratio, innovation expenditures per employee (or its predicted value to correct a possible endogeneity problem)

Exclusions required for the identification of the coefficients of the knowledge production function relate to two variables: public financial support and exporter dummy, which are supposed to influence innovation output only through increased innovation expenditures.

In the third and final step of the model, the link between innovation output (knowledge) and productivity is investigated through an augmented Cobb-Douglas function.

Box 3. Methodology of the OECD model (cont)

Productivity function
Dependent variable: sales per employee (logarithm)
Explanatory variables: firm size, group dummy, process innovation dummy, Inverse Mill Ratio, exporter dummy, innovative sales per employee (logarithm)

Since innovative sales per employee present in the augmented Cobb-Douglas production function might potentially be an endogenous variable, this equation is estimated using instrumental variables two-stage least squares.

Estimation of the basic CDM model used in the OECD Microdata Project

Estimation results for the basic OECD model for Turkey are presented in Tables 5-8. These tables report coefficients for the innovation decision variable, not marginal effects of the explanatory variables. Most of the explanatory variables included in these tables were previously presented while discussing the OECD project. In Table 5, we present estimation results for the basic OECD model where any innovation support variable (*sup_ino*) is included only in the innovation expenditures equation. *Linexemp* is the logarithm of the innovation expenditures per employee, *innovator* is a dummy variable taking the value 1 if a firm has positive innovation expenditures, zero otherwise. *Linsalemp* is the logarithm of the innovative sales per employee. *Lvalademp* stands for the logarithm of firm-level labor productivity, measured as value added divided by the number of employees. *Lemp* represents logarithm of the number of employees (firm size). *Coll_othfirm* is a dummy variable taking the value of 1 if a firm collaborates with any other company in order to innovate, zeros otherwise. Sector-level dummies introduced in regressions are: *manhigh* (hi-tech manufacturing industries), *manmedhigh* (high-medium tech manufacturing industries), *manmedlow* (medium-low technology manufacturing industries), *kis* (knowledge-intensive service industries) and *lkis* (low knowledge intensive service industries). The omitted category is low-tech manufacturing industries. *Amills* is the inverse Mills ratio retrieved from the Heckman selection equation and used in the innovation expenditure in order to mitigate a possible selection bias since this equation is estimated only on *Linexpemp_hat* is *linexpemp* variable, which is instrumented.

This instrumented variable is used in the innovation output equation (*linsalemp*) in an attempt to mitigate a possible reverse causality problem between innovation input and innovation output variables. This instrumented variable is used as an explanatory variable alternatively with the actual innovation expenditure variable (*linexpemp*) in the innovation output equation.

Coefficients reported in Table 5 indicate that direct innovation support of any kind granted by public authorities does exert a positive and statistically significant effect on the innovation expenditures of Turkish firms. This result points to the existence of input additionality, indicating that on average firms would have spent less for innovation in the absence of the direct support. Besides, innovation expenditures – whether they are measured by actual expenditures or by the instrumented one – exert a positive and significant effect on innovation output. Similarly, innovation output – measured by the actual innovative sales per employee – increases productivity of firms.

Table 6 replicates the estimation of the model presented in Table 5 but with a major difference: any innovation support variable (*sup_ino*) is replaced by the three support variables: (i) a dummy variable taking the value of 1 if a firm receives an innovation support from an organization associated with the central government (*support_gov*), zero otherwise (ii) a dummy variable taking the value of 1 if a firm receives an innovation support granted by a local authority (*support_loc*), zero otherwise and (iii) a dummy variable taking the value of 1 if a firm receives an innovation support from EU funds (*support_EU*), zero otherwise.

Coefficients estimated with these three different types of support among explanatory variables are reported in Table 5. Innovation support provided by central government – the most common type of support – has a positive and significant effect at the 1% level on innovation expenditures of firms, indicating the presence of an input additionality effect. Such an additionality also concerns innovation support originating from EU funds but it is significant only at the 10% level. There is no statistical evidence as to any positive impact of support granted by local authorities on innovation expenditures of firms (note that its coefficient is negative). Besides, variables measuring innovation expenditures exert a positive and significant effect on innovation output (innovative sales per employee) while the innovation output variable itself also has a positive and significant effect on labor productivity. Next, we will introduce different innovation support variables not only in the innovation expenditure equation to test for the input additionality but also in the innovation output model to test for the output additionality of innovation support in Turkey.

In Table 6, any innovation support variable (*sup_ino*) is included both in the innovation expenditure and innovation output equations. Although its positive and significant effect on innovation expenditures observed in Table 5 is conserved, no such significant impact is observed on innovative sales per employee, pointing to the absence of output additionality of supports. Another possible explanation is that we are using cross-section data but materialization of a possible effect of innovation support on innovation output may need a long period of time – longer than what is needed for input additionality.

In Table 7, we introduced the three types of innovation support instead of *sup_ino* variable in the model. The positive and significant effect of government and EU supports on innovation expenditure is confirmed here. EU support on innovation seems to exert a positive and significant effect on innovative sales per employee – but it is significant only at the 10% level – while government support has a negative effect which is, however, only significant at the 10 % level. In both Table 6 and Table 7, the positive and significant effect of innovation expenditure on innovation output is conserved as well as the positive impact of innovation output on firm-level productivity in Turkey.

Finally, results presented in Table 8 and Table 9 are based on the methodology discussed in Griffith et al. (2006). This methodology uses innovation probabilities computed after the Heckman procedure to estimate the innovation input (expenditure) and output (innovative sales) on all sample firms, innovators and non-innovators all together. This procedure considerably increases the number of observations hence degrees of freedom for the estimation of the CDM model.

Results reported in Table 9 confirm those obtained previously: innovation support by government and EU funds both have a positive and significant impact on innovation expenditures, confirming the previously found input additionality effect for these two types of support. Absence of a significant effect of local innovation support on innovation expenditures is also confirmed.

Results in Table 10 indicate that receiving an innovation support increases not only innovation expenditures but also innovation output (innovative sales per employee), which points to an output additionality effect of innovation support in Turkey. When we look at different types of support, we see that support based on government and EU funds is again positive and statistically significant. Only support originating from local authorities seems to have an output additionality effect.

6. Conclusions

The effectiveness of the national system in Turkey can be evaluated in two interrelated dimensions: the first is the effectiveness of the public support system since the government is still the main player to enhance the national research system. Second is the supply of and demand for human resources for research. In the last decade, there have been increasing attempts to improve the effectiveness of the public support system. The ratio of R&D expenditures is targeted to be 2% by the end of 2013. In the period 2007-2011, the share of BERD increased from 41.3% to 43.2%. In the same period, GERD increased to 11.3% as compared to 10.6% in 2007, whereas HERD fell to 45.5% from 48.2% in 2007. We can describe the effectiveness of the public support system through two further axes. First is the extensive impact of the supports in terms of their diffusiveness and second is the contribution of supports in transforming the whole system. In the first axis, we can surely claim that the spectrum of public supports has been greatly enriched with various tools. In the private sector, the supports are provided by numerous public institutions, both towards large-scale establishments and SMEs. However, not only the quantity but also the quality of the supports is rising. For instance, in terms of the number of project applications to TUBITAK-TEYDEB projects (one of the most popular direct R&D support schemes for the private sector), the percentage of SMEs was 45.8% in 2000 while this figure reached 81% in 2012. On the other hand, the total number of TEYDEB project applications in the 2000-2012 period increased approximately 11 times (TEYDEB, 2013). During the period, the geographical coverage of project

applications has also considerably expanded. Similar tendencies are also observed in terms of sectoral distribution and the number of supported projects. But what this example significantly shows is that the diffusiveness of the public support system improved in the last decade. This further enhances the effectiveness of the system. Another important attempt is the sectoral prioritization in policy formulation. In the National Science, Technology and Innovation Strategy (2011-2016), approved in the 22nd BTYK meeting in December 2010, automotive, machinery and production technologies, ICT, energy, water, food, security and space were identified as priority sectors under the strategy. The health sector was also recently added as a new S&T priority sector in the 25th BTYK meeting in January 2013.

As compared to these attempts, especially the ones directed towards the supply side of ST-HR, the attempts on the demand side are rather weak. The ST-HR needs of industry, the public sector and universities are almost unknown. This lack of knowledge is an important impediment for an effective long-term planning in ST-HR. Although the MoD planned to carry out such a study for higher education, the public procurement for this project postponed twice and the future of the study is still unclear. In sum, against all the attempts to improve ST-HR, there is a long way to go in this issue in terms of the effectiveness of the national research system.

In the next period, three important concerns to increase the effectiveness of the national research system through the public support system will be commercialization of R&D outputs by innovation supports, impact assessment of public support system, and support for innovative activities in public services. Turkey is especially suffering from the non-existence of an effective impact assessment system. The establishment of such a system and regular assessment and evaluation activities of policies and programmes at the support-providing institution level, at the sector level and at the national level will enhance the effectiveness of the national research system.

In Turkey, one can observe the growing popularity and the generous practices of public incentives in industrial R&D and innovation, in addition to the recent trends in public policies to support technological entrepreneurship and commercialization of research output. Since 2004, significant changes and improvements that have taken place in Turkey concerning science and technology policy schemes have actually influenced the national innovation system in a number of ways: there has been an important increase in public support for private R&D; diversification of direct support programmes for private R&D and innovation occurred, which was tailored to the needs of potential innovators; widening of the scope of existing fiscal incentives for private R&D activities and implementation of new ones occurred; implementation of new call-based grant programmes targeted to technology areas and industries based on national priorities.

In this study, to assess the efficiency of the public support system, an econometric methodology is applied to the Turkish 2008-2010 editions of the Community Innovation Survey for manufacturing firms. Two models were estimated: one following the now classic CDM model and assessing the role of innovation spending, but assuming exogenous government support; and another controlling for the endogeneity of support but assuming a simplified version of the innovation performance equation.

The evidence indicates that government support contributes to higher innovation spending by firms (*input additionality*) and this in turn improves their chances to introduce product innovations (*output additionality*). The positive impact remains valid even when a possibly non-random selection of firms for government support programmes is controlled for. Extended analysis for Turkey proved a positive relationship between innovation and firm productivity.

Several recommendations both for policy and further research can be formulated. In Turkey, while the general assessment of innovation support policy is positive, the puzzling element is that the EU-related support (mainly from the 7th Framework Programme) was a significant incentive to increase firms' innovation activities – despite constituting less than 2% of the total public support in Turkey. Since in Turkey all the EU supported R&D projects are based on international collaboration, only 1.5 % of R&D and innovation projects that are supported by national programmes are collaborative. Therefore, existing mechanisms should be strengthened and new policy instruments should be developed both for universities and the private sector. Further research is necessary to investigate the success of EU-funded programmes on the one hand – and the apparent failure of the schemes organized on the local (subnational) level, on the other.

For the short and medium term, it is important that innovation is placed at the heart of the development and growth process, and is integrated and embedded in each policy area. It is expected that the new governance system and existing high-level commitment for achieving the new targets set for 2023 will contribute to the enrichment of the policy mix with the design and implementation of new instruments.

References

Edquist, Ch. (2006), "National Systems of Innovation". In: J. Fagerberg, D.C. Mowery and R.C. Nelson (eds.), The Oxford Handbook on Innovation. Oxford: Oxford University Press, pp. 148-179.

Goldberg, I. and **J.G. Goddard** (2011), Igniting Innovation: International Bank for Reconstruction and Development, World Bank e-Library.

Hall, Bronwyn H. and **J. Lerner** (2010), Chapter 14 "The Financing of R&D and Innovation". In: H. Hall Bronwyn and N. Rosenberg (eds.), Handbook of the Economics of Innovation, Vol. 1 of Handbook of the Economics of Innovation, North-Holland, pp. 609-639.

Heckman, J.J. (1976), "The Common Structure of Statistical Models of Truncation, Sample Selection and Limited Dependent Variables and a Simple Estimator for Such Models". In: Annals of Economic and Social Measurement, Volume 5, Number 4, National Bureau of Economic Research, Inc (NBER Chapters), pp. 475-492.

Heckman, J.J. (1979), "Sample Selection Bias as a Specification Error", Econometrica, 47 (1): 153-161.

Lerner, J. (1999), "Small Businesses, Innovation, and Public Policy". In: Zoltan J. Acs, Are Small Firms Important? Their Role and Impact. Amsterdam: Kluwer Academic Publishers.

Metcalfe, J.S. (1994), "Evolutionary Economics and Technology Policy", The Economic Journal, 104 (425): 931-944.

Metcalfe, J.S. (1995), "Technology Systems and Technology Policy in an Evolutionary Framework", Cambridge Journal of Economics, 19 (1): 25-46.

OECD (2009), Innovation in Firms: A Microeconomic Perspective. Paris: OECD Publishing.

Pavitt, K. (1990), "What We Know about the Strategic Management of Technology", California Management Review, 32 (3), pp. 17-26.

Tirole, J. (2005), The Theory of Corporate Finance, Princeton University Press.

Van Pottelsberghe B. and **M. Mejer** (2008), The London Agreement and the Cost of Patenting in Europe, Bruegel (264).

Websites

EUROSTAT (2012), Patent Applications to the EPO and patents granted by the USPTO, 2001-2010, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=File:Patent_applications_to_the_EPO_and_patents_granted_by_the_USPTO,_2001-2010.png&filetimestamp=20121016060342

EUROSTAT (2012), Science, Technology and Innovation Statistics, http://epp.eurostat.ec.europa.eu/portal/page/portal/science_technology_innovation/data/main_tables

EUROSTAT (2012), Population Statistics, http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/main_tables

FP7 (2012), EU 7th Framework Programme Mid-term Evaluation Report, http://www.fp7.org.tr/tubitak_content_files//GenelHaber/7CPRaporTemmuz2012.pdf

IMF (2013), World Economic Outlook Database, http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx

IUC (2012), Innovation Union Competitiveness Report, http://ec.europa.eu/research/innovation-union/pdf/competitiveness-report/2011/iuc2011-full-report.pdf#view=fit&pagemode=none

IUS (2011), Innovation Union Scoreboard 2011, http://www.proinno-europe.eu/inno-metrics/page/innovation-union-scoreboard-2011

KOSGEB (2012), Plans and Reports, http://www.kosgeb.gov.tr/Pages/UI/Baskanligimiz.aspx?ref=23

MoF (2012, 2013), Budget Presentation Speech, http://www.tbmm.gov.tr/butce/2013/konusma_30_Ekim_2012.pdf

MoSIT (2011), SME Strategy and Action Plan 2011-2013, http://www.sanayi.gov.tr/Files/Documents/KOSGEB_Katalog.pdf

MoSIT (2011), Turkish Industrial Strategy Document 2011-2014, http://www.sanayi.gov.tr/Files/Attachments/OtherFiles/turkish_industrial_strate-16022011152724.pdf

MoSIT (2012), Entrepreneurial and Innovative University Index of Turkey, http://www.sanayi.gov.tr/Pages.aspx?pageID=744&lng=tr

MoSIT (2012), Statistics on R&D Centers, http://sagm.sanayi.gov.tr/Files/Documents/web-ar-ge-istatistik-26-0-08082012101635.docx

MoSIT (2012), Technology Development Zones, http://sagm.sanayi.gov.tr/userfiles/file/GENEL%20BR%C4%B0F%C4%B0NG%2007_01_13.doc

MoSIT (2012), Entrepreneurship Council, http://www.sanayi.gov.tr/NewsDetails.aspx?newsID=2292&lng=tr

OSYM (2012), Higher Education Statistics for 2011-2012, http://osym.gov.tr/belge/1-13575/2011-2012-ogretim-yili-yuksekogretim-istatistikleri.html

TPE (2013), Patent Statistics, http://www.tpe.gov.tr/portal/default_en.jsp?sayfa=170

TUBITAK (2011), 23th Meeting of BTYK, http://tubitak.gov.tr/tr/kurumsal/bilim-ve-teknoloji-yuksek-kurulu/toplantilar/icerik-bilim-ve-teknoloji-yuksek-kurulu-23toplantisi-27-aralik-2011

TUBITAK (2012), 24th Meeting of BTYK, http://tubitak.gov.tr/tr/kurumsal/bilim-ve-teknoloji-yuksek-kurulu/toplantilar/icerik-bilim-ve-teknoloji-yuksek-kurulu-24toplantisi-7-agustos-2012

TUBITAK (2012), Legislation on the Establishment of TUBITAK, http://www.tubitak.gov.tr/tubitak_content_files//mevzuat/yonetmelik/KANUN_278_temmuz-2012.pdf

TUBITAK (2012), Science and Technology Human Resource Strategy and Action Plan, http://www.tubitak.gov.tr/tubitak_content_files//BTYPD/strateji_belgeleri/BT_IK_STRATEJI_BELGESI_2011_2016.pdf

TUBITAK (2012), Science, Technology and Innovation Statistics, http://tubitak.gov.tr/tr/kurumsal/politikalar/icerik-bty-istatistikleri

TUBITAK (2012), Turkey Publication Statistics, http://www.ulakbim.gov.tr/cabim/yayin/tr-veri.uhtml

TUBITAK (2013), 25th Meeting of BTYK, http://tubitak.gov.tr/tr/kurumsal/bilim-ve-teknoloji-yuksek-kurulu/toplantilar/icerik-bilim-ve-teknoloji-yuksek-kurulu-25toplantisi-15-ocak-2013

TUBITAK (2013), National Support Programmes, http://www.tubitak.gov.tr/sid/2415/pid/2400/index.htm

TURKSTAT (2012), Population Statistics, http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=10736

TURKSTAT (2012), GDP Statistics, http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=10955

TURKSTAT (2012), Research and Development Activities Survey, http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=10931

UNCTAD (2012), World Investment Report 2012, http://www.unctad-docs.org/files/UNCTAD-WIR2012-Full-en.pdf

World Economic Forum (2012), Global Competitiveness Report 2012-2013, http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

YOK (2012), University Statistics, https://www.yok.gov.tr/content/view/527/222/lang,tr/

Appendix. Table A1. Variables used in the study

Dummy Variable	**Explanation**
innovator	Firm had positive innovation expenditure
Innovator_OECD	(the same as above)
radical_in	Firm introduced a product innovation new to the market
group	Firm is member of a group of firms
export	Firm is engaged in export activities
sup_inn	Firm received public support from any source
support_EU	Firm received public support from the EU funds
support_gov	Firm received public support from the central government
support_loc	Firm received public support from the local government
manhigh	Firm operates in a high-tech manufacturing industry, according to the OECD classification
manmedhigh	Firm operates in a medium-high-tech manufacturing industry, according to the OECD classification
manmedlow	Firm operates in a medium-low-tech manufacturing industry, ac cording to the OECD classification
coll_othfirm	Firm co-operated with other firms for innovation activities
Continuous variable	**Explanation**
linexpemp	The log of innovation expenditure per employee

Table 2. The influence of government support on innovation expenditure

	(1)	(2)	(3)
VARIABLES	linexpemp	innovator_ OECD	Radical_in
Manhigh	2.144***	0.542***	
	(0.449)	(0.171)	
Manmedhigh	0.730***	0.480***	
	(0.197)	(0.0641)	
Group	-0.401**		
	(0.195)		
coll_othfirm	0.380**		
	(0.188)		
support_gov	0.392**		
	(0.168)		
support_loc	0.241		
	(0.431)		
support_EU	1.097**		
	(0.512)		
Mediumlarge		0.640***	
		(0.0509)	
IMR			-0.167***
			(0.0617)
Linexpemp			-0.00383
			(0.00724)
Observations	2,687	2,687	876
Log Lik	-3563.90	-3563.90	-595.26

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3. The influence of government support on innovation expenditure and innovation performance

	(1)	(2)	(3)	(4)
VARIABLES	linexpemp	innovator_OECD	radical_in	radical_in
Manhigh	2.230***	0.543***		
	-0.447	-0.171		
Manmedhigh	0.753***	0.481***		
	-0.197	-0.0641		
Group	-0.370*			
	-0.195			
coll_othfirm	0.424**			
	-0.187			
sup_ino	0.454***		0.103***	
	-0.165		(0.0343)	
Mediumlarge		0.640***		
		-0.0509		
IMR			-0.149**	-0.146**
			(0.0624)	(0.0627)
Linexpemp			-0.00665	-0.00704
			(0.00745)	(0.00748)
support_gov				0.0880**
				(0.0352)
support_loc				0.0938
				(0.0901)
support_EU				0.0632
				(0.109)
Observations	2,687	2,687	876	876
Log Lik	-3566.4	-3566.4	-590.80	-590.80

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4. Determinants of government support and the impact of support on innovation performance

	(1)	(2)
VARIABLES	sup_ino	radical_in
Medium	0.00254	0.119
	(0.0855)	(0.0811)
Large	0.451***	0.502***
	(0.0672)	(0.0806)
Manhigh	0.807***	0.330*
	(0.178)	(0.192)
Manmedhigh	0.666***	0.357***
	(0.0774)	(0.0750)
Manmedlow	0.276***	-0.0183
	(0.0716)	(0.0673)
Export		0.244***
		(0.0669)
Group		0.190**
		(0.0845)
sup_IMR		0.605***
		(0.0397)
Observations	2,687	2,687
Log Lik	-1090.00	-1258.60

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5. The OECD Model for Turkey – Basic specification with any innovation support variable (sup-ino) included only in the innovation expenditures equation

	linexpemp	innovator	lvalademp	linsalemp	lvalademp	linsalemp
	(1)	(2)	(3a)	(3b)	(4a)	(4b)
Group	-0.164	0.332***	0.546***	0.246	0.555***	0.448
	(0.270)	(0.0567)	(0.0740)	(0.340)	(0.0705)	(0.340)
Export	0.764**	0.418***				
	(0.300)	(0.0458)				
Lemp		0.123***	0.190***	-0.135	0.186***	-0.104
		(0.0174)	(0.0246)	(0.114)	(0.0236)	(0.113)
barknow		0.362***				
		(0.0587)				
barmark		-0.120**				
		(0.0565)				
barcost		0.192***				
		(0.0498)				
manhigh	2.187***	0.468**	0.411**	0.536	0.445**	-0.678
	(0.710)	(0.182)	(0.183)	(0.798)	(0.173)	(0.853)
manmedhigh	0.760**	0.458***	0.234***	0.318	0.245***	-0.0216
	(0.371)	(0.0763)	(0.0869)	(0.450)	(0.0806)	(0.463)
manmedlow	0.247	0.250***	0.210***	-0.152	0.201***	-0.240
	(0.304)	(0.0629)	(0.0751)	(0.399)	(0.0699)	(0.399)
kis	1.207***	0.425***	0.438***	-0.450	0.433***	-0.868**
	(0.337)	(0.0660)	(0.0910)	(0.422)	(0.0872)	(0.440)
lkis	-0.360	0.153***	0.135	-0.559	0.116	-0.192
	(0.286)	(0.0582)	(0.0828)	(0.381)	(0.0796)	(0.392)
coll_othfirm	1.063***					
	(0.223)					
sup_ino	1.667***					
	(0.211)					
linsalemp			0.101***		0.0694***	
			(0.0263)		(0.0243)	
process_inno			0.255**	-2.832***	0.177*	-2.714***
			(0.1000)	(0.291)	(0.0934)	(0.285)
amills			0.250	-1.340*	0.184	-0.564
			(0.157)	(0.717)	(0.148)	(0.739)
coopk_supplier				-0.896		-1.107**
				(0.549)		(0.549)
coopk_customer				1.329**		1.258**
				(0.544)		(0.543)
coopk_public				0.736		0.336
				(0.467)		(0.477)
coopk_priv				0.788		0.633
				(0.536)		(0.539)
linexpemp				0.142***		
				(0.0336)		
linexpemp_hat						0.668***
						(0.143)
Observations	3,888	3,888	1,62	1,62	1,62	1,62
R2	---	---	0.01	0.08	0.12	0.08
Log Likelihood	-6,874	-6,874	---	---	---	---

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 6. The OECD Model for Turkey – Basic specification with different types of innovation support (support_gov, support_loc, support_EU) included only in the innovation expenditures equation

	linexpemp	innovator	lvalademp	linsalemp	lvalademp	linsalemp
	(1)	(2)	(3a)	(3b)	(4a)	(4b)
Group	-0.603**	0.346***	0.545***	0.222	0.557***	0.494
	(0.274)	(0.0562)	(0.0752)	(0.345)	(0.0703)	(0.352)
Export	0.0261	0.424***				
	(0.287)	(0.0454)				
Lemp		0.102***	0.186***	-0.123	0.182***	-0.130
		(0.0185)	(0.0239)	(0.111)	(0.0225)	(0.110)
Barknow		0.331***				
		(0.0572)				
Barmark		-0.107**				
		(0.0533)				
Barcost		0.181***				
		(0.0469)				
manhigh		0.557***	0.418**	0.455	0.459***	0.476
		(0.165)	(0.184)	(0.810)	(0.171)	(0.794)
manmedhigh		0.449***	0.227***	0.311	0.242***	0.266
		(0.0737)	(0.0871)	(0.453)	(0.0795)	(0.454)
manmedlow		0.229***	0.203***	-0.142	0.192***	-0.179
		(0.0603)	(0.0746)	(0.397)	(0.0681)	(0.397)
kis		0.462***	0.440***	-0.490	0.430***	-0.419
		(0.0616)	(0.0924)	(0.430)	(0.0877)	(0.431)
lkis		0.111**	0.126	-0.522	0.104	-0.539
		(0.0561)	(0.0825)	(0.379)	(0.0778)	(0.380)
coll_othfirm	1.013***					
	(0.224)					
support_gov	1.741***					
	(0.223)					
support_loc	-0.374					
	(0.527)					
support_EU	1.110*					
	(0.645)					
linsalemp			0.1000***		0.0575**	
			(0.0263)		(0.0257)	
process_inno			0.253**	-2.831***	0.148	-2.720***
			(0.0999)	(0.291)	(0.0954)	(0.286)
amills			0.234	-1.382*	0.141	-1.486**
			(0.162)	(0.739)	(0.152)	(0.736)
coopk_supplier				-0.897		-1.018*
				(0.549)		(0.546)
coopk_customer				1.331**		1.315**
				(0.544)		(0.540)
coopk_public				0.738		0.363
				(0.467)		(0.482)
coopk_priv				0.785		0.696
				(0.536)		(0.539)
linexpemp				0.142***		
				(0.0336)		
linexpemp_hat						0.534***
						(0.139)
Observations	3,888	3,888	1,62	1,62	1,62	1,62
R2	---	---	0.012	0.083	0.153	0.079
Log Likelihood	-6,882	-6,882	---	---	---	---

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 7. The OECD Model for Turkey – Basic specification with any innovation support (sup_ino) included in both innovation expenditure and innovation output equations

	linexpemp	innovator	lvalademp	Linsalemp	lvalademp	linsalemp
	(1)	(2)	(3a)	(3b)	(4a)	(4b)
group	-0.164	0.332***	0.308***	0.381	0.317***	0.441
	(0.270)	(0.0567)	(0.0577)	(0.326)	(0.0572)	(0.324)
export	0.764**	0.418***				
	(0.300)	(0.0458)				
lemp		0.123***	0.0982***	-0.0703	0.0972***	-0.0720
		(0.0174)	(0.0176)	(0.109)	(0.0168)	(0.108)
barknow		0.362***				
		(0.0587)				
barmark		-0.120**				
		(0.0565)				
barcost		0.192***				
		(0.0498)				
manhigh	2.187***	0.468**	0.420***	0.713	0.447***	-0.827
	(0.710)	(0.182)	(0.147)	(0.774)	(0.140)	-1.052
manmedhigh	0.760**	0.458***	0.164***	0.506	0.176***	-0.0378
	(0.371)	(0.0763)	(0.0634)	(0.393)	(0.0612)	(0.475)
manmedlow	0.247	0.250***	0.143**	-0.0367	0.141**	-0.240
	(0.304)	(0.0629)	(0.0603)	(0.383)	(0.0575)	(0.395)
kis	1.207***	0.425***	0.405***	-0.268	0.406***	-0.899*
	(0.337)	(0.0660)	(0.0717)	(0.403)	(0.0696)	(0.496)
lkis	-0.360	0.153***	0.119*	-0.445	0.111	-0.144
	(0.286)	(0.0582)	(0.0697)	(0.383)	(0.0685)	(0.408)
coll_othfirm	1.063***					
	(0.223)					
sup_ino	1.667***			0.0606		-0.186
	(0.211)			(0.784)		(0.799)
linsalemp			0.0698***		0.0495*	
			(0.0260)		(0.0287)	
lcapint			0.147***		0.148***	
			(0.00829)		(0.00807)	
process_inno			0.138	-2.856***	0.0861	-2.706***
			(0.0943)	(0.291)	(0.0949)	(0.285)
amills			0.0761	-0.916	0.0462	0.0662
			(0.0599)	(0.811)	(0.0608)	(0.899)
linexpemp				0.127***		
				(0.0342)		
linexpemp_hat						0.745***
						(0.287)
coopk_supplier				-0.869		-1.156**
				(0.547)		(0.564)
coopk_customer				1.333**		1.260**
				(0.543)		(0.543)
coopk_public				0.507		0.345
				(0.476)		(0.482)
coopk_priv				0.801		0.592
				(0.536)		(0.548)
Observations	3,888	3,888	1,62	1,62	1,62	1,62
R2	---	---	0.299	0.087	0.350	0.082
Log Likelihood	-6,874	-6,874	---	---	---	---

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 8. The OECD Model for Turkey – Basic specification with different types of innovation support (support_gov, support_loc, support_EU) included in the innovation expenditure and innovation output equations

	linexpemp	innovator	lvalademp	linsalemp	lvalademp	linsalemp
	(1)	(2)	(3a)	(3b)	(4a)	(4b)
Group	-0.603**	0.346***	0.308***	0.305	0.317***	0.358
	(0.274)	(0.0562)	(0.0577)	(0.322)	(0.0569)	(0.321)
Export	0.0261	0.424***				
	(0.287)	(0.0454)				
Lemp		0.102***	0.0982***	-0.117	0.0973***	-0.133
		(0.0185)	(0.0176)	(0.107)	(0.0168)	(0.106)
Barknow		0.331***				
		(0.0572)				
Barmark		-0.107**				
		(0.0533)				
Barcost		0.181***				
		(0.0469)				
manhigh		0.557***	0.421***	0.681	0.449***	-0.609
		(0.165)	(0.147)	(0.775)	(0.140)	-1.043
manmedhigh		0.449***	0.164***	0.446	0.177***	-0.0511
		(0.0737)	(0.0635)	(0.388)	(0.0617)	(0.481)
manmedlow		0.229***	0.143**	-0.0853	0.141**	-0.279
		(0.0603)	(0.0604)	(0.382)	(0.0575)	(0.395)
kis		0.462***	0.406***	-0.374	0.407***	-0.945*
		(0.0616)	(0.0718)	(0.402)	(0.0696)	(0.503)
lkis		0.111**	0.119*	-0.491	0.111	-0.240
		(0.0561)	(0.0697)	(0.379)	(0.0680)	(0.405)
coll_othfirm	1.013***					
	(0.224)					
support_gov	1.741***			-0.752		-1.205*
	(0.223)			(0.671)		(0.730)
support_loc	-0.374			0.550		1.142
	(0.527)			(0.600)		(0.713)
support_EU	1.110*			1.130*		0.469
	(0.645)			(0.676)		(0.765)
linsalemp			0.0701***		0.0486	
			(0.0259)		(0.0297)	
Lcapint			0.147***		0.148***	
			(0.00829)		(0.00806)	
process_inno			0.139	-2.864***	0.0840	-2.714***
			(0.0941)	(0.291)	(0.0978)	(0.285)
amills			0.0777	-1.497**	0.0467	-0.909
			(0.0599)	(0.714)	(0.0612)	(0.772)
coopk_supplier				-0.917*		-1.174**
				(0.552)		(0.570)
coopk_customer				1.384**		1.325**
				(0.547)		(0.548)
coopk_public				0.521		0.391
				(0.475)		(0.480)
coopk_priv				0.776		0.592
				(0.537)		(0.548)
linexpemp				0.130***		
				(0.0342)		
linexpemp_hat						0.688**
						(0.306)
Observations	3,888	3,888	1,62	1,62		1,62
R2	---	---	0.299	0.089		0.083
Log Likelihood	-6,882	-6,882	0.300	0.09		0.080

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 9. The OECD Model for Turkey – Extended specification (for all firms) with innovation support included only in the innovation expenditure equation

	linexpemp	innovator	linexpemp	innovator	linsalemp	lvalademp	linsalemp	lvalademp
	(1a)	(1b)	(2a)	(2b)	(1c)	(1d)	(2c)	(2d)
Group	-0.168	0.386***	-0.156	0.384***	0.475**	0.544***	0.427**	0.541***
	(0.326)	(0.0562)	(0.300)	(0.0560)	(0.187)	(0.0410)	(0.188)	(0.0412)
Export	0.637*	0.450***	0.641*	0.450***				
	(0.382)	(0.0442)	(0.340)	(0.0442)				
Lemp		0.103***		0.104***	-0.0228	0.0331***	-0.0184	0.0326***
		(0.0177)		(0.0174)	(0.0488)	(0.0108)	(0.0492)	(0.0109)
Barknow		0.379***		0.379***				
		(0.0580)		(0.0581)				
Barmark		-0.134**		-0.135**				
		(0.0558)		(0.0560)				
Barcost		0.191***		0.191***				
		(0.0490)		(0.0492)				
coll_othfirm	1.144***		1.121***					
	(0.224)		(0.224)					
sup_ino	1.871***							
	(0.211)							
support_pub			1.910***					
			(0.217)					
support_loc			-0.522					
			(0.529)					
support_EUall			1.319**					
			(0.637)					
process_inno					4.997***	-0.217***	5.117***	-0.244***
					(0.196)	(0.0799)	(0.195)	(0.0860)
coopk_supplier					-1.139*		-1.003*	
					(0.590)		(0.590)	
coopk_customer					1.448**		1.593***	
					(0.569)		(0.570)	
coopk_public					-0.154		-0.0929	
					(0.498)		(0.502)	
coopk_priv					0.764		0.780	
					(0.600)		(0.604)	
linexpemp1_hat					1.164***			
					(0.115)			
linexpemp2_hat							0.979***	
							(0.109)	
Lcapint						0.133***		0.133***
						(0.00438)		(0.00438)
linsalemp1_hat						0.0373***		
						(0.0121)		
linsalemp2_hat								0.0417***
								(0.0132)
Observations	3,888	3,888	3,888	3,888	3,888	3,888	3,888	3,888
R2					0.428	0.368	0.423	0.368
Log Likelihood	-6929	-6929	-6925	-6925				
R2					0.43	0.37	0.42	0.37

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 10. The OECD Model for Turkey – Extended specification (for all firms) with innovation support included both in the innovation expenditure and innovation output equations

	linexpemp (1a)	innovator (1b)	linexpemp (2a)	innovator (2b)	linsalemp (1c)	lvalademp (1d)	linsalemp (2c)	Lvalademp (2d)
group	0.0793	0.338***	-0.0106	0.334***	0.245	0.544***	0.296	0.545***
	(0.237)	(0.0601)	(0.235)	(0.0600)	(0.190)	(0.0411)	(0.189)	(0.0411)
export	0.974***	0.347***	0.844***	0.348***				
	(0.223)	(0.0475)	(0.221)	(0.0475)				
sup_ino	1.934***				0.913**			
	(0.460)				(0.404)			
lemp		0.107***		0.107***	-0.0160	0.0331***	-0.0157	0.0332***
		(0.0182)		(0.0182)	(0.0497)	(0.0108)	(0.0499)	(0.0108)
barknow		0.301***		0.301***				
		(0.0640)		(0.0637)				
barmark		-0.0423		-0.0432				
		(0.0605)		(0.0605)				
barcost		0.0969*		0.0946*				
		(0.0539)		(0.0538)				
coll_othfirm	1.170***		1.140***					
	(0.223)		(0.223)					
support_pub			1.734***				0.470	
			(0.432)				(0.421)	
support_loc			-0.634				2.532***	
			(0.560)				(0.659)	
support_EUall			1.361**				-0.715	
			(0.636)				(0.786)	
process_inno					5.017***	-0.217***	5.066***	-0.207**
					(0.196)	(0.0802)	(0.196)	(0.0824)
coopk_supplier					-0.895		-0.987*	
					(0.591)		(0.597)	
coopk_customer					1.531***		1.582***	
					(0.569)		(0.574)	
coopk_public					-0.0901		-0.0730	
					(0.499)		(0.502)	
coopk_priv					0.909		0.846	
					(0.602)		(0.604)	
linexpemp2_hat							0.822***	
							(0.161)	
linexpemp1_hat					0.695***			
					(0.139)			
Lcapint						0.133***		0.133***
						(0.00438)		(0.00438)
linsalemp1_hat						0.0373***		
						(0.0121)		
linsalemp2_hat								0.0358***
								(0.0126)
Observations	3,888	3,888	3,888	3,888	3,888	3,888	3,888	
R2	---	---	---	---	0.428	0.368	0.426	
Log Likelihood	-6560	-6560	-6560	-6560	---	---	---	

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Firms' Transactions and Knowledge Flows in the European Union's Neighboring Countries

Maria Chiara Di Guardo and Raffaele Paci, CRENoS (Centre for North-South Economic Research), University of Cagliari, Italy

E-mail: diguardo@unica.it and paci@unica.it

Abstract

The globalization process of production and technological activities has generated an unprecedented increase in the number of international transactions among firms which take the forms of Strategic Alliances, Joint Ventures and Mergers and Acquisitions. These transactions, whatever their nature and motivation are, generate knowledge flow among the companies involved that occur before, during and after the deal. Consequently, firms' transactions represent a valuable proxy for the exchange of knowledge across the geographical areas where companies are located. The aim of the paper is to analyze in detail inter-firm transactions and agreements in the European Neighboring Countries (ENC) over the period 2000-2011 in order to explore the geographical directions and sectoral characteristics of the knowledge flows among firms in those areas and external firms.

Keywords

Knowledge Flows, Strategic Alliances, Joint Ventures, Mergers and Acquisitions, European Neighboring Countries

JEL

G34, L24, F23, O33

Acknowledgments

The research leading to these results has received funding from the European Union's Seventh Framework Program FP7-SSH-2010-2.2-1 (2011-2014), under grant agreement no. 266834 SEARCH project. We would like to thank Davide Pinna and Marta Foddi for their excellent work in preparing the database.

Prepared for the Special Issue of *Journal of Social and Economic Geography*
September 2013

1. Introduction

The relationship between the European Union (EU) and its neighboring countries is a crucial issue for the future of Europe. After the last enlargements in 2004 and 2007, the eastern borders of the EU shifted drastically; moreover, the recent turmoil spread across several Arab countries has increased the instability of the European southern borders. As a consequence, the EU is currently adjacent to countries characterized by extremely different economic, cultural, social and political conditions. As an alternative to further enlargements, the EU has developed an integrated policy towards the non-candidate neighboring countries at both the eastern and the Mediterranean borders. So far sixteen countries belong with different negotiating status to the European Neighboring Countries (ENC) group and are involved in the European Neighborhood Policy (ENP) launched in 2004. The aim of the ENP is to create close, peaceful and cooperative relationships with bordering countries generating stronger economic integration and cross-border co-operation programs (COM 373, 2004).[1] The core drivers of the ENP are investment facilities, technical and financial support and, more generally, the promise of enhanced relations in trade and people mobility. Thus, in addition to institutional and cultural issues, the ENP covers a large number of economic themes like market liberalization, trade, FDI, research, innovation diffusion, education, labor migration, and environmental and safety standards.

In this perspective, the international transactions among firms from the EU and ENC can have a central and increasing role in the knowledge transfer and integration process. Firms' transactions and agreements may take different forms, such as Mergers and Acquisitions (M&A) and alliances in the shape of strategic alliances (SA) or joint ventures (JV). M&A and alliances are externally oriented corporate development efforts with the goal of achieving economies of scale, scope, market share, prestige, survival, and other outcomes essential to sustained competitive advantage. In general, these transactions, whatever their nature and motivation are, generate potential knowledge flow among the companies involved and consequently between the geographical areas where companies are located (Hussinger, 2010).

This knowledge transfer may happen before, during and after the transaction as a result of several activities: information exchange in the due diligence phase and among managers; access to new technologies and organizational competencies; task and human integration; interaction of different organizational cultures; transfers of capabilities and resource sharing; etc. As some empirical studies show, firms' transactions might act as an important vehicle for learning and organizational renewal, broaden organizations' knowledge base and enhance their ability to react adequately to changing circumstances (Vermeulen and Barkema, 2001). But they also have profound contextual and socio-institutional implications where the geographical dimension plays a relevant role (Rodríguez-Pose and Zademach, 2006). M&A and alliances affect not only the firms in-

1. For a comprehensive overview of the ENP, see Whitman and Wolff (2010), Whitman and Juncos (2011) and Wesselink and Boschma (2013).

volved, but also both the locations and environment with which they are associated and the organizational and geographical shape of industries as a whole.

Therefore, firms' transactions, exploiting the interregional complementarities, represent a valuable proxy for the exchange of knowledge across countries and regions and thus offer the opportunity to dig into the knowledge flows between the EU and the ENC.[2] So far the literature has mainly focused on the governance perspective of the European neighborhood integration policy and on the movements of tangible elements like goods (trade), capital (FDI) and people (migration), while we know surprisingly little about the various forms of transactions that involve firms located in the ENC which generate important flows of knowledge and innovation. The relevance of the phenomenon is clear at least from a theoretical point of view. For the ENC, in fact, firms' transactions could be a fast way to activate knowledge transfer processes and to generate an important innovation pressure. Innovation considerations are, indeed, central to merger and alliances policy because dynamic efficiency is critical to successful economic performance and innovation itself is a key dimension of market performance, which is potentially affected by a merger or an alliance.

The aim of the paper is to investigate in detail the transactions and agreements performed by firms located in the ENC in order to get information on the potential knowledge flows between companies in those areas and external firms. More specifically, we focus on the geographical directions of the transactions to appraise the role of spatial and cultural proximity between the EU and ENC. Moreover, we examine the sectoral scope of the deals to assess the degree of industrial and technological relatedness of the transactions.

Data on M&A, SA and JV was retrieved from the SDC Platinum database (Thomson Financial) considering transactions between 1st January 2000 and 31st December 2011 for which the target or acquirer companies are based in one of the sixteen ENC. We analyze each ENC distinguishing between two macro groups: the ENC-East (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) and ENC-South (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia, Palestinian Territory).[3] We selected large, medium-sized, and small takeover transactions, because following Moeller et al. (2004), we believe that a focus only on large takeovers may give an incomplete picture of the impact of acquisitions on the ENC. Similarly we consider the totality of SA and JV in which firms from the ENC are involved. As a whole, we are considering 10140 M&A, 576 SA and 415 JV, involving at least one company located in the ENC.

The paper is organized as follows. In section 2 we present a literature review on the role of firms' transactions in knowledge flows. Then, in section 3 we describe the general

2. Firms' transactions represent just one of the numerous indicators of knowledge diffusion which are worth considering, such as co-inventorship, patent citations and research networks and technological alliances (see Autant-Bernard et al., 2013).
3. In the empirical analysis, the Palestinian Territory is not included since it never results as a partner in M&A deals or in other agreements.

dimension of the phenomenon; in section 4 we evaluate the geographical dimension of the transactions while in section 5 we analyze their sectoral scope. Some concluding remarks are presented in section 6.

2. Mergers and Acquisitions and Alliances as a Means to Combine Resources and Knowledge

In general, two or more firms carry out an agreement when they combine resources to form a new, mutually advantageous business arrangement in order to achieve predetermined objectives. We consider three kinds of agreements among firms located in the ENC, which contribute to generating knowledge flow: M&A, SA and JV. More specifically, *merger* means any transaction that forms one economic unit out of two or more previous ones. *Acquisition* indicates that a company buys a part of another company sufficient to acquire its control. *Strategic alliance* refers to "agreements characterized by the commitment of two or more firms to reach a common goal entailing the pooling of their resources and activities" (Teece, 1992, p. 19), which does not create an independent business entity. Finally, a *joint venture* is defined as a cooperative business activity, formed by two or more organizations, which creates an independent business entity and allocates ownership, operational responsibilities and financial risks and rewards for each member, while preserving their separate identity.

Firms' agreements are motivated by a range of factors such as growth by market expansion, acquisition of special resources, achievement of economies of scale, geographical expansion and domestic and international diversification (Scherer and Ross, 1990). From the point of view of our analysis it is important to remark that M&A and alliances influence firms' knowledge base by altering firms' *resources and capabilities* in terms of technological know-how, or complementary assets. M&A and alliances may raise and enlarge technological know-how which is often tacit and can therefore not be easily transmitted from one firm to another (Nelson and Winter, 1982). In order to avoid high transaction costs, firms may be inclined to engage in an acquisition or in alliances in order to solve problems related to the transmission of tacit knowledge. Moreover, the production of knowledge exhibits important economies of scale and M&A and alliances can facilitate their exploitation by increasing the size of the organization and thus spread the fixed costs of knowledge activities over a larger output. Moreover, some authors have highlighted the relevance of economies of scope in M&A which, combining complementary resources, enhance partners' efficiency (Cockburn and Henderson, 2001).

Along the same line of reasoning, the strategic management literature acknowledges that alliances are means of extending knowledge boundaries of firms, and acquiring capabilities, especially in the case of technology related ventures (e.g., Rothaermel and Deeds, 2006). Researchers have emphasized how alliances represent an important way of accessing the knowledge resources of other firms. Alliances enable partner firms

to pool their resources and capabilities to widen the technological capabilities that they cannot develop on their own due to direct costs and risks (e.g., Tallman and Chacar, 2011; Tjemkes et al., 2012).

Furthermore, the management literature stresses how in the agreement between firms, such as M&A and alliances, there is greater potential to learn from combinations of a complementary nature. Organizational learning allows a firm to acquire and develop cognitive and behavioral skills, which can lead to profound and lasting modifications in terms of how the firm operates. Complementarities in firms' resources can create opportunities for synergies in organizational learning through "economies of fitness" (Larsson and Finkelstein, 1999). Inside the organization, in addition to the well-known importance of economies of scope, knowledge complementarities have a positive influence on dynamic knowledge accumulation in response to changing environment conditions (Helfat, 1997). Moreover, in organizational linkages, knowledge and technology complementarity of participants has been shown to enhance learning and outcomes in R&D consortia, strategic alliances, and technological agreements (Sivadas and Dwyer, 2000). Exceptional gains from trade, exchange or combination of knowledge bases among firms thus stem from the existence of complementarity between the bases themselves. However, it is important to consider that when melting different knowledge bases, some knowledge relatedness is needed in order to benefit from absorptive capacity, but also that if knowledge bases are too similar as well as too different, then there is little room for valuable external contributions to innovation (Valentini and Di Guardo, 2012).

At the same time, M&A and alliances may affect firms' *incentives* to invest in knowledge and innovation due to strategic interdependence in the presence of technological spillovers, patent races or other externalities. Competitive pressure shapes differently the incentives to invest, for example, in product and process innovation, both at the firm and industry level. Alliances change incentives too, since they push partner firms to promote innovation. Firms are pressed to form alliances with foreign partners as a means of acquiring the resources to compete more effectively at home and abroad, and governments may also encourage local firms to collaborate with foreign firms, particularly those from technologically developed countries, as an efficient way to enhance technology inflow through foreign direct investment and become more technologically adept. The formation of an alliance with a foreign partner enables the local company to gain access to technologies and knowledge that may be scarce or even unavailable in its home country (Lamin and Dunlap, 2011). Such access can facilitate improvements to existing products or lead to the development of new products, thus enhancing local competitiveness and markets (Li et al., 2012).

Finally, literature has recently emphasized that past M&A or alliances learning and experience affect present learning, organizational structure, and the probability of a new M&A or alliance. Specifically, the intensity of exposure to a certain host country environment

leads to host-country specific experience (Luo and Peng, 1999) and can represent a significant proxy of effective contaminations and knowledge transfer between different environments.

3. The General Dimension of the Phenomenon

The literature review has shown how M&A and alliances, changing resources and incentive can affect the knowledge base and the competitiveness of the firms involved. Accordingly, firms' transactions and agreements that involved firms from the ENC represent an interesting proxy for the exchange of knowledge across countries and regions and thus offer the opportunity to better understand the market changes in those areas. In this perspective, we examine the evolution of the ENC transactions between 2000 and 2011, looking at those deals involving at least a firm located in one of the ENC. Data are retrieved from the SDC Platinum which contains information on all M&A, SA and JV, updated daily through a comprehensive number of sources.

In the remainder of the section we analyze the main features of the different transactions performed by the ENC considering that firms' decisions are affected by the economic, political and social events taking place in the various countries.

3.1 Mergers and Acquisitions

Table 1 shows data on M&A activities sorted by country and status of the transaction for the period 2000-2011. Considering the announced M&A deals in which a company is based in one of the ENC there are 6,299 transactions with an ENC firm as target and 3,816 as acquirer. In our sample the most active M&A markets are Ukraine (2,425 deals announced as target and 1,093 as acquirer) and Israel (1,588 as target and 1,559 as acquirer). Egypt and Jordan follow closely with a considerable number of transactions. The remaining ENC accounts for less than 18 per cent of the total number of announced deals both as target and bidder. Thus, excluding Ukraine and Israel, the number of deals involving the ENC is extremely low, especially when the ENC act as acquirer and this indicates that the ENC market still seems to be immature.

Among the ENC-East group, Ukraine is the "new star" in attracting investments (PWC, 2006) and it represents one of the most important target countries. Moreover, Ukraine borders both the EU and Russia and is characterized by a strong co-operation willingness with an asymmetric interdependence with the EU (Melnykovska and Schweickert, 2008). Among the ENC-South group, Israel represents the most important target nation in terms of number of M&A. It should be remarked, however, that despite its geographical collocation Israel is an integrated partner of the western economy with a high R&D expenditure and GDP comparable with that of the richest EU countries.

There are no great differences among the ENC-East and ENC-South groups in the magnitude of the transactions since each area represents almost 50 per cent of the deals announced and completed, despite the fact that, in terms of aggregate GDP, the ENC-East is almost five times smaller than ENC-South, and that in 2008 the population of the ENC-East is 75 million against 197 million of the ENC-South. Table 1 also shows some similarities across countries. For example, looking at the ENC as a target, M&A deal volumes in Morocco and Belarus are similar, although their governance regime is quite different. In contrast, the numbers are totally different when we look at these two regions as acquirers (24 transactions for Belarus, against 112 transactions for Morocco).

If we weight, by taking their ratio, the number of M&A in which the ENC is the target with the GDP (constant value of the year 2005, in euros), Jordan (4%) is the most active in M&A, followed by Moldova (3.7%) and Ukraine (3.7%). When we use the number of M&A in which the ENC is acquirer, Jordan firms are still the most active in the M&A process, followed by Israel (1.2%) and Ukraine (1.3%). This result is only partially consistent with prior research that has established a link between the legal environment and its effect on the ability of the country to attract and sustain M&A activity (Li et al., 2012).

An interesting aspect of M&A transactions is how many announced deals are actually completed and if significant differences exist among countries in the completion rate. From Table 1 we can see that on average 64.9 per cent of announced M&A deals get completed when the ENC are involved as target, and on average 71.2 per cent of announced M&A deals get completed when the ENC are involved as acquirers. The highest percentage of completed deals as acquirer is found in Moldova (89%), Azerbaijan (87%) and Jordan (88%) while in Jordan (83%) and Morocco (81%) we record the highest percentages as target countries. At the other end of the list we find Libya and Egypt and Azerbaijan and Belarus that, as target nations, see only 60 and 50 per cent, respectively, of completed transactions.

If completion upon announcement as acquirer happens more often in the ENC-East than in the ENC-South, we find a different situation when the ENC is the target. Moreover, international and domestic deals do not have a similar likelihood of completion. This data could indicate for these countries some kind of resistance to international integration linked to political and institutional issues. Many developing countries in this area, for cultural and religious reasons or simply for fear of giving too much control to foreign multinationals, are hostile to incoming foreign direct investment, especially to the hegemonic powers of the west in the form of the USA and the EU. As a result, some developing countries have pursued an active policy of restricting incoming M&A. At the same time, these data could be related with the peculiar economic situation characterized by high corruption and low indexes in ease of doing business (World Bank Database, 2008-2009) which have direct effect on the M&A process. For instance, while in Algeria 65 per

cent of the firms pay the cost of corruption through informal payments to public officials, in Egypt this figure increases to 98 per cent (World Bank Database, 2010).

Moreover, the number of uncompleted M&A is sector-specific. Politically sensitive sectors of the economy, those of strategic importance for the government, are characterized by a high degree of political control (Keeler, 1993). Therefore, it would be logical to think that firms involved in M&A in politically sensitive areas are less likely to complete the deal without problems. In countries like Ukraine and Moldova, natural resources are a politically sensitive sector of the economy compared to services, for example. Moreover, empirical literature finds that regulation of the local market has a significant impact on mergers. A high degree of regulation in the target countries tends to prevent foreign firms from acquiring local players, while deregulation and privatization often leads to increasing M&A activities (Buch and DeLong, 2004). The case of Israel is interesting, characterized by a lower level of completed M&A over announced both as acquirer (63.3%) or target (59.4%). We can speculate that this result is linked with the peculiar political situation of Israel where the enduring conflict and the religious tensions may have played a decisive role in limiting the rate of completion.

In general, these results signal a situation of uncertainty in some ENC countries linked to the political situation, which makes completion of the M&A deals more difficult and thus a full exploitation of the knowledge exchanges embedded in the inter-firm transactions.

In the last columns of Table 1 we report the completed M&A when the ENC is the target country and we distinguish among intra-national and international M&A. An international M&A is defined as a deal in which the headquarters of the acquirer and the target firms are located in different countries while in the domestic M&A both companies are based in the same country (Hitt et al., 2001). Generally speaking, if compared to the USA or the EU, few transactions occur among domestic firms: 47 per cent on average but with Armenia, Belarus and Algeria positioned on less than 10 per cent. On the other hand, 53 per cent of the M&A are cross-border and this share increases to 59 per cent if we observe only the ENC-East group. Looking at the evolution over time we notice a general trend of increasing the share of domestic deals signaling a strengthening of the local firms. The case of Jordan is interesting and in countertrend to the other ENCs, with a more that 77 per cent of domestic M&A. This important rate of domestic M&A together with the increasing number of deals after 2005 reveals an economy that is transforming and modernizing with a natural process of national concentration. Moreover, this important percentage of domestic deals could explain why Jordan is characterized by one of the highest rates of completed M&A after the announcement (83% as target and 89% as acquirer) confirming the hypothesis that domestic deals have a higher probability of being completed given the higher homogeneity between partners.

Other interesting elements on M&A flows can be drawn by looking at the net acquirer rate for each country *i*, computed on completed deals, defined as:

(Ai – Ti) / (Ai + Ti)

where *A* and *T* are the deals when country *i* is the acquirer and the target, respectively. The index goes from –1 when the country does not perform any acquisition to +1 when it has only acquisitions; the value is equal to 0 when the two flows are equal. Only three countries turn out to be net acquirer: Libya and Lebanon (with a low number of total deals) and also Israel which, however, is characterized by a very high number of transactions. All other countries show a negative index since the number of target deals is higher than acquisition deals.

Since we are interested in analyzing the deals which have been effectively implemented, in the rest of the article we focus on the completed M&A where the ENC is the target, investigating in detail their geographical and sectorial dimensions.

Considering the evolution over the period 2000-2011 of the number of completed M&A deals in the ENC as target, it can be noticed that the M&A market has grown very quickly since the year 2005, especially in the eastern ENC, while there is a tendency to decrease in the last two years due to the international economic crisis, which has hit Ukraine in particular. Peculiar trends are shown by Libya or Syria, where the number of M&A deals is almost constant across the years, and Jordan, which shows an incredible and constant increase in the level of M&A deals, especially after 2005.

It is interesting to link our findings with the international diffusion of the M&A to remark on some significant processes. The literature has emphasized that M&A generally occur in waves and cycles (Fauli-Oller, 2000). The so-called "Fifth Wave" between 1993-2000 was characterized by cross-border M&A, and mega mergers, and was particularly remarkable compared to its predecessors. For the first time, continental European firms were as eager to participate in takeovers as their US and UK counterparts, and M&A activity in Europe hit levels similar to those experienced in the US. The "Sixth Wave" invests the period between the years 2003-2008 with a sharp increase of M&A activities in 2006, both in terms of numbers and value. This wave is characterized by the globalization process, private equity pressure, and shareholder activism. Since the start of globalization, multinational companies have been engaging more heavily in cross-border trade and investments, which has heightened economic interdependence among national markets. Finally, from 2008 to 2011, M&A activity sank to its lowest levels since 2004, due to the economic downturn.

While Israel's M&A time flow seems consistent with the international M&A waves approach, the data for countries like Ukraine and, more generally, for the whole ENC-East

group, are inconsistent with the international pattern. In fact, we do not observe a decreasing level of M&A after 2008 but a constant and relevant increase, and this process does not start in 2004 but only after 2006. These peculiar "waves" are probably related to the political and economic environment that characterized this area. All countries, to a greater or lesser extent, have had imperfect "transitions" to capitalism and democracy. In many of them since 1998, "colored" revolutions have occurred — Belarus (2001 and 2006), Georgia (2003), Ukraine (2004) and Azerbaijan (2005) — and only in more recent years the political stabilization has allowed the economy to be opened to the international markets. For Belarus, for example, the increase of M&A observed lately and in countertrend with the international waves might be explained with the 2009 paradigm shift that has taken place in the EU's policy promoting functional co-operation.

3.2 Joint Venture and Strategic Alliance Agreements

We base our analysis on the announced agreements due to a lack of information on the subsequent outcome of the deal. In general, it is difficult to have complete information on the whole procedure leading to the conclusion of the alliance and therefore we are not able to distinguish between closed or pending transactions. The total number of SA and JV agreements considered amounts to 991, involving 1,575 different firms; since each company may take part in more than one agreement we end up with a total number of 2,157 participations. Table 2 presents the total number of agreements distinguished by alliance, typology and geographical area.

Looking at the total set of 991 alliances we can observe that almost all agreements (923 equal to 93% of the total) are international, as they include participants located in different countries, and are carried out in the Southern ENC area (840). Considering the typology, it can be seen that 58% of total agreements are SA. Moreover, notable differences emerge at the geographical level: in the case of the ENC-East, agreements are mostly classified as international JV (62%) while, in the case of the ENC-South, the largest share is represented by international SA (58%). Considering the breakdown of the agreements by country, among the ENC-East countries, Ukraine shows the highest number of deals (71 out of 151) followed by Azerbaijan and Belarus (37 and 28, respectively). In the ENC-South group the leader country is, as expected, Israel with more than 60% of total agreements in the area (540 out of 840) followed by Egypt (117 agreements). Notice that for both JV and SA the international agreements are the most important component in all countries.

As we have seen before, firms are willing to carry out external agreements in order to pursue their strategic goals, which may involve various activities within their business. In Table 3 we split the agreements into their specific subject considering seven activities: Manufacturing agreements, Supply agreements, R&D agreements, Technology Transfers, Marketing agreements and Licensing agreements. It is important to remark

that each agreement may embrace more than one activity; moreover, in many cases the detailed information on the specific content of the deal is not available. Overall, we have information for only 481 deals. Considering the whole sample, we can see that the most common activity is the Manufacturing agreement (202) followed by the Marketing activity (160). However, we can see that the content of the deals varies significantly according to the typology chosen. The preferred typology for firms interested in sharing production activities is the creation of a JV (74% of total deals for this activity) while for more "immaterial" activities like marketing, licensing, R&D agreement and technology transfer, the less structured form of SA is largely preferred.

Moreover, most transactions dealing with technological transfer and R&D agreements involve a transfer of knowledge from the external firms toward the companies located in the ENC. The only notable exceptions are found for the case of Israel where the local companies are often involved in transactions, which are expected to generate a knowledge outflow from Israel to the partner countries.

As we have remarked before, despite the specific content of the agreement, firms experience an exchange of knowledge when they participate in an alliance and this contributes to increasing the knowledge base of the countries involved.

4. The Geographical Dimension

In this section, we devote specific attention to the geographical dimensions of the ENC transactions to investigate whether spatial and cultural proximity plays a relevant role in influencing firms' decisions. As we already discussed, M&A and alliances can change resources and incentives of the firms involved and can lead knowledge transfer. However, the effectiveness of these processes is greatly mediated by proximity between companies in terms of geographical and cultural elements. In other words, it is more likely, all other factors held constant, to observe more transactions between countries, which are closed in the geographical space or which are linked by historical and cultural elements. In international diversification decisions, companies seem to attune their choices to the traits of the host economy, and characteristics related to cultural elements have frequently been claimed to influence the M&A firms' choice. The degree of similarity between countries based on their legal, economic, administrative, political, and cultural institutions, and institutional relatedness, the "degree of informal embeddedness or interconnectedness with dominant institutions" (Peng et al., 2005; 623) are important considerations that affect M&A strategy. The underlying assumption in this school of thought is that firms can benefit from institution-based capitals (e.g. political connections, cultural familiarity, and financial standards) better when cross-national institutional distance is low between their home and host countries. For example, cultural distance between countries is expected to back green fields because of the organizational risks of integrating foreign management into the parent organization.

In Table 4, focusing on cross-border M&A, we give an overview of the top five acquirer nations for each ENC. We observe, as expected, that strong historical, cultural, political, economic and geographical links among EU and neighborhood regions explain the presence between the top acquirers of EU countries like France in Algeria, France and Spain in Morocco, the United Kingdom in Azerbaijan. Moreover, we observe that the top acquirers in Israel are the USA, UK and Germany; in Jordan these are Kuwait, Arab Emirates and Saudi Arabia; Turkey appears among the top acquirers only for the case of another Islamic country like Azerbaijan; in Belarus the top acquirer countries are Russia, Latvia and Ukraine and Russia is among the top acquirers in all countries which were former members of the Soviet Union.

In general, Table 4 shows that, consistent with the literature, the cultural proximity between the target and the bidder in cross-border M&A is really effective. In the international cross-culture management literature, differences between national cultures have frequently been conceptualized in terms of "cultural distance" (Morosini et al., 1998). The cultural distance hypothesis, in its most general form, suggests that the difficulties, costs and risks associated with cross-cultural contacts increase with growing cultural differences between two individuals, group or organizations. The cultural distance construct has been shown to be significantly related to the choice of foreign investment and M&A activities (Barkema et al., 1996). In general, the literature suggests that cultural differences can create major obstacles to achieving integration benefits and are one of the key determinants for the success of international M&A and alliances.

Further, we look at the structure of cross-border M&A between the EU and these countries to find if there are significant differences in the configuration of cross-border M&A with the ENC in terms of their propensity to integrate with EU firms.[4] In Egypt only 14 per cent of M&A are from EU firms while it is less than 3 per cent in Jordan. In Israel 10 per cent of M&A are from EU firms. In Ukraine less than 8 per cent of M&A are from the EU with 46 per cent internal M&A. Algeria and Morocco are a significant exception to this trend: in Algeria 60 per cent of M&A are from the EU (with 20 per cent from France and 20 per cent from the UK) and in Morocco 36 per cent of M&A are from the EU.

Considering alliances (SA and JV), there is a total amount of 2,157 participations in the 991 alliances considered; this means that for the large majority of agreements the number of participants is equal to 2 (89%), only 8% of total deals involve 3 firms, while very few agreements are carried out with a larger number of participants. In Table 5 we analyze for each ENC, which are the most important partner countries worldwide. As we have already remarked for the case of M&A deals, for the alliances the geographical closeness and institutional and cultural proximity also influence the probability of making an international alliance. For instance, Russia is the preferred partner for several eastern countries like Belarus, Ukraine and Armenia. The USA is the first partner of Israel and Italy for Libya; similarly France is a top partner for Algeria and Morocco.

4. An econometric analysis of the role of cultural distance in affecting M&A between the EU and ENC is proposed by Di Guardo et al. (2013) within a gravity model.

The spatial structure of firms' transactions can be analyzed in greater detail by looking at their network structure. According to network theory, interactions among agents create structural interdependencies, and agents are able to impact each other through these interdependencies (Granovetter, 2005). As noted by Turkina and Postnikov (2012), private actors are prone to emulate each other's successful practices for profit maximization, efficiency or legitimacy reasons. This logic can be extended to the case of cross-border M&A and alliances: if, for example, the density of interactions between firms from the EU and firms from the ENC is high, neighborhood countries become exposed to the influence of EU-based firms that often have more advanced technical solutions and organizational practices.

In Table 6 we report two widely used network indices for the four categories of international transactions considered: M&A with ENC as target, M&A with ENC as bidder, JV and SA.[5] The first index is the closeness centrality which measures how quickly within a network an entity (in our case, a country) can access more entities; it is computed as the inverse of the sum of the distances of a node to all other nodes. The betweenness centrality measures the centrality of a node within a network and it is equal to the number of shortest paths from all vertices to all others that pass through that node.

Considering the M&A where the ENC enter as the target, Ukraine proves to play the most central position in the network since it exhibits the highest value for the betweenness index and the lowest value for the closeness centrality. A key role in the network is also played by Israel, Jordan and Egypt. These findings are corroborated by the visual representation of the network structure which is reported in Figure 1. Note that we have computed the partitioning of the countries involved in the network using a clustering procedure based on the relative importance of the direct and indirect links.[6] This procedure allows us to detect groups of densely connected nodes, while the nodes belonging to different groups are only sparsely connected. Interestingly, the whole networks can be clustered in three groups: a first based on Ukraine as central node, which embraces all eastern neighboring countries; a second one, which pivots on Israel and US as its main partner and the third formed by the other southern ENC where Egypt, Jordan and Morocco show a central position.

The picture changes slightly when the ENC are considered as acquirer: in this case Israel acts as the most central node and its pivotal position in the whole network is confirmed by Figure 2, where the partition formed around Israel is so strong that, thanks to the indirect links, it also attracts Arab countries like Egypt, Lebanon and Libya, although there are no direct M&A deals among them.

Looking at the joint ventures and strategic alliances, we find additional support for the key position of Israel, Ukraine and Egypt together with other emerging countries like Azerbaijan and Algeria, which are specifically involved in partnerships in the energy sec-

5. The network analysis is based on the open source software GEPHI.
6. The partitioning procedure is based on Blondel et al. (2008).

tor. Consequently, the visual representation of the alliance connections reported in Figures 3 and 4 also appears more complex, although the three main clusters around Israel, Egypt and Ukraine are confirmed.

5. The Sectoral Dimension

In this section we examine the sectoral distribution of ENC firms' transactions by looking at the primary sector of the companies involved. To give a general overview of the phenomenon we use an aggregate breakdown in 20 industries based on 2-digit NACE classification (see the Appendix for a detailed description of the sectors).

From Table 7 we can see that, on average in the ENC, the highest share of completed M&A is realized in the financial sector (38%), followed by communication (15%), while food (6.5%) and mining (5%) are the most relevant sectors among the industrial activities. The international financial sector has undergone tremendous change over the past decade and the banking concentration has increased in all important markets. Thus banks, especially those from countries that had already reached a high level of concentration, started to look abroad and engaged in cross-border M&A activities. Another important trigger for the internationalization of the banking sector in the last decade was the breakdown of the communist regimes in the Eastern European countries, which led to the opening of these markets and offered new opportunities to European banks. A number of Western European banks started to acquire banks in Central and Eastern European countries in order to gain attractive new business.

At the same time, there are relevant differences across areas and countries given by the production specialization profile, the endowments of natural resources, and the liberalization pattern of the internal markets. Thus, for instance, in Algeria the first sector for number of deals is mining (25%); in Belarus the food sector shows a relatively high share of total deals (14.7%) and the same happens in Ukraine for agriculture (7.5%) and food (12.8%); while in a industrialized mature country like Israel a high number of M&A are involved the machinery sector (10%).

Another interesting element worth analyzing is the sectoral relatedness of the transactions, since M&A sometimes offer the opportunity to diversify in other industries. More specifically, we have explored whether M&A activities of target and bidder firms are related by computing, per each NACE sector and the ENC target country, the share of M&A where the bidder and target firms belong to the same sector. This is an important element because we know from the literature that market and technological relatedness of merging firms have been found to play a fundamental role in the technology transfer process and in the efficacy of M&A with innovation aims (Valentini and Di Guardo, 2012).

The results reported in Table 8 are quite interesting: on average 48 per cent of total deals are realized in the same sector but we can observe important sector-specific effects. The most "closed" sector is the financial one where, looking at the ENC average, 85 per cent of total transactions are completed by firms operating within the same sector signalling a strong process of horizontal mergers and market concentration. On the other hand, there are important sectors — such as chemical, metal and textiles — where the incidence of intra-industry deals is much lower, around 20-30% per cent, and this indicates that a process of diversification by the acquiring companies was operating.

The sectoral distribution of alliance looks quite different with respect to the M&A deals. Considering the ENC as a whole (last row of Table 9) we show that most agreements are performed in the Communication and Information sector (393 equal to 62%). At the same time, there are relevant differences in the sectoral distribution across countries and areas. The Communication sector shows the highest share in several southern countries like Israel, Jordan and Egypt; on the other hand, among the eastern neighboring countries (like Azerbaijan and Belarus) a prominent position in the alliances is shown by the mining sector. In the case of the ENC-South, in the second position we find the financial sector. Once again, in order to correctly interpret these results we have to keep in mind that Israel strongly affects this data.

6. Concluding Remarks

Knowledge transfer is "laborious, time consuming and difficult…" (Szulanski, 2000, p. 9) and can be very "sticky". The relevance and importance of effective knowledge flow is a function of both sender and recipient availability to open to new knowledge as well as function of the knowledge itself in terms of codifiability, teachability and observability. Nevertheless, any form of firms' agreements, M&A, SA or JV, changing resources and incentives of firms involved is the outcome of complex search and decision processes by the firms involved and represents a potential channel of knowledge exchanges. This transfer is part of the organizational change process generated through the variety of activities carried out before, during and after the deal. Knowledge transfer is indeed embedded in several actions, such as the exchanges of information in the due diligence phase and among managers, the access to new technologies and organizational competencies, the integration of tasks and human resources, the interaction of different organizational cultures, the transfers of capabilities and resource sharing.

Such exchanges among companies imply, as a consequence, a transfer of knowledge across the geographical areas where firms are located. Therefore, M&A and alliance transactions may be used as a valuable proxy of knowledge flow that involved the ENC. Moreover, changes in government policies in emerging markets, economic reform, and liberalization of markets facilitate firms' transactions in the ENC markets. Even though over the last decades the economic literature has shown an increasing interest in M&A

and alliances, a deep analysis of their characteristics in the ENC still constitutes a challenge for research.

This paper investigates the ENC M&A and alliances market, thus offering new insights into the geographical and sectoral scope of the knowledge exchanges embedded in the deals involving the neighboring countries.

Overall, the ENC market still seems to be immature in terms of numbers of transactions in the observed period, with a significant share of transactions announced but not completed. We also observed a lot of differences between countries that could be a signal of a maturing path in some ENC markets. More specifically, the most active M&A markets turn out to be Ukraine in the East and Israel in the South. Ukraine, sharing the borders with both the EU and Russia, is characterized by a strong willingness to co-operate and it represents one of the most important target countries attracting relevant external investments. The case of Israel is obviously different since, despite its geographical collocation, it is characterized by GDP and technology levels comparable with those of the richest EU countries and it is fully integrated with the western economy.

Although M&A and alliances offer the fastest means of building a presence in a new market they are subject to relevant risks, which, in the case of ENC markets, may also be connected to political instability and cultural differences. We have thus examined the share of announced M&A transactions that are actually completed highlighting significant differences among countries in the completion rate. More specifically, we found that Libya, Syria, Egypt, Azerbaijan and Belarus have a relatively low share of completed transactions. This may signal a situation of uncertainty in these countries linked to the political situation, high corruption and low indexes in ease of doing business, which makes the completion of the acquisitions more difficult, especially for the international deals. In some countries there is a resistance to international integration due to institutional factors and also for the fear of giving too much control to foreign multinationals. Another interesting result which has emerged from our analysis is that the ENC show a relatively low level of domestic deals compared to the USA or the EU and this signals the weakness of the internal production structure, although we have observed over the period considered an increasing trend in the share of domestic deals.

Focusing on the international M&A and alliance we observe, as expected, that cross-border transactions are affected by the historical, cultural, political, economic and geographical links among, for example, EU and neighborhood countries. In general, firms entering markets characterized by cultural and political differences come across an increase in the costs and risks associated with the transactions (Di Guardo et al., 2013).

In regards to the sectoral dimension, there are relevant differences across countries in the sectoral distribution induced by the production specialization profile, the endowments of natural resources and the liberalization pattern of the internal markets. Looking at the degree of sectoral relatedness of the transactions, on average, half of the total transactions are realized within the same sector even though important sector-specific differences emerge.

The main purpose of the present analysis is to provide a first descriptive analysis of the general dimension of the M&A and alliances phenomenon while also exploring its geographical and sectoral dimensions. In general, the situation of political uncertainty and risk in some ENC countries makes the set up and completion of the deals and thus a full exploitation of the knowledge exchanges embedded in the inter-firm transactions more difficult. Future work has to be devoted to a more rigorous analysis to assess the origin and destination determinants of transaction spatial flows and to provide relevant indications for effective knowledge transfers in and out of the ENC.

References

Autant-Bernard, C., S. Chalaye, E. Gagliardini and **S. Usai** (2013), "Technological activity, R&D collaboration networks and Knowledge flows between ENC and the EU", this special issue.

Barkema, H., J. Bell and **J. Pennings** (1996), "Foreign entry, cultural barriers, and learning", Strategic Management Journal, 17, pp. 151-166.

Blondel, V.D., J.L. Guillaume, R. Lambiotte and **E. Lefebvre** (2008), "Fast unfolding of communities in large networks", Journal of Statistical Mechanics: Theory and Experiment, 10, 10008.

Buch, C. and **G. DeLong** (2004), "Cross-border bank mergers: What lures the rare animal?", Journal of Banking and Finance, 28, pp. 2077-2102.

COM 373 (2004), European Neighbourhood Policy Strategy Paper. Final. Commission of the European Communities.

Cockburn, I.M. and **R.M. Henderson** (2001), "Scale and scope in drug development: unpacking the advantages of size in pharmaceutical research", Journal of Health Economics, 20(6), pp. 1033-1057.

Di Guardo, M.C., E. Marrocu and **R. Paci** (2013), The concurrent impact of cultural, political and spatial distances on international Mergers & Acquisitions, Working Paper CRENoS 2013/08.

Fauli-Oller, R. (2000), "Takeover Waves", Journal of Economics and Management Strategy, 9, pp. 189-210.

Helfat, C.E. (1997), "Know-how and asset complementarity and dynamic capability accumulation: the case of R&D", Strategic Management Journal, 18(5), pp. 339-360.

Hussinger, K. (2010), "On the importance of technological relatedness: SMEs versus large acquisitions targets", Technovation, 30, pp. 57-64.

Karim, S. and **W. Mitchell** (2000), "Path-dependent and path-breaking change: Reconfiguring business resources following acquisitions in the U.S. medical sector, 1978-1995", Strategic Management Journal, 21, pp. 1061-1081.

Keeler, J.T. (1993), "Opening the window for reform: Mandates, crisis, and extraordinary policy-making", Comparative Political Studies, 25, pp. 433-486.

Lamin, A. and **D. Dunlap** (2011), "Complex technological capabilities in emerging economy firms: The role of organizational relationships", Journal of International Management, 17(3), pp. 211-228.

Larsson, R. and **S. Finkelstein** (1999), "Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realization", Organization Science, 10(1), pp. 1-26.

Li, D., S.R. Miller, L. Eden and **M.A. Hitt** (2012), "The impact of rule of law on market value creation for local alliance partners in BRIC countries", Journal of International Management, 18(4), pp. 305-321.

Luo, Y. and **M.W. Peng** (1999), "Learning to compete in a transition economy: Experience, environment, and performance", Journal of International Business Studies, 30(2), pp. 269-295.

Melnykovska, I. and **R. Schweickert** (2008), "Bottom-Up or Top-Down: What Drives the Convergence of Ukraine's Institutions towards European Standards?", Southeast European and Black Sea Studies, 8, pp. 445-468.

Moeller, S., F. Schlingemann and **R. Stulz** (2004), "Firm size and the gains from acquisitions, Journal of Financial Economics", 73, pp. 201-228.

Morosini, P., S. Shane and **H. Singh (**1998), "National cultural distance and cross-border acquisition performance", Journal of International Business Studies, 29(1), pp. 137-158.

Nelson, R. and **S. Winter** (1982), An evolutionary theory of economic change, Cambridge MA: Belknap Press of Harvard University Press, pp. 929-964.

Peng, M. W., S.-H. Lee and **D. Wang** (2005), "What determines the scope of the firm over time? A focus on institutional relatedness", Academy of Management Review, 30, pp. 622-633.

PricewaterhouseCoopers (2006), Cities of the Future. Global Competition, Local Leadership. London: PricewaterhouseCoopers.

Rodríguez–Pose, A. and **H. Zademach** (2006), "Industry dynamics in the German merger and acquisitions market", Tijdschrift Voor Economische en Sociale Geografie, 97(3), pp. 296-313.

Rothaermel, F.T. and **D.L. Deeds** (2006), "Alliance type, alliance experience and alliance management capability in high-technology ventures", Journal of Business Venturing, 21(4), pp. 429-460.

Scherer, F.M. and **D. Ross** (1990), Industrial market structure and economic performance, 3rd ed. Boston: Houghton Mifflin.

Sivadas, E. and **F.R. Dwyer** (2000), "An examination of organizational factors influencing new product success in internal and alliance-based processes", The Journal of Marketing, 16, pp. 31-49.

Szulanski, G. (2000), "The process of knowledge transfer: A diachronic analysis of stickiness", Organizational Behavior and Human Decision Processes, 82(1), pp. 9-27.

Tallman, S. and **A.S. Chacar** (2011), "Knowledge Accumulation and Dissemination in MNEs: A Practice-Based Framework", Journal of Management Studies, 48(2), pp. 278-304.

Teece, D.J. (1992), "Competition, cooperation, and innovation: Organizational arrangements for regimes of rapid technological progress", Journal of Economic Behavior & Organization, 18(1), pp. 1-25.

Tjemkes, B.V., O. Furrer, K. Adolfs and **A. Aydinlik** (2012), "Response strategies in an international strategic alliance experimental context: Cross-country differences", Journal of International Management, 18(1), pp. 66-84.

Turkina, E. and **E. Postnikov** (2012), "Cross-border Inter-firm Networks in the European Union's Eastern Neighbourhood: Integration via Organizational Learning", Journal of Common Market Studies, 50, pp. 632-652.

Valentini, G. and **M.C. Di Guardo** (2012), "M&A and Innovation Quality", Strategic Organization, 10(4), pp. 384-405.

Vermeulen, F. and **H. Barkema** (2001), "Learning through acquisitions", Academy of Management Journal, 44, pp. 457-476.

Wesselink, E. and **R. Boschma** (2013), "Overview of the European Neighbourhood Policy: Its History, Structure, and Implemented Policy Measures", this special issue.

Whitman, R. and **A.E. Juncos** (2011), "Relations with the Wider Europe, Journal of Common Market Studies", 49, pp. 187-208.

Whitman, R. and **S. Wolff** (eds.) (2010), The European Neighbourhood Policy in Perspective: Context, Implementation and Impact. Basingstoke: Palgrave Macmillan.

Appendix. Sectoral classification (based on NACE 2 digit)

Sectors		NACE label division
S1	Agr	Agriculture, Forestry, Fishing
S2	Min	Mining and Quarring
S3	Food	Manufacture of food products, beverages, tobacco
S4	Text	Manufacture of textiles, wearing apparel, leather
S5	Wood	Manufacture of wood, furniture
S6	Paper	Manufacture of paper. Printing and reproduction of recorded media
S7	Chem	Manufacture of coke, refined petroleum products, Chemicals, Pharmaceuticals, Rubber, plastic products
S8	Nm min	Manufacture of other non-metallic mineral products
S9	Metal	Manufacture of basic metals, fabricated metal products
S10	Mach	Manufacture of computer, electronic, optical products. Electrical equipment
S11	Vehic	Manufacture of motor vehicles; other transport equipment
S12	O man	Other manufacturing
S13	Electr	Electricity, gas, steam. Water supply. Sewerage, waste management
S14	Constr	Construction
S15	Trade	Wholesale and retail trade; repair of motor vehicles and motorcycles
S16	Transp	Transportation and storage
S17	Accom	Accommodation and food service activities
S18	Comm	Information and communication. Real estate. Professional, scientific and technical activities
S19	Financ	Financial and insurance activities
S20	O serv	Administrative activities. Public administration and defence. Education. Health. Arts, entertainment

Table 1. M&A per status and countries, 2000-2011

Country	Target			Acquiror			Target, completed		
	Total	Completed	% compl.	Total	Completed	% compl.	intra national	inter national	% intra.
AM Armenia	91	63	69.2	16	9	56.3	6	57	9.5
AZ Azerbaijan	122	57	46.7	23	20	87.0	13	44	22.8
BY Belarus	209	95	45.5	24	17	70.8	9	86	9.5
GE Georgia	129	91	70.5	40	33	82.5	28	63	30.8
MD Moldova	107	72	67.3	19	17	89.5	14	58	19.4
UA Ukraine	2425	1658	68.4	1093	858	78.5	762	896	46.0
Total ENC- East	3083	2036	66.0	1215	954	78.5	832	1204	40.9
DZ Algeria	64	44	68.8	19	12	63.2	4	40	9.1
EG Egypt	666	352	52.9	394	232	58.9	160	192	45.5
IL Israel	1588	944	59.4	1559	987	63.3	516	428	54.7
JO Jordan	458	384	83.8	367	323	88.0	284	100	74.0
LB Lebanon	86	64	74.4	92	76	82.6	32	32	50.0
LY Libya	28	14	50.0	26	16	61.5	0	14	0.0
MA Morocco	205	166	81.0	112	93	83.0	78	88	47.0
SY Syria	20	11	55.0	5	1	20.0	0	11	0.0
TN Tunisia	101	70	69.3	27	24	88.9	16	54	22.9
Total ENC-South	3216	2049	63.7	2601	1764	67.8	1090	959	53.2
Total ENC	6299	4085	64.9	3816	2718	71.2	1922	2163	47.1

Table 2. Agreements announced per country and typology, 2000-2011

Country	Total agreements			Joint Ventures			Strategic Alliances		
	Intra.	Intern.	Total	Intra.	Intern.	Total	Intra.	Intern.	Total
AM Armenia	0	7	7	0	6	6	0	1	1
AZ Azerbaijan	2	35	37	0	22	22	2	13	15
BY Belarus	0	28	28	0	20	20	0	8	8
GE Georgia	0	6	6	0	5	5	0	1	1
MD Moldova	0	2	2	0	2	2	0	0	0
UA Ukraine	3	68	71	1	39	40	2	29	31
Total ENC- East	5	146	151	1	94	95	4	52	56
DZ Algeria	5	49	54	4	29	33	1	20	21
EG Egypt	12	105	117	11	71	82	1	34	35
IL Israel	42	498	540	12	110	122	30	388	418
JO Jordan	3	30	33	1	19	20	2	11	13
LB Lebanon	1	18	19	0	7	7	1	11	12
LY Libya	0	28	28	0	22	22	0	6	6
MA Morocco	0	27	27	0	17	17	0	10	10
SY Syria	0	14	14	0	9	9	0	5	5
TN Tunisia	0	8	8	0	8	8	0	0	0
Total ENC-South	63	777	840	28	292	320	35	485	520
Total ENC	68	923	991	29	386	415	39	537	576

Table 3. Agreements by typology and activity, 2000-2011

Activity	Total Agreements	Joint Ventures	Strategic Alliances
Manufacturing Agreement	210	150	60
Supply Agreement	15	4	11
R&D Agreement	72	9	63
Technology Transfer	88	7	81
Marketing Agreement	127	18	109
Licensing Agreement	49	4	45
Total	561	192	369

Table 4. Completed international M&B in ENC target nation per top five acquiror nations, 2000-2011

Target Country		Top 5 acquiror nations and number of deals									
		1°	n.	2°	n.	3°	n.	4°	n.	5°	n.
AM	Armenia	Russia	26	UK	6	Canada	4	Germany	3	4 countries	2
AZ	Azerbaijan	UK	8	Turkey	6	USA	5	China	4	Netherlands	4
BY	Belarus	Russia	32	Latvia	5	Ukraine	5	Austria	4	Finland	4
GE	Georgia	USA	9	UK	8	Russia	6	Ukraine	6	Kazakhstan	5
MD	Moldova	Russia	17	UK	5	France	4	Austria	3	Ukraine	3
UA	Ukraine	Cyprus	276	Russia	141	USA	59	UK	54	Austria	33
Total ENC- East			342		165		79		71		49
DZ	Algeria	France	9	UK	9	Spain	4	USA	3	3 countries	2
EG	Egypt	Arab Em.	26	USA	25	France	16	S. Arabia	16	UK	12
IL	Israel	USA	253	UK	36	Germany	19	Canada	17	France	15
JO	Jordan	Kuwait	17	Arab Em.	14	S. Arabia	8	USA	7	Bahrain	6
LB	Lebanon	France	5	USA	5	Kuwait	4	S. Arabia	3	Egypt	2
LY	Libya	Austria	2	France	2	UK	2	8 countries	1	-	
MA	Morocco	France	38	Spain	7	UK	6	USA	5	Australia	3
SY	Syria	Egypt	2	India	2	Lebanon	2	5 countries	1	-	
TN	Tunisia	France	11	Spain	5	USA	5	Kuwait	4	3 countries	3
Total ENC-South			354		96		62		54		41
Total ENC			696		261		141		125		90

Table 5. Top 3 nations in agreements per country and number of participants, 2000-2011

Country		Top 3 Participant Nation						
		1 °	n.	2 °	n.	3 °	n.	Total
AM	Armenia	Belgium	3	Russia	3	China/USA	1	15
AZ	Azerbaijan	UK	6	Turkey	5	USA	4	83
BY	Belarus	Russia	15	Venezuela	3	China	2	61
GE	Georgia	USA	2	Azerbaijan/China	1	Russia/Turkey	1	12
MD	Moldova	Belarus	1	Ireland	1	-	0	4
UA	Ukraine	Russia	19	USA	9	5 countries	3	146
Total ENC- East			46		22		11	321
DZ	Algeria	Germany	7	Spain	6	France	5	126
EG	Egypt	Arab Em.	19	USA	16	Italy	9	285
IL	Israel	USA	233	Japan	33	UK	26	1136
JO	Jordan	USA	7	Saudi Arabia	3	Arab Em	3	74
LB	Lebanon	USA	3	Arab Em.	3	4 countries	2	43
LY	Libya	Italy	6	Egypt	4	Russia/Arab Em.	3	62
MA	Morocco	USA	6	France	5	Pakistan	3	60
SY	Syria	Belgium	2	France	2	India/Russia	2	31
TN	Tunisia	India	3	6 countries	1	-	0	19
Total ENC-South			286		73		53	1836
Total ENC			332		95		64	2157

Table 6. Centrality indicators for ENC international networks, 2000-2011

Country		M&A (target)		M&A (acquiror)		Joint Ventures		Strategic Alliances	
		Close.	Between.	Close.	Between.	Close.	Between.	Close.	Between.
DZ	Algeria	2.20	51.6	2.36	182.8	2.08	238.4	2.03	134.3
AM	Armenia	1.89	185.9	2.30	20.5	2.81	0.7	2.54	0.0
AZ	Azerbaijan	1.87	59.1	2.22	104.4	1.90	406.5	2.16	55.9
BY	Belarus	1.93	133.9	2.59	13.0	2.30	245.8	2.41	71.6
EG	Egypt	1.78	445.4	1.63	1365.3	1.75	539.5	1.83	216.3
GE	Georgia	1.86	127.1	2.38	16.0	2.44	2.0	2.57	0.0
IL	Israel	1.54	858.3	1.55	2335.6	1.74	858.1	1.62	631.6
JO	Jordan	1.87	463.5	1.87	517.8	2.29	135.9	2.16	68.7
LB	Lebanon	2.17	57.6	2.21	319.6	2.45	12.1	2.13	29.2
LY	Libya	2.23	27.5	2.32	226.3	2.12	138.7	2.29	20.7
MD	Moldova	2.01	86.5	2.78	3.5	3.26	76.0		
MA	Morocco	2.24	121.7	2.40	442.5	2.34	101.3	2.27	77.0
SY	Syria	2.28	88.3	2.39	2.8	2.43	11.8	2.32	17.9
TN	Tunisia	2.18	90.1	2.41	59.6	2.52	78.7		
UA	Ukraine	1.46	1454.1	1.99	468.7	2.19	343.4	1.79	211.2

Closeness centrality: inverse of the sum of the distances of a node to all other nodes.
Betweennes centrality: number of shortest paths from all vertices to all others that pass through that node.

Table 7. Completed M&A in ENC target nation per primary sector, 2000-2011

Target Country		S1 Agr	S2 Min	S3 Food	S4 Text	S5 Wood	S6 Paper	S7 Chem	S8 Nm min	S9 Metal	S10 Mach	S11 Vehic	S12 O man	S13 Electr	S14 Constr	S15 Trade	S16 Transp	S17 Accom	S18 Comm	S19 Financ	S20 O serv	Total
AM	Armenia	0	11	1	0	0	0	0	0	4	0	0	1	4	1	2	1	0	7	28	3	63
AZ	Azerbaijan	0	9	2	0	1	0	1	0	0	1	0	0	5	1	0	0	0	5	25	7	57
BY	Belarus	0	6	14	2	0	2	2	0	3	4	2	1	0	1	7	3	0	6	37	5	95
GE	Georgia	0	9	3	0	0	0	5	3	0	0	0	0	4	0	3	8	0	11	43	2	91
MD	Moldova	0	1	5	2	0	3	0	0	0	0	2	1	7	2	5	1	0	10	27	6	72
UA	Ukraine	64	46	110	4	0	20	40	17	65	40	34	6	33	11	56	30	12	81	183	6	858
Total ENC- East		64	82	135	8	1	25	48	20	72	45	38	9	53	16	73	43	12	120	343	29	1236
DZ	Algeria	0	11	9	0	0	0	5	3	3	1	0	0	0	0	1	0	1	1	9	0	44
EG	Egypt	4	32	19	2	0	5	18	18	3	5	1	1	12	3	7	7	9	37	157	12	352
IL	Israel	4	15	22	3	1	53	43	2	4	95	11	42	4	4	35	9	4	240	345	8	944
JO	Jordan	1	2	7	2	0	1	9	4	4	1	0	0	8	3	8	8	6	62	249	9	384
LB	Lebanon	0	0	5	0	0	0	1	0	0	0	0	0	0	0	7	0	0	7	42	2	64
LY	Libya	0	2	0	0	0	0	0	2	0	0	0	0	1	1	0	0	0	1	7	0	14
MA	Morocco	0	7	14	1	0	2	4	1	0	3	9	0	5	0	7	3	3	22	82	3	166
SY	Syria	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	11
TN	Tunisia	0	14	3	0	2	1	2	7	0	0	1	0	2	0	6	2	0	9	21	0	70
Total ENC-South		9	87	80	8	3	62	82	37	14	105	22	43	32	11	71	29	23	380	917	34	2049
Total ENC		73	169	215	16	4	87	130	57	86	150	60	52	85	27	144	72	35	500	1260	63	3285

The detailed list of sectors is reported in Appendix.

Table 8. Completed M&A where the acquirer firm is in the same sector of the target ENC firm, % over total M&A in the sector, 2000-2011

Target Country		S1 Agr	S2 Min	S3 Food	S4 Text	S5 Wood	S6 Paper	S7 Chem	S8 Nm min	S9 Metal	S10 Mach	S11 Vehic	S12 O man	S13 Electr	S14 Constr	S15 Trade	S16 Transp	S17 Accom	S18 Comm	S19 Financ	S20 O serv	Total
AM	Armenia	-	67	0	-	0	0	0	-	67	0	-	100	44	-	0	33	-	100	80	-	59
AZ	Azerbaijan	0	31	40	-	-	-	100	0	-	-	-	-	100	0	0	0	-	57	81	-	53
BY	Belarus	-	-	86	50	0	100	33	-	50	33	20	100	0	-	60	50	-	56	81	-	63
GE	Georgia	-	43	50	-	-	-	67	75	0	-	0	-	50	0	25	17	0	50	100	25	52
MD	Moldova	-	25	38	50	-	50	0	0	0	-	-	-	57	100	0	0	-	64	89	0	54
UA	Ukraine	23	31	37	33	-	35	26	38	34	18	17	23	26	9	30	24	13	38	87	27	42
Total ENC- East		23	35	40	42	0	37	26	40	34	19	17	33	31	11	32	23	13	43	87	25	44
DZ	Algeria	-	100	89	-	-	0	50	100	50	0	-	-	-	-	0	-	-	20	100	-	68
EG	Egypt	0	60	64	13	0	23	35	50	25	0	-	-	78	0	27	50	50	60	84	14	52
IL	Israel	67	62	64	18	-	32	43	40	13	59	0	56	23	0	34	33	29	52	79	15	49
JO	Jordan	0	17	36	8	0	14	32	31	43	0	0	-	50	0	17	17	0	23	80	25	38
LB	Lebanon	-	-	50	-	-	0	100	-	-	-	-	-	-	-	50	-	0	64	94	0	72
LY	Libya	-	40	0	-	-	-	-	100	-	-	-	-	-	100	-	-	-	100	100	-	71
MA	Morocco	-	88	81	100	-	67	27	100	0	0	80	-	40	0	29	33	67	53	97	0	63
SY	Syria	-	67	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	100	-	82
TN	Tunisia	-	88	60	-	100	20	33	75	-	-	100	-	50	-	50	67	0	64	89	0	67
Total ENC-South		25	67	64	13	33	29	39	52	26	53	36	56	45	4	31	29	31	49	84	15	51
Total ENC		23	48	48	19	20	32	33	47	32	36	22	51	35	8	31	26	25	47	85	18	48

The detailed list of sectors is reported in Appendix.

Table 9. Agreements per primary sector, 2000-2011

Country		S1 Agr	S2 Min	S3 Food	S4 Text	S5 Wood	S6 Paper	S7 Chem	S8 Nm min	S9 Metal	S10 Mach	S11 Vehic	S12 O man	S13 Electr	S14 Constr	S15 Trade	S16 Transp	S17 Accom	S18 Comm	S19 Financ	S20 O serv	Total
AM	Armenia	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	1	0	0	7
AZ	Azerbaijan	0	11	0	0	0	1	3	0	1	1	3	0	3	1	0	3	0	7	2	1	37
BY	Belarus	0	5	0	1	1	1	3	0	0	4	3	1	2	0	3	2	0	2	0	0	28
GE	Georgia	0	0	0	0	0	1	0	0	0	0	0	0	2	1	0	1	0	1	0	0	6
MD	Moldova	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
UA	Ukraine	0	10	3	0	0	0	5	0	2	2	11	1	6	2	7	3	0	18	1	0	71
Total ENC- East		0	29	3	1	1	3	12	0	4	7	18	2	13	4	10	11	0	29	3	1	151
DZ	Algeria	0	15	2	0	0	0	8	0	2	0	1	0	10	3	3	2	0	7	1	0	54
EG	Egypt	0	7	6	5	3	1	15	3	2	0	2	2	2	3	8	4	2	31	20	1	117
IL	Israel	0	5	7	5	0	18	19	2	3	21	10	13	4	4	64	9	1	291	56	8	540
JO	Jordan	0	3	0	0	0	2	2	0	1	0	4	0	1	0	0	3	0	16	1	0	33
LB	Lebanon	0	1	0	0	0	2	0	1	0	0	0	0	0	0	2	1	0	5	6	1	19
LY	Libya	0	5	1	0	0	0	2	0	1	0	2	0	2	3	0	0	0	8	4	0	28
MA	Morocco	0	3	3	0	0	0	7	0	0	2	0	0	0	2	3	0	1	4	2	0	27
SY	Syria	0	3	0	0	0	0	4	0	0	0	0	1	3	0	0	1	0	1	1	0	14
TN	Tunisia	0	1	0	0	0	1	3	0	0	1	0	0	1	0	0	0	0	1	0	0	8
Total ENC-South		0	43	19	10	3	24	60	6	9	24	19	16	23	15	80	20	4	364	91	10	840
Total ENC		0	72	22	11	4	27	72	6	13	31	37	18	36	19	90	31	4	393	94	11	991

The detailed list of sectors is reported in Appendix.

Figure 1. International network of M&A deals with ENC as target, 2000-2011

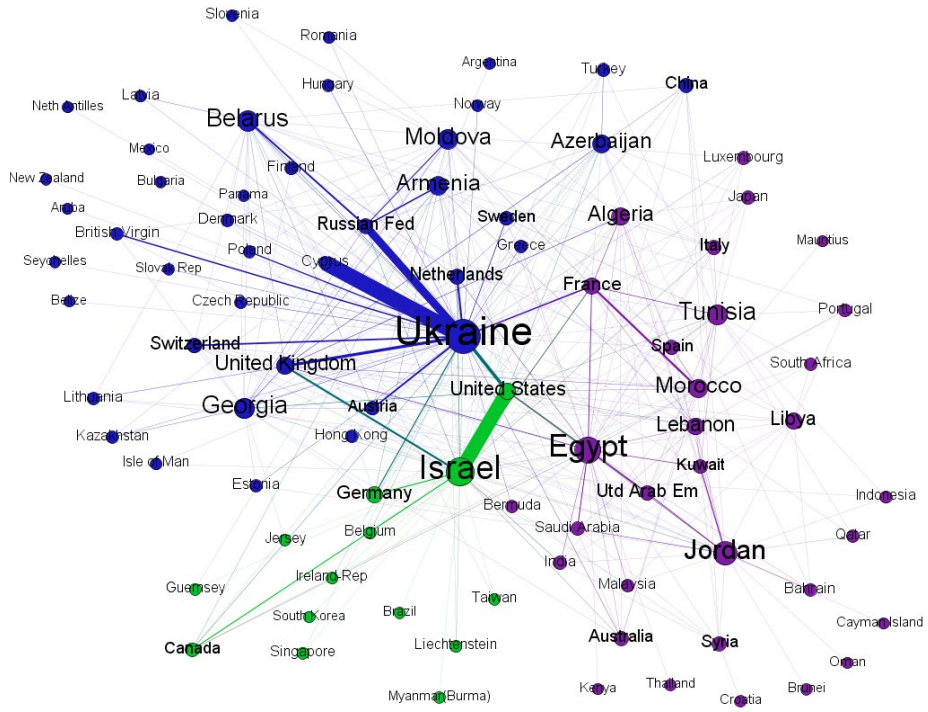


Figure 2. International network of M&A deals with ENC as acquirer, 2000-2011

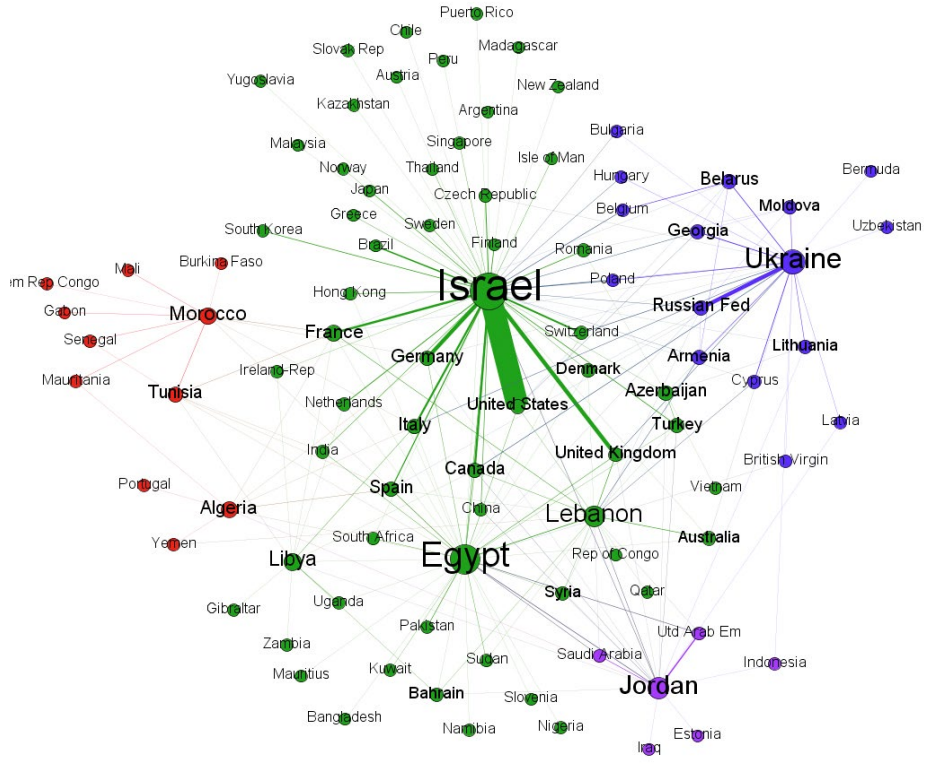


Figure 3. International network of Joint Ventures involving ENC, 2000-2011

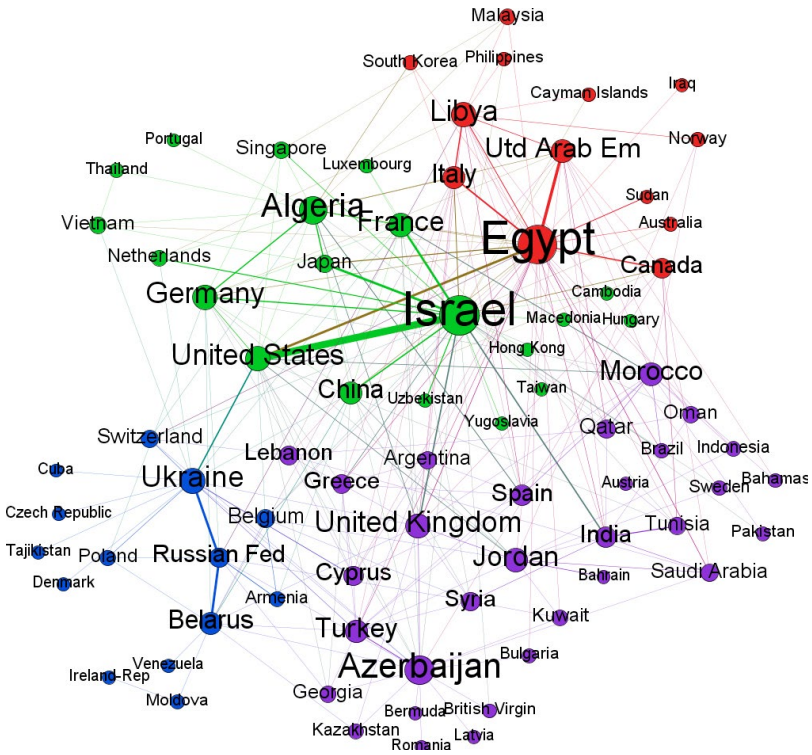
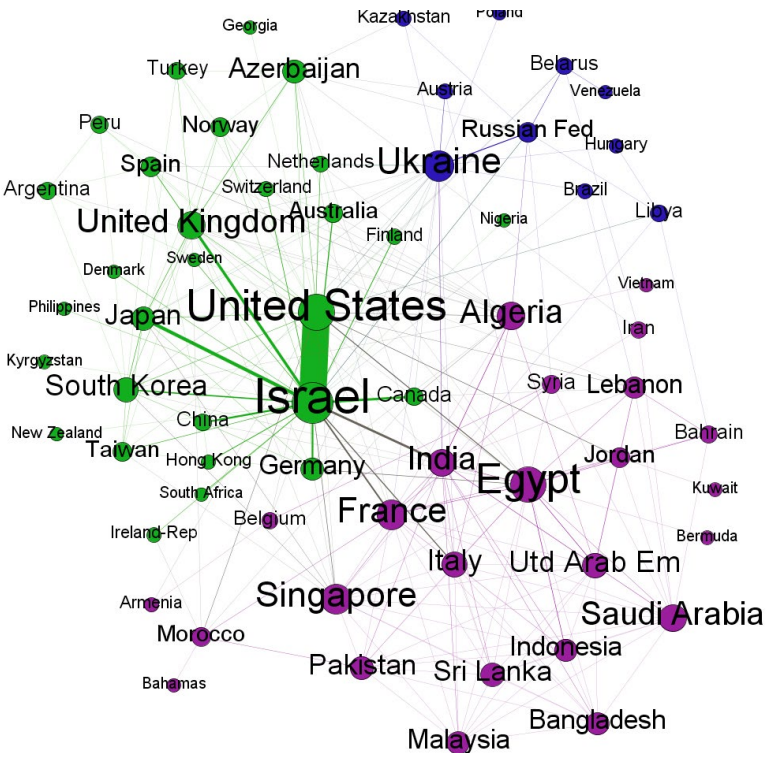


Figure 4. International network of Strategic Alliances involving ENC, 2000-2011



Legal Framework for Intangible Assets in Turkey

Uğur Gürşad Yalçiner, Cansu Durukan and Aslı Ertan, Science and Technology Policies Research Centre (METU-TEKPOL), Middle East Technical University, Ankara, Turkey

E-mail: ugur@yalciner.com, cdurukan@metu.edu.tr and aertan@metu.edu.tr

Abstract

Intangible assets (IA) are one of the emerging concepts which have recently entered innovation studies. There are different associations of the IA concept with accounting, business management and organisational management. However, our approach to IA considers the legally protected intellectual assets of organizations in addition to their physical, financial and technical ownerships. In other words, we consider Intellectual Property Rights (IPR) as the main component of intangible assets and propose that it plays a major role in trade, knowledge diffusion, technology transfer and innovation collaborations. We also argue that IA-based management should be incorporated into business management and regional development policies. Within this framework, the paper presents the current regulatory structure of Turkey in terms of protecting and economizing these assets. Since it is an evaluation of current IPR system analysis, the paper surveys the literature and legal national documents to give insights into the recent changes and trends in Turkey in the integration process with the EU and other neighbourhood countries.

Keywords

Intangible Assets, IPR, Turkey, Regional Policy

1. Introduction

A company is a complex entity on many levels. It is composed of people, technology, money, organisation, trust and power relations, missions, skills, experience and so on. To survive in today's economy, companies have to be innovative. As is known, innovation is an interactive process with these internal constituents and other external actors. The dynamic and simultaneous interaction of defined and undefined factors makes it even harder to comprehend. So much so that understanding innovation in a single company may become an individual challenge. Through its lifecycle, the company encounters practices that it has to keep up with, excel in, abandon and master. In this environment, the abilities of the firm to perform these courses of action on an organisational level depend on its assets and capabilities. When we say assets, the immediate associations are physical assets such as equipment or production infrastructure and financial assets. However, beyond them, there are employee's experience and capabilities which can be conceptualized under human capital and intellectual capital. It can be said that these capabilities are the real assets of a company, which help them to survive market competition. Acknowledging this has brought forth the importance of intangible assets. However, intangible assets are different from other assets. The major difference lies in their knowledge content. The reason they are called "intangible" is due to two factors. First, they are physically intangible and, second, they cannot easily be measured and represented with numbers objectively.

The concept of intangible assets (IA) has many associations in different research fields. Recently, there have been studies on how to profit from intangible assets on many fronts. Although the concept of IA has not yet matured, IPR are accepted as a prominent component of IAs. Our goal in this paper is to evaluate the current system of IPR in Turkey under the scope of IA. Therefore, section 2 will outline the theoretical framework that links IPR and IA. In this section, we will also provide basic definitions and general categorisation of IPR. In section 3, we will conduct a survey of national legislation of industrial, intellectual and other rights in Turkey. Following this, in section 4, we will elaborate on the structure of the IPR system with its main actors and implementation process by providing some recent data. Finally, in section 5, we will address the problems of the Turkish IPR system in comparison with European Union countries and make conclusions.

2. Intangible Assets and Intellectual Property Rights

2.1 Theoretical Framework

Intangible Assets (IA) is an emerging concept which has recently entered the innovation literature. It can be argued that the efforts to understand, measure and benefit from intangible assets started with the consideration of knowledge as an important and prin-

cipal production factor like other traditional factors in the economy by Drucker (1993). In other words, we can state that Intangible Assets are one of the recent phenomena of the knowledge economy in strategic company management. In addition, the importance of a company's abilities to generate knowledge in competitiveness can be found in the works of Nonaka & Takeuchi (1995). Since then, intellectually creative ideas have been the important determinant of innovation capability.

There is a mixed usage of intellectual capital and intellectual assets. The former mostly refer to human capital. However, the term asset refers to ownerships. In this sense, our approach to IA emphasizes the legally protected ownership of intellectual works. Previously, this concept was associated with different disciplines. For instance, the accounting literature has mostly elaborated on the issue of external financial reporting of intangible assets, defining them as ''a non-physical source of expected future benefits'' (Abernathy et al., 2003, p. 17). Intangible assets are defined as assets arising as a result of past events and possess three main attributes: they are non-physical in nature, they are capable of producing future economic net benefits, and they are protected legally or through a de facto right (Kramer et al., 1999).

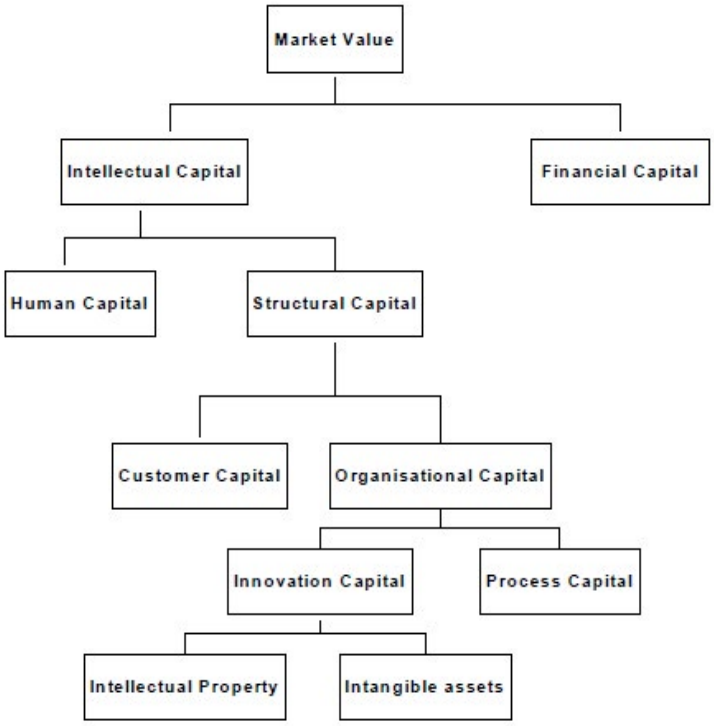
According to Handy (1989), the intellectual assets of a corporation are usually three or four times tangible book value. Ross, Ross, Dragonetti, and Edvinsson (2001) define intellectual capital as that which includes all the processes and assets that usually do not appear on the balance sheet, as well as all the intangible assets used in modern accounting methods, such as trademarks, patents and copyrights. In his study on valuing innovative assets (Hall, 1999), he discovers that the market value of the modern manufacturing corporation is strongly related to its knowledge assets.

The organisational knowledge and learning capability of a firm have often been seen as an important determinant of a company's competitiveness. Business strategy scholars have focused on conceptual frameworks for identifying, collecting and analysing intangibles for internal management purposes, defining them as ''resources that are not visible in the balance sheet, but that add value to the enterprise'' (Edvinsson, 1997, p. 322).

The concept of intellectual capital has been categorized with three sub-components. These are human capital, structural capital and relational capital. Human capital refers to the knowledge embodied in employees; relational capital refers to the knowledge embedded in the relationships with any stakeholder that influences the organization's life; and structural capital refers to the organization's capabilities to meet its internal and external challenges (do Rosário Cabrita and Vaz, 2005). Brooking (1996) divides intellectual capital into four categories: market assets, intellectual property, infrastructure and human-centred capital (Ortiz, 2012).

Stewart (1997) defines intellectual capital as "the intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth." Other studies on intellectual capital can be found in Hall (1999), Brooking (1996), Sveiby (1997), Roos et al. (1997), Edvinsson and Malone (1997), Bontis (1998), and Lev (2001). Below, Figure 1 shows the link between IPR and intangible assets.

Figure 1. The link between intellectual capital and IP by Edvinsson (1997)[1]



In an alternative view, Harrison and Sullivian (2002:2) define intellectual capital (IC) as "knowledge that can be converted into profit." Marr et al (2004: 3) argue that the true value of a company can only be assessed by taking intangible assets into account. Therefore, measuring IC appears to be particularly useful for accounting purposes since it allows organisations to place a value on their intangible assets. Acknowledging the tangible effects of the IA of a company, business managers have started to seek ways to appropriate the benefits and "extraction of value from innovation" has become a hype issue (Harrison and Sullivian, 2000: 1). Companies can benefit from their intellectual assets by making the unprotected technologies protected. Patents can be used to develop business opportunities. Cost saving and increased revenue can be achieved.

According to Teece (2003) a company's competitive power and innovation performance is also determined by its assets. Hence, these assets are grouped under six titles. These are technological, complementary, financial, reputational, institutional and market assets. A firm's reputation is also included in intangible assets as "reputational

1. Taken from: http://www2.warwick.ac.uk/fac/soc/wbs/conf/olkc/archive/oklc5/papers/k-4_srivihok.pdf

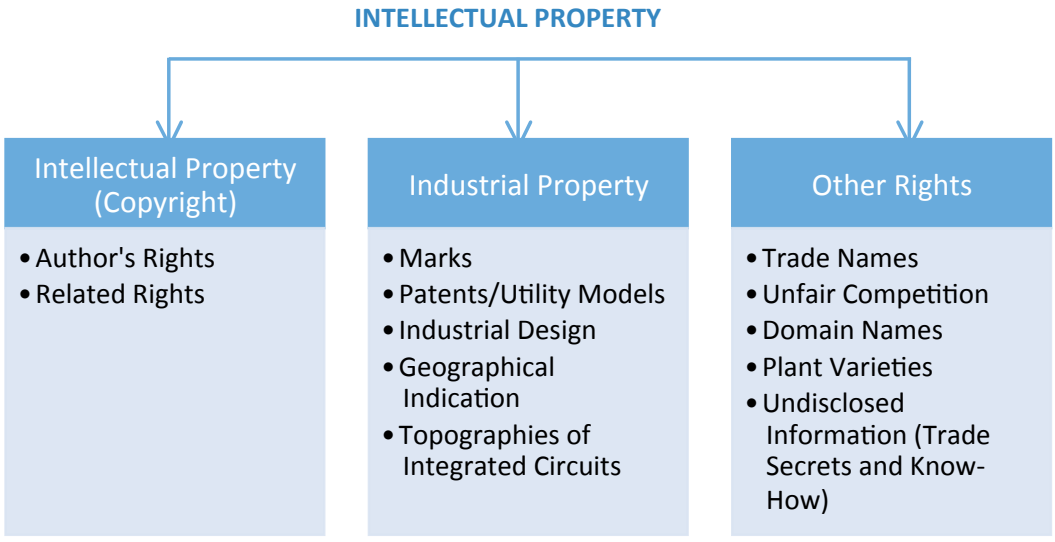
assets", since it reflects the overall assets and current position of the firm. It also enables interpretation of future behaviour.

IPR is a strategic asset for companies. Lev (2001) includes products and services, customer relations, human resources and organisational capital in his taxonomy of intangibles. Intellectual assets are part of innovation management. Protection of intangible assets help innovators to profit from innovation. Are intangible assets those that money cannot buy? Intellectual assets can be legally protected. Sumita (2008) indicates that IA-based management has developed to realize and manage innovation. He argues that "recruiting is not enough" and the corporate value of hiring highly-educated people can only be gained by such an innovation approach. He also asserts that, in the case of open innovation, companies need to evaluate intellectual assets and capabilities since it is a case which is outside knowledge, specific knowledge and knowledge exchange. Strategic IPR capability is necessary for exploiting the benefits of patents and R&D.

IAbM can be also reflected at national policy level. Sumita (2008) argues that an IAbM-based national innovation policy has advantages. First, it helps to acknowledge the companies' own strengths and results in better decisions to utilize external knowledge or technology. In this way, it is expected to generate better results for efficiency and resource allocation. Secondly, identifying the intangible assets of SMEs can expand the collaboration options with other companies and regions.

2.2 Definition of Intellectual Property Rights

Figure 2. Types of IPR in Turkey



Intellectual property (IP) refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce.[2]

2. http://www.wipo.int/about-ip/en/index.html

Patent describes an invention and creates a legal situation in which the patented invention can normally only be exploited (manufactured, used, sold, imported) with the authorization of the owner of the patent.[3]

Utility Models differ from inventions for which patents for invention are available mainly in two respects. First, the technological progress required is smaller than the technological progress ("inventive step") required in the case of an invention for which a patent for invention is available. Second, the maximum term of protection provided in the law for a utility model is generally much shorter than the maximum term of protection provided in the law for an invention for which a patent for invention is available.[4]

Copyright: Copyright law is a branch of that part of the law which deals with the rights of intellectual creators. It deals with particular forms of creativity, concerned primarily with mass communication. Copyright deals with the rights of intellectual creators in their creation. Copyright protection is above all one of the means of promoting, enriching and disseminating the national cultural heritage.[5]

Related Rights: There are rights related to, or "neighbouring on", copyright. These rights are generally referred to as "related rights" (or "neighbouring rights"). There are three kinds of related rights: the rights of performing artists in their performances, the rights of producers of phonograms in their phonograms, and the rights of broadcasting organizations in their radio and television programmes. Protection of those who assist intellectual creators to communicate their message and to disseminate their works to the public at large is attempted by means of related rights.

Industrial rights and other rights will be examined in section 4.

3.1 National Legislation on Industrial Property Rights in Turkey

Table 1. Patents and utility models

Decree-Law No. 551 of June 24, 1995 on the Protection of Patent Rights (as last amended by the Decision of the Constitutional Court No. 2009/19 of February 5, 2009) (2009)
Implementing Regulations on the Convention on the Grant of European Patents (EPO) (as last amended by Law No. 26883 of May 22, 2008) (2008)
Regulation dated 01.04.2005 on Implementing Patent Cooperation Treaty (PCT)

(continued)

3. http://www.wipo.int/export/sites/www/about-ip/en/iprm/pdf/ch2.pdf
4. http://www.wipo.int/export/sites/www/about-ip/en/iprm/pdf/ch2.pdf
5. http://www.wipo.int/export/sites/www/about-ip/en/iprm/pdf/ch2.pdf

Law No. 4128 of November 7, 1995 on the Amendments to the Decree-Laws No. 551, 552, 554, 555, 556 and 560 (1995)
Implementing Regulations under Decree-Law No. 551 of June 24, 1995 on the Protection of Patent Rights (as last amended by Regulation No. 27207 of April 21, 2009) (2009)

Source: http://www.wipo.int/wipolex/en/profile.jsp?code=TR, Yalçıner (2000), Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 2. Trademarks

Decree-Law No. 556 of June 24, 1995 on the Protection of Trademarks (as last amended by Law No. 5833 of January 21, 2009) (2009)
Law No. 5833 of January 1, 2009 on the Amendment of the Decree-Law No. 556 of June 24, 1995 on the Protection of Trademarks (2009)
Law No. 5194 of June 22, 2004 Amending Decree-Laws No. 551, 556, 554 and 555 (2004)
Law No. 4128 of November 7, 1995 on the Amendments to the Decree-Laws No. 551, 552, 554, 555, 556 and 560 (1995)
Implementing Regulations under Decree-Law No. 556 of June 24, 1995 on Protection of Trademarks (2005)
Regulation dated 12.03.1999 on Implementing Madrid Agreement and Protocol for International Registration of Marks

Source: http://www.wipo.int/wipolex/en/profile.jsp?code=TR, Yalçıner (2000), Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 3. Industrial designs

Decree-Law No. 554 of June 24, 1995 on the Protection of Industrial Designs (as last amended by the Decision of the Constitutional Court of February 5, 2009) (2009)
Law No. 5194 of June 22, 2004 Amending Decree-Laws No. 551, 556, 554 and 555 (2004)

(continued)

Law No. 4128 of November 7, 1995 on the Amendments to the Decree-Laws No. 551, 552, 554, 555, 556 and 560 (1995)
Implementing Regulations under Decree-Law No. 554 of June 27, 1995 on the Protection of Industrial Designs (2009)

Source: http://www.wipo.int/wipolex/en/profile.jsp?code=TR, Yalçıner (2000), Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 4. Geographical indications

Decree-Law No. 555 of June 27, 1995 on the Protection of Geographical Indications (as last amended by Decision of the Constitutional Court No. 2009/16 of March 12, 2009) (2009)
Implementing Regulation on Decree-Law No. 555 of June 27, 1995 on the Protection of Geographical Indications
Regulation on Amendment of Implementing Regulation Decree-Law No. 555 of June 27, 1995 on the Protection of Geographical Indications (21.04.1999)
Law No. 5805 of October 25, 2008 Amending the Decree-Law No. 555 of June 27, 1995 on the Protection of Geographical Indications (2008)
Law No. 5194 of June 22, 2004 Amending Decree-Laws No. 551, 556, 554 and 555 (2004)
Law No. 4128 of November 7, 1995 on the Amendments to the Decree-Laws No. 551, 552, 554, 555, 556 and 560 (1995)
Implementing Regulations under the Decree-Law No. 555 of June 27, 1995 on the Protection of Geographical Indications (as last amended by Regulation No. 27207 of April 21, 2009) (2009)
Implementing Regulations under the Decree-Law No. 555 of June 27, 1995 on the Protection of Geographical Indications (1995)

Source: http://www.wipo.int/wipolex/en/profile.jsp?code=TR, Yalçıner (2000), Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 5. Topographies of integrated circuits

Law No. 5147 of April 22, 2004 on the Protection of Integrated Circuits Topographies (as last amended by Law No. 5728 of January 23, 2008) (2008)
Implementing Regulation dated 30.12.2004 on Law No. 5147 of April 22, 2004 on the Protection of Integrated Circuits Topographies
Implementing Regulations under Law No. 5147 on Protection of Integrated Circuits (2004)

Source: http://www.wipo.int/wipolex/en/profile.jsp?code=TR, Yalçıner (2000), Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

3.2 National legislation related to other rights

Table 6. Trade Names, Unfair Competition, Plant Varieties, Internet Domain Names and Undisclosed Information

Trade Names
Turkish Commercial Code (Law No. 6102 of January 13, 2011) (2011)
Unfair Competition
Turkish Commercial Code (Law No. 6102 of January 13, 2011) (2011)
Plant Varieties
Law No. 5553 dated 31.10.2006 on Seeds
Law No. 5042 dated 08.01.2004 on the Protection of Plant Breeders' Rights for New Plant Varieties dated 08.01.2004 (2008)
Regulation dated 13.01.2008 on Registration of Plant Varieties (2009)
Regulation on Genetically Modified Organisms (GMO) and Products (2010)
Regulation on the Working Principles of the Biosafety Board and Committees (2010)
Regulation on the Devolution of Power on Certifications on Seed Sector (2008)

(continued)

Regulation on Employees of Public Institutions and Agencies Benefiting from the Breeders' Rights (2008)
Implementing Regulations dated 12.08.2004 on Protection of Plant Breeders' Rights for New Plant Varieties (2008)
Regulation dated 12.08.2004 on Principles for Farmers' Exemption
Internet Domain Names
Regulation on Domain Names (2010)
Undisclosed Information
Law No. 1211 dated 14.1.1970 on Central Bank of Republic of Turkey
Law No. 4054 dated 07.12.1994 on Competition Law
Law No. 5237 dated 26.9.2004 on Turkish Criminal Law
Law No. 5411 dated 19.10.2005 on Banking
Law No. 5454 dated 23.2.2006 on Bank Cards and Credit Cards
Communiqué on the Regulation of the Right of Access to the Files and Protection of Trade Secrets. Communiqué No. 2010/3 (2010) Law No. 6102 dated 13.01.2011 Turkish Commerce Law
Law No. 6362 dated 06.12.2012 on Capital Market Law
Law No. 4982 dated 09.10.2003 on Obtaining Information

Source: http://www.wipo.int/wipolex/en/profile.jsp?code=TR, Yalçıner (2000), Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

4. Properties of IPR System

The legal basis for the granting of patent and trademark rights in Turkey goes back to the 19th century. Patent protection was based on the Patent Law of March 23, 1879, and the protection of trademarks was introduced in the year 1871. There was no special legislation for the protection of industrial designs, geographical indications and topographies of integrated circuits in Turkey before 1995. The administration of industrial

property legislation, encompassing only trademark and patent protection, was entrusted to a department of the Ministry of Industry and Trade until June 24, 1994. Turkey was only party to the London Act of the Paris Convention and the Convention establishing the World Intellectual Property Organization (WIPO).

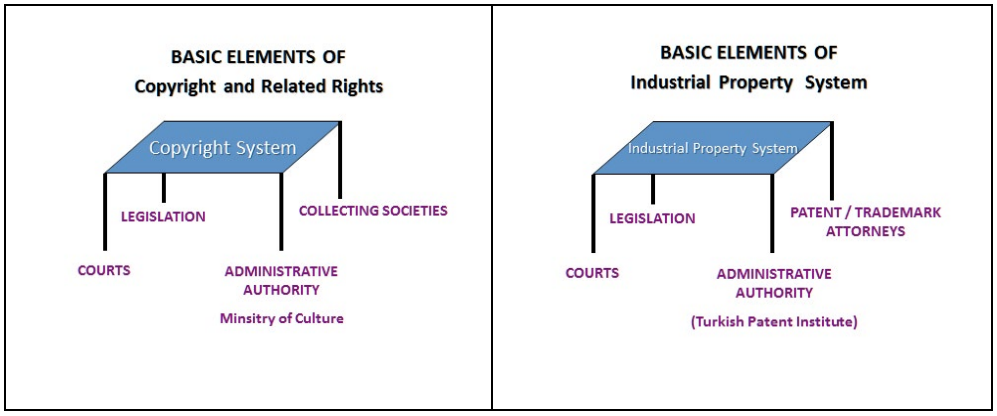
4.1 Institutional Framework

Institutional framework for having strong intellectual and industrial property protection in a country needs the following elements:

- National and international legislation;
- Administrative institutions;
- Intellectual and Industrial Property Civil and Penal Courts;
- Attorneys/representatives.

Basic elements for copyright and related rights and industrial property rights are shown in the figures below.

Figure 3. Basic elements for copyright and related rights and industrial property rights



National and international legislation in Turkey has been explained above. Other elements are explained below.

4.1.1 Administrative Institutions (Turkish Patent Institute and Ministry of Culture and Tourism)

The administrative institution for copyright and related rights is the Ministry of Culture and Tourism. Turkish Patent Institute (TPI) is the authorized government authority for industrial property issues. The related legislation for administrative authorities is below.

- Decree Law 544 dated June 24, 1994 and the Law No. 5000 of November 6, 2003 on the Establishment and Functions of the Turkish Patent Institute (as last amended by the Decision of the Constitutional Court of January 31, 2008) (2008).
- Law No. 4848 dated 29.04.2003 on the Establishment and Functions of Ministry of Culture and Tourism.

The establishment of the Turkish Patent Institute (TPI) in 1994 is the milestone of a new and modern industrial property system in Turkey. The TPI is a special government authority with administrative and financial autonomy, responsible for the administration of all industrial property rights and related international agreements to which Turkey is party. Today, the TPI operates under the Ministry of Science, Industry and Technology. The TPI's main and auxiliary departments have about 400 staff working in the specially built 32,000 m^2 building. It has a special organ, the Re-examination and Evaluation Board, entrusted with the final decisions of the Institute. It is an appeal board of sorts for the Institute and the decisions of the board are open to court actions in a non-extendable two month period for trademarks and a non-extendable 60 days for the other rights such as patents and designs. The Turkish Patent Institute realizes the necessary protective function of industrial property rights in Turkey. This is the fundamental and best organized function of the Institute. It performs an information function by keeping systematized and convenient collections of national and international documents related to industrial property.

4.1.2 Intellectual and Industrial Property Civil and Penal Courts

Under the intellectual and industrial property rights legislation, specialized IP courts have been established at the beginning of the last decade. In the year 2011, there were seven IP civil courts and seven IP criminal courts in Istanbul; four IP civil courts and two IP criminal courts in Ankara; and one IP civil court and two IP criminal courts in İzmir. In the other cities, general civil and general criminal courts have been assigned as competent courts to deal with IP cases. The IP civil courts in Ankara are also responsible for the cases against the decisions of the Turkish Patent Institute.

4.1.3 Patent and Trademark Attorneys

IP legislation in force in Turkey has special provisions for qualification and registration of patent and trademark attorneys. The patent and trademark attorneys are selected according to a qualification examination given by the TPI. According to the records at mid-year 2013, 455 patent and 790 trademark attorneys are registered and actively working in Turkey. Legislation related to patent and trademark attorneys is below.

- Law No. 5000 of November 6, 2003 on the Establishment and Functions of the Turkish Patent Institute (as last amended by the Decision of the Constitutional Court of January 31, 2008) (2008).

- Turkish Code of Obligations (Law No. 6098 of January 11, 2011).
- Regulation on Turkish Patent Institute Agents Patent Examination on Trademark and Patent Attorney and Registry.

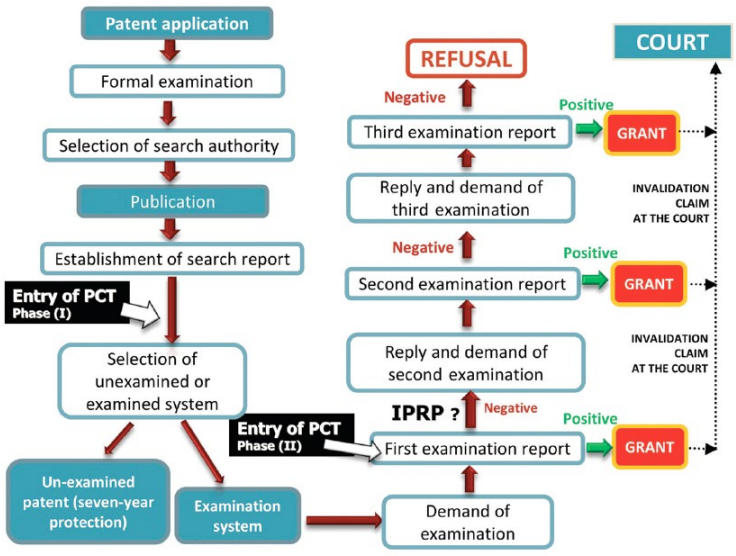
Although there are some special provisions for qualification and registration of patent and trademark attorneys in Turkey, there is no provision for an internal administrative structure such as chamber or Union. Additionally, there are no provisions for discipline and penalties for regulating the code of conduct of the patent and trademark attorneys.

4.2 Implementation of IPR Legislation in Turkey

Patents and utility models

Inventions can be protected by patents for inventions that are novel and industrially applicable and not a process or chemical product. The protection period is seven years for non-examined patents, 10 years for utility models and 20 years for examined patents. Procedures for patent applications in Turkey are shown below.

Figure 4. Procedures for patent applications in Turkey[6]



The period of PCT national phase applications in Turkey is 30 months (plus three with an additional fee) for phase I and II entries. Validation of EPC patents is three months (non-extendable), starting from the publication date of the grant of the European patent. Translations may be filed later with an additional fee.

6. Ugur G Yalçiner and Irmak Yalçiner, "IP, Past Present and Future", www.managingip.com September 2011.

Patent Protection on Pharmaceutical Products and Processes

Turkey is one of the countries which signed and ratified the Agreement Establishing the World Trade Organization. This Agreement entered into force in all member states on January 1, 1995. It is well known that developed countries had a 1 year transition period for adoption of national legislation compatible with the TRIPS Agreement. The developing countries of which Turkey is one had 4 more years to reflect the provisions of TRIPS in their national legislation. This period ended on January 1, 2000.

Although having a 5 year transition period up to the year 2000, Turkey adopted its national industrial property legislation for patents, trademarks, industrial designs and geographical signs in June 1995. All elements of this legislation are not only compatible with TRIPS standards but also contain many better and more effective provisions. This progress shows that Turkey is the first developing country to amend its national legislation according to the TRIPS Agreement. When the situation in all other developed countries has been analyzed, it will easily be understood that Turkey adopted new legislation compatible with the TRIPS Agreement before most of the developed and all of developing countries.

Patent protection of pharmaceuticals has been excluded from the patent protection by Transitional Provision 4 of the aforementioned Decree Law No. 551 up to January 1, 2000 for processes and January 1, 2005 for products, although this provision is compatible with Article 65/1, 65/2 and 65/4 of the TRIPS Agreement. This Article of the Decree Law was amended by the new Decree Law 566 on September 22, 1995. The Amended Article excluded the patent protection of both pharmaceutical processes and products up to January 1, 1999.

The provisions of Article 70/8 and 70/9 of the TRIPS Agreement have been applied in Turkey as party to the Agreement of Establishing the World Trade Organization. This means that all patent applications related to pharmaceuticals have been filed in the Turkish Patent Institute since January 1, 1995. Article 70/9, which states exclusive marketing rights for a period of five years for the applicant of the patents according to Article 70/8 who obtained patent and marketing approval related to that product in any member country, has not been applied in Turkey because Turkey started to accept patent protection in pharmaceutical products and processes on January 1, 1999.

The total number of patent applications received by the Turkish Patent Institute after January 1, 1995 until end of 2000, according to Article 70/8 of the TRIPS Agreement, is more than 2,000. Although a transition period of 5 years for developing countries and 10 years the underdeveloped countries have been given in order to enact legislation in the matters, there was no effective date of the Agreement. According to Article 65 of the Intellectual Property Rights Related to Trade Annexed to the World Trade Organization Agreement, the obligation to transact the pharmaceutical patent applications has

been brought in for the countries applying a transition period according to the provisions of clause 8 of Article 70 of the same Agreement. As required by this provision, the Turkish Patent Institution started to transact all pharmaceuticals patent applications as of January 1, 1995. All the pharmaceuticals patent applications are being reviewed by the Turkish Patent Institute according to the provisions of patent law, no matter whether they are process or product patent.

Turkish patent legislation does not include pipeline protection and supplementary protection provisions for pharmaceutical inventions.

In conclusion,

- The pharmaceuticals which are protected by patent legislation shall only be produced and marketed by the patent holder.
- The pharmaceuticals which may be protected by patent legislation are the only ones which have been submitted to the Turkish Patent Institute (TPI) since January 1, 1995.
- The generics of the pharmaceuticals which have been submitted to TPI for product patents may not be produced.

Statistical information on patent and utility models are on Tables 7, 8, 9 and 10.

According to the statistical information on these tables, the following comments can be made:

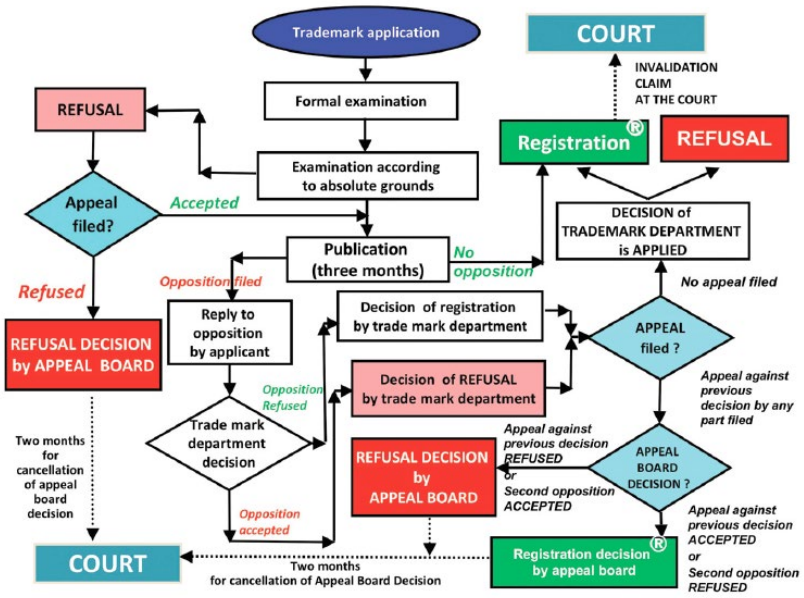
- Patent applications are mainly filed by foreign applicants;
- Utility model applications are mainly filed by domestic applicants;
- In recent years, domestic applications in patents have been rapidly increasing;
- In 2010 domestic applications in patents were higher than domestic applications in utility models.

Trademarks

By law, trademark rights are obtained by registration in the TPI. Unregistered trademarks are protected by general provisions under commercial law. Trademarks could be registered as word marks or device marks along with the product or the packaging. However, the registration of the product or the packaging does not grant exclusive rights to the right holders. Moreover, registration of sound marks is also possible. Registration procedures are performed in two steps. The first is an ex-officio examination on absolute grounds. According to Turkish legislation, absolute grounds are exactly the same as OHIM implementation. Additionally to OHIM, in this step the TPI refuses the applications for trademarks that are identical or confusingly similar to a trademark registered earlier or with an earlier date of application for registration in respect of identical or similar

types of goods and services. This provision makes preliminary availability searches before filing the applications more and more important. The second step is publication of the application and opposition by third parties. There are seven different conditions for filing an opposition after publication including the earlier unregistered rights, copyrights and un-renewed trademark rights. Figure 5 is a flow diagram of trademark procedures in Turkey. Under the Turkish trademark system, if within a period of five years following the issue of the registration certificate the registered trademark has not been put to use without a justifiable reason or if the use has been suspended during an uninterrupted period of five years, the trademark shall be repealed. Procedures for trademark applications and registrations in Turkey are shown below.

Figure 5. Procedures for trademark applications in Turkey[7]



Statistical information on trademarks is on Tables 11, 12 and 13.

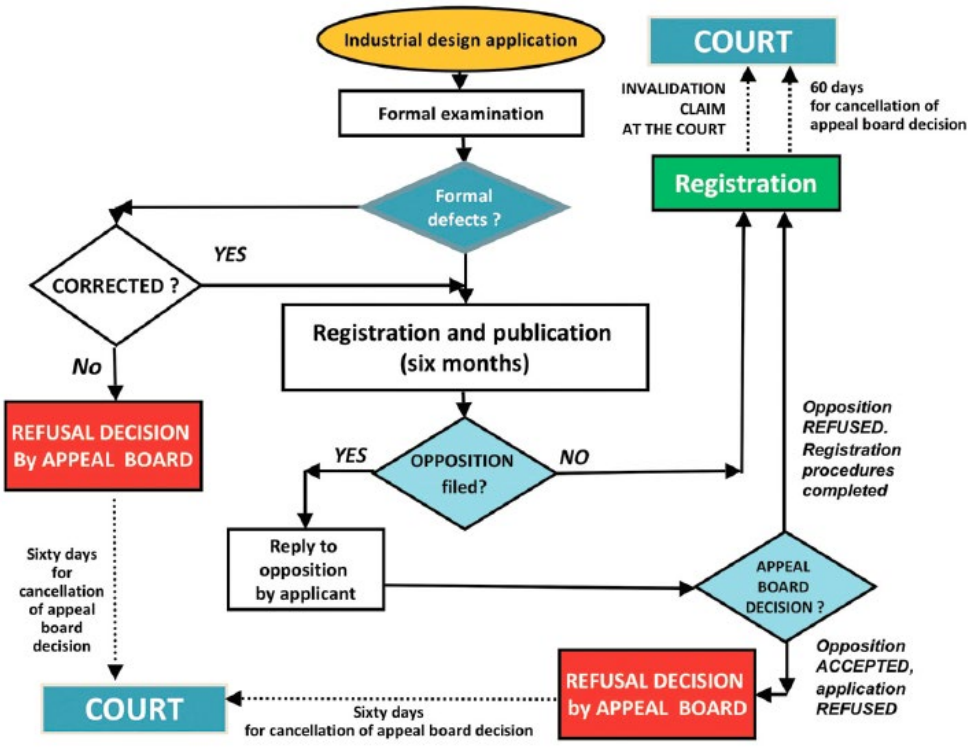
Industrial designs

After 1994, industrial design rights started to be protected by registration if the design is new and has an individual character. Unregistered designs are protected by general provisions. Registration procedure is performed without examination. The industrial design applications are published for opposition by third parties. The procedures for design protection in Turkey are similar to the system applied in European Countries. Figure 6

7. Ugur G Yalçiner and Irmak Yalçiner, "IP, Past Present and Future", www.managingip.com, September 2011.

is a flow diagram of industrial design procedures in Turkey. The term of protection is five years and can be renewed up to 25 years. According to the Turkish design protection system, deferment of publication and multiple applications are possible. Procedures for industrial design applications and registrations in Turkey are shown below.

Figure 6. Procedures for industrial design applications in Turkey[8]

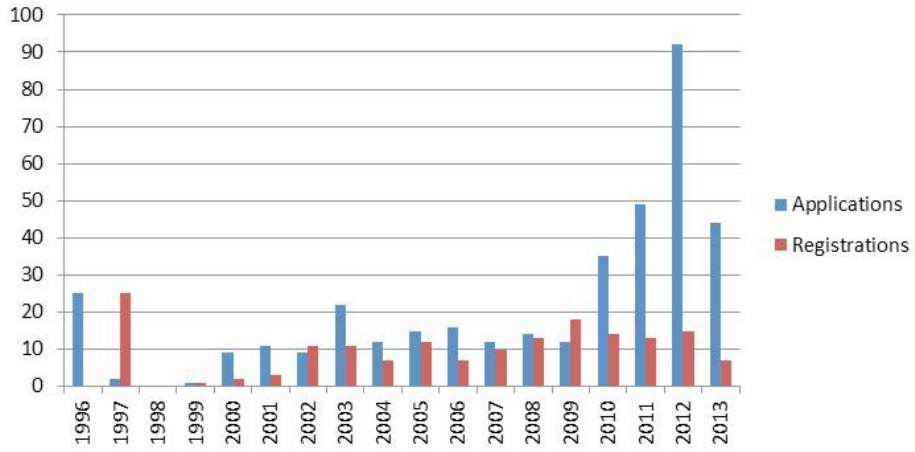


Geographical signs

Geographical signs for all kinds of products, such as natural, agricultural, mining and industrial products and handicrafts, are protected as either a designation of origin or a geographical indication in Turkey under special legislation. The International Agreements being reserved, with respect to the geographical sign applications for products originating in other countries, the Institute shall apply the provisions of the legislation in its examination if and where the registration requirements in the country of origin conform to the provisions of this article, where inspection is available, and where the country of origin affords reciprocal protection to the geographical sign registration applications from Turkey. Statistical information on geographical signs is shown in Figure 7.

8. Ugur G Yalçiner and Irmak Yalçiner, "IP, Past Present and Future", www.managingip.com, September 2011.

Figure 7. Applications and registration numbers with respect to years

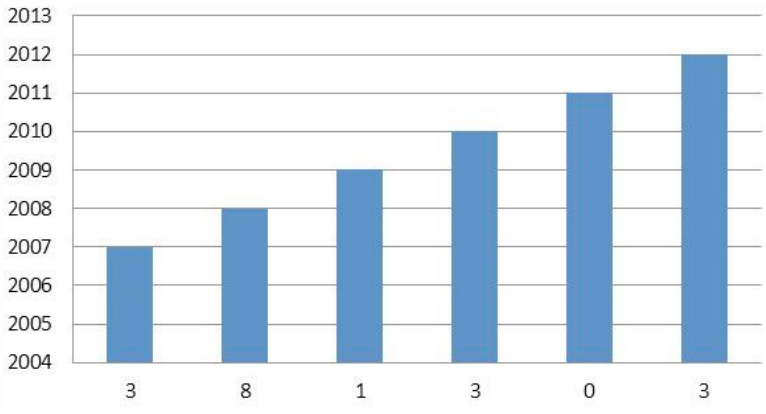


Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Topographies of integrated circuits

Topographies of integrated circuits are protected if they meet the requirement of originality. The protection period starts from the date of launching of the integrated circuit by the applicant or by a third party with his consent (or from the date of filing if the topography has not been launched) and ends at the end of 10 years. The registration procedure is performed without examination and the application is published. No opposition is allowed against the publications. Therefore, invalidations can only be claimed at the court. Registered topographies are not renewed.

Figure 8. Application numbers with respect to years



Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 14. Plant Breeders' Rights

The Law 5042 on Protection of Plant Breeders' of Plant Varieties which is prepared in accordance with the 1991 Agreement text of UPOV, 2100/94/EC and 1768/95/EC directives on plant variety rights of the European Commission entered into force by publication in the Official Gazette of dated 15.01.2004 and numbered 25547 passed by the Grand National Assembly
"The Regulation on the Protection of Breeders' Rights of Plant Varieties" and "The Regulation of Implementation Basics on Farmer Exception" entered into force by publication in the Official Gazette dated 12.08.2004, in the context of the Law 5042
"The Regulation on the Breeders' Rights utilization of the Officials Working in Public Intuitions and Agencies from" entered into force upon publication in the Official Gazette dated 30.04.2005 and numbered 25801
The UPOV Agreement was accepted by the Grand Nation Assembly through Law 5601, which was published in the Official Gazette of 17.03.2007 Accession of Turkey to UPOV was endorsed by the Cabinet through the Decision of 2007/12433 which is published in the Official Gazette of 28.07.2007
Turkey became the 65th member of UPOV on 18.11.2007

Source: http://www.ttsm.gov.tr/EN/belge/2-43/plant-breederss-rights-and-implementations-in-turkey.html

The services related to protection of plant varieties are carried out by the Ministry of Food, Agriculture and Livestock in Turkey. In this context, accepting applications for the purpose of protection of plant varieties and evaluation of these applications is the responsibility of the General Directorate of Agricultural Production and Development as a technical evaluation institution, whereas the VRSCC is authorized by the Ministry to carry out FYD tests and other technical procedures.

Application on protection of new plant varieties which is based on the principles of the 1991 UPOV Decision has contributed to the development of agriculture. Thanks to this application, breeders have a source for breeding new varieties through the incomes from developed varieties; thus growers seek varieties resistant to pests as well as safe, quality and productive varieties. Development of these properties is encouraged and breeder's rights are protected through this system.

The applied plant variety shall have the following general requirements: 1. Novelty, 2. Distinctness, 3. Uniformity, 4. Stability, 5. Naming. The applications are examined by a commission involving the experts from TUGEM, Law Unit and VRSCC. Novelty and name are the basic issues. The application is accepted if no oversights are found by the commission. Each accepted application is given a number and listed in the log. The bulletin with the application is published through http://www.tugem.gov.tr. If no objection is raised in the appropriate period, the technical examination begins. The purpose of technical examination is to

a. confirm whether the variety belongs to the mentioned botanical classification;

b. determine whether the variety has different characteristics of distinctness, uniformity and stability;

c. ensure the variety complies with the conditions of a and b, and prepare the variety characterization document.

DUS tests are carried out by the VRSCC. The varieties applied are compared with similar varieties.

After the technical examination institution has sent examination reports to the General Directorate, the Registration Committee for Breeders' Right is established with the necessary institutions considering the plant groups. The varieties evaluated in the Registration Committee are kept under protection by voting. The variety kept under protection is given a name in the context of the related regulation and the breeders' right to the variety is registered in the log under this name. The bulletin involving the varieties to which the breeder's right is registered is published through http://www.tugem.gov.tr. Protection lasts for 25 years after the registration of the breeders' right. This period is 30 years for trees, vines and potato.

Statistical information on Plant Varieties (Table 15 and Table 16).

5. Concluding Remarks

In this study, we have examined the national regulatory framework for Intangible Assets. In section 2, we suggested that intangible assets have a decisive role in the innovation capabilities for companies. As an evolving concept, IA embodies different approaches and certainly needs future studies. However, most of these views agree on the high knowledge dimension of these assets and IPR is an important part of it. Certainly, intangible assets are not limited to intellectual property rights. Nevetheless, it provides a useful basis to integrate from intellectual capital to the real value of a company and benefit from innovative efforts. Our take on IAs emphasizes legally protectable intellec-

tual capital. This has brought the IPR legislation to the core of the examination. We have carried out an existing structure analysis of the IPR system in Turkey with its main actors and provided the implementation frame of certain IP rights.

However, there are also criticisms and comments that we have not addressed throughout the study. First of all, we can say that general provisions are mostly arranged according to European provisions and international agreements in Turkey. However, these arrangements were done in terms of law-amending ordinances and some parts of these arrangements were cancelled by the Supreme Court. In addition, there have been constant modifications in these arrangements and these changes affect the system in law.

Furthermore, there is no legal arrangement for protecting trade secrets. Another important problem with IPR in Turkey is protecting digital property rights. The deterrent to copying and diffusing digital assets is quite low; although stealing digital property is harshly punished according to general provision the cases in courts take too long to conclude.

"More generally, there are complaints of insufficient commitment from authorities. There is a low level of awareness of the importance of IPR protection among key agents, such as judges, politicians, police and academics. Significant fines and prison sentences are available in the law but rarely applied by courts. Judicial measures against infringers are insufficient, slow and ineffective. There is also a substantial lack of enforcement at the borders."[9]

One aspect missing in Turkey is not having special legislation to establish a patent and trademark attorneys Union, and special provisions for discipline and penalties.

Turkey is aware of the deficiencies in IPR regulations and has amended its IPR legislation in recent years. The amendments are as follows:

- "Special IPR courts have been established in major cities."
- "Training courses have been launched for judges and police."
- "Police action against copyright infringements, as well as cooperation with rights-holders has improved."[10]

In order to solve these problems, Turkey should provide deterrent laws and penalties to prevent sales of counterfeit and pirated goods in the market. The European Commission Directorate General for Trade suggested that "training of enforcement agents (judges, prosecutors, police, customs, etc.) on the specifics of IPR infringements and raising their awareness regarding the importance of the issue and its economic and fiscal consequences, as well as the safety, health and security risks" are required to overcome IPR problems in Turkey.[11]

9. http://trade.ec.europa.eu/doclib/docs/2006/october/tradoc_130417.pdf
10. http://trade.ec.europa.eu/doclib/docs/2006/october/tradoc_130417.pdf
11. http://trade.ec.europa.eu/doclib/docs/2006/october/tradoc_130417.pdf

Turkey has been regulating its IPR legislation by constructing law amending-ordinances related with patents, trademarks, utility models, industrial design, and geographical signs. In addition, Oğuz (2010) states that Turkey has harmonized its IPR legislation with that of EU legislation as a result and adds that "through extensive amendments in 1995, 2001 and 2004 in the Law on Copyrights of 1950, Turkey has attempted to meet its commitments to international institutions such as the World Trade Organization (e.g. TRIPS) and fulfil its obligations to the EU."[12] Furthermore, Oğuz (2010) states that Turkey started to meet most of the IPR regulations since signing the Customs Union Agreement. Turkey is expected to commit appropriate regulations with respect to the EU-Turkey Customs Union Agreement (Council Decision 96/142/EC – Annex 8, Article 2) in order to protect IPR. Although there have still been problems with IPR in Turkey, discussed previously, the improvements are underway. Most importantly, the improvements should be made in data protection in line with the EU. Since intellectual property rights play an indispensable role in the formation, development and protection of innovative capacity as stated in the YASED report, Turkey should solve problematic issues and "improvements have been made in the legislation governing intellectual property rights, particularly following the Customs Union Agreement."[13]

Although Turkey adopted IPR legislation in the 1990s and made great efforts to inform the public (mainly the related people in the industry and trade), at the moment we cannot state that public awareness is at an acceptable level in Turkey. One of the important actions to be taken is to increase public awareness of IPR.

Efficient protection of IP rights is very important for the industry and trade of all countries. Turkey has carried out very serious work and obtained very concrete results in establishing a new and modern IP system from the 1990s until today. Amendments to existing IP legislation will be needed in the near future. Mainly, the unexamined patent system, procedures of utility model certificates and enforcement procedures need to be amended, and a new patent and trademark attorneys' law must enter into force. Additionally, the penal sanctions in enforcement of the IPR rights (mainly patents, industrial designs, geographical signs and topographies of integrated circuits) must be adopted.

12. Arzu Oğuz, (2010), http://www.zis.gov.rs/upload/documents/pdf_en/pdf/seminari/1sep2010_ipr_education_turkey.pdf
13. http://www.yased.org.tr/webportal/English/Yayinlar/Documents/YASEDIPRReport-Nov08.pdf

References

Axtle-Ortiz, M.A. (2012), "Perceiving the value of intangible assets in context", Journal of Business Research.

Brooking, A. (1996), Intellectual Capital: Core asset for the third millennium enterprise. New York, NY: Thomson International Business Press.

Bontis, N. (1998), "Intellectual capital: an exploratory study that develops measures and models", Management Decision, 36(2): 63-76.

Drucker, P.F. (1993), Post-Capitalist Society. Oxford: Butterworth Heinemann.

Edvinsson, L. (1997), "Developing intellectual capital for Skandia", Long Range Planning, 5, 320-331.

Edvinsson, L. and **M. Malone** (eds.) (1997), Intellectual Capital: Realizing your Company's True Value by Finding its Hidden Brainpower. New York: Harper Business.

Hall, B.H. (1999), Innovation and market value, No. w6984, National Bureau of Economic Research.

Handy, C.B. (1989), The Age of Unreason. London: Arrow Books Ltd.

Harrison, S. and **P.H. Sr. Sullivan** (2000), "Profiting from intellectual capital: learning from leading companies", Industrial and Commercial Training, Vol. 32 Iss: 4, pp.139-148.

Kramer, J., **J. Revilla Diez**, **E. Marinelli** and **S. Iammarino** (2009), Intangible Assets, Multinational Enterprises and Regional Innovation in Europe, Working Paper No. 1.3 b.

Lev, B. (2001), Intangibles: Management, measurement and reporting. Brookings Institution Press.

Marr, B., **G. Schiuma** and **A. Neely** (2004), "Intellectual capital-defining key performance indicators for organizational knowledge assets", Business Process Management Journal, 10(5): 551-569.

Nonaka, I. and **H. Takeuchi** (1995), The Knowledge-Creating Company. New York, NY: Oxford University Press.

Roos, J., G. Roos, N. Dragonetti and **L. Edvinsson** (1997), Intellectual capital: Navigating the new business landscape. London: MacMillan Business.

Do Rosário Cabrita, M. and **J.L. Vaz** (2005), "Intellectual Capital and Value Creation: Evidence from the Portuguese Banking Industry", Electronic Journal of Knowledge Management, 4(1): 11-20.

Stewart, T.A. (1997), Intellectual Capital: The New Wealth of Organizations. New York, NY: Doubleday/Currency,

Sveiby, K.E. (1997), The New Organizational Wealth: Managing and Measuring Knowledge-based Assets. San Francisco, CA: Berrett-Kohler.

Takayuki, S. (2008), "Intellectual assets based management for innovation: Lessons from experiences in Japan", Journal of Intellectual Capital, Vol. 9 Iss: 2, pp. 206-227.

Teece, D.J. (2003), "Capturing value from knowledge assets: the new economy, markets for know-how and intangible assets", Essays on Technology Management and Policy, pp. 47-75.

Wyatt, A. and **M.A. Abernathy** (2003), "Accounting for Intangible Assets: A Conceptual Framework for Measurement and Reporting on Intangible Assets", The Institute.

Yalçıner, U.G. (2000), "Sınai Mülkiyetin İlkeleri", Yalçıner Danışmanlık, Ankara, Turkey.

Table 7. Patent applications

Year	Domestic					Foreign					TOTAL	General Increase Rate
	TPI	PCT	EPC	Total	Increase rate	TPI	PCT	EPC	Total	Increase Rate		
2007	1747	60	31	1838	68.62%	71	139	4141	4351	6.77%	6189	19.83%
2008	2159	69	40	2268	23.39%	68	107	4694	4869	11.91%	7137	15.32%
2009	2473	74	41	2588	14.11%	69	105	4479	4653	-4.44%	7241	1.46%
2010	3120	60	70	3250	25.58%	77	100	4916	5093	9.46%	8343	15.22%
2011	3962	43	82	4087	25.75%	120	100	5934	6154	20.83%	10241	22.75%
2012	4360	74	109	4543	11.16%	78	154	6824	7056	14.66%	11599	13.26%

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 8. Patent grants

Year	Domestic					Foreign					TOTAL	General Increase Rate
	TPI	PCT	EPC	Total	Increase rate	TPI	PCT	EPC	Total	Increase Rate		
2007	183	114	21	318	160.66%	130	202	4140	4472	6.91%	4790	11.27%
2008	253	48	37	338	6.29%	96	154	4281	4531	1.32%	4869	1.65%
2009	341	68	47	456	34.91%	93	149	4912	5154	13.75%	5610	15.22%
2010	507	66	69	642	40.79%	83	110	4675	4868	-5.55%	5510	-1.78%
2011	714	59	74	847	31.93%	56	67	5569	5692	16.93%	6539	18.68%
2012	879	44	102	1025	21.02%	28	53	6710	6791	19.31%	7816	19.53%

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 9. Utility model applications

Year	Domestic				Foreign				TOTAL	General Increase Rate
	TPE	PCT	Total	Increase Rate	TPE	PCT	Total	Increase Rate		
2007	2972	0	2972	22.61%	41	3	44	37.50%	3016	22.80%
2008	2946	3	2949	-0.77%	34	3	37	-15.91%	2986	-0.99%
2009	2842	0	2842	-3.63%	36	4	40	8.11%	2882	-3.48%
2010	2992	2	2994	5.35%	36	3	39	-2.50%	3033	5.24%
2011	3174	1	3175	6.05%	67	2	69	76.92%	3244	6.96%
2012	3722	3	3725	17.32%	57	6	63	-8.70%	3788	16.77%

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 10. Utility model grants

Year	Domestic				Foreign				TOTAL	General Increase Rate
	TPI	PCT	Total	Increase Rate	TPI	PCT	Total	Increase Rate		
2007	2148	0	2148	29.01%	29	4	33	32.00%	2181	29.05%
2008	1833	0	1833	-14.66%	31	5	36	9.09%	1869	-14.31%
2009	2148	3	2151	17.35%	26	2	28	-22.22%	2179	16.59%
2010	2021	1	2022	-6.00%	24	3	27	-3.57%	2049	-5.97%
2011	1946	2	1948	-3.66%	25	3	28	3.70%	1976	-3.56%
2012	2241	4	2245	15.25%	47	7	54	92.86%	2299	16.35%

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 11. Trademark applications

	Domestic		Foreign							
					Madrid Protocol Applications					
Year	Number of Applications	Increase Rate	Number of Applications	Increase Rate	Number of Applications	Number of Applications	Total	Increase Rate	Total	Increase Rate
2007	58713	**7.16%**	3925	**11.19%**	9995	**17.08%**	**13920**	**15.36%**	**72633**	**8.64%**
2008	60597	**3.21%**	4229	**7.75%**	10165	**1.70%**	**14394**	**3.41%**	**74991**	**3.25%**
2009	59838	**-1.25%**	3624	**-14.31%**	8142	**-19.90%**	**11766**	**-18.26%**	**71604**	**-4.52%**
2010	73142	**22.23%**	4083	**12.67%**	7903	**-2.94%**	**11986**	**1.87%**	**85128**	**18.89%**
2011	103747	**41.84%**	4724	**15.70%**	9252	**17.07%**	**13976**	**16.60%**	**117723**	**38.29%**
2012	97269	**-6.24%**	4751	**0.57%**	9100	**-1.64%**	**13851**	**-0.89%**	**111120**	**-5.61%**

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 12. Trademark registrations

	Domestic		Foreign							
					Madrid Protocol Applications					
Year	Number of Applications	Increase Rate	Number of Applications	Increase Rate	Number of Applications	Number of Applications	Total	Increase Rate	Total	Increase Rate
2007	40757	**17.99%**	3537	**19.78%**	10726	**162.19%**	**14263**	**102.48%**	**55020**	**32.30%**
2008	35543	**-12.79%**	3195	**-9.67%**	8587	**-19.94%**	**11782**	**-17.39%**	**47325**	**-13.99%**
2009	41414	**16.52%**	3918	**22.63%**	11589	**34.96%**	**15507**	**31.62%**	**56921**	**20.28%**
2010	32397	**-21.77%**	2806	**-28.38%**	8961	**-22.68%**	**11767**	**-24.12%**	**44164**	**-22.41%**
2011	35858	**10.68%**	2788	**-0.64%**	3413	**-61.91%**	**6201**	**-47.30%**	**42059**	**-4.77%**
2012	52416	**46.18%**	3683	**32.10%**	8670	**154.03%**	**12353**	**99.21%**	**64769**	**54.00%**

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 13. Statistical information on trademarks

Year	Domestic				Foreign							
	Number of Applications	Increase Rate	Number of Designs	Increase Rate	Number of Applications	Increase Rate	Number of Designs	Increase Rate	Total	Increase Date	Total	Increase rate
2006	5527	**12.22%**	28237	**5.69%**	496	**22.47%**	1247	**3.14%**	6023	**13.00%**	29484	**5.58%**
2007	5998	**8.52%**	29109	**3.09%**	546	**10.08%**	1289	**3.37%**	6544	**8.65%**	30398	**3.10%**
2008	6071	**1.22%**	28749	**-1.24%**	507	**-7.14%**	1205	**-6.52%**	6578	**0.52%**	29954	**-1.46%**
2009	5927	**-2.37%**	26312	**-8.48%**	404	**20.32%**	847	**29.71%**	6331	**-3.75%**	27159	**-9.33%**
2010	6567	**10.80%**	29467	**11.99%**	405	**0.25%**	974	**14.99%**	6972	**10.12%**	30441	**12.08%**
2011	7524	**14.57%**	35451	**20.31%**	465	**14.81%**	1127	**15.71%**	7989	**14.59%**	36578	**20.16%**
2012	7864	**4.52%**	39890	**12.52%**	559	**20.22%**	1330	**18.01%**	8423	**5.43%**	41220	**12.69%**

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 15. Applications according to the Plant Groups

Plant Group	Applications	Protected
Field Crops	349	193
Vegetable	97	40
Fruit	206	121
Ornamental	75	56
TOTAL	**727**	**410**

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), May 2013

Table 16. Number of applications according to years

Year	Applications	Protected
2004	26	0
2005	119	32
2006	55	17
2007	56	21
2008	45	23
2009	71	58
2010	76	72
2011	112	91
2012	122	87
2013*	45	9
TOTAL	**727**	**410**

Source: Analysis Report on Existing Situation of National Intellectual Property, Turkish Patent Institute (TPI), *May 2013

Skill Mismatch, Education Systems and Labour Markets in EU Neighbourhood Policy Countries

Will Bartlett, European Institute, LSEE – Research on South East Europe, London School of Economics and Political Science, London, United Kingdom

E-mail: w.j.bartlett@lse.ac.uk

Abstract

According to models of endogenous growth, the skill levels of the workforce are an important driver of economic development. This paper investigates the ability of educational systems in the European Neighbourhood Policy (ENP) region to provide a skilled workforce that is well matched to the changing needs of the labour market. Different patterns of skill mismatch can be expected in transition countries and emerging market countries. We identify an inverted-U pattern of mismatch across education groups with especially severe mismatch among secondary educated, especially those who graduate from vocational schools where curricula are inappropriate to the labour market needs and funding for new equipment is relatively constrained. In the emerging market economies we find some evidence that a quite different pattern of mismatch is present, with the highest rate of mismatch among highly educated university graduates, especially male graduates. This is partly due to different patterns of structural change and partly associated with demographic factors. Countries with high population growth rates may experience over-supply of educated school leavers; countries with falling populations may experience under-supply of both skilled and unskilled workers. There is also evidence of gender-biased mismatch in the emerging market economies of the ENP region. Among the main challenges to the development of effective skill matching systems and corresponding policy design in transition countries and emerging economies in the ENP countries are weak capacities of government institutions including the employment services, underfunding of state provided training services, slow reforms of the education systems and low level of in-house training by employers. There are also significant information gaps in many of the ENP countries, while there is also a greater need for information due to market uncertainty; yet at the same time there is a lack of administrative capacity for skills analysis, forecasting and anticipation.

Keywords

Skill Mismatch, Transition Economics, Emerging Economies, European Neighbourhood Policy, Egypt, Moldova, Turkey, Ukraine

1. Introduction

Skill mismatches and skill shortages have become a priority concern for policy makers in many countries, especially since the onset of the global economic crisis and its intensification through the crisis in the eurozone. Endogenous growth models emphasise that human capital is a key resource for growth (Romer, 1994). The efficiency with which human resources are developed in the education system and used in the labour market is therefore a priority for policy makers. The process of matching skilled workers to the demands of employers is central to this concern. This issue has two dimensions: the institutions of the labour market and the effectiveness of education and training systems. Skill mismatch has an adverse effect on the efficiency of labour markets, raising unemployment above the levels that could potentially be achieved given the level of aggregate demand. Efficient matching should reduce frictional and structural unemployment and ensure that vacancies are matched to workers with appropriate qualifications and skills (Petrolongo and Pissarides, 2001). In the EU, a recent survey has shown that around a quarter of EU citizens feel that their education or training has not provided them with the skills to find a job in line with their qualifications (EC, 2014). These issues are of equal if not more concern in the European Neighbourhood Policy (ENP) countries. Yet, currently there is insufficient evidence on the extent of mismatch in the ENP countries.

Transition countries have experienced volatile labour markets for many years. Although unemployment rates were typically falling up to 2008, long-term unemployment was persistently high in many countries leading to a corresponding obsolescence of skills among a large section of the workforce. After almost a decade of sustained economic growth, the global economic crisis brought about an abrupt reversal of fortunes and unemployment began to increase in most countries of the region (ETF, 2011). Long-term unemployment is a serious problem in many transition economies, especially affecting older workers with obsolete skills. Youth unemployment is generally high (Kolev and Saget, 2005), especially in countries with a rapidly growing population. On the demand side of the labour market, many old large-scale industries declined or closed down, while most new jobs emerged in the service industries among which a range of new skills are needed (Bartlett, 2007). Regional mismatch also emerged as a specific problem due to the collapse of industries in peripheral areas and mono-industrial towns (Bornhorst and Commander, 2006; Newell and Pastore, 2006). In the emerging economies of the region, large-scale structural youth unemployment has led to widespread social disaffection and political unrest.

The paper explores the nature of skill mismatch in transition and emerging (developing) economics of the ENP region. It identifies some of the features of transition and development that might lead to differences in the nature of skill mismatches compared to the developed economies. It argues that policy reforms are needed in the education systems and the labour market in ENP countries in order to improve matching effective-

ness by making better use of the skills that are available. It also argues for the provision of improved information about the direction of skills needs in the future for individual job seekers, employees, employers, careers guidance professionals and public and private employment agencies.

The paper is organised as follows. Section 2 discusses the vocational education systems and enrolment patterns in four countries. Two of these are transition countries, which are members of the Eastern Partnership region (Moldova and Ukraine). The other two countries are characterised as emerging market economies, of which one is also an EU candidate country (Turkey) and the other an ENP country (Egypt). Egypt and Turkey are also members of the Union for the Mediterranean (UfM), which promotes economic integration and democratic reform across 16 neighbours to the EU's south, in North Africa, and the Middle East. Section 3 summarises the findings of previous empirical research on skill mismatch in transition economies, while section 4 discusses the issue of skill mismatch in emerging economies. Section 5 sets out the findings from a comparative empirical analysis of mismatch in the five countries included in the study based upon a data set compiled from national Labour Force Surveys. Section 6 provides a summary of the empirical research findings, and Section 7 sets out some policy conclusions.

2. Education Systems

It is sometimes argued that education and human capital were positive legacies of communism. Using data on educational inputs and outcomes from 1960 to 1989, Beirne and Campos (2007) show that official human capital stock figures were "overestimated" during the communist period. Returns to schooling increased as transition progressed, suggesting that improvements have been made in the education systems and that the skills of graduates from the education systems have correspondingly become more valuable to employers.

The share of public expenditure on education is lower in Egypt than in the EU27, while being similar to the EU average in Ukraine and much higher in Moldova, although there are doubts about the quality and effectiveness of education expenditure in those countries. Low expenditure on education in Egypt reinforces the difficulty of the school system in seeking to improve the supply of skilled workers in the region.

Education systems in many transition countries are characterised by poor quality and irrelevance of much education provision in the region (Sondergaard and Murthi, 2010). It is increasingly recognised that curricula inherited from the previous communist system were unsuited to the development of a service-oriented post-Fordist market economy and have not been upgraded sufficiently to reflect the new occupations that have emerged in the service sectors and in high technology industries. Skills that are taught in vocational education institutions tend to be too specialised in obsolete occupations.

Education methods are often out-dated and depend on rote learning rather than problem solving. There is generally a deficit of education in transferable skills (so-called "soft skills"). A recent study of the development of skill mismatches in the transition countries of Eastern Europe and Central Asia found that "even when people hold the correct qualification for an occupation they may not necessarily have the skills needed to effectively perform the job and satisfy employer expectations. Rapid technological and economic change makes it difficult to predict what types of skills will be needed in the near and more distant future and what kinds of new jobs will appear" (ETF, 2011: 229). Moreover, because of structural change, it seems that skill mismatch is a more permanent phenomenon in transition countries than in the developed economies resulting in high levels of long-term unemployment, and that skill mismatch increases with the age of workers, rather than falling as it does in the developed economies.

The upgrading of the education system is not simply a problem of low administrative capacity but also of the political economy of the (lack of) incentives for change embodied in the political and economic systems in the transition countries. The main factors involved are reform resistance by teachers' unions; corruption in the state system which reduces education quality; the growth of private tertiary education with little quality control; and the lack of incentives for entry of private vocational training providers to provide life-long learning opportunities.

2.1 Education Systems and Secondary School Enrolment

This section provides an overview of the upper secondary (post-compulsory) education systems in the four countries included in this study. They show some similarities in approach to this stage of the education process in that a general secondary education in grammar or gymnasia schools is required to progress to university, while secondary vocational education with some exceptions leads straight into the world of work. There is substantial evidence that selective systems of this type accentuate social inequalities to serve the children of upper and middle class parents, while the children of working class or more disadvantaged children are channelled into vocational and technical schools. General schools are typically better resourced and attract the better teachers, leading to a process of inter-general perpetuation of social disadvantage (OECD, 2007). Consequently, initial gaps in student performance may widen in such systems, increasing inequality in educational outcomes.

In Moldova, students sit a graduation exam at the end of lower secondary education. Successful students go on to upper secondary education in general secondary schools or in lyceums. Upper secondary education lasts two years (grade 10 to 11) and leads to the *Atestat de maturitate*. The lyceum programme leads to a baccalaureate after three years of study. Technical and vocational secondary education is provided in trade and vocational schools. Vocational education lasts from six to eighteen months and leads

to a certificate. Industrial trade schools are available for grade 11 students who do not want to continue their studies.

In Ukraine, after finishing compulsory education, graduates may continue their education at high or senior secondary schools (including gymnasia and lyceums) or at vocational schools and professional trade schools. About 55% of students continue their studies at senior secondary schools, 22% enter trade schools and 14% enter technical-vocational schools (UIS, 2011). General senior secondary education traditionally covered grades 10 and 11, but since a new framework of reforms began in 2001, this was extended to three years in 2012/13. At the end of senior secondary school, students sit the state examination in five subjects to gain a certificate of completion of general secondary education. Students who study at technical-vocational schools have three to four years of education. From 1996 and 2000 the number of vocational schools was reduced from 1,177 to 989 due to the decreasing demand for many occupations, and the number of students fell from 552,000 to 527,000. According to UIS (2011), the decentralisation and democratisation of the administration of the education system provided an opportunity to introduce new forms of vocational and professional training, such as professional school-state-farms, educational-production complexes within the structure of professional schools and production units, including small businesses managed by students.

In Turkey, compulsory education continues until the age of 14, after which non-compulsory secondary education is provided in general high schools, Anatolian schools (seen as elite schools providing education in arts and humanities in a foreign language), science high schools and several different types of vocational and technical schools leading to a qualification as a specialised worker or technician. Since 2005/6 secondary schools offer a four or five year programme to graduates from the primary education system. On graduation students receive a high school diploma (general, technical or vocational), which provides access to higher education exams. Apprenticeship training, lasting between two to four years, is offered to students who do not go to secondary schools. In 2010/11 there were 9,281 secondary schools in Turkey, of which 4,102 provided general education (including 774 private schools), 5,179 provided vocational and technical education (including 24 private schools).

In Egypt, general and technical secondary education lasts for three. Vocational education is provided in both three and five year programmes. Technical education leads to a middle-level technician qualification, while a five-year programme leads to a high level technical qualification. Religious schools place more emphasis on Islamic studies. Intermediate technical institutes offer two-year post-secondary programmes leading to a diploma. Higher education is available to all students who gain a general secondary certificate, or a technical diploma with high scores.

The number of students enrolling in upper secondary education has been increasing in Turkey, but has been falling in Ukraine due to demographic change (over the last ten years, Turkey's population has been growing at a rate of 1.3% p.a., while Ukraine's population has been falling at a rate of -0.5% p.a.[1]). In Moldova, where population has been falling at a rate of -0.17%, enrolment in secondary education increased in the mid-2000s but has since fallen back to the level of 1999. The data for Egypt is less clear as there is a structural break in the middle of the period; over the whole period population was increasing at a rate of 1.67% p.a.

From 2001 to 2010 the proportion of secondary school students enrolled in vocational or technical programmes increased in Turkey, Moldova and Ukraine, but fell in Egypt. In Turkey, vocational enrolment increased from 17% to 22%, while in Moldova, it doubled from 6% to 12%. In Ukraine the share of students enrolled in vocational schools was rather low but stable, at around 7.5%. The fall in vocational enrolment in Egypt was quite large (from 29% to 18%), and since overall enrolment in secondary education fell over the decade, this reflects a significant reduction in the number of graduates with practical qualifications gained at vocational and technical schools, and a large increase in the number of general education students expecting to find a place at a university.

Although enrolment in vocational education has been increasing in three of the countries, the employment prospects of these students are poor. Secondary schools, according to enterprise surveys, do not equip students with the sort of skills that would make them attractive to employers. Consequently, youth unemployment is high in the region. Vocational schools continue to teach out of date curricula, providing skills that are of little use in the labour market (Masson and Fetsi, 2008: 82) and the unemployment rate among those with only primary or secondary education is far higher than that for graduates of the tertiary education sector. In some countries, the highest unemployment rates are found among the graduates from secondary education. In the next section we demonstrate this in more detail and explore the structure of skill mismatch and its relation to unemployment and employment of workers with different levels of education in some detail.

3. Skill Mismatch in Transition Economies

Skill mismatch may be a more permanent phenomenon in transition countries than in developed countries where mismatch mainly affects younger people and tends to decline with age due to occupational mobility, movement up the career ladder in larger firms and investment by employers in on-the-job-training. In transition economies, such mismatch tends to be more persistent for a number of reasons. Firstly, old skills quickly become redundant when new technologies are introduced under restructuring. Job creation in new firms was often biased against workers with low educational attainments, while skills and technological changes gave rise to shortages in the supply of skilled

1. Population growth data are taken from the World Bank Development Indicators database.

blue-collar workers (Commander and Kollo, 2008). Secondly, employers in transition countries tend to invest relatively little in on-the-job-training due to uncertainty induced by structural change and the poor investment climate (Boeri, 2000). Thirdly, old skills gradually become obsolete with the persistence of long-term unemployment. Fourthly, reskilling may be inhibited by the typically low provision of vocational retraining, adult education and life-long learning opportunities. Overall, these factors may lead to shortages of highly skilled workers and an excess supply of secondary and vocational school leavers. Vertical and horizontal mismatches could be overcome by on-the-job training or career mobility, but employers are often reluctant to spend on employee training and career mobility both between and within sectors is often severely limited by frictional and structural factors such as lack of retraining opportunities and the costs of geographical mobility.

Skill shortages and surpluses of various types have appeared in the transition economies as a consequence of economic restructuring. The process of economic transition involved a simultaneous process of job destruction and job creation in which unskilled workers lost employment disproportionately as the skill content of blue-collar work increased due to technological change (Bilsen and Konings, 1998). Newly created jobs typically require different types of skills to those that have been destroyed. This process of restructuring and the expansion of demand for new skills has often taken place more rapidly than the education and training systems have been able to adapt, leading to skill shortages (ETF, 2011).

Significant skill mismatches have been reported by employers in many countries and especially in transition countries in the Eastern European neighbourhood region. The extent of skill mismatch can be identified from the EBRD/World Bank "BEEPS" survey.[2] The 2010 BEEPS survey covered a total of 21,000 firms in 29 transition countries. The survey revealed that many firms experience inadequate education as a major or very severe obstacle to their business. In Ukraine and Moldova over two-fifths of firms have such problems while in the region as a whole, almost one third of firms have problems with workforce skills. In Turkey, problems with inadequate education are below the average for the transition countries, but still reported by more than one-fifth of firms.

Large-scale employer surveys have shown that the constraints due to skill mismatches have become more prominent as transition has progressed (Mitra et al., 2010). Skill mismatches in Central Europe have been an obstacle to labour reallocation from low to high productivity sectors and have therefore slowed down the rate of economic growth (Brixiova et al., 2009). In the Western Balkans, skill mismatches have emerged in the higher range of qualifications, with labour surpluses and consequently relatively high unemployment rates among secondary school leavers (Bartlett, 2007). In Poland and Estonia vocational degree holders suffer from comparatively higher unemployment than others (Lamo et al., 2011). Moreover, skill mismatch is a more long-lasting phenomenon than in

2. BEEPS stands for "Business Environment and Enterprise Performance Survey".

the developed economies suggesting a relatively high social cost of skill mismatch. Ad hoc skill needs surveys of employers undertaken by EU-funded programmes have identified skill gaps in soft skills (communication, entrepreneurial attitude, team work and positive attitudes to work) and ICT in Western Balkan transition countries (Masson and Fetsi, 2008). The increased demand for generic skills is due to overall rapid structural changes in supply and demand for skills as well as to the decline of manufacturing and growth of the services sector.

Relatively few studies of skill mismatch have been carried out in transition countries. Kogan and Unt (2005) investigated school-to-work transitions in the three transition countries using the European Union Labour Force Survey ad hoc module on school-to-work transitions that was launched in Hungary, Slovenia in 2000 and in Estonia in 2002. They examined the effect of the level of education and social background on the timing of the first significant employment and the match between educational qualifications and occupation among school leavers using multinomial logistic regression techniques. The study found that overeducation became a more serious and widespread phenomenon as transition progressed. Another study carried out in Estonia, covering the period 1997-2003, found large wage penalties associated with the phenomenon of vertical and horizontal mismatch. Unlike the typical case in developed countries, the incidence and wage penalty associated with mismatch was also found to increase with age (Lamo and Messina, 2010). This suggests that persistent structural mismatches can occur after periods of fast transition in contrast to the stylised fact observed in developed economies. If this is a general phenomenon in transition countries, then the social costs of skill mismatch are likely to be far higher than in developed countries.

4. Skill Mismatch in Emerging Economies

Emerging economies have also experienced large-scale structural change, in their case from the agricultural to the industrial sector. They are also often characterised by strong growth of the public sector, leading to a high share of employment in public activities often under the clientelistic control of ruling parties; a strong growth of the informal sector; and a rapid demographic transition leading to a rapidly expanding and youthful population. The modern urban sector employs relatively skilled labour, which attracts rural migrants with inadequate skills in search of higher wages, which leads to an over-supply of unskilled workers. The demographic transition leads to large numbers of young educated people in the labour market and high youth unemployment and consequently results in an over-supply of people with secondary education and skills. However, emigration of skilled workers (brain drain) reduces the supply of skilled workers in the domestic economy and typically also leads to shortages of highly skilled people.

The role of the state in emerging economies can be an important determinant of appropriate matching of skills supply and demand. In Korea, Singapore and Taiwan, joined-up

policy making enabled developmental states to anticipate future skills needs since the state was also involved in the very industrial policies that generated the demand for skilled labour (Green et al., 1999a). Yet, although the integration of economic and skill formation policies in South Korea and Taiwan through modified forms of state planning was initially relatively successful, the power of the state to compel employers to train their workers gradually waned (Green et al., 1999b). The state-directed policy eventually came under pressure to reform although the state retains a role in steering these economies. Kuruvilla et al. (2002) argue that Singapore's successful national skills development model has the potential to move constantly toward higher skills equilibrium, but they question the long-term sustainability of the model and whether it is transferable to other developing countries. Recent research by Özsagir et al. (2010) has shown a positive relationship between the extent of vocational training and the index of industrial production.

Relatively little research has been carried out into the measurement of skill mismatch in emerging economies. A rapid expansion in higher education took place in Taiwan starting from the late 1980s (Lin and Yang, 2009) following which the number of highly educated workers entering the labour market each year increased rapidly, leading to an increase in the incidence of overeducation. In China, a massive expansion in higher education took place after 1999. Survey evidence shows that the incidence of overeducation for graduates has risen to about 20% with an upward trend in the incidence of overeducation, which however is lower in more competitive sectors (Li et al., 2008). Additionally, graduates from the most prestigious universities have a lower probability and a lesser intensity of overeducation than their counterparts from other universities (Li et al., 2010).

5. Comparative Analysis of Mismatch

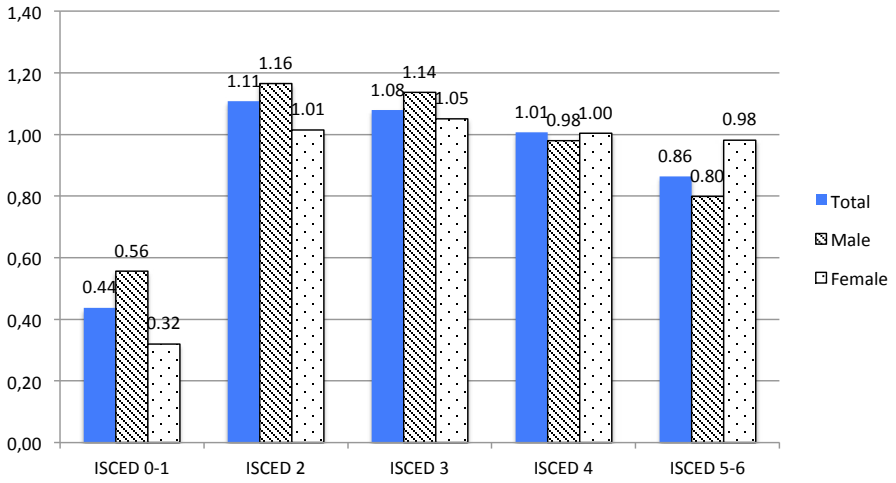
Previous studies that have estimated the extent of labour market mismatch in developed countries have focused on the labour market flows and the relationship between vacancies and job offers (the so-called "Beveridge curve") (Blanchard and Diamond, 1989; Rogerson et al., 2005). However, in the ENP countries and Turkey there is far less information available on labour market flows. This paper therefore focuses on the relationship between labour market stocks of unemployed and employed workers to investigate the matching process. In this section, mismatch is measured by comparing the share of unemployed people with a given education level to the share of employed people with the same level of education. If, for a given education level, the share of the unemployed with that level of education is higher than the share of the employed with that level of education, then the mismatch ratio will be greater than 1. This indicates a "positive" mismatch, in the sense that there is an excess supply of labour with that education level. In other words, the education system is supplying "too many" workers at that qualification level to the economy relative to demand. Conversely, if the share of unemployed people with a given education level is less than the share in employment the mismatch ratio will

be less than 1 and we can say that there is a "negative" mismatch (in a sense, too few graduates with the given education have been "produced" by the education system). Only when the shares of an education group in both unemployment and employment are identical will there be a situation of perfect matching for that group. For example, an interpretation of a negative mismatch for the university educated is that there is an excess demand for university graduates. In this example we could infer that there is a "skill gap" for university graduates.

The measure assumes that there is no substitutability between workers with different education levels. This is a strong assumption. In practice, employers are likely to choose workers with higher education levels to those with lower levels of education, even for jobs that do not require the higher level of education. This is the phenomenon of "bumping down" (McGuiness, 2006). Given rational profit-maximising behaviour by employers, we would therefore not expect to see perfect matching. Nevertheless, private rationality is not the same as social efficiency. The phenomenon has a social cost in that it implies that too much investment is being allocated to producing an excess of highly educated people for which appropriate jobs are not available. It also implies that people with lower education levels are suffering disproportionately from unemployment, and that the investment in their human capital is also going to waste. Overall, there are significant social costs involved where there is a high degree of mismatch. A negative mismatch for the university educated implies the phenomenon of overeducation.

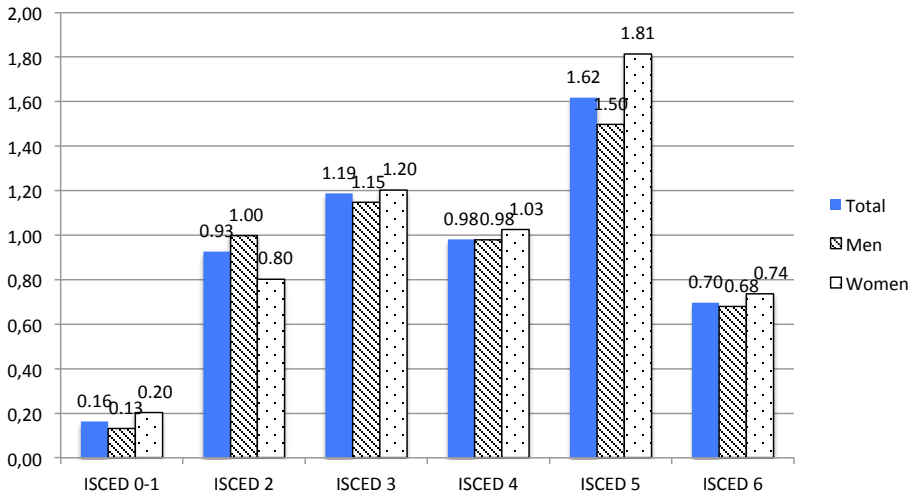
The overall pattern of mismatch has some surprisingly similar characteristics. In all countries except Egypt the pattern of mismatch is one of an inverted U-shape across education categories, with positive mismatch in intermediate levels of education, and negative mismatch in lower and upper levels of education. Thus, positive mismatch (the proportion in unemployment greater than the proportion in employment) occurs in Moldova in ISCED levels 2 and 3, in Ukraine among those who have completed secondary education (ISCED 3), in Turkey among those who have completed vocational school and high school, and in Egypt among those with general secondary, technical secondary and "above intermediate" education. In most countries, both lower and higher education groups tend to have negative mismatch (the proportion in unemployment less than the proportion in employment). This applies in Moldova (ISCED 1 and ISCED 5-6), Ukraine (basic secondary and tertiary), Turkey (primary and illiterate and university) and Egypt (illiterate, "less than intermediate" and university). The exception is Egypt (where the university educated group experience positive mismatch).

Figure 1. Mismatch ratio by education group, Moldova, 6-year average, 2005-2010



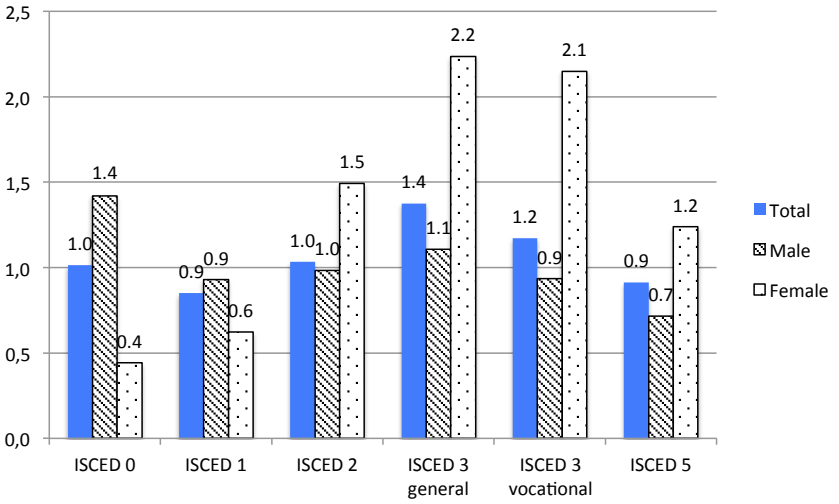
In Moldova, the greatest disproportions are among those with first stage primary education levels or less (ISCED 0-1) who have very high negative mismatch, and those with tertiary education (ISCED 5-6). Those with secondary education (ISCED 2 and ISCED 3) have positive mismatch. The group of workers with post-secondary non-tertiary education (ISCED 4) are well matched. Considering gender imbalances, women with only lower primary education or less have the greatest degree of mismatch, suggesting that if they cannot find a job they drop out of the labour force. At secondary education level men are more mismatched than women in the labour market, while the same is true for tertiary education (greatest deviation from the unit value), reflecting greater positive mismatch in this case.

Figure 2. Mismatch ratio by education group, Ukraine, 6-year average, 2005-2010



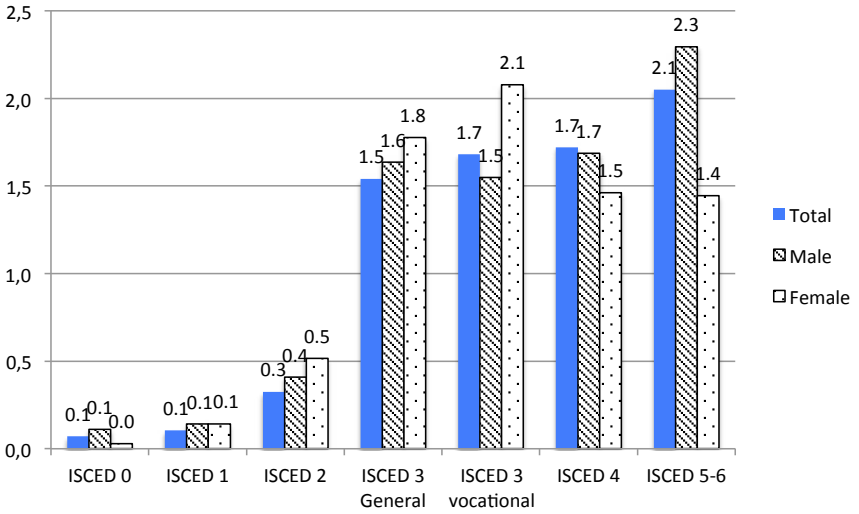
In Ukraine, the pattern of mismatch is somewhat different to that in Moldova. While still exhibiting an inverted-U pattern, the mismatch is shifted to higher levels of education. Workers with only primary education or less show a high degree of negative mismatch, suggesting that they are in excess demand in the labour market, perhaps due to drop out from the labour force. Workers with lower secondary education and with post-secondary non-tertiary education have a slight degree of (negative) mismatch. The highest degree of positive mismatch is found among the workers with tertiary education, suggesting that unlike Moldova it is this highly educated segment of the labour force that has most difficulty finding a matched job. Only when it gets to the higher level of tertiary education do we find negative mismatch, suggesting that this group of workers are in high demand in the labour market.

Figure 3. Mismatch ratio by education group, Turkey, 6-year average, 2005-2010



In Turkey, the labour market is fairly well matched overall at lower levels of education and at tertiary level. There is a slight negative mismatch for those with primary education and tertiary education, with values of the mismatch index of 0.9 in each case. More substantial positive imbalances are found at intermediate levels of education, as in other countries considered so far, with the highest mismatch among workers with secondary general education but also a substantial degree of mismatch among those with secondary vocational education. However, the general pattern is rather different when considering gender differences. On the whole, women experience a far greater degree of mismatch than men, whether in cases of negative mismatch (ISCED 0 & 1) or positive mismatch (ISCED 2-5). The negative mismatch at the lower levels of education can perhaps be explained by the phenomenon of women dropping out of the labour force as much as by an excess demand for their services. However, the positive mismatch experienced by women at other education levels, from primary through secondary and right up to tertiary education is quite startling. It would seem that this could only be explained by a high degree of gender discrimination in the Turkish labour market.

Figure 4. Mismatch ratio by education group, Egypt, 6-year average, 2005-2010



The pattern of mismatch in Egypt is quite different to that in the countries considered so far (Moldova, Ukraine, Turkey), in that there is no visible inverted-U shaped pattern of mismatch across the education groups. Instead, in Egypt there is a serious imbalance in the labour market for all education groups, with a clear divide between the workers with at most primary education (ICED 0-2) who experience strong negative mismatch, and those with secondary education and above who experience strong positive mismatch. The mismatch ratio is especially large for those with university and higher education (mismatch ratio > 2.0). This pattern contrasts with the patterns in the other countries where the university educated tend to be negatively matched. Overall, uneducated workers appear to find it relatively easy to obtain employment (the proportion of unemployed workers in this category is far lower than the proportion of employed workers). An alternative explanation could be that these workers simply drop out of the labour market. However, given the likely significant demand for unskilled labour in Egypt, it would seem that the interpretation of an excess demand for unskilled workers might be reasonable. The apparent excess supply of university graduates is a striking phenomenon that may well have contributed to the social unrest of recent years in Egypt. The interpretation might be that workers with secondary and tertiary education face an insufficient demand for their services, and there is an excess supply of workers with intermediate and higher levels of education. There is also a significant gender imbalance, with higher positive mismatch for women with either general or vocational secondary education, while mismatch is greater for men who have university education than for women (mismatch ratio for men with tertiary education = 2.3).

5.1 Summary of Empirical Findings

A major finding concerns the different degree of matching efficiency across education qualifications, our proxy for skill levels. 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 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 Moldova and Ukraine, although in the latter country tertiary educated workers also suffer high levels of positive mismatch and only the 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 education qualifications.

Egypt shows a completely different pattern, with high levels of mismatch among all education groups. Among workers with primary education or less, 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.

Relative real wages for skilled workers compared to unskilled workers have been increasing in both Ukraine and Turkey, suggesting a growing demand for skilled labour and hence growing mismatches among this group of workers. However, the recent global economic crisis may have brought a temporary halt or reversal to this process in the countries that have been most affected. Notably, in Ukraine, a country badly affected by the crisis, relative wages for skilled workers have fallen in recent years. No such reversal is observed in Turkey, which has rebounded strongly from the crisis and has been enjoying high rates of economic growth while other countries in the region have faced recession.

Overall, the study has shown that, at least in the transition countries and Turkey, vocational and general high school graduates often have inappropriate skills and qualifications, and have difficulty finding a job. University graduates, while increasing in number, find jobs relatively easily because restructuring and technological change has increased the demand for highly skilled workers. Both the demand and supply of highly skilled workers has increased. However, as shown by their rising relative wages, demand is outstripping supply as “skill biased technological change” in both manufacturing and in the rapidly expanding service industries has led to a growing demand for skilled labour. Employers complain that they cannot find enough highly qualified workers (EBRD BEEPS surveys). The problem is especially severe in the ENP countries including Moldova and Ukraine. University graduates who cannot obtain employment appropriate to their skill level are in a position to take away jobs from high school and vocational graduates (“bumping down”) reinforcing the phenomenon of mismatch in the middle level of

educational attainment in these countries. However, the evidence provided in this paper is insufficient to draw firm conclusions on this point and further research is needed to establish this effect using tracer studies and other types of employee surveys.

In the emerging market economies such as Egypt, the level of mismatch appears to be far higher than in the transition economies although it is declining over time, due in large part to the improved matching of women in the labour market. Nevertheless, large gender differences remain with women with secondary education suffering from mismatch more than men, while the reverse is true for tertiary education – male university graduates in Egypt suffer from the worst mismatch ratio of all the country education groups considered in this paper. It appears that insufficient jobs are being created for the large number of young highly educated workers who are entering the labour market, especially highly educated young men. The problem in these countries is not one of skill biased technological change, rather it is a problem of rapid population growth leading to an outpouring of young educated people onto the labour markets of countries which still lag behind in the level of industrialisation and in the technological level of the industrial sector. There are not enough skilled jobs to absorb all the graduates from the school and university systems. At the same time the large informal sector provides ready employment for unskilled workers, and there is little problem of mismatch among the unskilled, other than among older unskilled workers who must compete with younger workers for unskilled jobs.

6. Policy Conclusions

Despite the negative effects of the global economic crisis on labour demand, significant skill mismatches persist in the ENP countries considered in this paper. Policies are needed that 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 adjustments 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 further public sector em-

ployment, 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 them. The first priority therefore is to carry out capacity building within the public administration to enable the appropriate staff to carry out and use skill mismatch analyses and macroeconomic and sectoral skill forecasts.

Yet, even if the macro- or sector-level skill forecasts are carried out, and the education and training systems are adapted, reformed and restructured, such a top-down approach may still fail to address skill mismatches if the future demand for skills does not match the projections due to unexpected technological and structural change. For this reason, ENP countries 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, the research has shown the substantial and significant problems of mismatch in the labour markets of both the transition economies and emerging economies within the EU Neighbourhood countries. While these differ in many respects, some specific policy measures could help to lessen mismatch in all countries. These include (i) providing incentives to older workers to retrain, and to 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) specific 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) special encouragement to employers to take on younger skilled workers through job subsidies and internships; (v) encouraging spillover of skills from foreign direct investment companies to small domestic firms in the informal sector; and (vi) provision of improved skill forecasts to professionals and better career guidance for adults as well as school leavers.

References

Bartlett, W. (2007), "Economic restructuring, job creation and the changing demand for skills in the Western Balkans". In: A. Fetsi (ed.), Labour Markets in the Western Balkans: Challenges for the Future. Turin: European Training Foundation, pp. 19-50.

Beirne, J. and **N.F. Campos** (2007), "Educational inputs and outcomes before the transition from communism", Economics of Transition, 15(1): 57-76.

Bilsen, V. and **J. Konings** (1998), "Job creation, job destruction, and growth of newly established, privatized, and state-owned enterprises in transition economies: Survey evidence from Bulgaria, Hungary, and Romania", Journal of Comparative Economics, 26(3): 429-445.

Blanchard, O. and **P. Diamond** (1989), "The Beveridge Curve", Brookings Papers on Economic Activity, 1: 1-60.

Boeri, T. (2000), Structural Change, Welfare Systems, and Labour Reallocation: Lessons from the Transition of Formerly Planned Economies. Oxford: Oxford University Press.

Bornhorst, F. and **S. Commander** (2006), "Regional unemployment and its persistence in transition countries", Economics of Transition, 14(2): 269-288.

Brixiova, Z., W. Li and **T. Yousef** (2009), "Skill shortages and labor market outcomes in Central Europe", Economic Systems, 33(1): 45-59.

Commander, S. and **J. Kollo** (2008), "The changing demand for skills - Evidence from the transition", Economics of Transition, 16(2): 199-221.

ETF (2011), Labour Markets and Employability: Trends and Challenges in Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. Turin: European Training Foundation.

Eurostat (2010), Statistical Pocket Book for the Candidate and Potential Candidate Countries. Brussels: Eurostat.

Gatelli, D. and **J. Johansen** (2012), Measuring mismatch in ETF partner countries: a methodological note, Working Paper. Turin: European Training Foundation.

Green, F., D. Ashton, D. James and **J. Sung** (1999a), "The role of the state in skill formation: Evidence from the Republic of Korea, Singapore, and Taiwan", Oxford Review of Economic Policy, 15(1): 82-96.

Green, F., D. Ashton, D. James and **J. Sung** (1999b), "Post-school education and training policy in development states: the cases of Taiwan and South Korea", Journal of Education Policy, 14(3): 301-315.

Kogan, I. and **M. Unt** (2005), "Transition from school to work in transition economies", European Societies, 7(2): 219-253.

Kolev, A. and **C. Saget** (2005), "Understanding youth labour market disadvantage: Evidence from south-east Europe", International Labour Review, 144(2): 161.

Kuruvilla, S., C.L. Erickson and **A. Hwang** (2002), "An assessment of the Singapore skills development system: does it constitute a viable model for other developing countries?", World Development, 30(8): 1461-1476.

Lamo, A. and **J. Messina** (2010), "Formal education, mismatch and wages after transition: Assessing the impact of unobserved heterogeneity using matching estimators", Economics of Education Review, 29(6): 1086-1099.

Lamo, A., J. Messina and **E. Wasmer** (2011), "Are specific skills an obstacle to labor market adjustment?", Labour Economics, 18(2): 240-256.

Li, F.L., W. J. Morgan and **X.H. Ding** (2008), "The expansion of higher education, employment and over-education in China", International Journal of Educational Development, 28(6): 687-697.

Li, F.L., Y.D. Zhao and **Y.P. Tian** (2010), "Job search and over-education: Evidence from China's labour market for postgraduates", Perspectives in Education, 28(2): 41-50.

Lin, C.-H. and **C.-H. Yang** (2009), "An analysis of educational inequality in Taiwan after the higher education expansion", Social Indicators Research, 90(2): 295-305.

McGuinness, S. (2006), "Overeducation in the labour market", Journal of Economic Surveys, 20(3): 387-418.

Mitra, P., M. Selowsky and **J. Zalduendo** (2010), Turmoil at Twenty: Recession, Recovery and Reform in Central and Eastern Europe and the former Soviet Union. Washington: World Bank.

Newell, A. and **F. Pastore** (2006), "Regional unemployment and its persistence in transition countries", Economics of Transition, 14(2): 269-288.

Özsagir, A. et al. (2010), "The Relationship between Vocational Education and Industrial Production in Turkey", International Journal of Economic Perspectives, 4(2): 439-448.

Petrolongo, B. and **C. Pissarides** (2001), "Looking into the black box: a survey of the matching function", Journal of Economic Literature, Vol. 39, pp. 390-431.

Romer, P.M. (1994) "The origins of endogenous growth", Journal of Economic Perspectives, 8(1): 3-22.

Rogerson, R., R. Shimer and **R. Wright** (2005), "Search-theoretic models of the labour market: a survey", Journal of Economic Literature, 43(4): 959-988.

Sondergaard, L. and **M. Murthi** (2012), Skills, Not Just Diplomas: Managing Education for Results in Eastern Europe and Central Asia. Washington: The World Bank.

Appendix. Table 1. ISCED 1997 international classification of education levels

Level 0	Pre-primary education
Level 1	Primary education or first stage of basic education
Level 2	Lower secondary or second stage of basic education
Level 3	(Upper) secondary education
Level 4	Post-secondary non-tertiary education
Level 5	First stage of tertiary education
Level 6	Second stage of tertiary education

Section 2

Governance and Institutional Environment

Governance in the European Union and Neighbouring Countries

Anneli Kaasa, University of Tartu, Estonia

E-mail: anneli.kaasa@ut.ee

Abstract

This exploratory study examines the level of governance quality of EU countries and neighbouring countries. The analysis is based on the concept of governance quality, distinguishing six different aspects and using data from the Worldwide Governance Indicators. For generalisation, mean values of six indicators were calculated and a factor of overall governance quality was created with the help of factor analysis. In general, the governance quality in neighbouring countries seems to have an influence on a country's state of governance and the level of governance quality does not change very quickly.

Keywords

Institutional Quality, Governance, Europe

JEL Classification

H11, K00

1. Introduction

Governance and its quality have been viewed as increasingly important in literature, especially in developing countries for economic development. North (1990) has convincingly shown the importance of a country's system of governance for economic growth. It is natural to expect economic cooperation in geographically close regions, including foreign investments, for example. Moreover, considering the competition to attract foreign investments, governance quality plays an important role. Although geographically close to each other, the countries in the European Union (EU) and its neighbouring countries differ significantly from each other according to cultural and historical background and environment. Thus, quality of governance in these countries may also differ significantly.

The purpose of this report is to examine the level of governance quality in EU countries and neighbouring countries. The analysis covers all 27 EU countries and 27 neighbouring countries: Norway, Iceland, Switzerland, Albania, Bosnia-Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia, Moldova, Belarus, Russia, Ukraine, Armenia, Azerbaijan, Georgia, Cyprus, Turkey, Israel, Jordan, Lebanon, Syria, Egypt, Libya, Tunisia, Algeria and Morocco. This report is based on the concept of Kaufmann et al. (2010) that looks at governance quality using six different measures. Data from the latest edition of the Worldwide Governance Indicators (WGI) dataset (Kaufmann et al., 2011) are used. Besides looking at the six indicators separately, the mean values of six indicators are calculated and a latent factor is composed with the help of confirmatory factor analysis that captures all the information about governance quality in one indicator, enabling a simple comparison of countries according to governance quality.

The paper is structured as follows: the next section presents the theoretical background and after that data are introduced. Then, initial and derived governance indicators in the EU and neighbouring countries are presented and discussed. Finally, conclusions are drawn.

2. Theoretical Background

Although there is a wide interest in governance, there is not yet a strong consensus about the definition of governance. Kaufmann et al. (2010) or UNPAN (2007), for example, provide overviews of different definitions. Generally, governance refers to the formal and informal arrangements that determine public decisions and actions. Broader definitions cover rules, enforcement mechanisms and organizations, while narrower definitions focus on the manner in which the public sector is managed. This report is based on the notation of Kaufmann et al. (2010) that seeks to find a compromise between different dimensions and define *governance* as the traditions and institutions by which authority in a country is exercised. Their concept includes three aspects: "the process by which governments are selected, monitored and replaced"; "the capacity of

the government to effectively formulate and implement sound policies"; and "the respect for citizens and the state of the institutions that govern economic and social interactions among them."

Kaufmann et al. (2010) have constructed six measures of governance, two for every aspect. The processes of selecting, monitoring and replacing governments are first measured by *Voice and Accountability (VA)*, which captures perceptions of the extent to which "a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media." The second measure is *Political Stability and Absence of Violence/Terrorism (PV)*, which reflects perceptions of the likelihood that "the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism." The capacity of the government is described first with the help of *Government Effectiveness (GE)*, which shows perceptions of "the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies." Moreover, *Regulatory Quality (RQ)* is used as an indicator of perceptions of "the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development." The respect for the institutions is also reflected by two measures: first, *Rule of Law (RL)* captures perceptions of the extent to which "agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence" and, second, *Control of Corruption (CC)* covers perceptions of the extent to which "public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and private interests."

These six measures are not expected to be uncorrelated as, for example, more effective government leads to better regulatory quality, respect for the rule of law leads to less corruption and so on. Hence, all six measures can be viewed as different aspects of overall governance quality.

3. Data

The data about governance quality for all 27 EU countries and 27 neighbouring countries were drawn from the Worldwide Governance Indicators (WGI) (Kaufmann et al., 2011). The WGI is a dataset that reports aggregate governance indicators for 213 economies over the period 1996–2010, for six dimensions of governance (data are updated on a yearly basis). The aggregate indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. The WGI are based on a large number of different data sources, capturing the views and experiences of survey respondents and experts in the public and private sectors, as well

as various NGOs (Kaufmann et al., 2011). Each one of the six aggregate WGI measures is then constructed as a weighted average of the rescaled data from the individual sources. A full description of the individual variables used in the WGI and how they are assigned to the six aggregate indicators is available at Kaufmann et al. (2011). All indicators ranged from approximately -2.5 (weak) to 2.5 (strong) governance performance, but in order to provide a better comparability, the indicators were standardised to an average of zero and standard deviation of one.

In addition, in order to evaluate the overall governance quality in the countries analysed, two approaches were used. First, the mean values of six measures were calculated. Second, in order to capture the information of initial measures in one indicator, a factor analysis (the principal components method) was performed. The results of the factor analysis are presented in Appendix Table A1. All six measures loaded into one factor, the percentages of total variance explained by the factors is 88.72% and the Kaiser-Meyer-Olkin (KMO) measure (0.89) indicates a very good appropriateness of the factor model (values of the KMO measure larger than 0.5 are usually considered as acceptable). The factor scores of the latent variable were saved as a variable reflecting the overall governance quality.

4. Governance Indicators in the European Union and Neighbouring Countries

The six measures of governance for the EU countries are presented in Table 1 and for the neighbouring countries in Table 2. Both the mean values of initial indicators and the factor scores are also presented in Tables 1 and 2. It can be seen from both Tables that the ranking of countries does not depend on whether the mean values of six measures of governance or the factor scores reflecting overall governance quality are taken into account.

Table 1 indicates that governance quality is very high in Finland, Denmark and Sweden, where the levels of social capital are also the highest. Table 1 also shows that, in general, the countries with the communist background tend to have much lower levels of governance quality than the so-called old western economies. Among the EU countries, control of corruption is the measure that varies in widest interval. While most indicators stay above the average of all countries analysed here, the control of corruption measure has negative values for many countries. In Spain and Greece the perceptions of political stability are also remarkably low. In Bulgaria and Romania, the problems with government effectiveness and rule of law should be pointed out in addition to the corruption problems.

Table 1. Indicators of governance, their mean values and the factor of overall governance quality for the EU countries (2010, ordered according to overall governance quality)

	VA	PV	GE	RQ	RL	CC	Mean	Factor
Finland	1.10	1.47	1.75	1.38	1.49	1.65	1.47	1.56
Denmark	1.15	1.00	1.67	1.46	1.39	1.86	1.42	1.52
Sweden	1.15	1.09	1.51	1.25	1.47	1.75	1.37	1.46
Luxembourg	1.13	1.54	1.18	1.21	1.34	1.56	1.33	1.40
Netherlands	1.06	0.91	1.21	1.33	1.32	1.65	1.25	1.33
Austria	1.01	1.10	1.37	1.01	1.31	1.17	1.16	1.23
Ireland	0.90	0.99	0.77	1.16	1.27	1.19	1.05	1.11
Germany	0.91	0.75	1.02	1.07	1.13	1.22	1.02	1.09
United Kingdom	0.88	0.24	1.03	1.28	1.28	1.01	0.95	1.03
Belgium	0.99	0.73	1.06	0.75	0.89	1.03	0.91	0.97
France	0.79	0.61	0.90	0.79	1.02	0.93	0.84	0.90
Malta	0.71	1.17	0.60	0.89	0.98	0.48	0.81	0.84
Cyprus	0.63	0.24	0.96	0.83	0.67	0.62	0.66	0.71
Estonia	0.69	0.53	0.67	0.92	0.63	0.47	0.65	0.69
Portugal	0.69	0.59	0.48	0.18	0.52	0.58	0.50	0.53
Czech Republic	0.59	0.96	0.45	0.67	0.43	-0.11	0.50	0.51
Slovenia	0.58	0.76	0.47	0.10	0.50	0.40	0.47	0.49

(continued)

Spain	0.71	-0.50	0.42	0.62	0.68	0.56	0.41	0.46
Poland	0.60	0.99	0.13	0.36	0.15	0.02	0.37	0.38
Slovakia	0.46	1.02	0.28	0.45	0.04	-0.14	0.35	0.35
Hungary	0.48	0.62	0.11	0.46	0.24	-0.09	0.30	0.31
Lithuania	0.47	0.57	0.14	0.36	0.22	-0.10	0.28	0.29
Latvia	0.38	0.33	0.12	0.36	0.28	-0.21	0.21	0.22
Italy	0.49	0.32	-0.08	0.21	-0.17	-0.45	0.06	0.05
Greece	0.47	-0.42	-0.07	-0.02	0.07	-0.52	-0.08	-0.08
Bulgaria	0.05	0.20	-0.61	-0.08	-0.66	-0.58	-0.28	-0.31
Romania	0.02	0.05	-0.77	-0.01	-0.52	-0.56	-0.30	-0.33

Among the neighbouring countries that are described by the indicators in Table 2, first, it can be seen that here the three old western economies (Switzerland, Norway and Iceland) again stand out, although in the case of Iceland a quite low level of regulatory quality has to be pointed out. Besides that, no further lines based on geographical or historical background can be drawn. It can only be noted that the North African countries analysed all belong to the countries with lower governance quality among neighbouring countries. In Israel, political stability is extremely low compared to other indicators. Political stability seems to be the greatest problem in Georgia, Turkey and Lebanon as well. At the same time, in two countries with the lowest overall governance quality, Belarus and Libya, political stability seems to be remarkably good compared to other aspects. In Tunisia, the biggest problem seems to be related with voice and accountability.

Table 2. Indicators of governance, their mean values and the factor of overall governance quality for the neighbouring countries (2010, ordered according to overall governance quality)

	VA	PV	GE	RQ	RL	CC	Mean	Factor
Switzerland	1.18	1.25	1.40	1.16	1.29	1.56	1.31	1.39
Norway	1.18	1.35	1.28	0.96	1.44	1.57	1.30	1.38
Iceland	0.96	1.00	1.05	0.28	1.20	1.43	0.99	1.05
Israel	0.19	-2.15	0.69	0.65	0.35	0.20	-0.01	0.05
Croatia	0.01	0.49	0.03	-0.13	-0.38	-0.36	-0.06	-0.07
Montenegro	-0.23	0.36	-0.54	-0.87	-0.59	-0.72	-0.43	-0.48
Georgia	-0.60	-1.13	-0.31	-0.11	-0.79	-0.56	-0.58	-0.61
Turkey	-0.59	-1.53	-0.25	-0.34	-0.46	-0.40	-0.60	-0.61
Jordan	-1.26	-0.61	-0.54	-0.51	-0.34	-0.37	-0.60	-0.64
Macedonia	-0.34	-0.87	-0.81	-0.46	-0.88	-0.46	-0.64	-0.67
Serbia	-0.14	-0.79	-0.74	-0.82	-0.98	-0.61	-0.68	-0.72
Albania	-0.33	-0.51	-0.91	-0.53	-1.03	-0.82	-0.69	-0.74
Tunisia	-1.77	-0.15	-0.41	-0.81	-0.45	-0.53	-0.69	-0.74
Armenia	-1.28	-0.24	-0.78	-0.47	-1.06	-1.05	-0.81	-0.88
Morocco	-1.20	-0.93	-0.80	-0.93	-0.77	-0.56	-0.86	-0.91
Bosnia-Herzegovina	-0.55	-1.11	-1.40	-0.91	-0.95	-0.71	-0.94	-0.99
Moldova	-0.50	-0.80	-1.28	-0.94	-0.99	-1.10	-0.94	-1.00
Kosovo	-0.60	-1.73	-1.25	-0.85	-1.24	-1.02	-1.12	-1.17

(continued)

Egypt	-1.63	-1.42	-1.08	-1.01	-0.69	-0.94	-1.13	-1.18
Ukraine	-0.58	-0.40	-1.44	-1.45	-1.41	-1.33	-1.10	-1.19
Lebanon	-0.76	-2.20	-0.98	-0.75	-1.27	-1.21	-1.20	-1.24
Russia	-1.37	-1.39	-1.04	-1.27	-1.39	-1.43	-1.32	-1.39
Azerbaijan	-1.70	-0.66	-1.51	-1.32	-1.50	-1.53	-1.37	-1.47
Algeria	-1.44	-1.85	-1.21	-2.16	-1.37	-0.87	-1.48	-1.56
Syria	-2.10	-1.30	-1.20	-1.91	-1.14	-1.41	-1.51	-1.60
Belarus	-1.98	-0.41	-1.82	-2.18	-1.67	-1.19	-1.54	-1.66
Libya	-2.34	-0.35	-1.90	-2.16	-1.59	-1.61	-1.66	-1.79

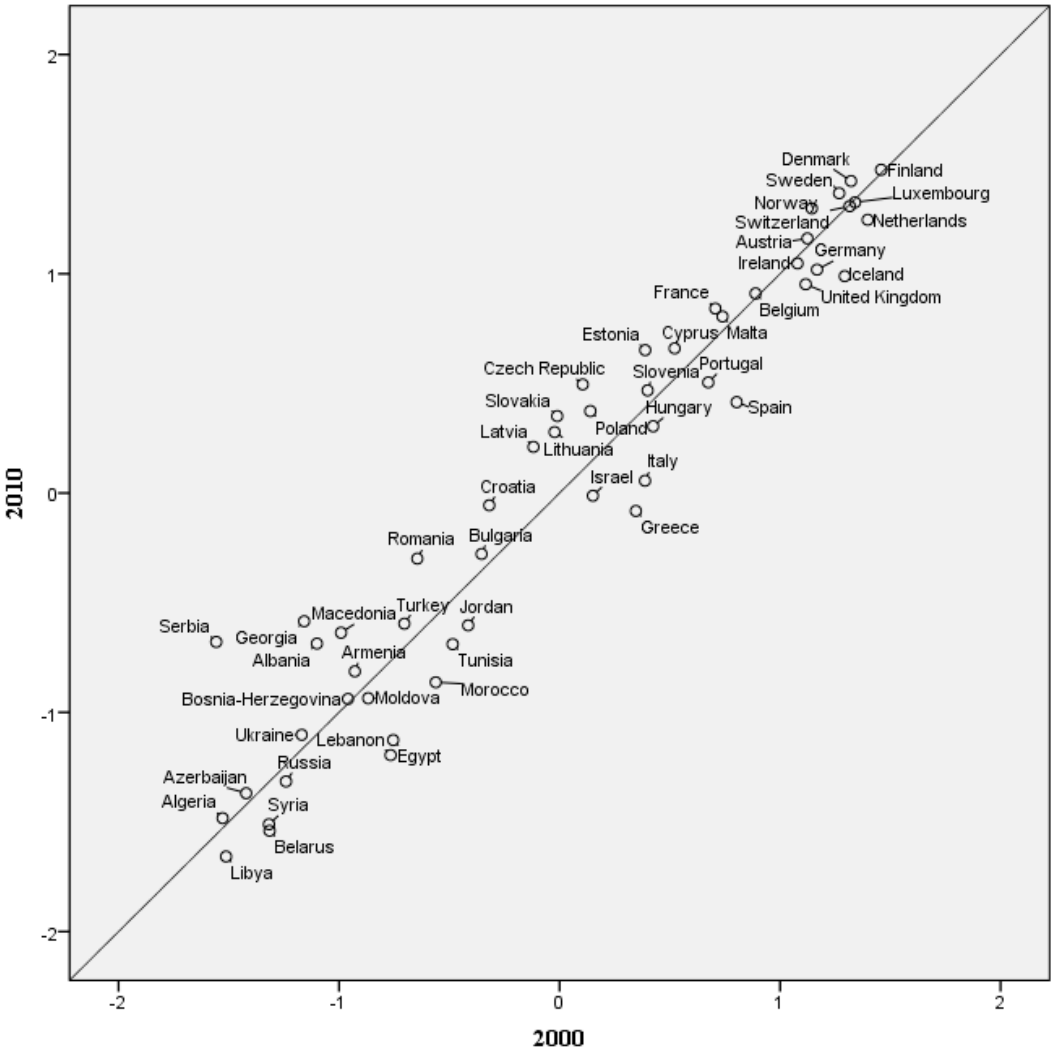
Further investigation of Tables 1 and 2 indicates that the governance quality in neighbouring countries seems to have an influence on a country's state of governance. The level of overall governance quality is quite similar in geographically close countries and there are no large differences between neighbouring countries, except for Syria, which has much lower governance quality than its neighbouring countries.

When studying governance quality indicators by country groups based on geographical and political background, the following conclusions can be made (the information about the country groups and their means can be found in Appendix Table A2). North European countries have the highest governance quality, followed by the other old western economies, but among them South European countries have contrastingly even lower levels of governance quality. After that, Central and East European countries follow and, among them, those that already belong to the EU tend to have higher levels of governance quality. The communist background seems to have a strong influence, as those countries (except for Baltic countries that are also already in the EU) that belonged to the former Soviet Union have the lowest levels of governance quality. Among Middle Eastern countries, the governance quality in North African countries is, unfortunately, comparable to the countries that belonged to the former Soviet Union. Other Middle Eastern countries have somewhat higher levels of governance quality.

Although it can be assumed that governance quality does not change very quickly, some changes can still be expected, for example after a decade. This can be examined with the help of Figure 1, where the mean values of standardised measures of governance

for the years 2000 and 2010 are compared (same scale for both years). It can be seen that in general, governance quality does indeed not change much. The largest positive changes have been in Serbia and Georgia, but in many Central and East European countries now in the EU governance quality has clearly also improved. At the same time, in Greece, Italy, Spain, Morocco, Egypt and Lebanon, overall governance quality has declined the most.

Figure 1. Positions of countries across the mean value of six measures of governance across the years 2010 and 2000 (in countries above the diagonal overall governance quality has improved and in countries below the diagonal it has declined)



5. Conclusions

This report explored the level of governance quality in 27 EU countries and 27 neighbouring countries. The report is based on the concept of governance quality covering six different measures: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. Besides looking at these six indicators separately, the mean values of these six indicators were calculated and a latent factor was also created in order to capture the information of initial measures in one indicator with the help of factor analysis.

Investigating the initial and derived indicators showed that in general, the countries with the communist background tend to have much lower levels of governance quality than the so-called old western economies. Among the latter, North European countries have the highest and South 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, it can be said that the communist background seems to have a strong influence, as those countries that belonged to the former Soviet Union (except for the Baltic countries that are also already in the EU) have the lowest levels of governance quality. Among Middle Eastern countries, the governance quality in North African countries is, unfortunately, comparable to the countries that belonged to the former Soviet Union.

The ranking of countries appeared not to depend on whether the mean values of six measures of governance or the factor scores reflecting overall governance quality are taken into account. In general, the governance quality in neighbouring countries seems to have an influence on a country's state of governance: the level of overall governance quality is quite similar in geographically close countries. Comparing the data from 2010 with the data from 2000 showed that governance quality does indeed not change much, although some more remarkable positive and negative changes were pointed out.

References

Kaufmann, D., Kraay, A. and **M. Mastruzzi** (2010), The Worldwide Governance Indicators: Methodology and Analytical Issues (September 2010). World Bank Policy Research Working Paper No. 5430

Kaufmann, D., A. Kraay, and **M. Mastruzzi** (2011), Worldwide Governance Indicators. Accessed at: http://info.worldbank.org/governance/wgi/index.asp (12.06.2012).

North, D. (1990), Institutions, Institutional Change and Economic Performance. New York: Cambridge University Press.

UNPAN (2007), Public Governance Indicators. A Literature Review, Department of Economic and Social Affairs. New York: UNPAN. Accessed at: http://unpan1.un.org/intradoc/groups/public/ documents/un/unpan027075.pdf (12.06.2012).

Appendix:

Table A1. Results of the factor analysis of governance measures

Indicators	Factor loadings
Voice and Accountability (VA)	0.94
Political Stability and Absence of Violence/Terrorism (PV)	0.82
Government Effectiveness (GE)	0.98
Regulatory Quality (RQ)	0.96
Rule of Law (RL)	0.98
Control of Corruption (CC)	0.96
Variance explained (%)	**88.72%**
KMO Measure of Sampling Adequacy	0.89

Table A2. Indicators of governance, their mean values and the factor of overall governance quality for the neighbouring countries by country groups (2010, ordered according to overall governance quality)

	VA	PV	GE	RQ	RL	CC	Mean	Factor
North European countries:								
Denmark	1.15	1.00	1.67	1.46	1.39	1.86	1.42	1.52
Finland	1.10	1.47	1.75	1.38	1.49	1.65	1.47	1.56
Iceland	0.96	1.00	1.05	0.28	1.20	1.43	0.99	1.05
Norway	1.18	1.35	1.28	0.96	1.44	1.57	1.30	1.38
Sweden	1.15	1.09	1.51	1.25	1.47	1.75	1.37	1.46
Mean	**1.11**	**1.18**	**1.45**	**1.07**	**1.40**	**1.65**	**1.31**	**1.39**

(continued)

West European countries:								
Austria	1.01	1.10	1.37	1.01	1.31	1.17	1.16	1.23
Belgium	0.99	0.73	1.06	0.75	0.89	1.03	0.91	0.97
France	0.79	0.61	0.90	0.79	1.02	0.93	0.84	0.90
Germany	0.91	0.75	1.02	1.07	1.13	1.22	1.02	1.09
Ireland	0.90	0.99	0.77	1.16	1.27	1.19	1.05	1.11
Luxembourg	1.13	1.54	1.18	1.21	1.34	1.56	1.33	1.40
Netherlands	1.06	0.91	1.21	1.33	1.32	1.65	1.25	1.33
Switzerland	1.18	1.25	1.40	1.16	1.29	1.56	1.31	1.39
United Kingdom	0.88	0.24	1.03	1.28	1.28	1.01	0.95	1.03
Mean	**0.98**	**0.90**	**1.11**	**1.09**	**1.21**	**1.26**	**1.09**	**1.16**
South European countries:								
Cyprus	0.63	0.24	0.96	0.83	0.67	0.62	0.66	0.71
Greece	0.47	-0.42	-0.07	-0.02	0.07	-0.52	-0.08	-0.08
Italy	0.49	0.32	-0.08	0.21	-0.17	-0.45	0.06	0.05
Malta	0.71	1.17	0.60	0.89	0.98	0.48	0.81	0.84
Portugal	0.69	0.59	0.48	0.18	0.52	0.58	0.50	0.53
Spain	0.71	-0.50	0.42	0.62	0.68	0.56	0.41	0.46
Mean	**0.62**	**0.23**	**0.39**	**0.45**	**0.46**	**0.21**	**0.39**	**0.42**

(continued)

Central and East European countries in the EU:								
Bulgaria	0.05	0.20	-0.61	-0.08	-0.66	-0.58	-0.28	-0.31
Czech Republic	0.59	0.96	0.45	0.67	0.43	-0.11	0.50	0.51
Estonia	0.69	0.53	0.67	0.92	0.63	0.47	0.65	0.69
Hungary	0.48	0.62	0.11	0.46	0.24	-0.09	0.30	0.31
Latvia	0.38	0.33	0.12	0.36	0.28	-0.21	0.21	0.22
Lithuania	0.47	0.57	0.14	0.36	0.22	-0.10	0.28	0.29
Poland	0.60	0.99	0.13	0.36	0.15	0.02	0.37	0.38
Romania	0.02	0.05	-0.77	-0.01	-0.52	-0.56	-0.30	-0.33
Slovakia	0.46	1.02	0.28	0.45	0.04	-0.14	0.35	0.35
Slovenia	0.58	0.76	0.47	0.10	0.50	0.40	0.47	0.49
Mean	**0.43**	**0.60**	**0.10**	**0.36**	**0.13**	**-0.09**	**0.26**	**0.26**
Central and East European countries outside the EU:								
Albania	-0.33	-0.51	-0.91	-0.53	-1.03	-0.82	-0.69	-0.74
Bosnia-Herzegovina	-0.55	-1.11	-1.40	-0.91	-0.95	-0.71	-0.94	-0.99
Croatia	0.01	0.49	0.03	-0.13	-0.38	-0.36	-0.06	-0.07
Kosovo	-0.60	-1.73	-1.25	-0.85	-1.24	-1.02	-1.12	-1.17
Macedonia	-0.34	-0.87	-0.81	-0.46	-0.88	-0.46	-0.64	-0.67
Montenegro	-0.23	0.36	-0.54	-0.87	-0.59	-0.72	-0.43	-0.48
Serbia	-0.14	-0.79	-0.74	-0.82	-0.98	-0.61	-0.68	-0.72
Mean	**-0.31**	**-0.59**	**-0.80**	**-0.65**	**-0.86**	**-0.67**	**-0.65**	**-0.69**

(continued)

Middle Eastern Countries:								
Israel	0.19	-2.15	0.69	0.65	0.35	0.20	-0.01	0.05
Jordan	-1.26	-0.61	-0.54	-0.51	-0.34	-0.37	-0.60	-0.64
Lebanon	-0.76	-2.20	-0.98	-0.75	-1.27	-1.21	-1.20	-1.24
Syria	-2.10	-1.30	-1.20	-1.91	-1.14	-1.41	-1.51	-1.60
Turkey	-0.59	-1.53	-0.25	-0.34	-0.46	-0.40	-0.60	-0.61
Mean	**-0.90**	**-1.56**	**-0.46**	**-0.57**	**-0.57**	**-0.64**	**-0.78**	**-0.81**
Countries from the former Soviet Union:								
Armenia	-1.28	-0.24	-0.78	-0.47	-1.06	-1.05	-0.81	-0.88
Azerbaijan	-1.70	-0.66	-1.51	-1.32	-1.50	-1.53	-1.37	-1.47
Belarus	-1.98	-0.41	-1.82	-2.18	-1.67	-1.19	-1.54	-1.66
Georgia	-0.60	-1.13	-0.31	-0.11	-0.79	-0.56	-0.58	-0.61
Moldova	-0.50	-0.80	-1.28	-0.94	-0.99	-1.10	-0.94	-1.00
Russia	-1.37	-1.39	-1.04	-1.27	-1.39	-1.43	-1.32	-1.39
Ukraine	-0.58	-0.40	-1.44	-1.45	-1.41	-1.33	-1.10	-1.19
Mean	**-1.14**	**-0.72**	**-1.17**	**-1.10**	**-1.26**	**-1.17**	**-1.09**	**-1.17**
North African countries:								
Algeria	-1.44	-1.85	-1.21	-2.16	-1.37	-0.87	-1.48	-1.56
Egypt	-1.63	-1.42	-1.08	-1.01	-0.69	-0.94	-1.13	-1.18
Libya	-2.34	-0.35	-1.90	-2.16	-1.59	-1.61	-1.66	-1.79
Morocco	-1.20	-0.93	-0.80	-0.93	-0.77	-0.56	-0.86	-0.91
Tunisia	-1.77	-0.15	-0.41	-0.81	-0.45	-0.53	-0.69	-0.74
Mean	**-1.67**	**-0.94**	**-1.08**	**-1.42**	**-0.97**	**-0.90**	**-1.16**	**-1.24**

Cultural Diversity and National Performance

Nikolaos Hlepas, International Centre for Black Sea Studies (ICBSS), Athens, Greece

E-mail: nhlepas@gmail.com

Abstract

This paper focuses on impacts of cultural diversity and ethnic fractionalization on different aspects of national performance. Under the circumstances of Europeanization and Globalization, cultural and ethnic diversity is expected to further increase both in the EU and in the ENPI countries. Based on empirical surveys that were mostly conducted outside the European contexts, a big part of theory argues that diversity has negative impacts on social cohesion and quality of governance, on economic performance and human development; in other words, that diversity is bad for national performance. A first aim of this paper is to test whether the assumption about negative impacts of diversity does apply in most of the EU and ENPI countries. For this reason, diversity is defined, measured and compared across several countries and then put side by side with national performance in governance, global competitiveness and human development, as well with the level of generalized trust in each country. Subsequently, it is investigated, among EU and ENPI countries, whether acceptance of diversity is significantly stronger in some of them. Furthermore, institutional and cultural features of EU countries that were found to be more open to diversity while also achieving good scores of national performance are selected and systematized, following actor-centered institutionalism. The final aim of this paper is to draw lessons about institutions and policies that promote incorporation of diversity as a dynamic element of Europeanization and an addressee of ENPI policies.

Keywords

Accepting Diversity, Citizenship Regimes, Culture, Diversity, Ethnic Diversity, Ethnic Fractionalization, Generalized Trust, Global Competitiveness, Human Development, Inequality, Institutional Performance, Minorities, Political Culture, Rational Values, Self-Expression Values, State Tradition, Welfare State Models

JEL Classification

J240, O180, O470, R110

1. Introductory Remarks

From the very beginning of their historical course, nation-states in Europe eagerly tried to homogenize their societies. Homogenization in terms of ethnicity and language, religion and core values has been promoted in many different ways. In most European countries, a national education system was conceived, developed and excessively used as a main instrument of cultural homogenization. Normative frameworks and public institutions, meanings and symbols were employed in order to align divergent peculiarities of social groups and individuals. Cultural diversity within the borders of a country has long been regarded as a major handicap in the ruthless rivalry among nation-states. Even in today's globalization era, ethnic diversity (Mauro, 1995) and especially the so-called ethno-linguistic fractionalization has been implicated as a factor of poor economic performance (Easterly and Levine, 1997) and societal instability (Nettle et al., 2007).

On the other hand, there is evidence that possible negative effects of ethno-linguistic fractionalization on economic performance can be counterbalanced through strong institutions (Easterly, 2001). According to the point of view of the "new institutionalism" (Lijphart, 1999; March and Olsen, 1989; North, 1990), the organization of political life has important consequences for nature and quality of politics. Institutions help structure the nature of political discourse. They also create opportunities and incentives for elites to mobilize citizens as well as tolerance and incorporation of cultural diversity, depend on institutional patterns (e.g. citizenship regimes, Weldon, 2006). Moreover, there are historical examples (such as in communist Eastern Europe, but also elsewhere) where social fractionalization has been temporarily suppressed through authoritarian regimes excessively using ideology, state institutions and various repressive methods, enforcing a "pretended" homogenization that vanishes, however, as soon as the regime falls (Ash, 2000). Within a democratic system, coordination of social and economic life can be ensured, in the long run, through reliable institutions and their regulatory capacities.

Institutional performance, in its turn, is obviously connected not only to institutional design but also behavioral factors, such as the established political culture, including traditions and path dependencies (Arikan, 2011). European states follow distinct state traditions, citizenship regimes and welfare models, all of which address the balance between homogeneity and diversity, not only at the institutional but also the cultural level. From the very beginning, European integration has been based on the acceptance if not encouragement of diversity both across but also within countries and member states. Europeanization, Globalization and other factors (e.g. environmental changes, socio-demographic and value developments, etc.) are expected to further promote diversity. The European Union is encouraging policies and practices of tolerance and openness, mainly through normative (*acquis communautaire*) and economic instruments, while leaving space for national institutional choices and traditions.

All democracies can principally be described as "open societies" (Popper, 2006), since political leaders can be overthrown through free vote and choice of the people. In open societies, human rights are respected and government is expected to be responsive to the needs of people, transparent in its options and tolerant towards minorities. An open society is associated with cultural and religious pluralism, while it is always open to change and improvement because there is no ultimate truth and knowledge is always ongoing. Individualism and criticism seem to flourish in democratic states and open societies, paving the way for the prevalence of secular-rational over religious values and self-expression over survival attitudes (Triandis, 1995; Welzel, 2006; Li and Bond, 2010). Furthermore, secular/rational and self-expression values seem to correspond to higher levels of generalized interpersonal trust (Díez, 2009) that is expected to connote more tolerance towards strangers and people different from oneself. In other words, the higher the generalized interpersonal trust, the higher the acceptance of cultural diversity within one's own living environment is expected to be.

The paper is structured as follows. The next section deals with the question of defining and measuring diversity, reviewing theory and using data on diversity from several surveys. The third section tests the widespread hypothesis that cultural diversity has negative impacts on a country's institutional and economic performance, on human development, social cohesion, inequality and social trust. The fourth section attempts to trace acceptance of diversity in different societies, using elaborated data from different sources but also secondary literature, also engaging human development theory. Based on the findings of this section, the fifth section adopts the perspective of actor-centered institutionalism, while first systematizing institutional and cultural features in EU15 countries with long trajectories on the path of Europeanization is order to pick out institutional features and characteristics that seem to encourage the incorporation of diversity. Finally, some conclusions concerning constructive inclusion of diversity in the EU and its neighbors are drawn.

2. Defining and Measuring Diversity

According to the sociological approach, culture is a common pattern of beliefs, values and behaviors within a group of people. Hofstede (1984) simply defined culture as "a collective programming of the mind which distinguishes the members of one category of people from another" and clarified that "mind" stands not only for thinking and feeling but also for acting. Values provide limits and act as an effective guide for individual action and behavior. In other words, culture provides group members with beliefs and values channeling individuals into an assortment of possible behaviors (Triandis, 1995). The adoption of these shared values and assumptions by the younger generation through learning and socialization means that culture has a stable element (Arikan, 2011), although this does not justify a perception of culture as a static element. Cultural orientations within a certain group of people usually adjust to significant changes in physical, political, or

economic environments. However, cultural change is regularly slow and it is accepted more easily by younger people, resulting in intergenerational changes (Inglehart, 1990).

In scientific literature, culture is often implied as an explanatory framework and an independent variable for cross-national variation in institutional or/and economic performance (Inglehart and Welzel, 2005). Consequently, when countries are compared, the aspect of "culture" is often used to trace and explain disparities. Cultural differences can be captured, according to Hofstede (1980) by four dimensions: power distance, uncertainty avoidance, individualism-collectivism and masculinity-femininity (Kaasa, 2012). This kind of cross-national comparison refers to cultural dimensions and characteristics that have been empirically measured at country or national level (sometimes also at sub-national regional level), considering nations as cultural units and usually putting aside cultural variations within countries compared. The assumption that countries are more or less culturally homogeneous is questionable, even in Europe where nation-states have a long history and a long tradition of homogenization efforts and processes. On the other hand, the homogenizing forces of political and education systems, nationwide living contexts, mass media and national symbols would tend to frame a cultural unit at the country level (Hofstede, 1980), especially in long-established nation-states. Schwartz (2004) compared the within and between-country cultural distances across various nations and he found that cultural distance between samples from different countries is almost always greater than the distance between samples from the same country.

Then again, it is obvious that sub-national cultural variations exist in every country, but degrees and combinations of these dissimilarities can be very different. Furthermore, there is always the question of defining cultural dissimilarities and cultural sub-groups through adequate criteria. For example, the criterion of "racial" characteristics in defining cultural sub-groups is facing strong criticism, while ethnic, linguistic, religious and regionalist criteria are quite common in defining and distinguishing cultural units (Alesina and La Ferrara, 2005). Furthermore, the percentage of immigrants in a country's population, sometimes further distinguishing between "recent" (less than 5 years in the country) and "simple" immigrants is used in order to address cultural diversity and its impact on the economic life of a country, region or city (Card, 2001; Ottaviano and Peri, 2006).

According to several studies, the scale of cultural diversity within a country can have distinct impacts on development prospects and growth. For example, Sub-Saharan Africa's poor economic performance has been ascribed to its high ethno-linguistic diversity (Easterly and Levine, 1997). Quite often, even the use of the term "fractionalization" instead of "diversity" seems to allude a negative effect on social cohesion. According to some scholars, ethno-linguistic fractionalization leads to poor policy decisions because strong competition among solid interest (ethnic) groups for the provision of public goods and the control of limited resources is expected, also resulting in higher levels

of government consumption (Alesina et al., 1999). Ethnic diversity is a factor that can negatively influence the quality of government (La Porta et al., 1999). Ethnically polarized societies are often characterized by competitive rent-seeking activities by different groups and can hardly agree upon choices for public infrastructure (Alesina et al., 2003, 2005); diversity is costly in terms of social cohesion (Putnam, 2007). Furthermore, ethnic fractionalization in a community is supposed to decrease generalized interpersonal trust, which is a key element of social capital (Glaeser et al., 2000). Since out-group trust is the exception and in-group trust is the norm, different cultures would impede economic integration and cultural diversity would cause increasing competition between incompatible ways of life (Forbes, 1997). Robert Putnam (2007) argued that reduction of homogeneity in American areas (parallelized to ethnic heterogeneity in Eastern Europe) goes along with setbacks in both bonding and bridging social capital, having significant impacts for both institutional and economic performance.

But how can one exactly measure the degree of cultural diversity within a country and examine its impact on economic growth? Mauro (1995) introduced the concept of ethnic diversity and empirically examined its effect on economic growth, employing the diversity index, the Ethno-Linguistic Fractionalization (ELF) Index. Mauro concluded that ethnolinguistic fractionalization leads to greater probability of political instability and impedes economic development. The concept of the ELF was developed in 1964 by Soviet social scientists in an attempt to determine the number of ethno-linguistic groups in the world population (Okedji, 2011). Later, Taylor and Hudson (1972) used the Soviet data to compute an ELF Index, based on linguistic groupings, which became the most widely used measure of ethnic diversity.

Nevertheless, the ELF Index has been criticized, since language, like other forms of differentiation such as race, religion, and culture, despite their instrumental value, often covers fundamental distinctions in ethnically plural societies (e.g. Brazil, Nigeria, Canada, Russia, but also Switzerland, the UK and elsewhere). In addition, ethnic and singular cultural indices of diversity pose the additional complication of overlap. Ethnic identity includes multiple cross-cutting features that combine linguistic, racial, religious and cultural elements, blurring distinctions (Okedji, 2011). Furthermore, ethnic identity is not necessarily, as some "premordialists" argue, a pre-existing exogenous factor. A much more convincing "constructivist" approach highlights the fact that ethnic identity can also be an endogenous construct (Fearon, 2003) that is instrumentally crafted and manipulated for political and other reasons. Furthermore, it can be fluid in terms of context and time. For these reasons, some authors have proposed a mixture of measures of ethnic fragmentation, which are modifications of the ELF index (e.g. Alesina, et al., 2003; Fearon, 2003; see also below). A much more sophisticated index has been developed by Okedji (2005), which is a weighted index of ethnic, religious, racial and linguistic diversity, measuring social fragmentation and tries, for the first time, to combine multiple and overlapping characteristics of ethnic identity in a single index, the Social Diversity

Index (SDI). Major sources of data for identifying ethnic groupings for measuring diversity (Okedji, 2005) were the Encyclopedia Britannica, the Library of Congress Country Study, the World Christian Encyclopedia, the CIA World Factbook and the Handbook of Political Indicators. In Table 1, ELF and SDI scores of various countries (unfortunately not including Eastern European Countries) are presented.

Differences in ranking of countries, between the ELF and the SDI measurement, are not only due to different sampling times, but also to the fact that ELF has only measured linguistic diversity and, for this reason, a country such as Germany, for instance, seems to be the second most homogeneous countries in Europe, while the same country, according to SDI, is assessed as the second most heterogeneous country in Europe. It is obvious that this is not only the result of much higher percentages of migrants in Germany when SDI has been measured, but also because, among other factors, religious fractionalization is also captured by SDI.

Ex-communist Central and Eastern European countries have been included in other studies that measured cultural diversity. In order to measure social heterogeneity, Alesina et al. (2003) developed fractionalization scores simply based on ethnicity, religious and linguistic data directly from the Encyclopedia Britannica (EB) lists but also from other secondary sources for countries not listed in the EB. Data on ethnicity were collected in different single years (ranging from the recent year 2001 for some countries back to 1979 for other countries). Furthermore, the relative significance and salience of each ethnic group had not been taken into consideration. A much more reliable methodology has been developed by Fearon (2003) who constructed a list of ethnic groups depending on what people in the country identify as the most socially relevant ethnic groupings. In other words, "*the idea of an ethnic group is the idea that members and non-members recognize the distinction and anticipate that significant actions are or could be conditioned on it*." In addition, Fearon constructed an index of cultural fractionalization that used the structural distances between languages as a proxy for the cultural distance between groups in a country. Fearon's study seems to offer the most reliable measurement of ethnic and cultural fractionalization that included a very wide range of countries (see Table 2).

According to the aforementioned data, it is obvious that ethnic fractionalization and cultural diversity are, generally speaking, higher in Eastern Europe, the Middle East and North Africa, than in Western Europe. However, in certain Western European countries the corresponding scores are quite high (e.g. in Switzerland, Belgium, Spain, Cyprus, the UK and France), not only compared to the rest of the Western European Countries, but also compared to many Eastern European, Middle Eastern and North African countries.

3. Impacts of Diversity on National Performance and Social Cohesion

It would certainly be interesting to test whether the widely accepted hypotheses that cultural diversity is costly in terms of institutional and economic performance, human development and generalized interpersonal trust (see above) can be confirmed simply by comparing the scores of cultural diversity with the scores of governance quality, economic performance in terms of competitiveness, human development and generalized trust in each country.

Concerning *cultural diversity*, Fearon's index (2003) of "ethnic fractionalization" has been used because it covers many more countries than the ELF and the SDI indexes. Furthermore, it includes more criteria than the single linguistic criterion of Fearon's index on structural distances between language. Fearon's definition of "ethnic" group is based on the distinction and the significance of that group as it is perceived both by members and non-members.

Concerning *governance quality* (GQ), the factor of overall governance (from -2 min. to +2 max.) has been used, prepared by Kaasa (2012) for the SEARCH Project, based on data from the World Bank (2010), including six measures of governance, namely Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption.

Concerning *competitiveness*, the Global Competitiveness Index (GCI) is employed (scores min. 0-7 max.). The report of the World Economic Forum (WEF) defines *competitiveness* as *the set of institutions, policies, and factors that determine the level of productivity of a country*. The level of productivity, in turn, sets the level of prosperity that can be earned by an economy. The Global Competitiveness Index includes a weighted average of many different components, each measuring a different aspect of competitiveness. These components are grouped into 12 interrelated pillars of competitiveness (Quality of Institutions, Infrastructure, Macroeconomic Environment, Health and Primary Education, Higher Education and Training, Goods Market Efficiency, Labor Market Efficiency, Financial Market Development, Technological Readiness, Market Size, Business Sophistication, Innovation). The GCI uses various data sources for statistics but also the World Economic Forum's annual Executive Opinion Survey to capture concepts that require a more qualitative assessment (WEF, 2011). As an assessment of economic capacity and performance, the GCI has some advantages in comparison to GDP or GDP Growth, since it includes a series of many different variables affecting economic performance and is not simply a measure of production of goods and services. Moreover, criticism of GDP has pointed out for decades that it is not an adequate and reliable measure of social welfare, development and prosperity (Galbraith, 1958; Samuelson, 1961; Sen, 1976; Berg, 2007).

Arguments against GDP as a measure were among the causes that led to the conception of another index of development, the Human Development Index (HDI), which was created by Mahbub ul Haq, followed by Amartya Sen in 1990. HDI measures development by combining indicators of life expectancy, educational attainment and income (Health-Education-Living Standards) into a composite index, a single statistic which serves as a frame of reference for both social and economic development. The HDI sets a minimum and a maximum for each dimension, called goalposts, and then shows where each country stands in relation to these goalposts, expressed as a value between 0 and 1. Data for Human Development reports are collected from UN authorities, UNESCO and the World Bank, not directly from countries (UNDP, 2011).

Finally, on *social capital,* its core element, namely the *generalized trust of strangers* is presented. Scores of generalized trust refer to the people that answered in each country that "others" in their society could be trusted. Data are from 2010, covering a large number of countries and comes from the Gallup World Poll & World Values Survey, prepared by the Legatum Institute (Legatum Institute, Legatum Prosperity Index 2011). Generalized trust is expected to be *sensitive to cultural diversity*, since it refers to trusting "others", strangers, etc.). (See Table 3).

Although it has not been statistically tested whether and what kind of a correlation can be made between these different variables, we can simply compare the scores of different countries in order to check whether the hypothesis that cultural diversity has multiple negative effects (on development, governance, social capital, etc.) can be confirmed, or whether the impact of cultural diversity on a country's institutional and economic performance and on social capital depends on a much more complex set of factors and their constellation within each national context.

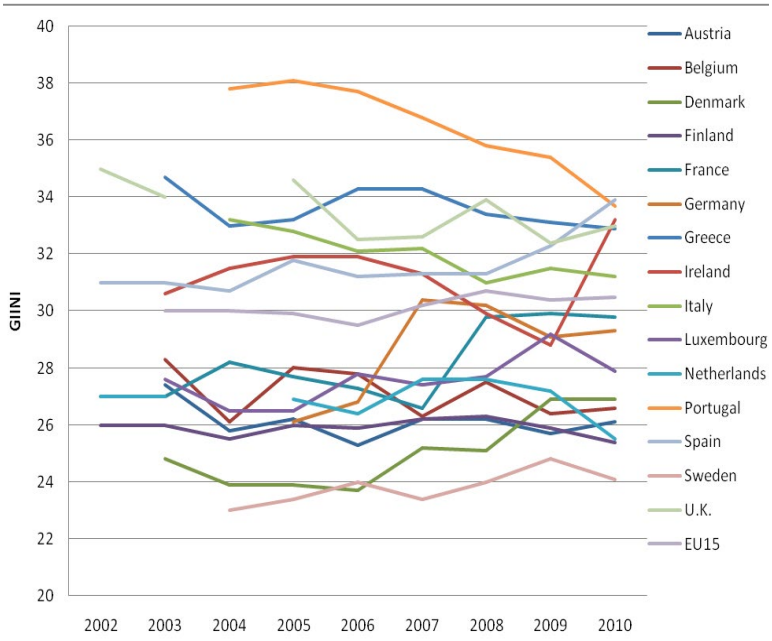
In "old" *Western Europe*, Switzerland has the highest score in diversity (also according to the SDI Index, see Table 1) but also some of the best scores in governance, global competitiveness, human development and a particularly high level of generalized trust. Belgium, the country with the second highest "ethnic fractionalization" index in Western Europe, also has high scores in all categories. In contrast, Greece and Italy, who are among the most homogeneous countries in Western Europe, have comparatively low scores in all categories. In *Eastern Europe*, Latvia, the fourth most heterogeneous country in this region, has remarkably high scores in all categories, where much more homogeneous countries, such as Hungary and, even more so, Armenia and Albania, have comparatively low scores. However, in Eastern Europe there are some countries where the multiple negative effects of diversity hypothesis cannot be contradicted, for instance in Moldova and Macedonia FYR. In the *Middle East* region, Turkey is the comparatively most homogeneous country, but the human development index is much lower than in culturally pluralistic Lebanon, while governance score, competitiveness and especially

generalized trust are significantly lower than in Israel. Finally, in *Northern Africa*, ethnically more "homogeneous" Tunisia, which is also the smallest country in this region, has comparatively better scores in institutional and economic performance.

Cross-nation comparisons in each one of the four aforementioned indexes can also be useful. Concerning *generalized trust*, in "old" Western Europe the lowest scores are in Greece, France and Italy, while trust scores are very high in Scandinavia, but also high in Switzerland and the UK. In Eastern Europe social trust is, generally speaking, lower than in Western Europe but in several Central and Eastern European countries percentages of generalized trust are obviously higher than in many Western European countries. This is, for instance, the case in Belarus (35%), Estonia (34%) and Ukraine (31%). In the Middle East, ethnically fractionalized Lebanon that experienced decades of civil war has the lowest score of interpersonal trust (6.7%), while ethnically much more homogenous Turkey, which is also an EU candidate country, also has a remarkably low score (8.4%), and Israel, despite several experiences of war and terror, shows an interpersonal trust score that is more than three times higher than in the other countries of the region. Finally, in North Africa, the country with the lowest score in ethnic fractionalization, namely Tunisia, has also the lowest score in generalized trust, while its neighbor Morocco, the ethnically more "fractionalized" country in the whole region, has by far the highest score. In overall *governance* performance, the three ethnically most homogeneous countries in Western Europe, that is Greece, Italy and Portugal, have three of the four worst scores, while in Eastern Europe the fourth most "fractionalized" country, Estonia, has the best score in governance and in North Africa, ethnically pluralist Morocco has the second best performance. In Global Competitiveness, there is a similar picture, since more "fractionalized" countries (Switzerland, Belgium, the UK, Sweden) have much better scores than the most "homogenous" countries (Italy, Portugal, Greece). Finally, on human development, the lowest score in Western Europe belongs to the second most homogenous country, which is Portugal, while some of the lowest scores in Eastern Europe belong to comparatively more "homogeneous" countries (Armenia, Albania).

Another point that is worth examining separately, and especially for "old" EU15 countries because of EU policies and long-term Europeanization effects, is inequality in these EU15 countries over a period of 9 years. Since cultural diversity and ethnic fractionalization are supposed to have a negative impact on social cohesion and favor inequalities, it should be tested whether homogenous countries have lower scores of inequality. Data we used come from the World Bank. The World Bank uses the Gini index that measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution (Afonso, Schuknecht and Tanzi, 2008). A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.

Figure 1. GINI Index of Inequality in the EU15, 2002-2010



Source: World Bank

Among EU15 members, it is obvious that inequality is stronger among the countries of Southern Europe, which are also among the most homogenous countries of the EU. Higher inequality can also be found in Ireland and the UK, which means that inequality scores are rather connected to the welfare model in these countries (Anglo-Saxon, Mediterranean welfare models, see last section of this paper) and probably also to other factors, but certainly not to the degree of cultural diversity in the different countries. For this reason, the assumption that ethnic fractionalization has negative impacts on social cohesion and favors inequalities could not be confirmed among EU15 members. A finding that is worth mentioning is that there is obviously a trend towards convergence in terms of the equality/inequality index in the EU15 that seems to cease after the global crisis of 2007/08 and the Euro/financial crisis of 2010.

All in all, it seems that drawing a straight line of correlation between "ethnic fractionalization" or "cultural diversity", on the one hand, and deficiencies in institutional and economic performance, human development and generalized trust, on the other, is more than questionable for the countries investigated. The situation could be different in post-colonialist societies in third world countries but it is obvious that the doctrine of multiple negative effects of cultural diversity is more than questionable when it comes to the European Union, candidate or ENP countries. In contrast, there are quite a few countries, both in the EU and among ENP countries, which combine high levels of cultural diversity with high scores in institutional and economic performance, human development and interpersonal trust.

4. Tracing the Acceptance of Diversity

At this point, a further investigation should be made concerning acceptance of diversity in the societies of different countries. The level of accepting diversity would probably explain whether diversity per se has negative or positive or simply no significant impacts on national performance. More specifically, it should be investigated whether higher performance of some countries which are characterized through ethnic fractionalization is combined with higher tolerance, acceptance and incorporation of diversity. For these reasons, some data concerning seven different measures that indicate *acceptance of diversity* are presented and evaluated (see Table 4). These measures are:

- Firstly, the *Rule of Law*, since this is of particular importance to any kind of minorities. The Rule of Law index shows the extent to which individuals within a society respect property rights, the police and the judiciary system, as well the quality of police and legal safeguards. Data are from the 2010 World Bank Governance Indicators, ordinal rating -2 to 2, prepared by the Legatum Institute, 2011.

- Also directly connected to the Rule of Law is *confidence in the judicial system*. A reliable *judiciary* is of particular importance for the protection of minorities and individuals with distinct opinions, attitudes and lifestyles. The question was: do you have confidence in each of the following or not? How about the judicial system? The percentage which are confident. Data are from 2010 Gallup World Poll, prepared by the Legatum Institute, 2011.

- *Tolerance for Immigrants* is obviously an appropriate measure of public acceptance of diversity. The question was: is the city or area where you live a good place or not a good place to live for immigrants? Percentage who said yes. Data are from the 2010 Gallup World Poll, prepared by the Legatum Institute, 2011.

- *Tolerance for ethnic minorities* is also a proper measure of public acceptance of diversity. The question was: is the city or area where you live a good place or not a good place to live for ethnic minorities? Percentage who said yes. Data are from the 2010 Gallup World Poll, prepared by the Legatum Institute, 2011.

- *Generalized trust* score refers to the percentage of people who answered that "others" in their society could be trusted. Percentage of people who trust strangers in a society is obviously a good measure of public acceptance of diversity. Data are from the 2010 Gallup World Poll & World Values Survey, prepared by the Legatum Institute.

- Concerning values, there is a fundamental dichotomy between *secular-rational values* on the one hand and *traditional* values on the other. This dichotomy reflects the

contrast between societies in which religion and traditions are very important and those in which it is not. It replicates the cleavage between societies where traditionalist ideals of an "undying" "sacred" community prevail and societies where rationalist ideals of secular community are overcome. A wide range of behavioral orientations are closely linked with this fundamental contrast of values. Societies near the traditional pole emphasize religion, pride in its own nationality, respect for authority, familism and obedience. Societies with secular-rational values have the opposite preferences on all of these topics and promote independent thought (Inglehart and Welzel, 2005). It is obvious that secular-rational values pave the way for the acceptance of cultural diversity. Data on values (composite index) are from the World Values Survey, 4th and 5th round (2000 and 2006). Although these data were collected 5-10 years earlier than the rest of the data concerning acceptance of diversity (e.g. tolerance for immigrants), they can be used as an indicator of prevailing orientation within the society in a certain country, since values usually do not change so fast over time.

- Another major dichotomy is between Survival and Self-expression values. Due to unprecedented prosperity in advanced nations, priorities gradually shifted from an emphasis on economic and physical security towards increasing emphasis on subjective well-being, liberty aspirations, self-expression and quality of life (Inglehart and Welzel, 2005). It is obvious that self-expression values promote tolerance and acceptance of cultural diversity. Data on values (composite index) are from the World Values Survey, 4th and 5th round (2000 and 2006). Although these data were collected 5-10 years earlier than the rest of the data concerning acceptance of diversity (e.g. tolerance for immigrants), they can be used as an indicator of the prevailing orientation within the society in a certain country, since values usually do not change so fast over time.

Concerning *Rule of Law*, Scandinavian countries show the highest scores, while among *EU countries* the lowest scores are in Bulgaria (-0.05), Romania (0.10), Italy (0.39) and Greece (0.64). Among EU *candidate countries*, scores are considerably lower (Macedonia FYR -0.22, Turkey 0.12), while in *Eastern European* countries scores are also low in Russia (-0.77) and the Ukraine (-0.73). Finally, in Southern Neighboring Countries, scores are higher in Israel (0.83) and lower in Algeria (-0.73), Lebanon (-0.64) and Morocco (-0.16).

There is a similar picture concerning *Confidence in the Judicial System*: once again, Scandinavian countries (but also Switzerland) show very high percentages of confidence, while within EU members the lowest percentages are in Bulgaria (17.10%) and Lithuania (18.02), while percentages in *candidate countries* are not lower (Macedonia FYR 23.41%, Turkey 63.37% — higher than all Mediterranean EU countries, including France). In Eastern European countries, respective percentages are also not lower than

in new EU members (Ukraine is an exception, where only 18.76% have confidence in the judicial system). In Southern Neighboring Countries (NC) the confidence percentage is very high in Jordan (69.88% — higher than in Finland) and in Algeria (64.70%), while it is also quite high in Morocco (52.35), Syria (55.50) and Tunisia (57). Bearing in mind the low scores in the rule of law in these countries, there could be an historical-cultural explanation of this high confidence in the judicial system, since Turkey also shows a remarkably high rate of confidence in the judicial system, despite poor performance in the rule of law (see above).

Concerning *tolerance for immigrants and also tolerance for ethnic minorities*, it is quite remarkable that the highest percentages in Europe are not found only in Scandinavia, but also in other EU countries which have *historical experiences with cultural diversity* as former colonialist powers overseas, such as France, the UK and the Netherlands, Spain and Portugal. Tolerance in obviously lower in countries that used to be part of multinational European Empires (Bulgaria, Greece, Poland, etc.), while tolerance towards immigrants is higher than tolerance towards own "ethnic" minorities in countries where ethnic minorities for historical, political and other reasons are perceived as a "threat" (Algeria, Morocco, Jordan, Syria, Tunisia, Macedonia FYR, Portugal, Spain and Greece).

As already mentioned elsewhere, *generalized trust*, a significant indicator of tolerance for strangers and cultural diversity in general, is very high in Scandinavian countries, but also in Switzerland and the UK. Generally speaking, there seems to be a *North/South divide concerning interpersonal trust* in Europe.

Concerning *values*, it has been argued (Inglehart and Welzel, 2005) that in the course of human development there is a "Maslowian" (Maslow, 1943) value change progressing from constraint to choice. There is a phased process in which the rising level of existential security and autonomy leads to an increased emphasis on rational-secular and self-expression values. During the industrialization phase of development, individuals would tend to emphasize rational-secular values, while self-expression values would overcome during the postindustrial phase. Growing prosperity is offering people more action resources (more material means, higher intellectual skills, wider social connectivity) and individuals experience their lives as safe, secure and self-directed. People perceive room to relieve from unchosen community and unfold their creative human potentials. Since people tend to value the practical choice, with growing prosperity there will be a rise in the *secular-rational* view on *community ties*, on the one hand, and a rise of the *self-expressive view* on *individual potentials*, on the other. Misery would lead people in a diametrically opposed direction, since fewer action resources would make individuals stick to traditionalist community ties and return to conformism and survival attitudes. The two dimensions of traditional versus secular-rational and survival versus self-expression values would explain more than 70 per cent of cross-cultural variance on scores of more specific values (Inglehart and Welzel, 2005).

The rise of self-expression values strengthens democratic norms and promotes effective democracy, implying a positive relationship between *self-expression* and liberal political institutions. Furthermore, a positive feedback between democratic institutions and economic progress is anticipated. Thus, the human development theory describes change in four state variables: economic progress, rational values, self-expression values, and formal democracy (Welzel, Inglehart and Klingemann, 2003). Secular and self-expression values, as already pointed out, tend to accept and incorporate diversity, whereas traditionalist and survival values tend to do exactly the opposite.

Among the different countries, most Scandinavian countries show high scores both in *rationalist-secular* values (Sweden 1.86, Norway 1.39) and *self-expression* values (Sweden 2.35, Norway 2.17, Denmark 1.87). It is worth mentioning that in many former communist countries, rationalist-secular values are comparatively strong (1.13 in Bulgaria, 1.23 in the Czech Republic, 1.27 in Estonia), perhaps also due to the secularist and internationalist ideology of the communist regimes. In contrast, rationalist-secular values are not particularly strong in some countries where Catholicism (-0.91 in Ireland, -0.78 in Poland, -0.90 in Portugal) maintains a significant influence and even less in Islamic countries (-1.64 in Egypt, -1.61 in Jordan, -1.32 in Morocco and -0.89 in "secularized" Turkey). *Self-expression* values are strong in Belgium, France and Ireland but also remarkably widespread in Southern Europe (0.55 in Greece, 0.60 in Italy, 0.54 in Spain and 0.49 in Portugal), while the picture is quite different in Eastern Europe, where survival values seem to prevail (-1.01 in Bulgaria, -1.19 in Estonia, -1.22 in Hungary, -1.27 in Latvia, -1.28 in Moldova, -1.55 in Romania, -1.42 in Russia, -0.83 in Ukraine). It is obvious that the economic situation in Eastern Europe in combination with the legacy of the authoritarian and collectivistic spirit of the communist regimes in the past do not favor proliferation of self-expression values. Survival and conformist values also prevail in EU candidate countries (-0.33 in Turkey, -0.72 in Macedonia FYR) and in most of the Southern ENP countries (-0.54 in Egypt, -1.05 in Jordan, -1.04 in Morocco), with the exception of Israel (0.36).

All in all, in terms of accepting cultural diversity, national histories and contexts seem, once more, to be the most important factor. And, once more, wider geographical and historical regions (e.g. the Balkans, Eastern Europe, Central Europe, Scandinavia, Catholic-Mediterranean legacies, Communist legacies, etc.) include significant similarities across their countries, even where important cleavages existed during the last decades (e.g. in the Balkans, between the Baltic Sea and Scandinavia, in Central Europe, etc.).

5. State Institutions, Traditions and the Acceptance of Diversity

In the previous sections, aspects and scales of diversity in various countries have been analyzed, presumptions about negative impacts of diversity on national performance have been tested and a set of social attitudes, value orientations and perceptions in

different countries that indicate tolerance towards diversity have been examined. It became clear that some countries obviously seem more able to accept and incorporate diversity. According to new actor-centered institutionalism (Mayntz and Scharpf, 1995), this "openness to diversity" is connected to certain institutional factors or institutional contexts in each country, but also to behavioral factors. In today's contexts and circumstances, acceptance of diversity is certainly a prerequisite for European integration and European competitiveness in today's Globalization era. Openness towards diversity is, moreover, a prerequisite for social cohesion, both cross-country and cross-region in the EU as well as inside and across EU neighboring countries and their region. This part of the review of institutional contexts will be restricted to the EU15 members that followed the Europeanization path for a longer period (see also the previous section and Figure 1 concerning convergence of the EU15 in terms of inequality) and have longer traditions as democratic states.

In the literature, the *institutional context of tolerance for ethnic minorities* has been examined by Weldon (2006) who conducted a comparative, multilevel analysis of Western Europe, focusing on citizenship that has emerged as an important analytical tool for understanding interethnic group relations. Citizenship designs boundaries of membership within a polity and between polities, it defines how the benefits and burdens of membership should be allocated and how the identities of members should be comprehended and accommodated (Aleinikoff and Klusmeyer, 2001). Weldon adopts a pattern of three ideal citizenship regime types (Greenfeld, 1999): the *collectivistic-ethnic, collectivistic-civic*, and *individualistic-civic*. The first one (collectivistic-ethnic) is based on the assumption that the world is primordially divided into objectively different ethnic units, whereas *ethnicity* underlies national divisions and gives rise to national identities. The nation-state is understood in ethnically exclusive terms. The second regime type (collectivistic-civic), also called the "assimilationist" or "republican" model, shares the view that the nation-state is a collective entity, but it rejects the notion that ethnicity is its defining feature. Instead, it defines the nation-state in political and secular terms, and citizenship means being loyal to the nation as a *political* community (Weldon, 2006). Minorities are then expected to relinquish their cultural traditions and assimilate into the majority culture. The third one (individualistic-civic), also termed the "pluralist" or "civic pluralism" model, follows the jus soli citizenship principle while it accepts multi-culturalism and regards ethnic and cultural orientation as a personal choice. Minorities are granted citizenship and equal political rights, while being allowed to maintain their distinct cultural traditions. Concerning *tolerance*, Weldon distinguishes between *political* and *social* tolerance. The first one refers to basic political liberties, while the second one refers to the explicit demonstration of cultural difference and its acceptance of this by the native or majority population. Weldon hypothesized (and empirically confirmed) that collectivistic-ethnic countries are both politically and socially intolerant of diversity, while collectivistic-civic countries are politically tolerant and socially intolerant and, finally, individualistic-civic countries are both politically and socially tolerant. Gibson has

pointed out (1992) that cultural conformity and intolerance lead to multiple constraints on individual political freedoms.

Citizenship regime is an important element of *distinct state traditions*, which are also characterized through state-society relations, the form of political organization, basis of policy style and form of decentralization (Loughlin and Peters, 1997). In "old" Europe (that is, Europe without the "New Democracies" of Central and Eastern Europe), Loughlin and Peters (1997) categorized four kinds of state traditions:

- The Anglo-Saxon state tradition: characterized through pluralistic state-society relations, an individualistic-civic citizenship regime, a unitary state with limited regionalism/federalism, an incrementalist policy style, local government and devolution of power as a form of decentralization.

- The Germanic state tradition: characterized through organicist state-society relations, mostly collectivistic-ethnic citizenship regime, an integral/organic and federalist political organization, a legal corporatist policy style, cooperative federalism as a form of decentralization.

- The French/Napoleonic state tradition: characterized through antagonistic state-society relations, mostly collectivistic-civic citizenship regimes, a Jacobin "one and indivisible" political organization, a legal technocratic policy style and a regionalized unitary state as a form of decentralization.

- The Scandinavian state tradition: characterized through organicist state-society relations, individualistic-civic citizenship regimes, a decentralized unitary form of political organization, a consensual policy style and a strong local autonomy as a form of decentralization.

The new democracies of Central and Eastern Europe cannot really fit into these categories, although their pre-communist state traditions included particular ties to one of these traditions (e.g. Poland and Romania to the French Tradition, Hungary to the Germanic Tradition, etc.). In any case, even in "old" Western Europe these categories of state traditions are not clear cut, and "hybrid" cases (e.g. Spain after 1978 and Belgium after 1988) have emerged. Different elements of state traditions can be expected to encourage or discourage the acceptance of diversity. For instance, it can be expected that pluralistic state-society relations (in the Anglo-Saxon state tradition) would favor acceptance of diversity and the same could be the case when organicist state-society relations in combination with an individualistic-civic citizenship regime exist (in the Scandinavian state tradition). On the other hand, the antagonistic state-society relations and centralist state organization of the "one and indivisible" nation in the Napoleonic state tradition obviously does not encourage acceptance of diversity.

Apart of these distinct state traditions, the theory also addressed the question of distinct *welfare regimes* (Esping-Andersen, 1990). The Esping-Andersen's originally three categories have been further elaborated, modified and reviewed by several scholars (Arts and Gelissen, 2002). Today, four welfare state traditions (or models) can be distinguished that, nevertheless, cannot include the new democracies of Central and Eastern Europe (Sotiropoulos, Neamtu and Stoyanova, 2003):

- The Anglo-Saxon welfare model (UK, Ireland) is also called the "residual welfare model" and is characterized by selectivity. This model features a lower level of expenditures than the others. Its main particularity is its social assistance of last resort, while active labor market policies are important and subsidies are directed to a higher extent to the working-age population and to a lower extent to pensions.

- The continental welfare state (Belgium, France, Germany, Luxembourg, Netherlands, Austria) is characterized by the strategy of "paying off" social problems. The compensatory measures are predominant. This model is based on the principle of "security" and includes subsidies which are not conditioned to employability.

- The Mediterranean welfare tradition (Italy, Spain, Portugal, Greece) is characterized by a "rudimentary welfare state", with a strong internal polarization in social benefits. There is a higher segmentation of rights and status of persons receiving subsidies leading to strongly conditioned access to social provisions. There is a class of "hyper-protected individuals" (white-collar workers), but also a large number of unprotected individuals (irregular workers, young people and the long-term unemployed). The main characteristic of labor market policies is rigid employment protection legislation and a frequent resort to early retirement policies as a means of improving employment conditions. Welfare state deficiencies are often compensated through family networks of assistance (Rhodes, 1996).

- The Scandinavian welfare model (Sweden, Denmark, Finland), where the state is in charge of financing and organizing the social benefits for the citizens and the welfare model is accompanied by both a broad basis of taxation and a high taxation burden, while the public employment rate is very high. This model has a more simple organization than the other European countries because most of the welfare tasks are carried out by the state and the local authorities and it is less dependent on individuals, national welfare organizations, families or churches. This model has the highest level of social insurance. Its main characteristic is its universal provision nature based on the principle of "citizenship". Therefore, there is a more generalized access, with lower conditionability, to the social provisions. As regards the labor market, these countries are characterized by important expenditures on active labor market policies whose aim is a rapid reinsertion of the unemployed into the labor market.

These different European welfare state models reflect long-standing traditions and socio-economic peculiarities, while they also seem to partly correspond to the aforementioned *state traditions*: Indeed, the Scandinavian welfare model corresponds to the Scandinavian state tradition and the Anglo-Saxon welfare model to the Anglo-Saxon state tradition. The Mediterranean welfare model corresponds to the aforementioned Napoleonic state tradition (with the exception of France), while the Continental welfare model (again with the exception of France) corresponds to the Germanic state tradition. Once again, the Scandinavian welfare model and the Scandinavian state tradition seem to be more capable of incorporating diversity, since they tend to restrain social segregation and exclusion. Moreover, the pluralist and individualistic-civic Anglo-Saxon state and citizenship tradition in combination with the Anglo-Saxon welfare model which emphasizes employability for everyone seem to be open to diversity. In contrast, the Napoleonic state tradition in combination with the Mediterranean welfare model (which excludes France from this group of countries) seems to be the least open to diversity, given the segmentation of social rights, rigid employment protection legislation and strong familism.

Apart from state tradition, welfare regimes and institutional settings, the established national political culture and the distinctive national democratic traditions can also be important for the incorporation of cultural pluralism and diversity. A political culture can be coalitional or contradictive (Lijphart, 1999), a democratic tradition can be aggregative (majoritarian or pendulum democracy) or integrative (consensus or non-majoritarian) (March and Olsen, 1989). Within a democratic system with contradictive culture and an aggregative/majoritarian tradition, political competition for power is principally open, but exercise of power and decision-making is mostly exclusive ("Westminster democracy", "winner takes it all" system). Then again, in a democratic system with a coalitional political culture and an integrative/consensual tradition, not only is political competition for power open but also exercise of power and decision-making is mostly open and inclusive. It seems that countries where a coalitional political culture and an integrative tradition prevail do better in terms of economic performance and good governance (see above, also World Economic Forum 2011, World Bank 2011). These are countries where inclusive political action seems to integrate diversity, avoiding social fractionalization and promoting social cohesion, sometimes further enhanced through re-distributive policies that restrain inequalities and strong welfare systems (Esping-Andersen, 1990; Sellers and Lidstrom, 2007). Among the EU15, countries where social acceptance of diversity (see previous section) has been found to be comparatively higher are characterized into concrete Welfare Models and State Traditions, Political Cultures and Citizenship Regimes, as Table 5 shows.

According to Table 5, Scandinavian countries are characterized through coalitional-consensual political culture and an individualistic-civic citizenship regime, their distinctive Scandinavian state tradition (including, among other features, a very strong local

autonomy) and the Scandinavian welfare model (which seems to be the most successful in terms of reducing inequality, see Figure 1). Scandinavian institutions and political traditions seem to offer a context that facilitates acceptance of diversity (see Table 4). In contrast, Mediterranean institutions and political traditions seem to offer, at first sight, a context that would not encourage acceptance of diversity. Mediterranean countries are characterized through a contradictive political culture and a framework of antagonistic relations between a centralist state and society. Inequality in the Mediterranean countries reaches the highest scores in the EU15 (Figure 1), since there is (with the exception of France) a welfare tradition with a high degree of fractionalization and segregation, privileged regimes for powerful pressure groups and an important role for informal family networks that counterbalance welfare deficiencies. All in all, contexts of institutions and traditions in the Mediterranean countries do not seem to encourage incorporation of ethnic diversity. However, citizenship regimes in some of these countries (e.g. Spain) and historical contexts in others (e.g. Portugal) seem to encourage acceptance of diversity. Although inequality is high, contexts of institutions and traditions in Anglo-Saxon states seem to offer a framework that encourages the acceptance of diversity, probably through their individualistic-civic citizenship regimes, a welfare model that encourages free access to employment and, last but not least, the historical legacy of the English-speaking world that incorporates a huge spectrum of diversity and cultural pluralism. Finally, the picture of diversity acceptance is quite mixed in continental "rhine capitalist" states (see Table 4), obviously depending on national (historical, socio-economic, etc.) contexts, including the national political culture (e.g. coalitional and consensual traditions in the Netherlands).

The review of Political Cultures and State Traditions, Citizenship Regimes and Welfare Models has shown that national contexts are obviously important for the acceptance of diversity; however, there seem to be some common institutional and cultural features (see Table 5) that would explain higher acceptance of diversity in certain countries (see Table 4):

- A *coalitional-consensual political culture* that bridges political and social cleavages and discourages polarization and exclusive exercise of power;
- An *individualistic-civic citizenship regime* the encourages both political and social tolerance;
- A *Scandinavian welfare model* and/or an *Anglo-Saxon* welfare model because they both prioritize *high employment rates and facilitate access to the labor market*;
- State traditions including pluralistic (Anglo-Saxon) or organicistic (Germanic or Scandinavian) state-society relations (the latter is mostly combined with strong *local autonomy*).

6. Conclusions

In the European Union, ethnic and cultural diversity, but also pluralism of values and lifestyles are increasing and the same seems to gradually, albeit asymmetrically, apply to the neighboring countries. The widely accepted assumption that cultural diversity and ethnic fractionalization have negative impacts on institutional and economic performance, human development, social cohesion and generalized trust could not be confirmed in many neighboring countries, candidate countries and new member states, while it certainly could not be confirmed in nearly all EU15 states. In countries following the Europeanization path for a longer period, in long-established democracies, in countries with good governance and high institutional performance, *cultural diversity does not seem to have negative impacts*.

Acceptance of diversity seems to be higher in countries of good governance and high institutional performance, especially when rational/secular and self-expression values prevail. Moreover, historical legacies and national contexts are also important to how different countries deal with diversity.

Institutional settings, political cultures and welfare traditions can also explain higher incorporation of diversity in some European countries. An *individualistic-civic citizenship regime, active employment policies, open markets*, a *culture of deliberation and consensual practices* can obviously contribute to stronger acceptance of diversity, just as *institutional capacity* and *governance quality* in general are doing. Since the European Union and its neighbors are not simply willing to incorporate increasing cultural diversity, but also aim to take full advantage of its positive effects on trade, FDIs and innovation (Ozgen, Nijkamp and Poot, 2011), respective policies should be further developed, from now on further emphasizing institutional capacities and governance performance.

References

Abdollahian, M., T. Coan, H. Oh and **B. Yesilada** (2008), "Dynamics of Cultural Change: The Human Development Perspective", World Values Research, 1(4): 91-115.

Aleinikoff, A. and **D. Klusmeyer** (2001), Citizenship Today: Global Perspectives and Practices. Washington: Carnegie Endowment for International Peace.

Alesina, A. and **E. La Ferrara** (2005), "Ethnic Diversity and Economic Performance", Journal of Economic Literature, pp. 762-800.

Alesina, A., R. Baqir and **W. Easterly** (1999), "Public Goods and Ethnic Divisions", The Quarterly Journal of Economics, pp. 1243-1284.

Alesina, A., W. Easterly, A. Devleeschauver, S. Kurlat and **R.T. Wacziarg** (2003), "Fractionlization", Journal of Economic Growth, pp. 155-194.

Alexander, A., R. Inglehart and **C. Welzel** (2012), "Measuring Effective Democracy: A Defense", International Political Science Review, 33(1): forthcoming

Afonso, A, R. Schuknecht and **V. Tanzi** (2008), Income Distribution Determinants and Public Spending Efficiency, ECB Working Paper Series No 861, January 2008. Frankfurt am Main: European Central Bank.

Arikan, G. (2011), "Economic Individualism and Government Spending", World Values Research, 4(3): 73-95.

Arts, W. and **J. Gelissen** (2002), "Three worlds of welfare capitalism or more? A state-of-the-art report", Journal of European Social Policy, 12, pp. 137.

Ash, T.G. (2000), "Conclusions". In: A. Sorin and V. Tismaneanu (eds.), Between Past and Future. The Revolutions of 1989 and their Aftermath. Central European University Press.

Berg van der, J. (2007), Abolishing GDP, Tinbergen Institute Discussion Paper, TI 2007-019/3.

Card, D. (1990), The Impact of the Mariel Boatlift on the Miami Labor Market, Cornell University, School of Industrial and Labor Relations, pp. 245-257.

Díez-Nicolás, J. (2009), "Two Contradictory Hypotheses on Globalization: Societal Convergence or Civilization Differentiation and Clash", World Values Research, 2(4): 77-104.

Easterly, W. and **R. Levine** (1997), "Africa's Growth Tragedy: Policies and Ethnic Divisions", Quarterly Journal of Economics, 12(4): 1203-50.

Easterly, W. (2001), "Can Institutions Resolve Ethnic Conflict?", Economic Development and Cultural Change, 49:4, 687-706.

Esping-Andersen, G. (1990), The Three Worlds of Welfare Capitalism. Cambridge: Polity Press.

Fearon, J. (2003), "Ethnic and Cultural Diversity by Country", Journal of Economic Growth, 8(2): 195-222.

Forbes, H.D. (1997), Ethnic Conflict: Commerce, culture, and the contact hypothesis. New Haven, CT: Yale University Press.

Galbraith, J.K. (1958), The Affluent Society. Boston: Houghton Mifflin Company.

Gibson, J. (1992), "The Political Consequences of Intolerance: Cultural Conformity and Political Freedom", The American Political Science Review, Volume 86, Issue 2, pp. 338-356.

Glaeser, E.L., D.I. Laibson, J.A. Scheinkman and **C.L. Soutter** (2000), "Measuring Trust", The Quarterly Journal of Economics, pp. 811-846.

Greenfeld, L. (1998), "Is Nation Unavoidable? Is Nation Unavoidable Today?" In: H.P. Kriesi (ed.), Nations and National Identity. Chur: Ruegger, pp. 37-54.

Hofstede, G. (1980), Culture's Consequences: International Differences in Work Related Values. Beverly Hills, CA: Sage Publications.

Hofstede, G. (1984), "National Cultures and Corporate Cultures". In: L. Samovar and R. Porter, Communication between cultures. Belmont, CA: Wadsworth.

Inglehart, R. and **Chr. Welzel** (2005), Modernization, Cultural Change and Democracy. New York: Cambridge University Press.

Kaasa, A. (2012), Culture as a Possible Factor of Innovation: Evidence from the European Union and Neighbouring Countries, Working Paper for SEARCH project.

Kaasa, A. (2012), Governance in the European Union and Neighboring Countries, SEARCH Working Paper.

La Porta, R., F. Lopez-de-Silanes and **R. Vishny** (1999), "The Quality of Government", Journal of Law, Economics and Organization, 15(1): 222-279.

Legatum Institute, Legatum Prosperity Index 2011. London: Legatum Institute.

Lijphart, A. (1999), Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries. New Haven, CT: Yale University Press.

Loughlin, I. and **B.G. Peters** (1997), "State traditions, administrative reform and regionalization". In: M. Keating and J. Loughlin (eds.), The Political Economy of Regionalism. London: Routledge, pp. 41-62.

March, J.G. and **J.P. Olsen** (1989), Rediscovering Institutions: The Organizational Basis of Politics. New York: Free Press; Oxford: Maxwell Macmillan.

Maslow, A.H. (1943), "A Theory of Human Motivation", Psychological Review, 50, pp. 370-396.

Mauro, P. (1995), "Corruption and Growth", Quarterly Journal of Economics, 110:3, 681-712.

Mayntz, R. and **F. Scharpf** (1995), "Der Ansatz des akteurzentrierten Institutionalismus". In: R. Mayntz and F.W. Scharpf (eds.), Gesellschaftliche Selbstregelung und politische Steuerung. Frankfurt/Main: Campus-Verlag (Schriften des Max-Planck-Instituts für Gesellschaftsforschung Köln, 23), pp. 39-72.

Nettle, D., J. Grace, M. Choisy, H. Cornell, J.F. Guegan and **M. Hochberg** (2007), "Cultural Diversity, Economic Development and Societal Instability", PloS ONE/ www.plosone.org, September 2007, Issue 9, e929.

Okediji, T. (2005), "The Dynamics of Ethnic Fragmentation: A Proposal for an Expanded Measurement Index", The American Journal of Economics and Sociology, 64(2): 637-662.

Okedji, T. (2011), "Social fragmentation and economic growth: evidence rom developing countries", Journal of Institutional Economics, 7, 77104.

Ottaviano, G.I., and **G. Peri** (2006), "The Economic Value of Cultural Diversity: Evidence from US Cities", Journal of Economic Geography, pp. 9-44.

Ozgen C., P. Nijkamp and **J. Poot** (2011), The Impact of Cultural Diversity on Innovation, Evidence from Dutch Firm-Level Data, Discussion Paper No 6000, October 2011, Bonn.

Popper, K. (1945, reprint 2006), The Open Society and Its Enemies, Volume One. London: Routledge.

Putnam, R. (2007), "E Pluribus Unum: Diversity and Community in the Twenty-first Century. The 2006 Johan Skytte Prize Lecture", Scandinavian Political Studies, Vol. 30, No. 2, pp. 137-174.

Rhodes, M. (ed.) (1996), "Southern European Welfare States: Identity, Problems and Prospects for Reform", South European Society and Politics, Volume 1, Issue 3.

Samuelson, P.A. (1961), "The evaluation of social income: capital formation and wealth". In: F. Lutz and D. Hague (eds.), The Theory of Capital. New York: St. Martin's Press.

Sellers, J.M. and **A. Lidstrom** (2007), "Decentralization, local government, and the welfare state", Governance-an International Journal of Policy and Administration, 20(4): 609-632.

Sen, A. (1976), "Real national income", Review of Economic Studies, 43(1): 19-39.

Schwartz, Shalom S. (2004), "Mapping and Interpreting Cultural Differences around the World". In: H. Vinken, J. Soeters and P. Ester (eds.), Comparing Cultures: Dimensions of Culture in a Comparative Perspective, Leiden: Brill.

Sotiropoulos, D., I. Neamtu and **M. Stoyanova** (2003), "The Trajectory of Post-communist Welfare State Development: The Cases of Bulgaria and Romania", Social Policy & Administration, Volume 37, Issue 6, December 2003, pp. 656-673,

Taylor, C. and **M. Hudson** (1972), The World Handbook of Political and Social Indicators. New Haven: Yale University Press.

Triandis, Harry C. (1995), Individualism and Collectivism. Boulder: Westview Press.

UNDP (2011), Human Development Report 2011. New York, Palgrave.

Weldon, St. (2006), "The Institutional Context of Tolerance for Ethnic Minorities. A Comparative, Multilevel Analysis of Western Europe", American Journal of Political Science, Vol. 50, No. 2, April 2006, pp. 331-349.

Welzel, Chr., R. Inglehart and **H. Klingemann** (2003), "The theory of human development: A cross-cultural analysis", European Journal of Political Research, 42: 341-379.

World Economic Forum (2011), Global Competitiveness Report 2011-2012. Geneva: World Economic Forum.

Table 1. Ethnic fractionalization (ELF index) and cultural diversity (SDI index) scores by region and country

Region/ Country	ELF	SDI	Region/ Country
W. Europe			***W. Europe***
Belgium	0.55	0.8615	Switzerland
Switzerland	0.50	0.8582	Germany
Spain	0.44	0.8541	UK
Cyprus	0.35	0.8464	France
UK	0.32	0.7620	Belgium
France	0.26	0.7435	Spain
Finland	0.16	0.6750	Italy
Luxembourg	0.15	0.6253	Sweden
Austria	0.13	0.6127	Ireland
Greece	0.10	0.5768	Luxembourg
Netherlands	0.10	0.5558	Austria
Malta	0.08	0.5263	Norway
Sweden	0.08	0.4505	Netherlands
Denmark	0.05	0.3517	Cyprus
Iceland	0.05	0.3176	Finland
Norway	0.04	0.2999	Greece
Ireland	0.04	0.2977	Denmark
Italy	0.04	0.2807	Iceland
Germany	0.03	0.2771	Portugal
Portugal	0.01	0.2045	Malta
M. East			***M. East***
Turkey	0.25	0.9527	Israel
Syria	0.22	0.6963	Turkey
Israel	0.20	0.5421	Syria
N. Africa			***N. Africa***
Morocco	0.53	0.7932	Morocco
Algeria	0.43	0.6450	Algeria
Tunisia	0.16	0.5200	Tunisia
Egypt	0.04	0.4707	Egypt

Source: for ELF: Taylor and Hudson (1972), for SDI: Okedji (2011)

Table 2. Ethnic fractionalization and cultural diversity scores by region and country

Region/ Country	Ethnic Fractionalization	Cultural Diversity	Region/ Country
W. Europe			***W. Europe***
Switzerland	0.575	0.462	Belgium
Belgium	0.567	0.418	Switzerland
Spain	0.502	0.359	Cyprus
Cyprus	0.359	0.263	Spain
UK	0.324	0.251	France
France	0.272	0.189	Sweden
Sweden	0.189	0.184	UK
Ireland	0.171	0.157	Ireland
Finland	0.132	0.132	Finland
Denmark	0.128	0.128	Denmark
Austria	0.126	0.1	Austria
Norway	0.098	0.098	Norway
Germany	0.095	0.09	Germany
Netherlands	0.077	0.077	Netherlands
Greece	0.059	0.05	Greece
Portugal	0.04	0.04	Portugal
Italy	0.04	0.04	Italy
E. Europe			***E. Europe***
Bosnia	0.681	0.492	Estonia
Latvia	0.585	0.441	Latvia
FYR Macedonia	0.535	0.432	FYR Macedonia
Estonia	0.511	0.404	Georgia
Moldova	0.51	0.401	Moldova
Georgia	0.49	0.311	Russia
Ukraine	0.419	0.293	Slovakia
Croatia	0.375	0.265	Romania
Belarus	0.372	0.259	Lithuania
Lithuania	0.338	0.258	Ukraine
Russia	0.333	0.25	Bulgaria
Slovakia	0.332	0.228	Belarus
Czech Republic	0.322	0.187	Azerbaijan
Romania	0.3	0.185	Croatia
Bulgaria	0.299	0.185	Hungary
Slovenia	0.231	0.17	Slovenia
Azerbaijan	0.188	0.146	Bosnia
Hungary	0.186	0.124	Armenia
Armenia	0.134	0.082	Albania
Albania	0.097	0.064	Czech Republic
Poland	0.047	0.041	Poland
M. East			***M. East***
Lebanon	0.78	0.299	Turkey
Syria	0.581	0.246	Israel
Israel	0.526	0.235	Syria
Jordan	0.509	0.195	Lebanon
Turkey	0.299	0.049	Jordan
N. Africa			***N. Africa***
Morocco	0.479	0.36	Morocco
Algeria	0.32	0.237	Algeria
Egypt	0.164	0.127	Libya
Libya	0.151	0.033	Tunisia
Tunisia	0.039	0	Egypt

Source: Fearon (2003)

Table 3. Ethnic fractionalization, governance, competitiveness, development and trust

Region/ Country	Ethnic Fract.	GQ	GCI	Human Devel.	Gener. Trust
W. Europe					
Switzerland	0.575	1.39	5.74	0.903	45.27
Belgium	0.567	0.97	5.20	0.886	30.61
Spain	0.502	0.46	4.54	0.878	22.44
Cyprus	0.359	0.71	4.36	0.840	-
UK	0.324	1.03	5.39	0.863	35.79
France	0.272	0.90	5.14	0.864	19.86
Sweden	0.189	1.46	5.61	0.904	56.14
Ireland	0.171	1.11	4.77	0.908	30.47
Finland	0.132	1.56	5.47	0.882	58.51
Denmark	0.128	1.52	5.40	0.895	62.05
Austria	0.126	1.23	5.14	0.885	30.07
Norway	0.098	1.38	5.18	0.943	74.2
Germany	0.095	1.09	5.41	0.905	31.59
Netherlands	0.077	1.33	5.41	0.910	46.93
Greece	0.059	-0.08	3.92	0.861	16.46
Portugal	0.04	0.53	4.40	0.809	27.85
Italy	0.04	0.05	4.43	0.874	20.71
E. Europe					
Bosnia	0.681	-0.99	3.83	0.733	-
Latvia	0.585	0.22	4.24	0.805	13.10
FYR Macedonia	0.535	-0.67	4.05	0.728	9.13
Estonia	0.511	0.69	4.62	0.835	34.04
Moldova	0.51	-1.00	3.89	0.649	12.58
Georgia	0.49	-0.61	3.95	0.733	-
Ukraine	0.419	-1.19	4.00	0.729	30.66
Croatia	0.375	-0.07	4.08	0.796	22.16
Belarus	0.372	-1.66	-	0.756	35.64
Lithuania	0.338	0.29	4.41	0.810	25.52
Russia	0.333	-1.39	4.21	0.755	24.69
Slovakia	0.332	0.35	4.19	0.834	21.24
Czech Republic	0.322	0.51	4.52	0.865	25.40
Romania	0.3	-0.33	4.08	0.781	15.17
Bulgaria	0.299	-0.31	4.16	0.771	21.08
Slovenia	0.231	0.49	4.30	0.884	14.89
Azerbaijan	0.188	-1.47	4.31	0.700	-
Hungary	0.186	0.31	4.36	0.816	13.32
Armenia	0.134	-0.88	3.89	0.716	-
Albania	0.097	-0.74	4.06	0.739	-
Poland	0.047	0.38	4.46	0.813	25.23
M. East					
Lebanon	0.78	-1,24	3.95	0.739	6.74
Syria	0.581	-1.60	3.85	0.632	9.59
Israel	0.526	0.05	5.07	0.888	27.02
Jordan	0.509	-0.64	4.19	0.698	9.56
Turkey	0.299	-0.61	4.28	0.699	8.43
N. Africa					
Morocco	0.479	-0.91	4.16	0.582	58.51
Algeria	0.32	-1.56	3.96	0.698	15.80
Egypt	0.164	-1.18	3.88	0.644	18.21
Libya	0.151	-1.79	-	0.760	-
Tunisia	0.039	-0.74	4.47	0.698	14.79

Sources: Fearon 2003 (Ethnic Fractionalization Index), World Bank and Kaasa (Good Governance Factor, 2010 and 2012), World Economic Forum (GCI 2011), UNDP (HDI 2011), Legatum Institute (Generalized Trust, Gallup World Poll and World Values Survey 2010)

Table 4. Tolerance and acceptance of cultural diversity: some indications

Country	Rule of Law	Confidence in the Judicial System	Tolerance for Immigrants	Tolerance for Ethnic Minorities	Trust Others	Trad. Rat. Values	Surv. Self-ex. Values
Algeria	-0.73	64.70	51.71	28.09	15.80		
Austria	1.76	72.35	62.38	69.38	30.07	0.25	1.43
Belarus	-0.94	56.25	70.45	70.88	35.64	0.89	-1.23
Belgium	1.37	47.04	76.70	75.58	30.61	0.50	1.13
Bulgaria	-0.05	17.10	64.02	69.91	21.08	1.13	-1.01
Croatia	0.22	32.09	63.62	71.84	22.16	0.08	0.31
Czech Rep.	0.96	33.72	56.50	55.48	25.40	1.23	0.38
Denmark	1.87	86.05	85.53	85.51	62.05	1.16	1.87
Egypt	-0.03	50	28.16	39.13	18.21	-1.64	-0.54
Estonia	1.13	50.27	45.26	55.52	34.04	1.27	-1.19
Finland	1.94	69.21	71.22	71.82	58.51	0.82	1.12
France	1.43	57.43	81.09	82.02	19.86	0.63	1.13
Germany	1.63	61.07	78.19	78.68	31.59	1.17	0.44
Greece	0.64	33.92	61.79	54.51	16.46	0.77	0.55
Hungary	0.82	47.96	68.77	64.17	13.32	0.40	-1.22
Iceland	1.72	47.85	88.44	87.94	41.1	0.44	1.63
Ireland	1.71	65.09	85.86	87.10	30.47	-0.91	1.18
Israel	0.83	58.95	38.49	50.06	27.02	0.26	0.36
Italy	0.39	43.23	65.51	65.08	20.71	0.13	0.60
Jordan	0.38	69.88	40.75	29.28	9.56	-1.61	-1.05
Latvia	0.83	31.96	55.24	66.75	13.10	0.72	-1.27
Lebanon	-0.64	31.49	47.37	55.78	6.74		
Lithuania	0.72	18.02	52.92	58.62	25.52	0.98	-1.00
Macedonia FYR	-0.22	23.41	61.42	58.41	9.13	0.12	-0.72
Moldova	-0.45	37.66	52.92	51.58	12.58	0.47	-1.28
Morocco	-0.16	52.35	46.00	22.34	58.51	-1.32	-1.04
Netherlands	1.78	64.99	85.05	83.82	46.93	0.71	1.39
Norway	1.88	80.59	88.80	86.24	74.2	1.39	2.17
Poland	0.68	58.34	57.50	58.89	25.23	-0.78	-0.14
Portugal	1.04	31.81	84.42	78.67	27.85	-0.90	0.49

(continuous)

Romania	0.10	26.50	60.99	67.94	15.17	-0.39	-1.55
Russia	-0.77	34.91	65.84	62.08	24.69	0.49	-1.42
Slovakia	0.65	30.17	65.21	67.87	21.24	0.67	-0.43
Slovenia	1.11	33.60	60.49	75.35	14.89	0.73	0.36
Spain	1.13	43.01	85.00	80.13	22.44	0.09	0.54
Sweden	1.93	71.12	84.88	85.74	56.14	1.86	2.35
Switzerland	1.75	77.94	74.06	71.36	45.27	0.74	1.90
Syria	-0.47	55.50	75.15	48.09	9.59		
Tunisia	0.22	57	50.94	33.39	14.79		
Turkey	0.12	63.37	52.97	50.47	8.43	-0.89	-0.33
Ukraine	-0.73	18.76	49.42	49.40	30.66	0.30	-0.83
Un. Kingdom	1.71	64.40	79.60	83.88	35.79		

Sources: Legatum Institute (Generalized Trust, Gallup World Poll and World Values Survey 2010), World Values Survey (4th Round 2000 and 5th Round 2006)

Table 5. Political cultures and state traditions, citizenship regimes and welfare models in EU15

Country	Political Culture	Citizenship Regime	Welfare Model	State Tradition
Austria	coalitional	Collect. Ethnic	Continental	Germanic
Belgium	coalitional	Collect. Ethnic	Continental	Hybrid
Denmark	coalitional	Collect. Civic	Scandinavian	Scandinavian
Finland	coalitional	Individ. Civic	Scandinavian	Scandinavian
France	contradictive	Collect. Civic	Continental	Napoleonic
Germany	coalitional	Collect. Ethnic	Continental	Germanic
Greece	contradictive	Collect. Civic	Mediterranean	Napoleonic
Ireland	contradictive	Individ. Civic	Anglo-Saxon	Anglo-Saxon
Italy	contradictive	Individ. Civic	Mediterranean	Napoleonic
Luxembourg	coalitional	Collect. Ethnic	Continental	Hybrid
Netherlands	coalitional	Individ. Civic	Continental	Germanic
Portugal	contradictive	Collect. Civic	Mediterranean	Napoleonic
Spain	contradictive	Individ. Civic	Mediterranean	Hybrid
Sweden	coalitional	Individ. Civic	Scandinavian	Scandinavian
UK	contradictive	Individ. Civic	Anglo-Saxon	Anglo-Saxon

The Quality of the National Institutional Environment of EU and Neighboring Countries in Comparative Perspective

Nikolaos Hlepas and Panos Getimis, International Centre for Black Sea Studies (ICBSS), Athens, Greece

E-mail: nhlepas@gmail.com

Abstract

The paper focuses on a comparative analysis of the institutional quality of the European Union countries and its neighbors: candidate countries, European neighboring countries (South and East) and Black Sea countries. The main aim is to highlight trends of convergence or divergence of institutional quality across time for single countries or groups of countries and their influence on global competitiveness. Based on reliable data from the World Economic Forum (WEF), reflecting the assessment of qualified experts of the business sector, a methodological framework is developed in order to empirically test our main hypothesis: the contradictory process of Europeanization towards integration promotes the improvement of institutional quality of national environments in different ways, which are expressed in trends of convergence and/or divergence, changing over time, depending on different domestic responses to adopt the "European acquis" and other driving forces (globalization, financial crisis, etc.). Furthermore, the improvement of institutional quality (government effectiveness, regulatory quality, rule of law, control of corruption) positively influences the path of economic development and global competitiveness of a country/group of countries.

Keywords

Quality of National institutions, Europeanization, Global Competitiveness, Governance, Comparative Analysis, Institutional Quality, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption

JEL Classification

J240, O180, O470, R110

1. Introduction

The paper focuses on a comparative analysis of the quality of national institutional environments of selected groups of countries: EU, candidate, European neighboring and Black Sea countries. The main objective of the research is to highlight trends of convergence and/or divergence of the institutional quality across time for single countries or groups of countries and their respective global competitiveness. Although the quality of institutions is not easy to measure, the World Economic Forum provides a solid base of common data and indicators for all countries, based on a sample of qualified experts of the business sector, reflecting their assessment as actors in different national institutional environments. The paper consists of five parts and the conclusions.

The second part deals with the theoretical background, presenting three strands of theoretical approaches ("neo-institutionalist", "governance" and "Europeanization" approach) contributing to the relation of the institutional environment with economic growth and development. Three hypotheses are formulated, concerning the direction of change of institutional quality (improvement/deterioration, convergence/divergence) of single countries and groups of countries and their relevant scoring in global competitiveness.

In the third part of the paper, the methodological framework for the measurement of national institutional quality is presented. The operationalization of the empirical comparative research (on the data from WEF) consists of the selection of the most appropriate indicators, constructing four pillars of institutional quality ("Government Effectiveness", "Regulatory Quality", "Rule of Law", "Control of Corruption") and a "composite" Index of Institutional Quality for each one of the examined countries. According to the different "waves" of Europeanization and geographical criteria, several groups of countries are comparatively analyzed: EU15 old member states, EU12 new member states, EU27 of today, candidate countries, ENC countries (south and east) and Black Sea countries.

In the fourth part of the paper, the main trends of convergence and/or divergence of the institutional quality among different groups of countries are examined.

The fifth part of the paper deals with a more detailed analysis of the four main fields of institutional quality (government effectiveness, regulatory quality, rule of law, control of corruption). The main findings concerning trends of convergence and divergence are presented, while the linkage of global competitiveness and the quality of institutions is identified.

In the conclusions, the main results of the empirical research in relation to the main hypothesis are summarized.

2. Quality of Institutions, Europeanization and Global Competitiveness: Theoretical Background

Institutions matter! The importance of the institutional framework for economic development has been persuasive and well-founded both theoretically and empirically in a series of comparative studies.

Three strands of theoretical approaches, based on different methodological frameworks and different disciplines (economics, political sciences), have mainly contributed to the impact of the institutional environment on economic growth and development: a) neo-institutional economics, b) governance approach and c) the Europeanization approach.

a. The "neo-institutional economics" highlighted the relevance of institutions and their impact at the macro or micro level on the market economy and economic growth (North, 1990; Hodgson, 1998; Campbell, 2004; Olson et al., 2000). Good performance of public institutions is acknowledged as an important factor for economic development. The institutional framework can facilitate or discourage new investments. The legal and administrative regulations and the relevant rules and norms function as incentives and disincentives for economic transactions in the markets (Olson et al., 2000; North, 1990). On the one hand, effective government, high quality of public services, enforcement of the rule of law, protection of property rights, transparency of policy making and judicial independence encourage business climate and economic growth. On the other hand, institutional failure caused from a series of factors like favoritism, corruption, bureaucracy, wasteful public spending, and inefficiency of the enforcement of the rule of law function as burdens and obstacles for business and economic development. Neo-institutionalist economic research has shown in a broad number of studies the close link between the institutional framework and economic growth.

b. The "governance approach" has highlighted the importance of new forms in governing modern societies towards participatory governance and horizontal networking, which can achieve broader legitimacy and efficiency in policy making and thus can contribute to economic development, complementing the hierarchical representative forms of governing (Rhodes, 1995; Mayntz, 2009; Heinelt, 2010). Given the failures of the state and the market as it is expressed in the crisis of the legitimacy paradigm (Haus, 2010, concerning political representation, the socio-economic mode of regulation and the public administration), "post-hierarchical" new forms of participatory governance offer better outcomes in win-win situations (Geisel, 2012; Getimis and Kafkalas, 2002; Heinelt et al., 2002). Hierarchical and vertical forms of governing are often associated with inefficiency, authoritative decision making, clientelism and favoritism, distrust, uncivicness, dishonesty, law breaking and corruption (Putmann, 1993). On the other hand, "horizontal networks" and new gover-

nance arrangements are considered more legitimate and effective, associated with trust, fairness, cooperation, civicness and reciprocity. Even if this strict dichotomy does not absolutely correspond to the complex reality, where vertical/hierarchical and horizontal/network forms of governance coexist (Getimis and Kafkalas, 2002; Grote, 2012), the important contribution of the governance debate should not be underestimated. A series of the theoretical and empirical research studies, within the framework of a multi-level governance approach, have highlighted the important links between institutional frameworks (at a national and regional/local level) with economic and regional development (Grote et al., 2008; Grote, 2012; Geisel, 2012).

c. The "Europeanization approach" highlighted important aspects of the dynamic and contradictory process of "top-down" or "bottom-up" European integration, focusing on the changes of the different national and institutional frameworks towards convergence or divergence (Olsen, 2010; Risse et al., 2001; Boerzel and Risse, 2003). "…a large number of partly autonomous processes of incremental change have fostered integration with consistent direction over half a century […] in spite of considerable political, economic, social and cultural diversity; disagreement about the kind of Europe and political community that is desirable; incomplete means-end knowledge and control; ambiguous compromises, uncertain effects, and surprise events and developments" (Olsen, 2010). The incremental construction of the "European acquis" concerning regulatory institutions on the one hand (legal and administrative directives and norms) and the voluntary mechanisms and tools of coordination and cooperation on the other (e.g. Open Method of Coordination, "white paper of governance", subsidiarity principle) form the common European institutional policy framework, which member states are committed to adopt (Radaelli, 2004).

However, processes of Europeanization are not linear harmonization processes. Despite early assumptions about adoption of a pan-European pattern by all states, more recent theoretical and empirical studies (Bache, 2008; Paraskevopoulos et al., 2006; Giuliani, 2003; Radaelli, 2003; Radaelli, 2004) have focused on the divergent processes of Europeanization in different countries and macro-regions reflecting the "goodness of fit" or "misfit", along line different responses of domestic structures to the "European acquis". Institutional settings and strategies of actors at the national and regional level play an important role in the convergent or divergent trends of Europeanization ("cluster convergence" [Boerzel and Risse, 2003]). "Path-dependent" and "path-shaping" factors influence the different trajectories of change, with different paces and velocities of transformation. Existing traditional institutional structures and practices coexist with reformative and innovative efforts, while the implementation of reforms to increase the quality, as most evaluation reports show, is lagging behind, even in cases of legal compliance ("formal" or "nominal" convergence). Accordingly, important differentiations

concerning the quality of institutions across the EU countries exist, while different paths of economic development for every country or groups of countries are acknowledged.

Based on the above three strands of theoretical approaches (neo-institutionalist, governance and Europeanization), the paper attempts a comparative analysis of the national institutional environments of EU and neighboring countries and groups of countries in a period from 2004 to 2011. The analysis focuses on features of institutions at the national level, due to the lack of data at the regional level. The comparative analysis relies mainly on a qualitative assessment of features of institutional quality (government efficiency, regulatory quality, rule of law, control of corruption). The quality of institutions is not easy to measure (Kaufmann et al., 2008). However, the World Economic Forum provides a solid base of common indicators and empirical data, based on a sample of qualified professionals and experts of the business sector, reflecting their perceptions and assessment as actors in different national institutional environments.

Our starting assumption is that the contradictory Europeanization process towards integration, with convergence and divergence trends, in different ways promotes the improvement of institutional quality, which positively affects economic development and global competitiveness. "Europeanization" constitutes the basic driving force for the reforms and transformations of the national institutional environments. However, every country has its "significant trajectory" of institutional performance. Other factors, e.g. domestic responses to the adoption of "European acquis" and the global financial crisis and the different impacts on national economies, also play an important role. Based on this assumption, the following hypotheses are formulated and empirically tested:

Hypothesis 1

The "old EU15" ("old" 15 member states) show on average better institutional performance than the EU27, while candidate countries, neighboring countries (NC) and Black Sea countries (BSEC) are lagging behind (different "paces of Europeanization" among groups of countries). Old democracies with a long tradition in developed and effective governance structures perform better concerning institutional quality than the new EU member states (12) and candidate countries, many of which are former communist countries and states in transition to market economies.

Hypothesis 2

Convergent or divergent trends among different groups of countries (EU15, EU27, candidate countries, neighboring countries, BSEC) can change over time, due to other than Europeanization driving forces (domestic path-dependency or globalization). Are there significant differences among countries belonging to the same group, e.g. North-South divide in EU, East-West NC countries? It is expected that countries with well-designed and effec-

tive public services, respecting and protecting property rights, enforcing the rule of law and controlling corruption (e.g. Nordic countries) will score high in institutional quality, while countries with redundant regulation, corruption, clientelism and favoritism (e.g. Greece, Italy, Bulgaria) score much less. Furthermore, it is also expected that differences in institutional performance will emerge across the different fields of institutional quality (indicators) a) governance effectiveness, b) regulatory quality, c) rule of law and d) control of corruption.

Hypothesis 3

The quality of institutional environment influences the path of economic development and global competitiveness of a country. Countries or groups of countries with a high score of institutional performance show a high score in institutional competitiveness (GDP and other economic indicators).

3. Methodological Framework: Measurement of National Institutional Quality

The methodology that was followed for the measurement of the national institutional environments was mainly based on the data provided by the Global Competitiveness Reports (GCRs) published by the World Economic Forum (WEF).[1]

Based on annual Executive Opinion Surveys, the GCRs provide a Global Competitiveness Index for each country (GCI), composed of nine pillars of indicators, reflecting different aspects of the competitiveness of an economy. In order to construct a "composite" Index of Institutional Quality and be able to compare different national institutional environments, we had to select the most appropriate indicators and construct four new "pillars" that constitute crucial aspects of institutional quality, focusing on the impact on economic development and business. The operationalization followed was based on the concept that the index of national institutional quality is dependent on "Government Effectiveness", "Regulatory Quality", "Rule of Law" and "Control of Corruption", which correspond to the new 4 pillars. In their turn, each pillar is composed of a number of indicators (18 in total) selected from the WEF surveys. This crucial selection focused on indicators, concerning burdens and strengths of institutional framework and policies regarding trust, favoritism, transparency, reliability, etc. In this framework, the new pillars that were constructed and the selected indicators are shown in the following Table 1. All scores of the WEF survey questions range from 1 (worst score) to 7 (best score).

The analysis focuses on different geographical groups of countries, corresponding to the different waves and paths of Europeanization. The EU15, the "old Europe", with

1. Similar methodology has been used by K. Jurlin and N. Cuckovic (2009), "Comparative Analysis of the Quality of Institutions in the European countries", XVII Scientific Conference: Associazione Italiana per lo Studio dei Sistemi Economici Comparati, Perugia, Italy, in their study on comparative analysis of the Quality of Institutions in the European countries. Based on data by WEF, they constructed a composite Index and five sub-indexes for their analysis.

15 country members until 1986, the EU27 of today after the accession of the 12 new member states and the important enlargement of 2004, the current candidate countries (6) and the European neighboring countries, which are examined in two distinctive geographical macro-regions (eastern and southern). Additionally, the group of Black Sea countries is analyzed as a specific regional cooperation area, in which a mixture of countries participates (EU member states, candidate countries, eastern neighboring countries and the Russian Federation). More analytically:

a. The 15 old members of the EU (EU15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom).

b. The EU member states as they are today, after the enlargement of the EU with the 12 new member states (EU27: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom).

c. The candidate countries (CC: Croatia, Iceland, FYROM, Montenegro, Serbia, Turkey).

d. The European neighborhood countries (ENC Total: Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Israel, Jordan, Lebanon, Libya, Moldova, Morocco, Syria, Tunisia, Ukraine).

i. The Eastern European neighborhood countries (ENC East: Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine).

ii. The Southern European neighborhood countries (ENC South: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia).

e. The Black Sea Countries[2] (BSEC: Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russian Federation, Serbia, Turkey, Ukraine).

In an attempt to evaluate the evolution of institutional quality over time, both in specific countries and in groups of countries, we examined the WEF indicators that were analyzed in the Global Competitiveness Reports of the years 2004, 2006, 2008, 2010 and the most recent one, 2011.[3] In this way, we can obtain a general overview of the institutional trends and make sound comparisons.

2. The 12 Black Sea Countries are the ones mentioned in the Black Sea Economic Cooperation (BSEC).
3. Each year, every GCR includes data for more countries than the previous one. So, the GCR of 2004 includes 104 countries; the CCR 2006, 125 countries; the GCR 2008, 134 countries; the GCR 2010, 139 countries; and the GCR 2011, 142 countries. Inevitably, there are missing countries and data in certain calculations. More specifically, in 2004 the missing countries are Albania, Armenia, Azerbaijan, Lebanon, Moldova, Montenegro (which is considered as one country along with Serbia) and Syria. In 2006, Lebanon, Montenegro (with Serbia) and Syria are missing. In 2008, the missing country is Lebanon and for 2011 Libya.

Table 1. Index of Institutional Quality

	PILLARS	INDICATORS	SURVEY QUESTION
INDEX OF NATIONAL INSTITUTIONAL QUALITY	**1. Government Effectiveness (GE)**	1.1 Public trust of politicians	How would you rate the level of public trust in the ethical standards of politicians in your country? [1 = very low; 7 = very high]
		1.2 Favoritism in decisions of government officials	To what extent do government officials in your country show favoritism to well-connected firms and individuals when deciding upon policies and contracts? [1 = always show favoritism; 7 = never show favoritism]
		1.3 Wastefulness of government spending	How would you rate the composition of public spending in your country? [1 = extremely wasteful; 7 = highly efficient in providing necessary goods and services]
		1.4 Burden of government regulation[4]	How burdensome is it for businesses in your country to comply with governmental administrative requirements (e.g., permits, regulations, reporting)? [1 = extremely burdensome; 7 = not burdensome at all]
	2. Regulatory Quality (RQ)	2.1 Efficiency of legal framework[5]	The legal framework in your country for private businesses to settle disputes and challenge the legality of government actions and/or regulations [1 = is inefficient and subject to manipulation; 7 = is efficient and follows a clear, neutral process]
		2.2 Transparency of government policy making[6]	How easy is it for businesses in your country to obtain information about changes in government policies and regulations affecting their activities? [1 = impossible; 7 = extremely easy]
		2.3 Strength of auditing and reporting standards	In your country, how would you assess financial auditing and reporting standards regarding company financial performance? [1 = extremely weak; 7 = extremely strong]
		2.4 Efficacy of corporate boards	How would you characterize corporate governance by investors and boards of directors in your country? [1 = management has little accountability to investors and boards; 7 = investors and boards exert strong supervision of management decisions]
		2.5 Protection of minority shareholders' interests	In your country, to what extent are the interests of minority shareholders protected by the legal system? [1 = not protected at all; 7 = fully protected]

(continued)

4. For 2004, the indicator 1.4 "Burden of government regulation" corresponds to the "Burden of central government regulation" as it is presented in the GCR 2004-2005.
5. For 2010 and 2011, the indicator 2.1 "Efficiency of legal framework" is calculated as the average of two separate indicators: "Efficiency of legal framework in settling disputes" and "Efficiency of legal framework in challenging regulations", as they are presented in the GCR 2010-2011 and CCR 2011-2012.
6. For 2006, the indicator "Transparency of government policy making" does not exist in the GCR 2006-2007.

	3. Rule of Law (RL)	3.1 Property rights	How would you rate the protection of property rights, including financial assets, in your country? [1 = very weak; 7 = very strong]
		3.2 Intellectual property protection[7]	How would you rate intellectual property protection, including anti-counterfeiting measures, in your country? [1 = very weak; 7 = very strong]
		3.3 Judicial independence	To what extent is the judiciary in your country independent from influences of members of government, citizens, or firms? [1 = heavily influenced; 7 = entirely independent]
		3.4 Business costs of terrorism[8]	To what extent does the threat of terrorism impose costs on businesses in your country? [1 = significant costs; 7 = no costs]
		3.5 Business costs of crime and violence	To what extent does the incidence of crime and violence impose costs on businesses in your country? [1 = significant costs; 7 = no costs]
		3.6 Organized crime	To what extent does organized crime (mafia-oriented racketeering, extortion) impose costs on businesses in your country? [1 = significant costs; 7 = no costs]
		3.7 Reliability of police services	To what extent can police services be relied upon to enforce law and order in your country? [1 = cannot be relied upon at all; 7 = can always be relied upon]
	4. Control of Corruption (CC)	4.1 Diversion of public funds	In your country, how common is diversion of public funds to companies, individuals, or groups due to corruption? [1 = very common; 7 = never occurs]
		4.2 Ethical behavior of firms	How would you compare the corporate ethics (ethical behavior in interactions with public officials, politicians, and other enterprises) of firms in your country with those of other countries in the world? [1 = among the worst in the world; 7 = among the best in the world]

According to the three hypotheses, formulated in the first theoretical part of the paper, the main purposes of the quantitative analysis were the identification of:

- National evolutions of government effectiveness, regulatory quality, rule of law, control of corruption and institutional quality as a whole (Hypothesis 1);
- The same trends of the abovementioned indicators, but in different geographical levels calculating the average indicators for the specific groups of countries mentioned before (Hypothesis 1);
- Comparisons regarding trends of convergence or divergence among different groups of countries and between countries within the same group, concerning their institutional quality, compared to the EU15 figures (Hypothesis 2);
- Linkages between institutional quality and competitiveness of economies (Hypothesis 3).

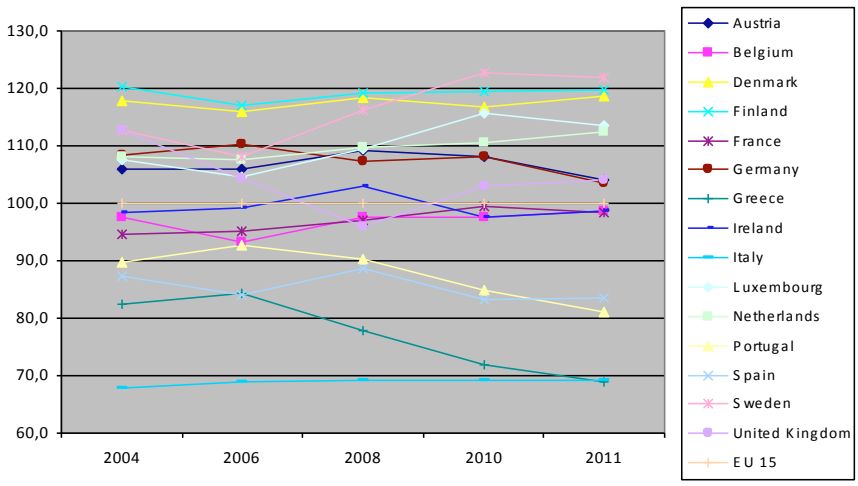
7. For year 2006, the indicator "Intellectual property protection" does not exist in the CCR 2006-2007.
8. For year 2004, the indicator "Business costs of terrorism" does not exist in the GCR 2004-2005.

4. Trends of Convergence and/or Divergence: Europeanization towards Multiple Directions of Change of the Quality of Institutional Environment

Different waves of Europeanization and different paths of adaptation to the "European acquis" are reflected in changes of the quality of national institutional environment. The analysis focuses on the time frame from 2004 until 2011, attempting to identify trends of convergence or divergence regarding the levels of institutional quality in every country, comparing to the average of the EU15 as a common base of reference. Furthermore, convergence or divergence trends within the groups of countries (using the coefficient of variation) are measured. For this reason, we developed the composite Index of Quality of Institutional Framework, which is composed by the 4 pillars of government effectiveness, regulatory quality, rule of law and control of corruption. For each country, the average of the 4 scores of these pillars synthesizes the index of quality of institutional framework.

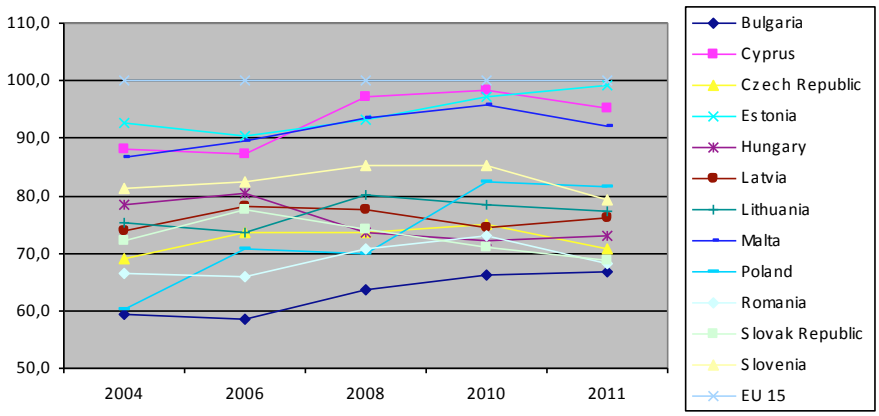
For the 15 European "old" member states, the following graph (Figure 1) illustrates the evolution of the 15 countries from 2004 until 2011, regarding the quality of their institutions. It is interesting to note that there is no clear convergence towards the EU15 average. The southern countries are lagging behind the European average, while Portugal and Greece have also been on a declining course since 2006. Italy has the lowest scores (below 70), having a stagnating course over the years. The other countries showcase values just under or above the EU15 average, not having significant changes in the examined time period. Only Sweden has shown an upwards trend since 2006 having the highest score of all in 2011 (121.8). A north/south division persists, although strong pressures of Europeanization exist, both legislative and regulatory within the *acquis communautaire*.

Figure 1. Index of Quality of Institutional Framework – EU15



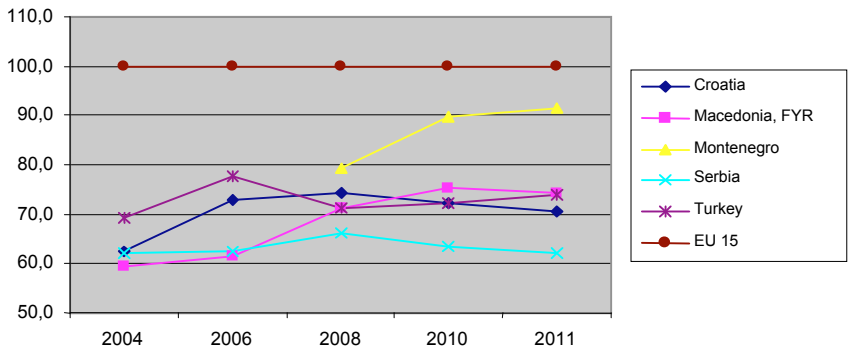
The 12 "new" EU member states, which together with the EU15 "old" members constitute the EU27 of today, show worse scores than the EU15 concerning the quality of institutions (Figure 2). However, although it was expected to show significant trends of institutional quality improvement, there is a stalemate without clear convergence to the EU15 average. Different trends reflect different velocities and paths of Europeanization: on the one hand, countries such as Estonia and Poland move towards the EU15 average, on the other hand, other countries perform have scores, diverging from the EU15 average (e.g. Hungary et al.).

Figure 2. Index of Quality of Institutional Framework – EU12 (new members)



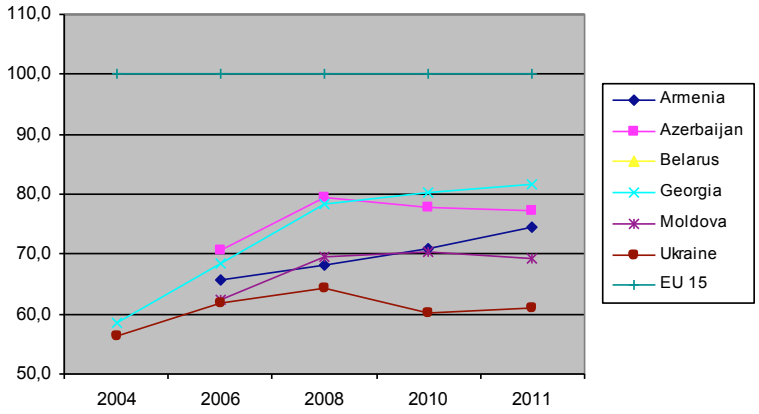
The candidate countries, under strong pressure from Europeanization in the pre-accession phase and adopting the Copenhagen criteria, show improvement in institutional quality (Figure 3), especially until 2006 ("enlargement euphoria" period 2000-2006) and a stagnation trend of convergence after 2006, compared to the EU15 average. In particular, Montenegro and FYROM improve steadily in the whole period (2004-2011), with their institutional quality converging to the EU15 average.

Figure 3. Index of Quality of Institutional Environment – Candidate countries



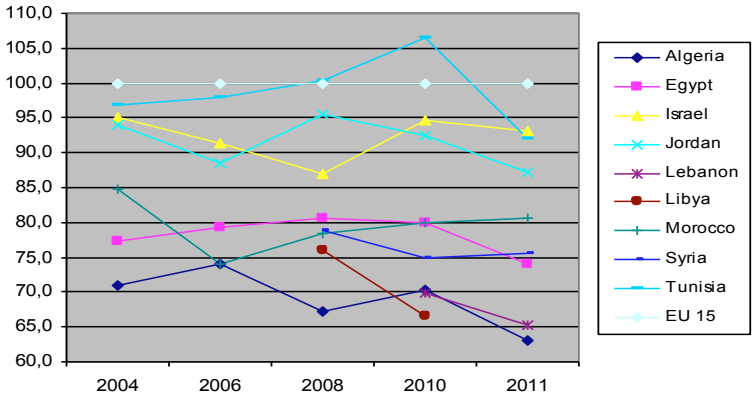
Concerning the Eastern neighboring countries, Georgia, Armenia and Moldova indicate convergence trends towards the EU15 average, although their course in this direction is being made with small steps (Figure 4). Azerbaijan and Ukraine, on the other hand, are on a declining course regarding their quality of institutional framework, although this fall is not significant.

Figure 4. Index of Quality of Institutional Framework – ENC East



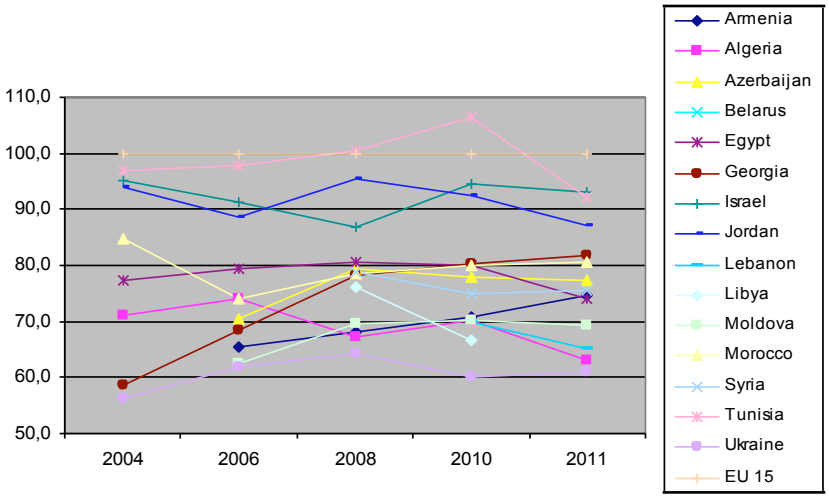
Regarding the neighboring countries of the south, Tunisia indicates surprisingly high figures of institutional quality, just below or even above the EU15 average (Figure 5). Immediately after, Israel and Jordan follow with many ups and downs and no specific trend of convergence or divergence to the European average. The rest of the countries present lower scores, with a remarkable fall in 2010, probably due to their involvement in the Arab Spring.

Figure 5. Index of Quality of Institutional Framework – ENC South



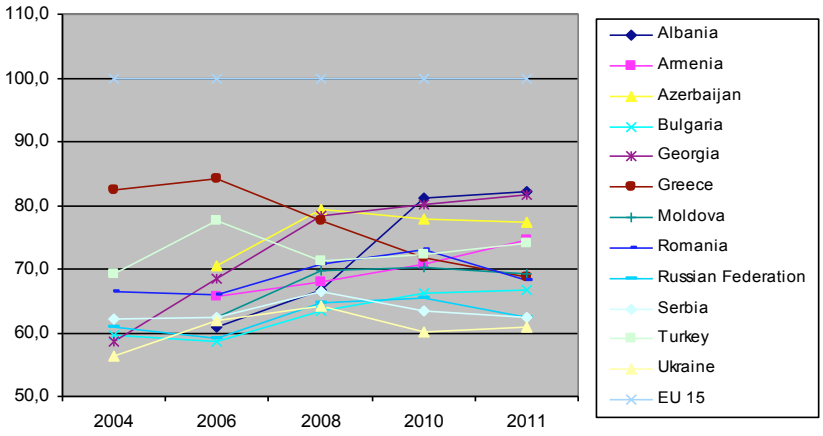
Regarding the whole group of neighboring countries, we cannot detect any convergence or divergence trend from the EU15 average (Figure 6). On the contrary, calculating the average scores of the group of neighboring countries for the 5 different years, we simply observe a stagnating course.

Figure 6. Index of Quality of Institutional Framework – ENC total



The BSEC countries, a regional cooperation macro-region with a mixture of EU and non-EU countries, show different paths of institutional performance. The scores of the BSEC countries indicate that they are lagging behind regarding the quality of institutions but, most importantly, they do not present any signs of convergence towards the European average (Figure 7). A slight improvement until 2006 is followed by a stagnation trend in the period 2006-2011. Greece has the highest divergence trend from the EU15 average, especially since 2006, which may be interpreted as the insufficient economic governance and the institutional corruption, which had already begun to spread long before the economic crisis of 2008.

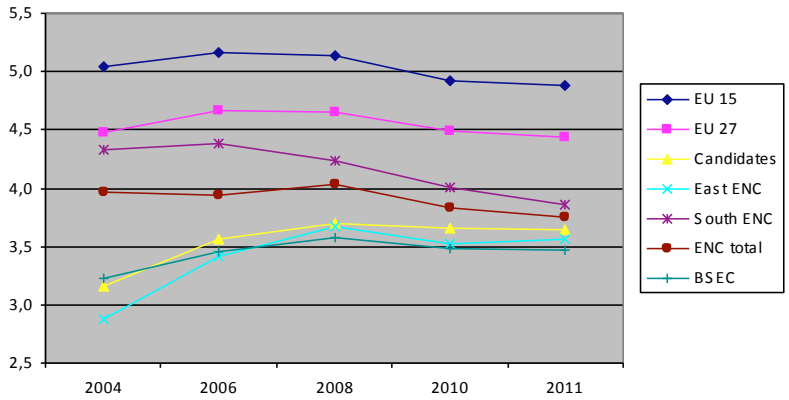
Figure 7. Index of Quality of Institutional Framework – BSEC



The aforementioned outcomes can be summarized in the following graph, where the institutional quality figures are given in a scale from 1 (worst score) to 7 (best score) (Figure 8). It is interesting to stress that the leading geographical group is the EU15 with the best scores in the quality of institutional framework. The next best groups are the

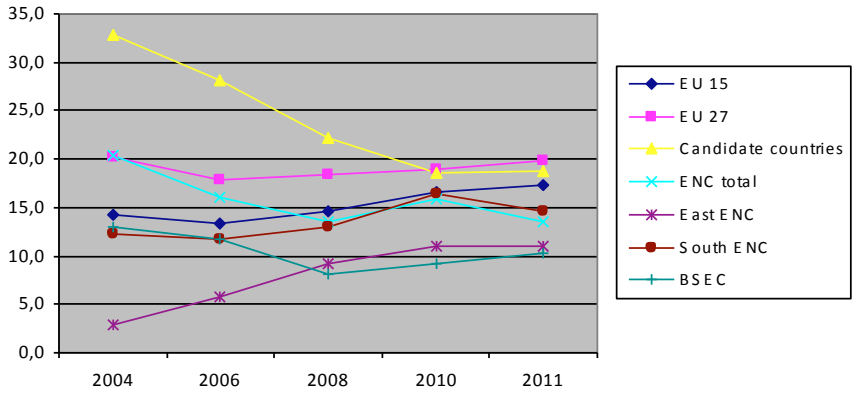
EU27, the ENC South, the ENC Total and the candidate countries. In these five groups of countries, it is worth mentioning that their performances slightly decline after 2008, showcasing that the economic crisis is negatively affecting the quality of institutions. Concerning the other groups of countries (ENC East and BSEC), they present similar scores, while they do not seem to be particularly influenced by the financial crisis of 2008.

Figure 8. Index of Quality of Institutional Environment



Attempting to measure the convergence or divergence levels within the groups of countries, we used the Coefficient of Variation as a ratio of the standard deviation to the mean (average value) (Jurlin and Cuckovic, 2009). The results, which are illustrated in the following graph (Figure 9), indicate there is a strong convergence trend from 2004 until 2010 only in the group of candidate countries. Between the countries of EU15, EU27 and ENC South, convergence is also evident, but only until 2006. After that, it seems that the countries begin to follow different courses (slightly divergence trends). In contrast, in the ENC East group the high divergence between countries is terminated in 2010, with stagnation since.

Figure 9. Coefficient of variation of the Index of Quality of Institutional Environment



The overall Europeanization process is not a linear adaptation procedure of the "European acquis" and does not always lead to "Goodness of Fit" and improvement of national institutional quality. Although incremental improvements have been made, especially in the phase of "enlargement euphoria", multiple directions of change of national institutional environments and different velocities and paths of institutional reforms emerge and even "Misfit" situations of worsening institutional quality have been empirically detected. The reproduction of inherent inequalities, e.g. north-south division in EU15, and the different domestic responses to globalization and crucial situations (e.g. financial and economic crisis of 2008, public debt crisis of southern EU states 2009-2012, Arab Awakening et al.) are important factors influencing, in different ways, the change of the national institutional environment of any single country. Convergence, divergence and stagnation trends in the different groupings of countries have been detected.

5. Comparing the Quality of the Institutional Framework

In this section of the analysis, four separate indicators are being analyzed: Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. As indicated in the graphs of Annex, for each indicator we examine the seven groups of countries (EU15, EU12 new member states, candidates, ENC East, ENC South, ENC Total and BSEC), always in comparison to the average of EU15. In order to calculate the scores (I_{ij}) of each country (i) for each one of the 4 above mentioned indicators (j), we used the following formula, where S_{ij} are the original WEF scores and S_{EUj} are the WEF scores for the EU15 countries:

$$I_{ij} = 100 * S_{ij} / (\Sigma S_{EUj} /15)$$

All results are interpreted as below or above the EU15 average for the scores below or above 100, respectively. For example, an indicator score "90" means that a country has scored 10% below the EU15 average for the specific indicator.

The main aim of this procedure is to provide some detailed outcomes of the 4 pillars, identifying which countries are leaders of institutional quality and which follow next and are lagging behind.

5.1 Government Effectiveness

The scores of Government Effectiveness of the seven groups of countries compared to the average EU15 score are illustrated in figures 10-16 (Annex). The main results of the analysis are presented by country group below.

The countries of the EU15 group (Figure 10) are almost equally divided below and above the EU15 average (north-south division). The northern countries (Finland, Denmark,

Sweden, Netherlands, Luxembourg, Germany and Austria) are those presenting the highest scores. The United Kingdom scored above the EU15 average for years 2004 and 2006, but its course was declining until 2008. The southern countries (Portugal, Spain, Greece, and Italy) along with France, Belgium and Ireland are for the whole period from 2004 until 2011 below the EU15 average. The scores of Italy are particularly low, while Greece is the second worst, presenting a continuous decline since 2006.

The 12 new member states present worse scores of government effectiveness compared to the old member states (Figure 11). All countries are much lower than the EU15 average, apart from Cyprus and Estonia, whose improving course since 2006 makes them the leaders of their group in 2011, with scores even higher than the average score of the EU15 "old" countries. The rest of the countries do not present any clear convergence trend towards the European average, since it is evident from their performances that there are many fluctuations over the examined time period.

The performance of government effectiveness of candidate countries (Figure 12) compared to the EU15 average shows that Turkey, FYROM, Serbia and Croatia are considerably below the European average. Stagnation is observed particularly in the case of Serbia, while FYROM and Turkey present increased scores over time. On the other hand, Montenegro has had particularly high scores of government effectiveness since 2008 and has been above the EU15 average since 2010.

The Eastern neighboring countries (ENC East) (Figure 13) range from 60 to 90, concerning government effectiveness, and have an increasing trend approaching the EU15 average with slow but steady steps. The best performances can be found in Georgia and Azerbaijan, while Armenia, Moldova and Ukraine follow next.

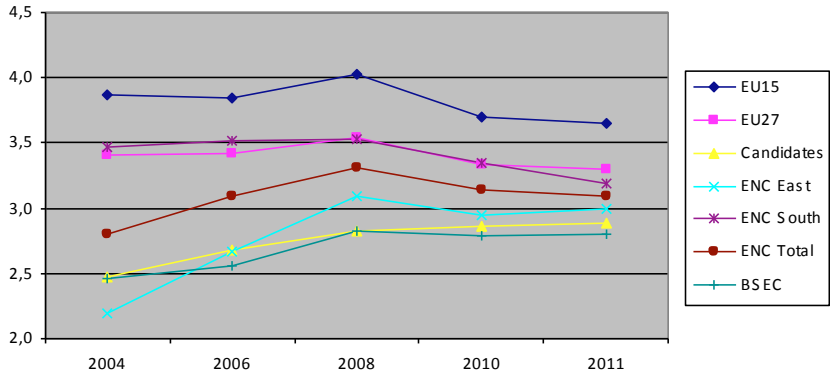
The southern neighboring countries (ENC South) (Figure 14) range from 70 to almost 100 regarding their government effectiveness scores, with several ups and downs from 2004 until 2011. The only exception is Tunisia, which presents extraordinarily high scores above the EU15 average, recalling the performances of the Netherlands or Luxembourg. And regardless of the sudden fall in its score from 2010 to 2011 (approximately from 130 to 110), its government effectiveness value is still higher than the European average.

Concerning the group of all the neighboring countries (ENC Total) (Figure 15), apart from the case of Tunisia, which presents the highest scores, all other countries perform below the EU15 average. Jordan is one of the best performing countries, although its scores have been on a declining course since 2008. Georgia has had a remarkable increase in government effectiveness values (from 60 to 97) over the years, while Ukraine and Moldova have the lowest scores. An important decline is observed in Algeria, especially after 2006.

In the case of the BSEC regional cooperation area (Figure 16), all 12 countries are below the EU15 average but the majority of them present an increasing trend through the years. The only exception is Greece which, although a European country, has been on a declining course since 2006.

The following diagram illustrates the average scores of the seven groups of countries, in order to obtain a general overview of the group performances regarding their government effectiveness. The scores are given on a scale from 1 (worst value) to 7 (best value). As illustrated below, the best performing group is the EU15 old member states, but which has shown a declining tendency since 2008. Similar trends can be observed in the groups of EU27, ENC South and ENC Total that have lower scores. Even lower performances can be detected in the cases of ENC East, candidate and BSEC countries, which, nevertheless, present a slightly improving course.

Figure 17. Government effectiveness



5.2 Regulatory Quality

The second pillar of indicators is the "Regulatory Quality", where the national performances of countries are categorized in the seven groups and are compared to the EU15 average score of regulatory quality (see Figures 18-24 in Annex).

In the first group of countries, the EU15, it is evident that the majority of countries are above the European average, while there is a tendency of a remarkable increase of their performances after 2010 (Figure 18). The only countries scoring low are the Mediterranean ones: Spain, Portugal, Greece and Italy, whose performance is the lowest of all (north-south division). Belgium is the only northern country that is below the EU15 average, while it is worth mentioning that Ireland presents a notable decrease after 2008, which might be explained by the economic crisis that emerged in that year.

The 12 new member states present strong convergence trends to the EU15 average score (Figure 19) during the whole time period examined. Estonia, Cyprus and Malta

have the best scores slightly below the European average, while the rest of the countries present lower figures, regarding the performance of their national regulatory quality.

The candidate countries indicate a clear trend towards the EU15 average score (Figure 20), ameliorating their national scores of regulatory quality and converging to the European figure. This tendency is especially apparent after 2008. In this case, the national economic performances do not present any connection with the quality of regulations. It is also worth mentioning that out of the 5 candidate countries, Turkey is the one with the highest increase of regulatory quality figures.

The eastern neighboring countries have shown an augmenting performance since 2006 (Figure 21), approaching the EU15 average score. It seems that all countries have similar scores in the time periods examined, except for Ukraine, whose scores are considerably lower and its increasing tendency is slower that the others.

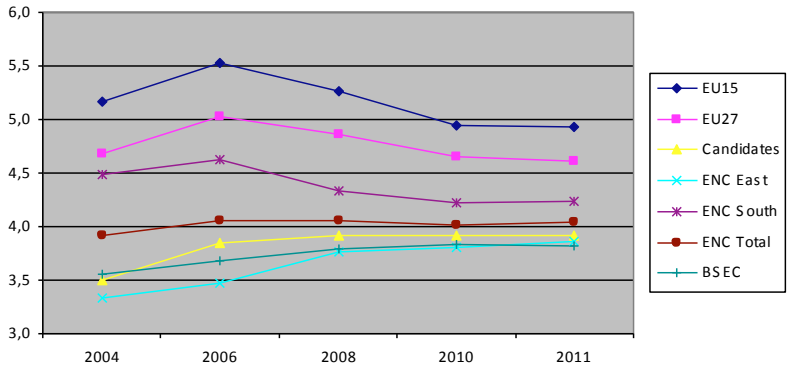
In comparison to the eastern neighboring countries, the southern ones have better scores of regulatory quality (Figure 22). The figures of Tunisia, Israel and Jordan are rather impressive. Tunisia even surpasses the European average for 2010! Another observation is that the countries of this group do not show a common trend since 2004 and that their scores range significantly between 65 and 101. Finally, it is worth noting that Morocco has the most remarkable course of convergence to the European average with a continuous increase of its regulatory quality since 2006.

As the whole group of neighboring countries is concerned (eastern and southern), the average regulatory quality of the group, despite divergent trends of the sub-groups and single countries, shows a slight improvement until 2011 (Figure 23).

The BSEC countries' scores of regulatory quality are notably lower that the EU15 average value (Figure 24). Nevertheless, there is an evident convergence with the average European score after the year 2006. All countries' figures have increased since then, apart from Greece, which although it was the leader of the group in 2004, 2006 and 2008, had notably decreased since 2006. We have to stress that out of the 12 BSEC countries, Albania has the most remarkable increase of regulatory quality figures.

Concerning the seven average scores of the seven groups of countries, the following figure gives an overview of the evolution of trends regarding quality of regulations. As illustrated below (Figure 25) the evolution of group average scores is quite clear, with the EU15 being the leader of regulatory quality, followed by EU27, ENC South, ENC Total, candidate countries, BSEC and ENC East. It is worth mentioning that after 2006 the three best performing groups present a remarkable decline, while the four worst groups are rather stagnated.

Figure 25. Regulatory quality



5.3 Rule of Law

In the third pillar of indicators, we examine the national performances of countries regarding their "Rule of Law" and we compare it to the EU15 average figure (Annex, Figures 26-32).

In the first group of the old EU member states, a first observation is that the majority of countries converge with the European average (Figure 26). The southern countries of the Mediterranean (Spain, Italy and Greece) are once again below the average score for the whole period of time, while Portugal, although having an increasing course until 2006 (above the European average), has fallen notably ever since. Another important outcome emerging from the graph is the disappointing (decreasing) course of the United Kingdom until 2008, while since then its rule of law scores have increased. Greece's figures have once more dramatically fallen since 2006, while Italy has the worst scores for the whole period of time from 2004 until 2011.

Regarding the new 12 member states of the EU, a clear convergence trend with the EU15 average score can be observed (Figure 27). Although there are countries whose figures are decreasing over time (e.g. Slovak and Czech Republics), the general trend is that until 2010 there was an improvement in the rule of law average score of these 12 countries. A slight decline can be noted from 2010 until 2011.

Concerning the group of candidate countries (Figure 28), we can observe that there are two different courses followed by Turkey and Serbia, on the one hand, and Croatia, FYROM and Montenegro, on the other. The first sub-group had a converging trend with the EU15 average until 2006, when their figures started to decrease significantly until 2010 and since then, they have followed again a very slow but yet increasing course. The other sub-group follows a steadily converging course (increasing figures) towards the European average, but from 2010 until 2011 their scores of rule of law stagnated.

The eastern neighboring countries score considerably lower than the European average rule of law (Figure 29) and they do not present any convergence trends towards it, rather stagnation, especially after 2008. Azerbaijan keeps the highest scores, while Ukraine the lowest.

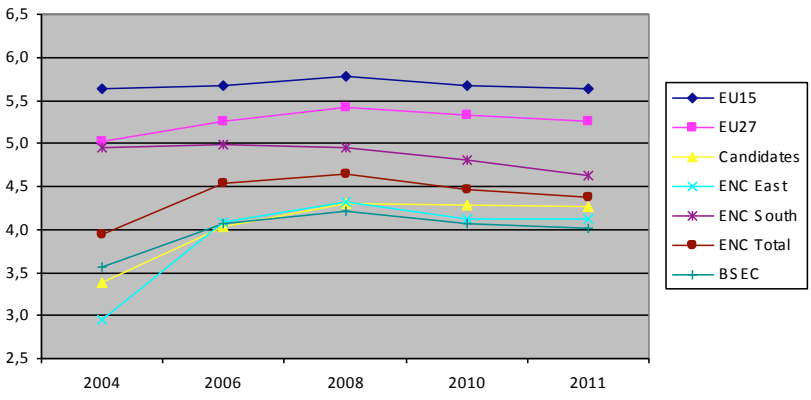
The southern neighboring countries perform better than the eastern ones (Figure 30), with higher scores regarding the pillar of rule of law. However, we cannot observe a clear trend of the national scores, either converging or diverging with the EU15 average. Again, Tunisia (and Jordan this time) scores extraordinarily high, while Syria has the lowest figures during the whole period of time since 2004.

Regarding the total group of neighboring countries (Figure 31), a general trend is an improvement of rule of law figures from 2004 until 2008 and a slight decline ever since.

In the group of the BSEC countries, Greece stands out demonstrating the worst performance regarding its rule of law scores (Figure 32). Although in 2006 it was slightly below the EU15 average, in 2010 after a decreasing course that continued for 4 years, Greece's score fell down to the levels of Albania and Azerbaijan, indicating the decayed political and institutional system of the country. For the rest of the countries there is no clear tendency of convergence or divergence with the European average. Although all of them appear to approach the EU15 average until 2006, some of them continue the same trend, but others were on a decreasing course until 2010. Nevertheless, the highest national increase is observed in Romania (although its scores fall after 2010), while the most abrupt fall (after the one of Greece) in Turkey (with an increasing trend since 2010).

Regarding the average rule of law performances of the seven groups of countries, it seems that there is an increasing course of their figures until 2008 and a clear decreasing trend ever since (Figure 33). The European groups are once more ahead, followed by the ENC South, ENC Total, candidates, ENC East and, finally, BSEC countries.

Figure 33. Rule of law



5.4 Control of Corruption

This section focuses on the fourth pillar of indicators, "Control of Corruption", analyzing the performances of the seven groups of countries in relation to the EU15 average (Annex, Figures 34-40).

As the old EU member states are concerned (Figure 34), the first observation that can be made is that the division between northern and southern countries is once more evident. All northern countries have higher scores in control of corruption that the European average (apart from Belgium and France, which are slightly below) and most importantly keep an increasing course, which is more apparent especially after 2008. On the other hand, the southern countries (Portugal, Spain, Italy and Greece) not only have the lowest scores but also maintain a significant declining course. Greece has the worst performance of all, emerging as the champion of corruption.

The 12 new member states' performance is much worse compared to the old European countries (Figure 35), while in general it is safe to stress that there is a slight divergence trend from the EU15 average. Most of these countries present falling figures regarding the control of their corruption (e.g. Slovenia and the Czech Republic), while the best performing countries with increasing tendencies towards the EU average are Estonia and Poland.

Regarding the group of candidate countries (Figure 36), Montenegro has the best performance in controlling corruption and also the highest convergence towards the EU15 average. Increasing figures can also be noted in the case of Turkey but only after 2010, while the rest of the countries (Croatia, FYROM and Serbia) show declining scores and diverging courses from the European average.

As for the eastern neighboring countries, it seems that the task of controlling corruption is not an easy one (Figure 37). 2011 figures for Azerbaijan, Moldova and Ukraine are lower than the respective scores of 2004, indicating that these countries are still far from approaching the EU15 average. On the other hand, Georgia seems to have the best performance of all, moving swiftly towards the European average.

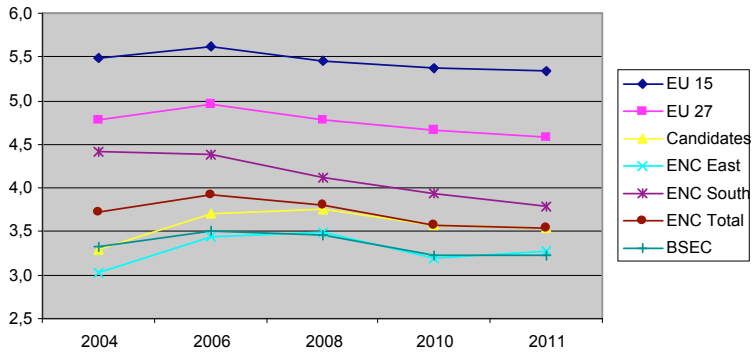
The southern neighboring countries present a clear divergence trend from the EU15 average (Figure 38). Even the high-scored countries of Tunisia, Israel and Jordan follow the same pattern as the rest of the group's countries since 2010, declining from their former high scores of 2008 and 2010.

The same divergence tendency is also observed in the case of the whole group of neighboring countries (Figure 39). This declining course is not steep, but is quite steady over the years.

Finally, regarding the BSEC countries, it seems that there is also a declining course in the countries' scores since 2008 (Figure 40). The most apparent fall of figures can be observed again (as in the three previous pillars) in the case of Greece, which presents a remarkable decline since 2006, indicative of the corrupted political and institutional systems of the country. In contrast, the best performances are those of Georgia and Albania, following a steadily increasing course towards the EU15 average.

The average scores of the seven groups of countries concerning the pillar of control of corruption are illustrated in the figure below, on a scale of 1 (worst score) to 7 (best score). It is evident that there is a clear fall after 2006 in all group scores.

Figure 41. Control of corruption



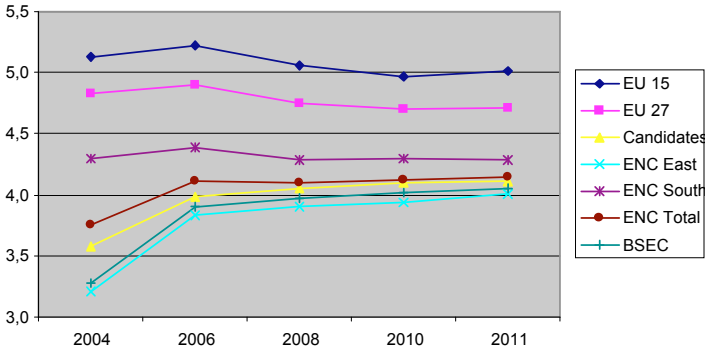
It is worth mentioning that in all four pillars that were examined the countries' groups are ranked more or less in the same position, indicating that there are no significant differences in the evolution of their trends during the time period from 2004 until 2011. The only difference that can be detected is in the average scores of the seven groups and especially the figures of "government effectiveness" that seem to be lower in relation to the three other pillars of indicators. The highest average score of the EU15 concerning government effectiveness is 4, when the respective scores in regulatory quality, rule of law and control of corruption are 5.5, 5.8 and 5.6, indicating the poor performance of countries in this field.

5.5 Quality of Institutions and Global Competitiveness

The Global Competitiveness Reports of the World Economic Forum base their analysis on a complex indicator, the Global Competitiveness Index (GCI), which captures the microeconomic and macroeconomic foundations of national competitiveness. The measurement of this index involves a large number of key components that altogether synthesize the productivity level of an economy. Institutional quality is certainly one of the main factors that determine a country's competitiveness. Institutions influence investment decisions, development strategies and legal frameworks and determine business operation and attitudes towards markets.

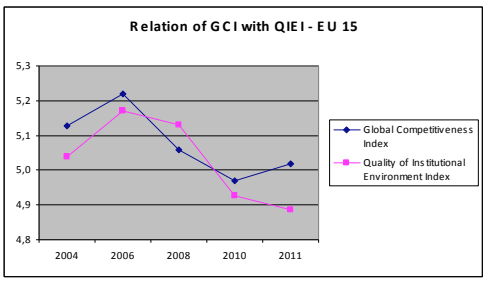
Taking as a starting point the national scores of GCI, we were able to calculate the average scores of the seven groups of countries for the time period 2004-2011. The evolution of global competitiveness trends are illustrated in the following diagram. From a first comparison of the following Figure 42 with Figure 8 (Index of Institutional Quality), we can simply stress that these two diagrams have no significant differences. In contrast, the trends of global competitiveness and institutional quality for all seven groups over time are practically the same. Therefore, it is safe to conclude that these two indexes are interconnected, although their relation is not only casual (since the institutional quality index is a component of the GCI).

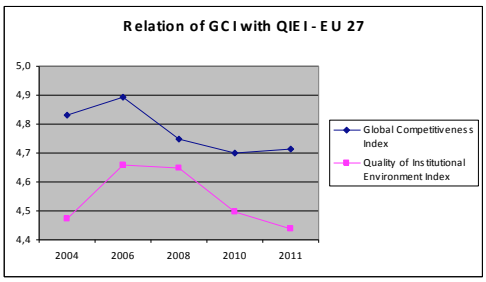
Figure 42. Global Competitiveness Index



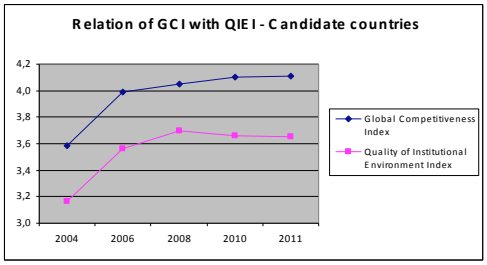
It is also interesting to examine the relation of these two indexes and their trends over time in the seven groups of countries separately. As shown below, it is obvious that there is an interrelation between these two trends, and the average scores of GCI are usually higher that the respective scores of institutional quality (both measurements have been made on the same scale from 1: worse to 7: best).

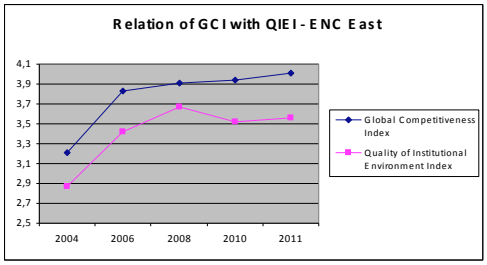
Relation of Global Competitiveness Index with Quality of Institutional Environment Index – BSEC

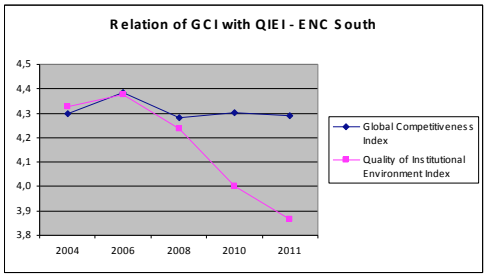


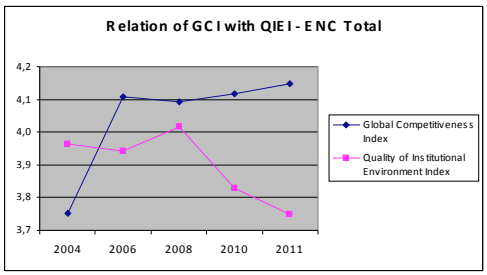


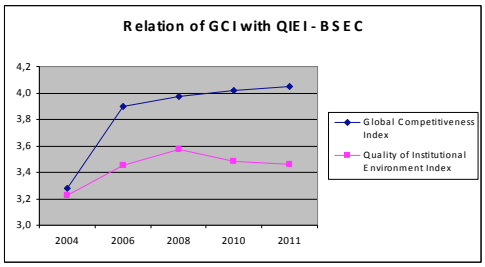
(continued)











6. Conclusions

Comparing the quality of institutions and their influence to economic development among countries or groups of countries and the trends of change in a certain limited period was the main task of this paper. Leaving aside the difficulties and limitations being raised in the academic discussions concerning the theoretical and methodological problems of measuring the quality of institutions and their contribution to economic growth, we find useful and relevant for cross-national comparisons to use indicators and available data based on WEF (Executive Survey Indicators for Global Competitiveness Index Report).

Based on three strands of theoretical approaches (neo-institutionalist, Europeanization and governance approach), we formulated three main hypotheses, which have been tested empirically using a composite indicator and 18 selected indicators, classified in four pillars of institutional quality: government effectiveness, regulatory quality, rule of law and control of corruption.

Overall the analysis has shown (similarly with other former studies) that upgrading the institutional quality of a country positively affects its economic development (positive relation between Global Competitiveness Index and the Quality of Institutional Envi-

ronment Index in all groups of countries). Of course, it should be acknowledged that a country's competitiveness is not only dependent on the institutional quality factor. On the contrary, it is influenced by a series of dynamics and, therefore, their relation is not always proportional.

Focusing on the macro level (average scores of the different groups of countries), the Europeanization process shows incremental progress in the quality of national institutional environments and in the global competitiveness of the countries. 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 certainly improved the institutional quality and its positive impact on economic development in EU and neighboring countries.

However, important differences have also been detected concerning the trends of convergence and divergence among countries and groups of countries. These trends also change across time. Thus, in the period of "enlargement euphoria", until 2006, candidate countries under strong Europeanization pressure improved their institutional quality converging with the EU15 average, while after 2006 stagnation is evident.

Even among the core EU15 countries, divergences are detected. The southern European countries, such as Greece, Italy, Portugal and Spain, diverge after 2006 from the EU15 average, demonstrating a deterioration of their institutional quality, while northern countries are above the EU15 average (north-south division). Similar divergent trends among countries have been detected in the other groups of countries as well, e.g. new Baltic countries moving upwards converging to the EU15.

Every country has its "significant" trajectory of institutional performance. Apart from Europeanization, other factors that play an important role appear to be global financial crisis 2007/8, public debt crisis of the southern European countries 2008 until today, and domestic institutional governance reforms. Different waves and velocities of Europeanization alongside external and internal driving forces influence the significant path of institutional quality of each country. Divergent processes of Europeanization 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.

It should be mentioned that even in cases of improvement of institutional quality, complying with the formal convergence criteria, the detailed analysis of the four pillars and the 18 indicators has shown important differentiations concerning the government effectiveness, regulatory quality, rule of law and control of corruption. The legal compliance and adoption of formal criteria has to be complemented with effective implementation of policies, employing more legitimate governance arrangements.

References

Bache, I. (2008), Europeanization and Multi-Level Governance: Cohesion Policy in the European Union and Britain. United States of America: Rowman and Littlefield publishers, Inc.

Boerzel, T.A. and **T. Risse** (2003), "Conceptualising the Domestic Impact of Europe in Featherstone". In: C.M. Radaelli (ed.), The Politics of Europeanization. Oxford: Oxford University Press.

Campbell, J. (2004), Institutional Change and Globalization. Princeton: Princeton University Press.

Geisel, B. (2012), "Regieren und Partizipation: Zwischen Legitimitaet und Effektivitaet". In: B. Egner, M. Haus and G. Terizakis (eds.), Regieren. Festschrift für Hubert Heinelt. Wiesbaden: Springer VS.

Getimis, P. and **G. Kafkalas** (2002), "Comparative Analysis of Policy-Making and Empirical Evidence on the Pursuit of Innovation and Sustainability". In: H. Heinelt, and R. Smith (eds.), Participatory Governance in Multi-Level Context. Opladen: Leske und Budrich.

Giuliani, M. (2003), "Europeanization in Comparative Perspective: Institutional Fit and National Adaptation in Featherstone". In: C.M. Radaelli (ed.), The Politics of Europeanization. Oxford: Oxford University Press.

Grote, J.R. (2012), "Participatory Governance Reloaded - The Horizontalist Expectation". In: B. Egner, M. Haus and G. Terizakis (eds.), Regieren. Festschrift für Hubert Heinelt. Wiesbaden: Springer VS.

Grote, J.R., A. Lang and **V. Schneider** (2008), Organized Business Interests in Changing Environments: The Complexity of Adaptation. London, Plagrave Macmillan.

Haus, M. (2010), "Governance Theorien und Governance Probleme: Diesseits und Jenseits des Steuerungsparadigmas", Politische Vierteljahresschrift, 51, pp. 457-479.

Heinelt, H. (2010), Governing Modern Societies Towards Participatory Governance. Oxford: Oxford University Press.

Heinelt, H., P. Getimis, G. Kafkalas, R. Smith and **E. Swyngedouw** (2002), Participatory Governance in Multi-Level Context: Concepts and Experience. Opladen: Leske und Budrich.

Hodgson, G. (1998), "The Approach of Institutional Economics", Journal of Economic Literature, XXXVI, pp. 166-192.

Jurlin, K. and **N. Cuckovic** (2009), "Comparative Analysis of the Quality of Institutions in the European countries", XVII Scientific Conference: Associazione Italiana per lo Studio dei Sistemi Economici Comparati, Perugia, Italy.

Kaufmann, D., A. Kraay and **M. Mastruzzi** (2008), "Governance Matters", Aggregate and Individual Governance Indicators, 1996-2007. World Bank Policy Research Working Paper No. 4654.

Mayntz, R. (2009), Über Governance. Frankfurt am Main, New York: Campus.

North, D. (1990), Institutions, Institutional Change and Economic Performance. Cambridge: Cambridge University Press.

Olsen, J.P. (2010), Governing Through Institutional Building: Institutional Theory and Recent European Experiments in Democratic Organization. Oxford: Oxford University Press.

Olson, M., N. Sarna and **A. Swamy** (2000), "Governance and Growth: A Simple Hypothesis Explaining Cross-Country Differences in Productivity Growth", Public Choice, 102, pp. 341-364.

Paraskevopoulos, C.J., P. Getimis and **N. Rees** (2006), Adapting to EU Multi-Level Governance: Regional and environmental Policies in Cohesion and CEE Countries. Aldershot: Ashgate Publishing Limited.

Putmann, R.D. (1993), Making Democracy Work: Civic Traditions in Modern Italy. Princeton, New Jersey: Princeton University Press.

Radaelli, C.M. (2003), "The Europeanization of Public Policy in Featherstone", The Politics of Europeanization. Oxford: Oxford University Press.

Radaelli, C.M. (2004), Europeanization: Solution or Problem?, European Integration Online Papers, 8.

Rhodes, R.A.W. (1995), The New Governance: Governing Without Government. London: ESRC.

Risse, T., J. Caporaso and **M.G. Cowles** (2001), "Europeanization and Domestic Change: Introduction", Transforming Europe: Europeanization and Domestic Change. Ithaca, New York: Cornell University Press.

Annex:

Figure 10. Government effectiveness – EU15

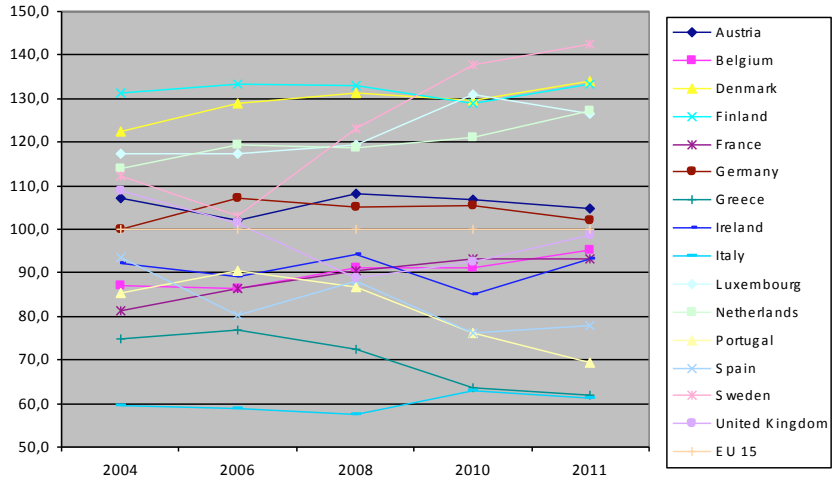


Figure 11. Government effectiveness – EU12 New MS

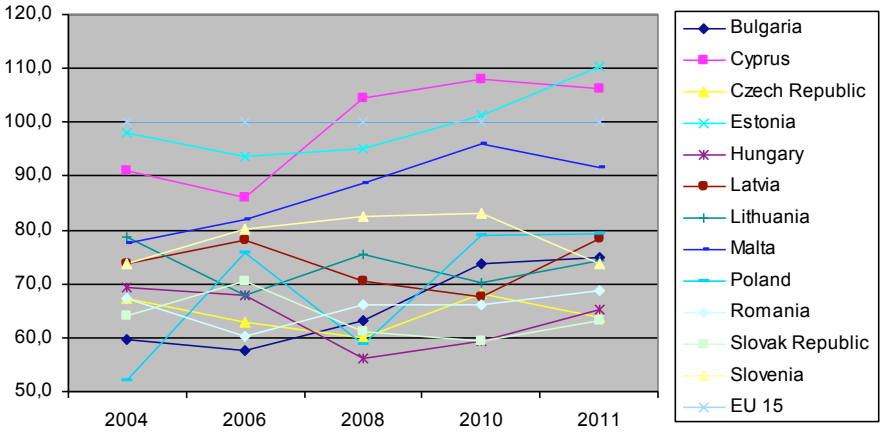


Figure 12. Government effectiveness – Candidate Countries

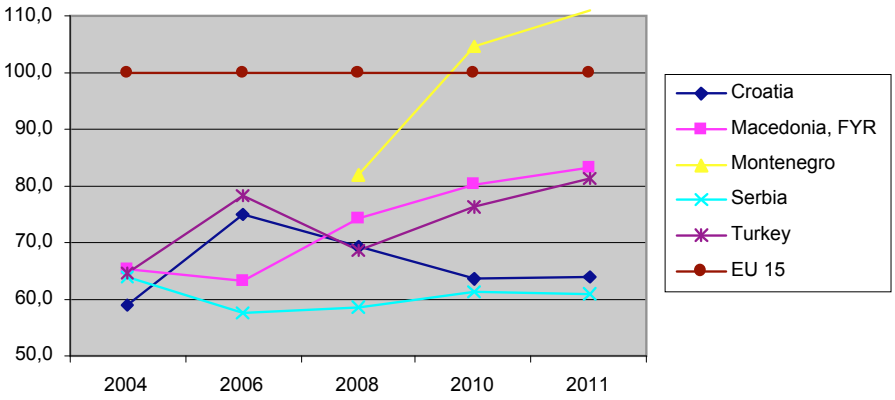


Figure 13. Government effectiveness – ENC East

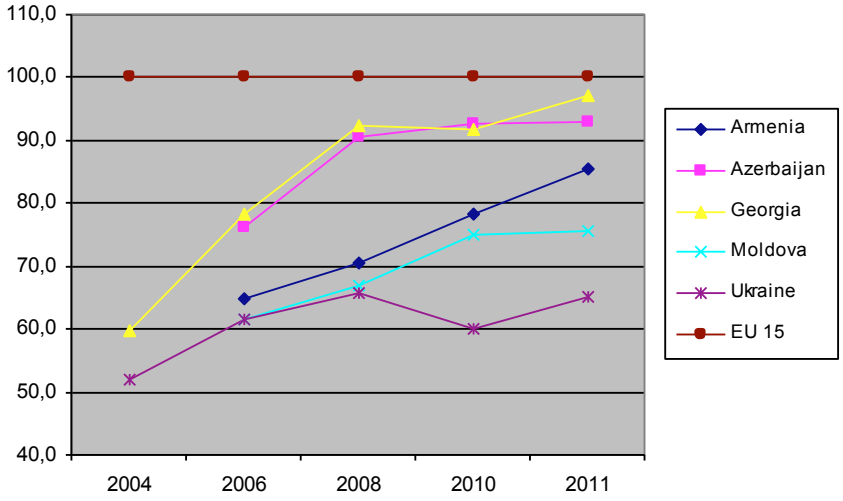


Figure 14. Government effectiveness – ENC South

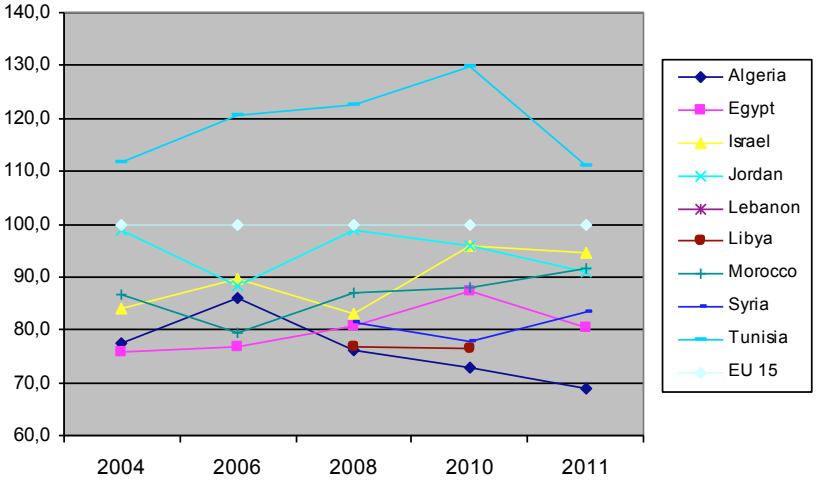


Figure 15. Government effectiveness – ENC total

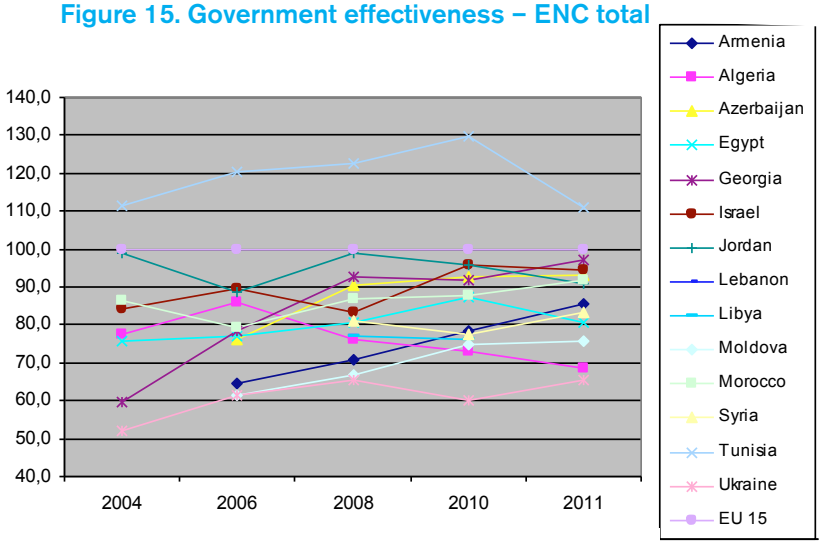


Figure 16. Government effectiveness – BSEC

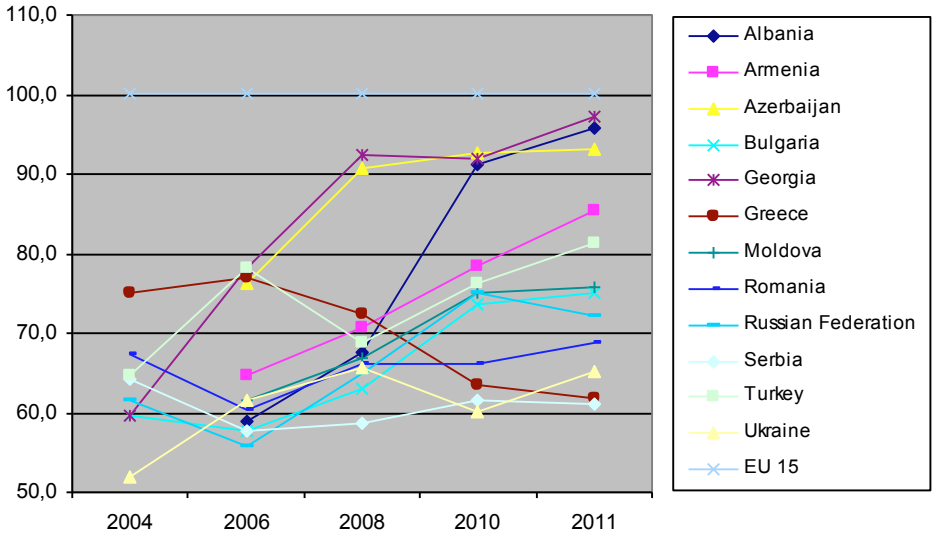


Figure 18. Regulatory quality – EU15

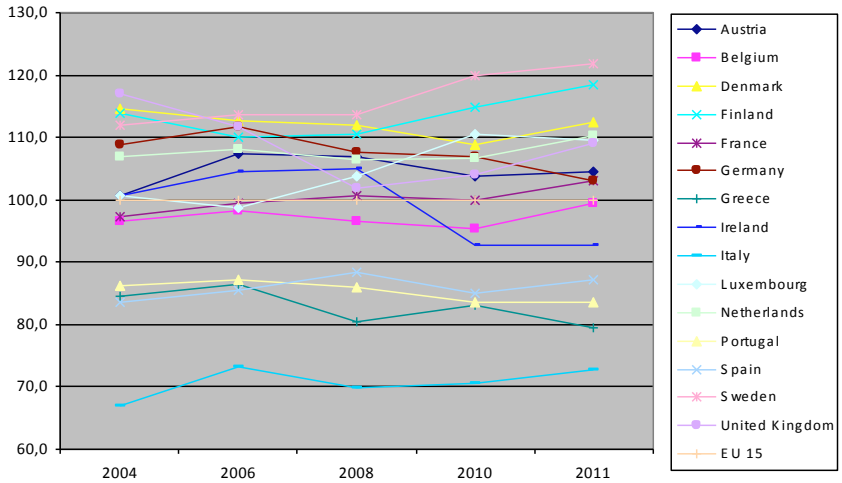


Figure 19. Regulatory quality – EU12 New MS

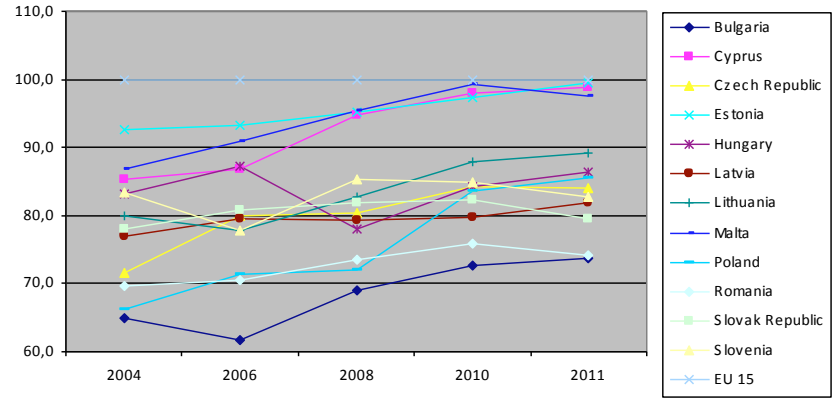


Figure 20. Regulatory quality – Candidate Countries

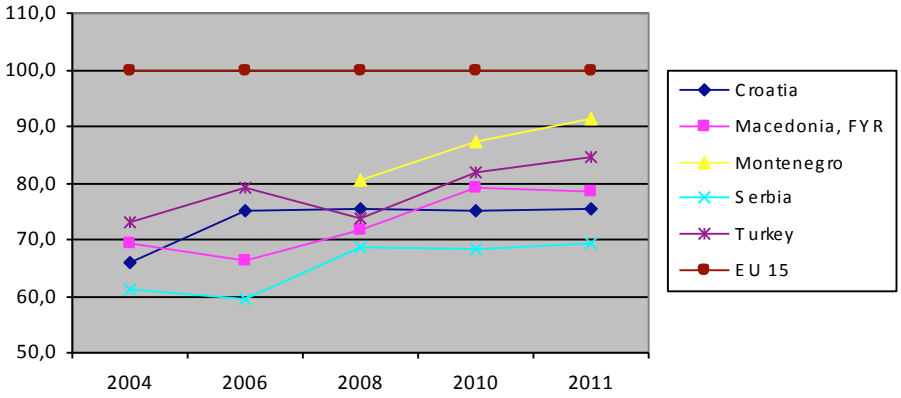


Figure 21. Regulatory quality – ENC East

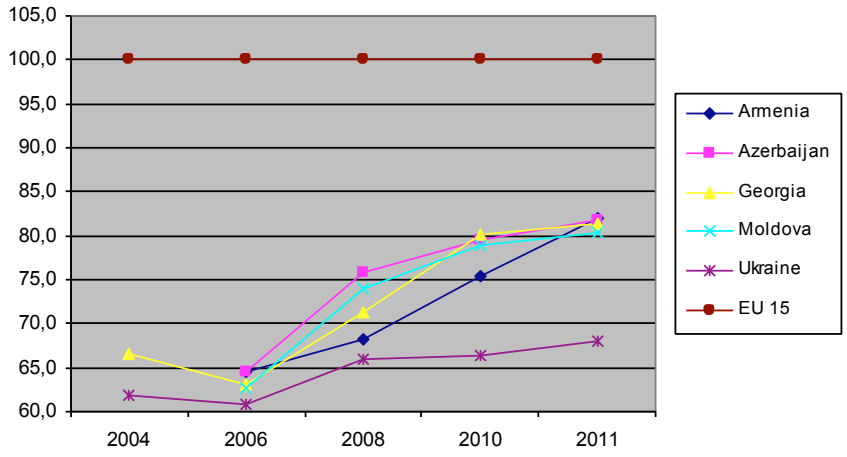


Figure 22. Regulatory quality – ENC South

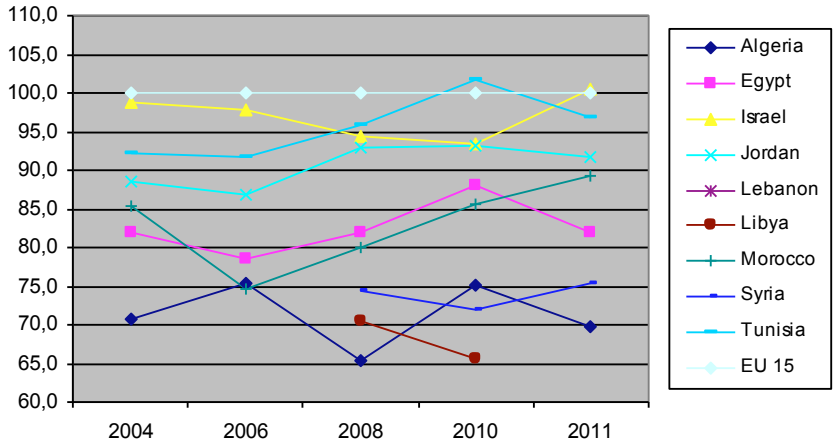


Figure 23. Regulatory quality – ENC total

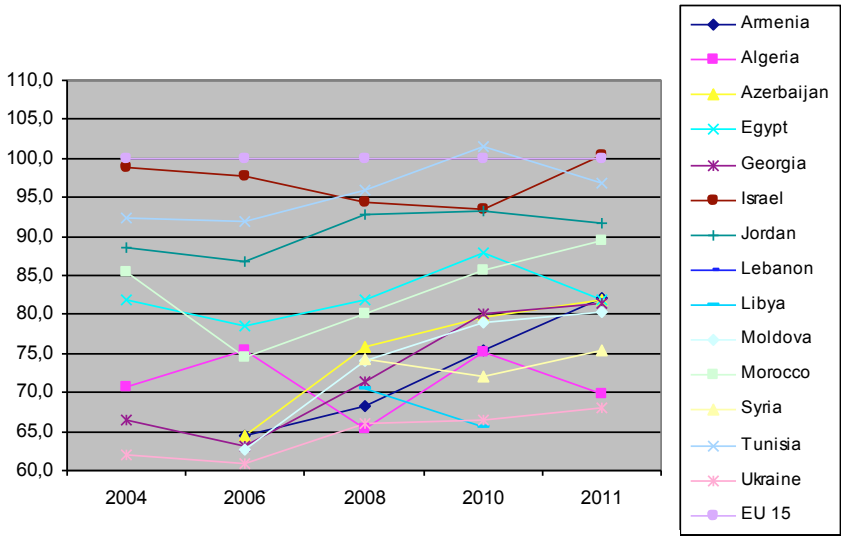


Figure 24. Regulatory quality – BSEC

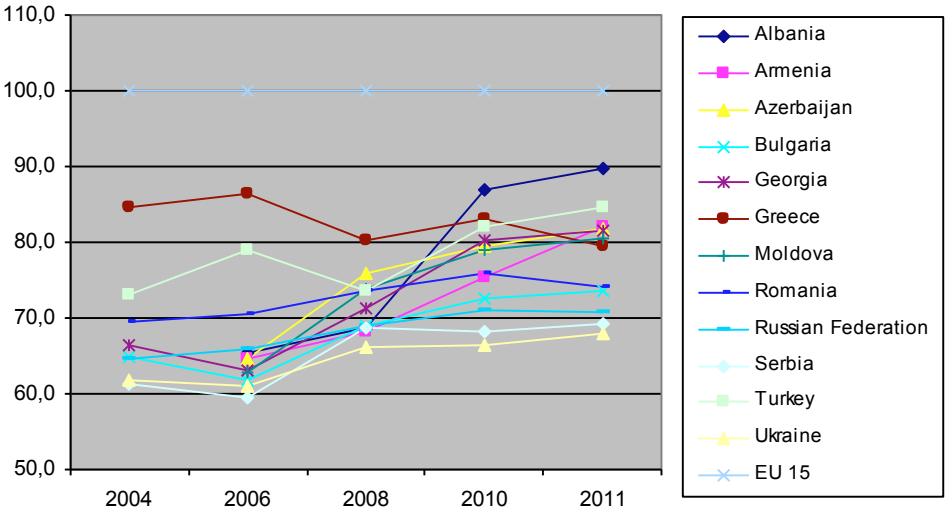


Figure 26. Rule of law – EU15

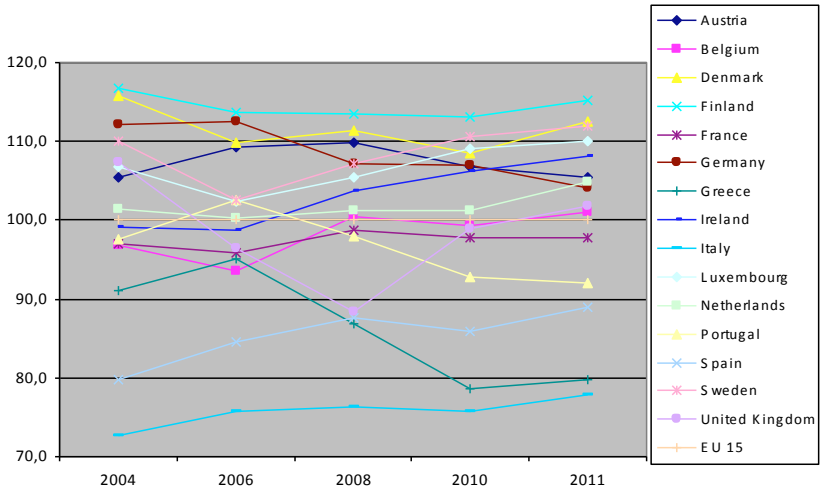


Figure 27. Rule of law – EU12 New MS

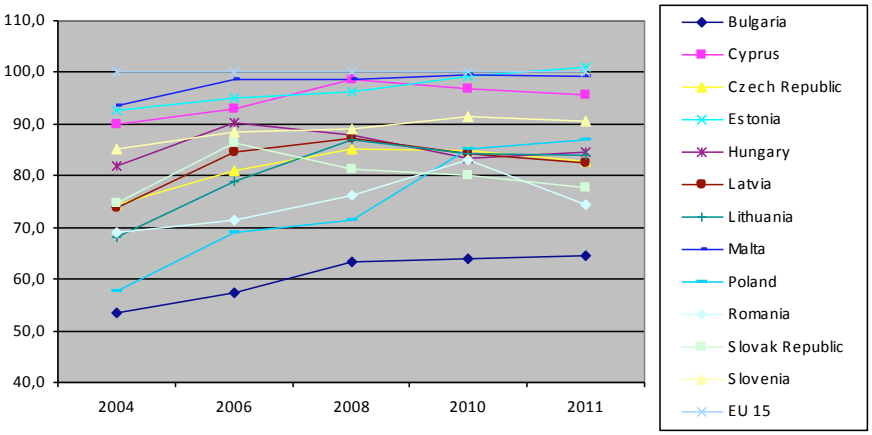


Figure 28. Rule of law – Candidate Countries

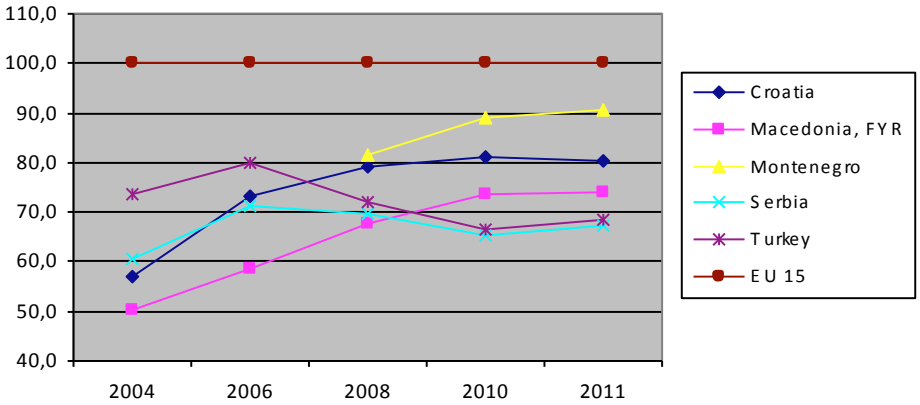


Figure 29. Rule of law – ENC East

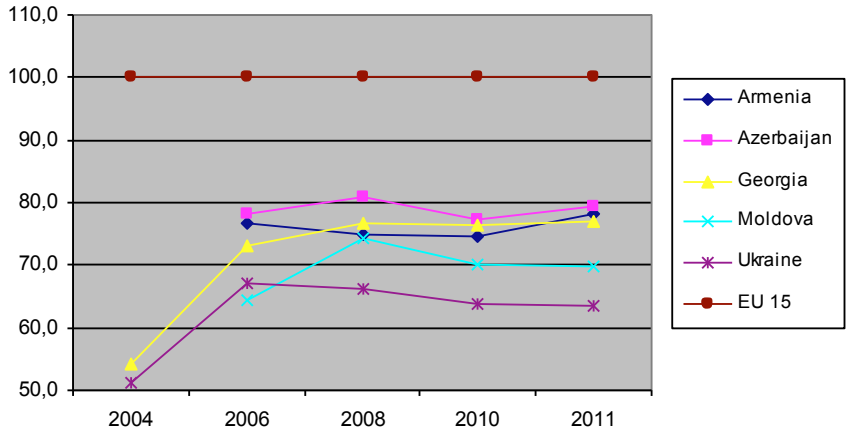


Figure 30. Rule of law – ENC South

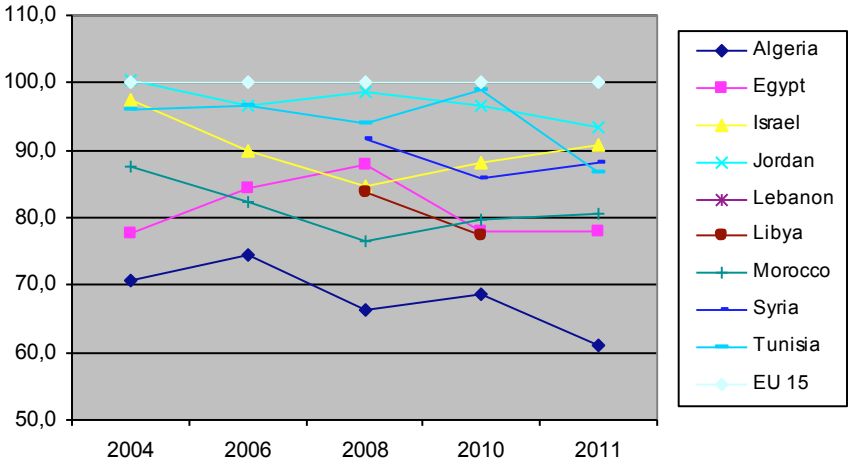


Figure 31. Rule of law – ENC total

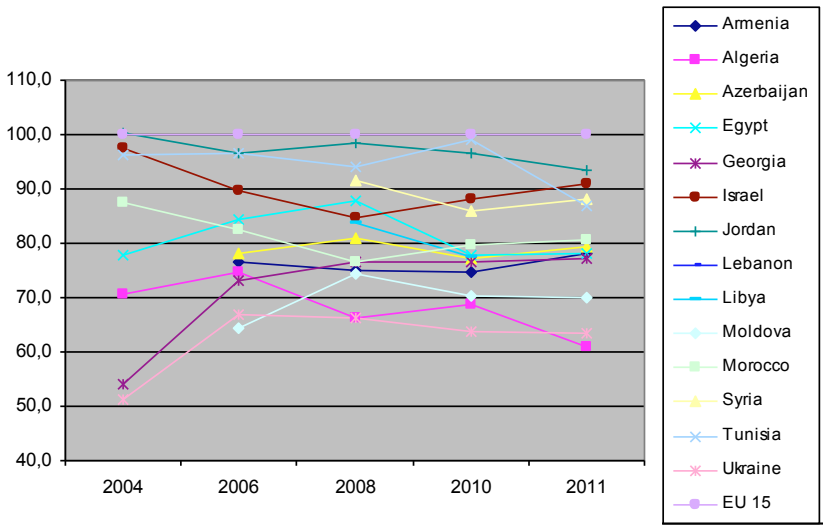


Figure 32. Rule of law – BSEC

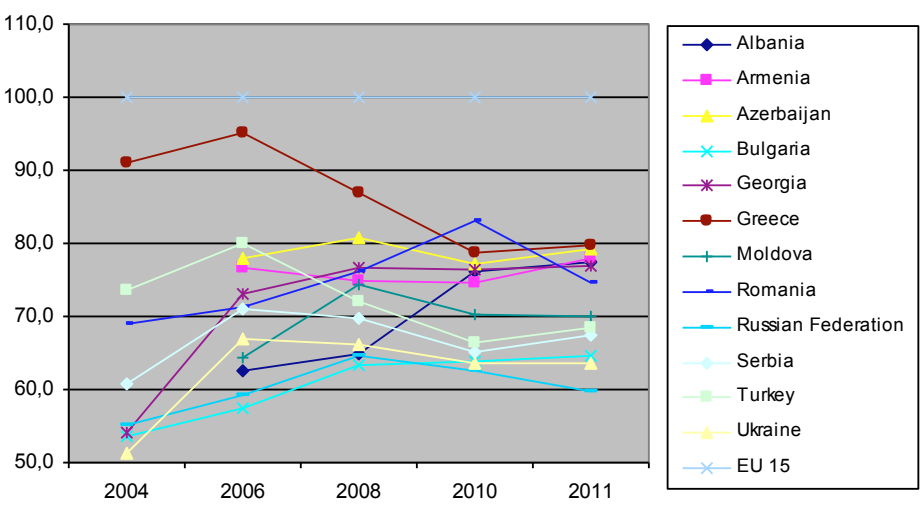


Figure 34. Control of corruption – EU15

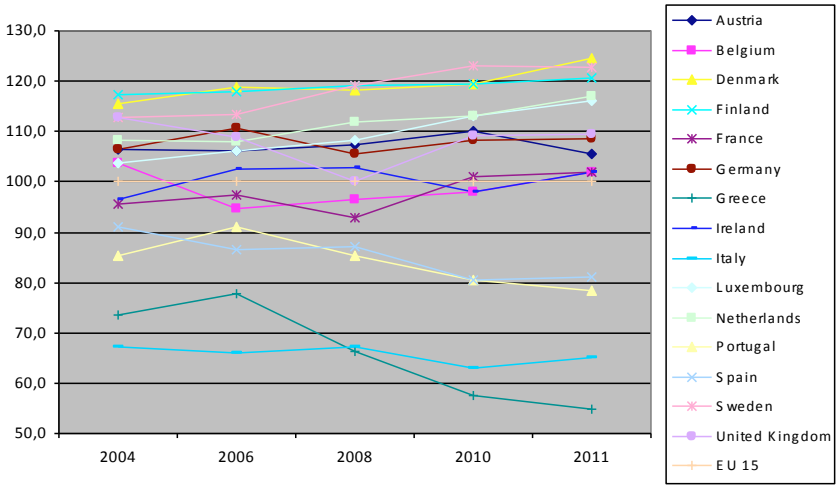


Figure 35. Control of corruption – EU12 New MS

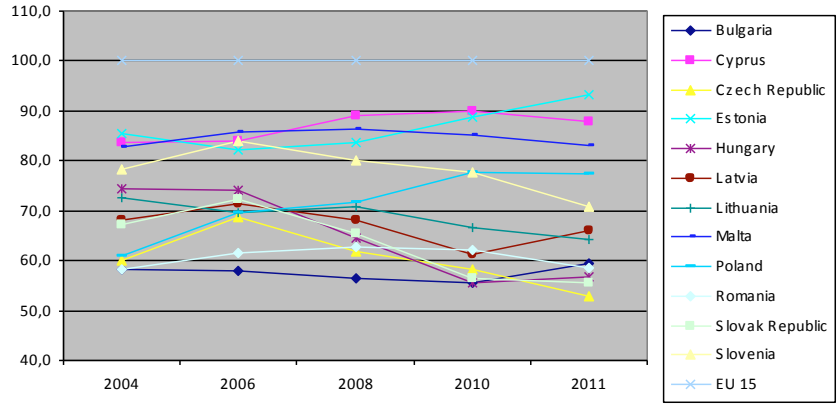


Figure 36. Control of corruption – Candidate Countries

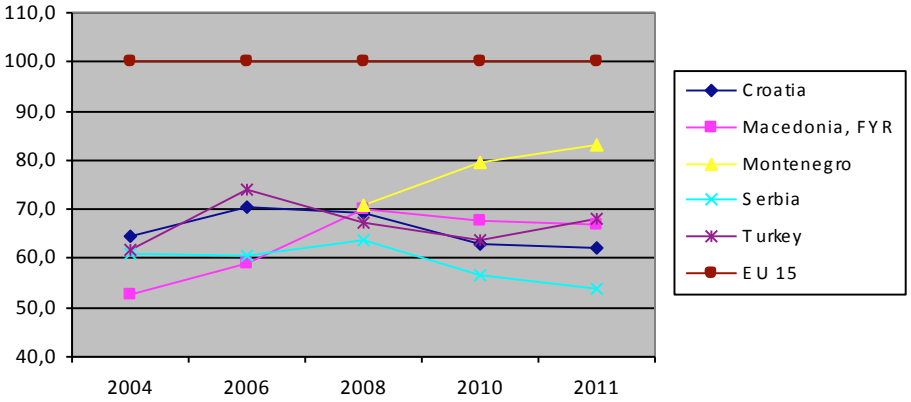


Figure 37. Control of corruption – ENC East

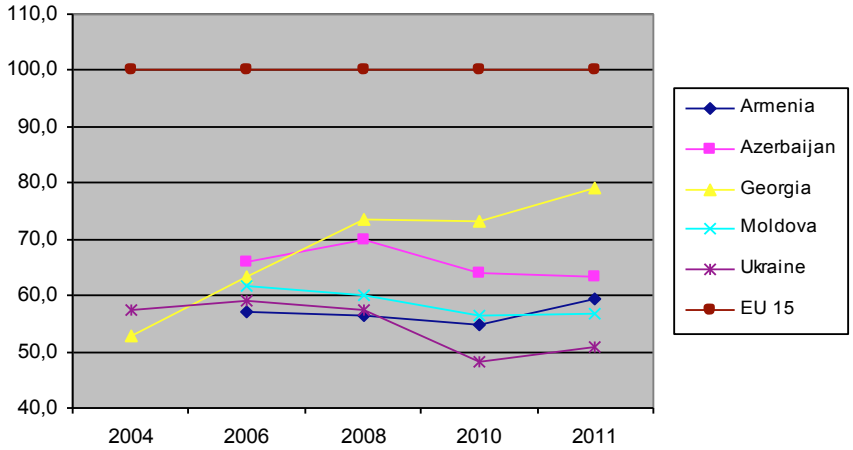


Figure 38. Control of corruption – ENC South

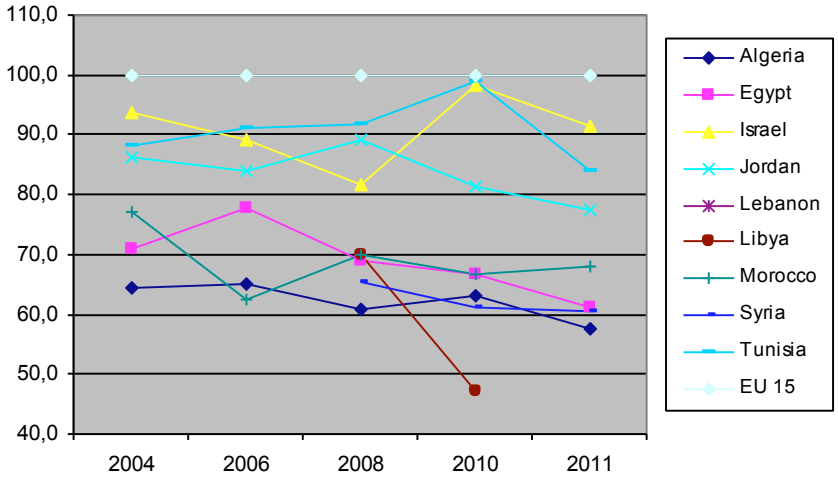


Figure 39. Control of corruption – ENC total

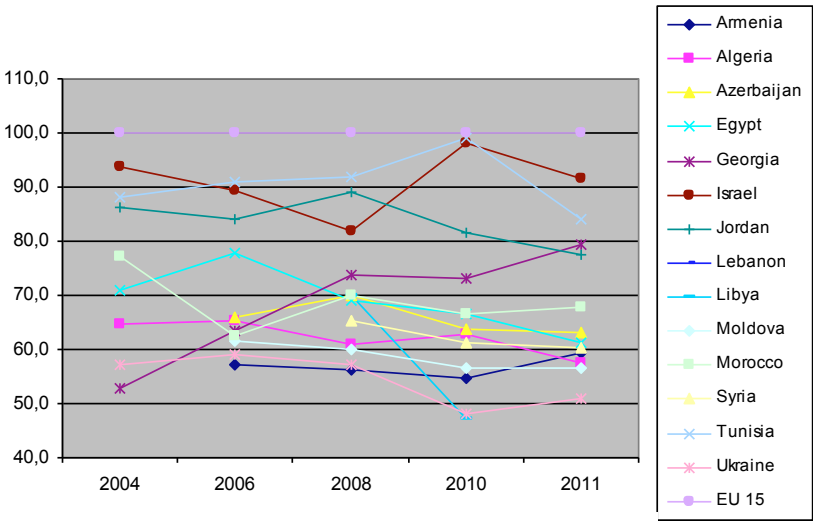
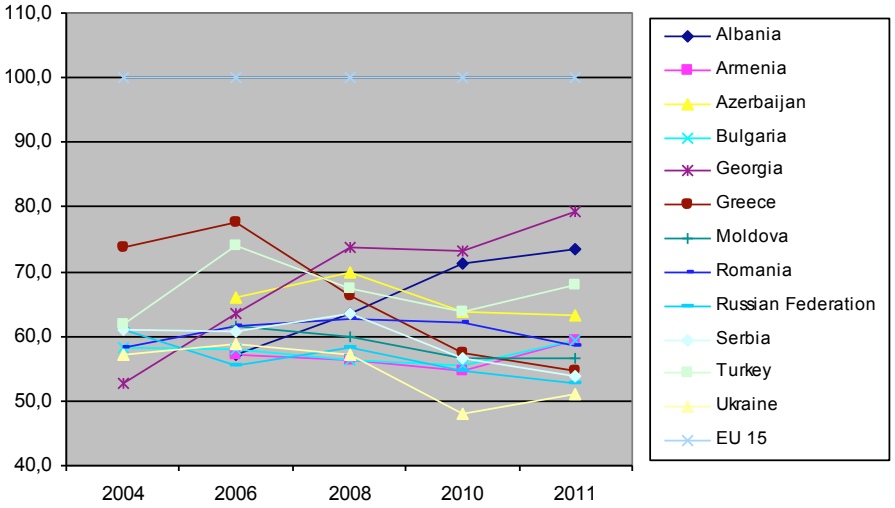


Figure 40. Control of corruption – BSEC



Similarities and Differences of Institutional Change in ENP and Other Catch-Up Countries

Daria Zvirgzde, Institute of Economic and Cultural Geography, Leibniz University, Hannover, Germany
Daniel Schiller, Lower Saxony Institute for Economic Research (NIW), Leibniz University, Hannover, Germany
Javier Revilla Diez, Institute of Geography, University of Cologne, Germany

E-mail: zvirgzde@wigeo.uni-hannover.de, schiller@niw.de and j.revilladiez@uni-koeln.de

Abstract

Empirical studies on institutional change have proven the importance of institutions, both formal and informal, for the explanation of uneven economic growth. Conducive institutional settings have been in place in many successful East Asian catch-up countries. By contrast, the institutional transformation of countries that are part of the European Neighbourhood Policy (ENP), i.e. mainly post-communist transition states and Middle East and North Africa economies (MENA), shows how the low quality of institutions affects economic transformation negatively. It is the aim of this paper to identify facets of the East Asian success story and to discuss their relevance for the ENP countries. Firstly, characteristics of institutional frameworks that potentially support catch-up processes are discussed and those elements of the East Asian case are combined in a conceptual framework that could be potentially replicated and adjusted within institutional transition in other regions. However, it is highly demanding and often impossible to single out some properties of one context-specific institutional framework and to implement them in another institutional setting which is also path-dependent and relies on distinct informal institutions. Thus, the limitations to the transferability are also discussed. In the empirical part, the quality of institutions and the path of institutional change in post-communist and MENA countries is compared to the situation in East Asia.

Keywords

Institutional Change, Institutional Quality, Catch-Up

JEL Classification

O43, P25, R12

1. Introduction

It has a been a long-term concern for many scientists today why some economies develop and grow very fast and change the world economic map dramatically, and other developing countries still lag behind, while the experience of successful cases might be replicable. What all the scholars on the topic demonstrate is that besides geographic positioning and trade, which are definitely responsible for the determination of income levels around the world, institutions, specifically the quality of institutional environment outstrips everything else (Rodrik et al., 2004). It is believed that societies that encourage investment through the means of incentives and high quality institutional environment will be richer rather than the ones, who do not do so (Acemoglu et al., 2002).

In this paper, formal and informal institutions refers to rules and policies, which encourage enforceability of law, property rights protection, and government support aiming at building up a high-quality institutional environment. There has been a long debate on the subject of whether institutions are the same as organizations. Evolutionary economic geography implicitly distinguishes between institutions and organizations and institutions and routines, attributing institutions to specific territories and routines to firms. In such a way, institutions bear a territorial character being embedded in specific regional systems (Rafiqui, 2009). The informal component of the institutional environment is supposed to be as important as the formal one, since as Tridico (2011) points out, acceptance and success of the new formal institutions depends on the fit with informal institutions, which already exist in society. As North (1990) puts it, institutions, being the rules of the game, and humanly incorporated constraints that form human behaviours, informal rules, social contracts and business culture, tend to have a limiting effect on how economic agents interact and thus on the whole economic development.

Institutional change in East Asia and other transition economies of the European Neighbourhood Policy, namely Eastern European post-Soviet states and the MENA region countries, is specifically addressed in this paper. East Asian countries are used for comparison because currently ENP countries are at a more similar development level with the East Asian states at the time of the start of their catch-up history and growth as emerging countries rather than with Eastern European states, new EU-members, in which the institutional change was spurred within the process of a quick integration with the EU. Institutional evolution as the prerequisite of economic growth depends on some specific determinants, which ensure context-specific characteristics of transformation of institutional frameworks over time. Different scenarios of institutional transition in East Asia and post-Soviet states prove that it is determined by a country's values, history, traditions and norms, which in the long run affect the acceptance of formal rules and regulations. Intrinsically, analysis of differences and similarities of institutional change between East Asia and post-communist economies falls within the lines of old and new institutional economics. Institutional change, which took place in the independent states

after the collapse of the Soviet Union, can be explained from the perspective of old institutional economics, according to which "old and inefficient economic institutions can persist even when economically inefficient if they guarantee the pursuit of their original objectives, and when the power groups, the guarantors of these institutions, still consider them appropriate for the protection of their interests" (Tridico, 2011: 125). In contrast, institutional transformation and its impact on economic catch-up for the East Asia states falls in line with the new institutional economics theory, stating that institutions are there to reduce transaction costs and new institutions emerge when the old ones are not able to reduce the transaction costs anymore (North, 1990). In such a perspective, inefficiency of bad institutional frameworks and the influence of institutional environments on economic growth and development are addressed further in this paper.

What exactly brings institutions up front and why East Asian countries managed to profit from their institutional environments and European Neighborhood Policy states did not perform so well, facing institutions as obstacles for their development, is up for discussion. Acemoglu et al. (2001, 2002) and Nagy (2002) refer with their examination of unsuccessful institutional development of transition economies to the initial conditions and historical path-dependency of institutions. The authors state that institutions are inherited by the countries together with their history and, therefore, the costly process of changing bad institutions for good ones is not attractive for governments. Thus, in both post-Soviet states and the MENA countries the power of the government lies in the hands of certain political groups as a result of deeply-rooted non-transparent and corrupted political regimes. As such, political groups represent certain political interests, which provide an incentive for a certain direction of the state government. Being adapted to the existing labyrinths of political power, the government benefits from the old rules of the game. Therefore, the government itself is not interested in institutional transformation to take advantage of the "loopholes" in the existing system. Lee and Mathews (2010), on the other hand, underline that East Asian countries proved to be high performing and economically successful because they managed to use their institutions for the benefits of economic growth.

This paper consists of the following parts: section 2 deals with the question of why institutions are important for catch-up, discussing in detail the success story of East Asian countries and the Washington Consensus versus the BeST Consensus. Section 3 covers the conceptual framework and deals with the catch-up experience of East Asia, which can be used in other transition states. Section 4 discusses the transition of post-Soviet states and the MENA region. Section 5 provides the data of the previous research carried out in terms of institutional assessment of the economies by the World Bank and World Economic Forum. Section 6 deals with the summary of the entire paper.

2. Institutional Frameworks for Successful Catch-Up

It has been largely accepted in the literature that economic systems are influenced by institutions (North, 1990; Tridico, 2011). Differences in economic performances of states can be explained by a range of factors, such as geographical positioning, level of openness of the economy, low barriers for international trade, among others macro- and microeconomic parameters. Institutional performance within the specific regional, social and historical contexts directly impacts on the above indicators of economic growth and development (North, 1990). Moreover, it has been largely accepted by evolutionary economic geographers that knowledge creation and technological development are the drivers of economic growth. Institutions do have an impact on the formation of incentive mechanisms that enable investments in human capital and technology, which later lead to economic growth (Rafiqui, 2009).

Economic transformations are backed up by certain institutional changes to create context specific conditions and frameworks for these transformations to take place. Institutions are endogenous to economic development, because the latter starts with institutional change aiming at getting the right institutions in place to adapt economic changes to the new circumstances and environments (Tridico, 2011). Hodgson (1995), comparing evolutionary change of institutions to the Darwinian process of biological change, stresses that institutions are path-dependent and strictly endogenous and the change of formal and informal rules and regulations always comes first before the other transformations take place.

Variation of institutional change over space provides evidence that institutions are spatially or geographically related. Thus, looking at Asian, North African and Eastern European economies, it becomes obvious that the socioeconomic progress of these countries differs drastically. The rapid growth of East Asia has challenged other parts of the world with a firm statement that there is a range of drivers, which enforce such an economic outstrip. Taking a more detailed view of what these drivers are, the question arises about what in particular drove the development in East Asia and was lacking in other transition economies while they were lagging behind. Here institutions move forward with examples of high performing East Asian economies, which managed to economically outperform major economies of the world, having previously established high quality institutional frameworks with a more liberalized and supportive government presence in the economy in some Asian economies and more restrictive roles in others. Thus, in Thailand and Vietnam the government role was much more liberalized and distant from the economic life of the states, and in China and South Korea the government has played a very restrictive regulatory role. As a result, Thailand and Vietnam still lag behind with respect to their economic indicators and global competitiveness in comparison to China and South Korea (World Bank, 2012; World Economic Forum and the OECD, 2011).

The IMF and the World Bank, both institutions based in Washington, were stressing the importance of deregulation, trade liberalization and the free market formula, which mainly involved the market taking the lead on the basis of the supply-demand law of an economic model. Washington Consensus was introduced by John Williamson in his book *Latin American Adjustment* (1990) and together with a range of factors favouring a secure and stable macroeconomic regime, especially in the field of fiscal regime, the consensus promoted free market policies (Lee and Mathews, 2010). It principally encouraged trade liberalization and deregulation thereby favouring the market in charge of economic growth. Macroeconomic stability achieved through fiscal discipline, tax reforms and export growth were supposed to be the prerequisites of economic development.

In 1993, the World Bank introduces "The East Asian Miracle" report, in which it expresses a neo-classical view, or a "market friendly view," although it also indicates a revisionist view, or a "government friendly view." The World Bank challenged an explanation of the East Asian economies' success by raising questions about the relationship between the government, the private sector and the market. Although the government appears to be an important player in the arena, it is mainly expressed through sound macroeconomic policies towards effective macroeconomic management and a broadly-based education system in the context of such relationships. Moreover, it is clearly stated that an extraordinary growth of high performing East Asian economies was due to the accumulation of physical and human capital together with an enforcement of FDI investment and technological upgrading (World Bank, 1993). Thus, the World Bank clearly promotes the role of the market and competition, export growth and macroeconomic stability, increasing savings and productivity change in flexible labour markets in the achievement of economic upheaval by high performing East Asian countries. Within this perspective, the World Bank partly supports the basics of the Washington Consensus, giving way to deregulation, trade liberalization and privatization as the drivers of growth. Of course, it is hard to argue that these determinants do not work for economic development. What is important in this respect is the location specific context and historical conditions attached to this context, in which the Washington Consensus can work.

Thus, the success story of Asian emerging markets should not be treated homogenously. While within the macroeconomic indicators, such as fiscal discipline, public expenditure on health, education and infrastructure, tax reform, exchange rates and securing of property rates, South Korea, Taiwan and China had similar perspectives, they were more selective about other elements of the Washington Consensus. Differences of East Asian national government regulation on trade liberalization, privatization and FDI attraction provide an example of context specificity of those conditions impacting catch-up. Therefore, trade liberalization in South Korea and Taiwan was limited until the 80s, while in China the restriction lasted until 2002. The wave of privatization occurred in South Korea and Taiwan in the 1960s, and in China the state-owned enterprises are still very dominant (Lee et al., 2011). The aspect of FDI deserves special attention attraction,

since enforcement of foreign direct investment creates not only an inflow of capital and physical resources, but also an inflow of knowledge assets, human capital and technological transfer, all playing a prominent role in upgrading process and catch-up (Bevan and Estrin, 2004). The FDI inflows into South Korea have been heavily restricted, in Taiwan there has been a thorough government control introduced over the barriers to FDI and in China certain sectors have been closed for FDIs as the result of sector targeting (Lee et al., 2011).

However, industry targeting should be addressed quite carefully. In this respect, the major concern is what industries should be targeted and how the government selects the right industries. Targeting should proceed strategically towards those industries that outperform externalities or market failure in terms of the gap between private and social return. Technocratic insulation can be also addressed within the perspective of targeting of the right industries. Technocratic insulation means "the ability of economic technocrats to formulate and implement policies in keeping with politically formulated national goals with a minimum of lobbying for special favours from politicians and interest groups" (World Bank, 1993: 167). This is how South Korea established a successful telecommunications services industry, oriented to exports, which was primarily overtaken by MNCs and JVs. South Korea managed to do so only with the help of government, supporting technological transfer, upgrading and building of of firms' own manufacturing capabilities (Stiglitz and Yusuf, 2001).

The role of the government in South Korea, China and Taiwan managed to create a reliable legal framework, which makes the promotion of national and international competition possible and, therefore, enforces economic growth. In comparison to other developing countries, East Asian economies turned out to be more successful in creating a strong legal regulatory environment, which enabled property rights protection and rule of law as a good platform for economic development. Rodrik et al. (2004) stresses the importance of property rights and rule of law as the prior rules of the game of a society, yet relying on the context specificity depending on the historical trajectories, geography, political economy and other initial conditions (Acemoglu et al., 2002). Findings indicate that when property rights are protected, the whole economy grows better. Proof of this is the different experience of Russia and China. Chinese entrepreneurs felt sufficiently more secure to make large investments, which also played a prominent role in the rapid catch-up of the country, whereas in Russia investors were still afraid to obtain use of private property rights because they were not securely established within the whole legal system.

The role of the government is clearly moving forward in the discourse of an unprecedented growth of high performing Asian economies and failure of Eastern European countries together with North African states to catch up as efficiently as their Asian counterparts did in the 1990s. Scholars refer to the orthodox Washington Consensus

policies as the reason for poor economic performance of a range of post-Soviet economies after the reforms of the 1980s and 1990s did not work out well (Tridico, 2011).

Realizing the ineffectiveness of non-government economic regulation and failures of economic growth without solid institutional frameworks, Lee and Mathews (2010) refer to the Beijing-Seul-Tokyo Consensus for economic development as a substitution for the Washington Consensus. The focus of the Washington Consensus, international financial institutions proposed the so-called "Augmented Washington Consensus", in which an important institutional platform was introduced. However, the institutional catch in the renewed Washington Consensus still had a limited perspective on broad government policies, market institutions and social dynamics as essential ingredients.

BeST is a range of flexible underpinnings of certain policies and strategies that encourage capability building and development of a sound institutional platform (Table 1).

Table 1. Washington Consensus vs. Augmented Washington Consensus vs. BeST

	Washington Consensus (1989)	Augmented Washington Consensus (2000)	BeST (2010)
Role of the state	Weak role of the state (liberalization, deregulation and privatization of state enterprises)	Growing role of the state (enterprises under corporate governance)	Strong role of the state (industries and technologies targeting, leading sectors upgrading, gradual phasing out of non-market interventions, pilot agencies guiding the industrialization)
Macroeconomic settings	Lowering inflation, trade deficit, FDI attraction	Anti-corruption, flexible labour market, inflation targeting, adherence to World Trade Organization (WTO) standards	Stable macroeconomic settings (lowering unemployment, stable inflation, stable budget deficit)
Financial system	Fiscal discipline, tax reform (no or small growing rate), unified exchange rates, liberalized interest rates	Adherence to international financial codes, "careful" capital account opening, non-intermediate exchange rate regime, independent central banks	Catch-up friendly system ("easy" credit conditions, financial incentives for upgrading and opening of new enterprises)
Public expenditures	Reduction of public expenditures	Public spending for social safety standards and poverty reduction	Public spending for firms' capabilities development and broad-based education building
Economic growth potential	**Market**	**Market + Government**	**Government -> Market**

Source: Own draft based on Lee and Mathews (2010); Rodrik (2004); Tridico (2011)

Contrary to the Washington Consensus and Augmented Washington Consensus, BeST introduced conservative macroeconomic settings, selective opening of industries for incoming FDI flows and industry targeting, i.e. selection and attraction of technological transfers to those industries which were meant for catch-up. Special attention must be paid to the following aspects, introduced by BeST: creation of pilot agencies to guide industrialization, targeting industries and technologies and upgrading of the leading sectors, building broad-based education, from primary to tertiary education, provision of advanced knowledge access and firms' capabilities building. The whole concept of government interventions in the economy through the means of pilot agencies and industry targeting introduced in BeST supports the assumption that the government has to come first in establishing the rules of the game and the market is to come second to play this game. State intervention in East Asia did not paralyze the market self-regulation function. It had more of a supplementary role of adding disciplinary functions without any intention of weakening market discipline. The aim was to target the industries up until that point in time, when they will be able to compete internationally. In order to pursue these industrialization frontiers, East Asia required strong government and leadership.

Another important institutional component addressed by BeST and not mentioned by the international financial institutions is higher education. In contrast to the Washington Consensus, the BeST Consensus includes broad-based education as one of its core determining factors for economic growth. BeST stressed the importance of a complete education system, namely from primary to tertiary education, since for technological upgrading and firms' capabilities building these are people skills that matter the most. Education policies are primarily of interest for the development of human capital, accumulation of which is also seen as a prerequisite of East Asian growth success. Education reflects the level of structural change in human capital, which is represented by people and their abilities to perform within the economic system transforming and their readiness to accept the outcomes of such transformation. Lee and Kim (2009) have also proved that institutions and secondary education as a part of an institutional framework do matter for "lower" income countries during transition from low to middle-income countries, whereas tertiary education and technological innovation are important factors for "higher" income countries when upgrading to high-income groups.

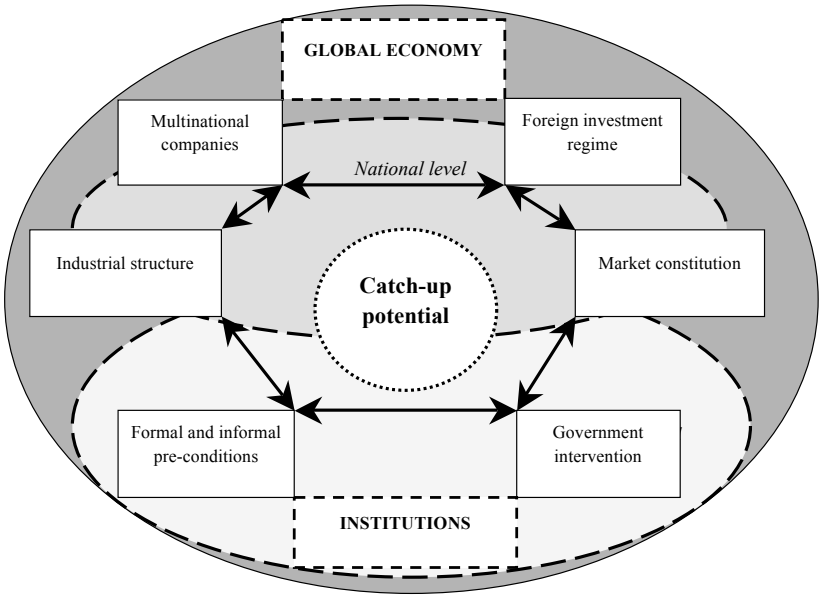
By and large, the role of the state in the catch-up story of East Asia is unprecedented. It is interesting to see how East Asian governments managed to find a balance in the levels of government interventions and their ability to integrate and embed institutions not only in the economy, but also society. The rapid and successful growth of South Korea, Taiwan and China with a strong restrictive role of the state compared

to Thailand and Vietnam, for example, which are still trapped in between with a much more liberalized and diminished role of the government in economic activities, proves that an obviously institutional framework does impact on the economic growth and development of states. However, addressing the East Asian success as a miracle in its pure sense is also risky. The BeST Consensus has its own strengths and weaknesses, which have proved to be valid over time and were revealed to a greater extent at the times of the Asian Crisis. On the one hand, the government role in South Korea, China and Taiwan within the framework of strengthening the role of the state in the economy according to the BeST did pay off. The governments provided a wide range of programmes concerning the savings promotion, strengthening and expansion of financial institutions, education enhancement and macro stability (Stiglitz and Yusuf, 2001). Through the support of certain sectors and export enhancement, these sectors have become the main baseline of the economies in the future. On the other hand, there are still a lot of critics of such industrial policies. In the end, such targeting resulted in China and South Korea solemnly relying on the investment of their own firms, while Singapore's and Malaysia's strategies of market openness towards FDI and liberalization gave them an unprecedented advantage of international reach in the long-term (Stiglitz and Yusuf, 2001). Thus, different policies undertaken in different national economic systems only prove the heterogeneity of Asian growth and catch-up in the world arena together with fact that the BeST Consensus should not be taken for granted as the "one size fits all policy", but rather be analysed in the light of context-specific environments of different states.

3. Conceptual Framework: Can the East Asia Success Story Be Replicated by Other Regions?

The main question arises about whether the success of East Asian countries and the BeST Consensus can be taken into consideration in other developing states, specifically the former Soviet Union and the MENA region countries. It is important to analyse how institutional factors, as an engine for the East Asian miracle, can also drive growth of other transition economies through stimulation of innovation and upgrading by firms. Catch-up now appears to be viewed as a process. Geschenkorn (1962) points out that the comparative advantage of countries lagging behind is that they can really use the knowledge of the developed counterparts. He calls it a "late-comer effect" and explains it through the process of specific imitation of the successful institutional change practices by less developed countries, which in the long run helps the latter to catch-up. This is a competitive advantage for countries, which are still economically underdeveloped to learn from the experience of well-developed countries and adjust development scenarios of the latter to their own specific contexts.

Figure 1. Conceptual framework on catch-up



Source: provided by author

In Figure 1, the conceptual framework for analysis of the role of institutions for economic development and growth within an economic system is presented at three levels: supra-national level of the global economy, national and sub-national levels. The economic system comprises all the elements linked with each other, each playing its specific functional role. Global economy impacts on the formation of the economic system of a certain state through the multinational companies, which are the investors within this economic system and act according to the supra-national trade and investment regimes. Entering the national economic system the firms strive to get embedded into the latter through the means of becoming the active players of the local market, accepting the rules of the game of this market, and through the integration within the local industrial structure. The market and industrial structure of any state belong to the national level, because national governments regulate them. But when it comes to the catch-up potential of the economic system, the strategies of the national and regional governments are different, because an upgrading of a system involves an upgrading of the place-specific elements of the latter. This is where the regional aspects come into force and constitute the sub-national level of the economic system with the conditions of specific locations. At the level of regions, the strategies of regional governments become dependent on the pre-established conditions of this region. Thus, to enable the catch-up of the system, the market and industrial structure have to enable foreign and domestic firms to contribute to the growth and development of the regional economic system.

At the level of regions and localities, institutions become the most place- and path-dependent (Rafiqui, 2009; Martin, 2008). Institutions, both formal and informal, play an

important role as glue in the economic system, which coordinates the actions of all the agents. According to the BeST Consensus, formal institutions, established by the government, play a central role in organizing how the economic system works. Therefore, formal institutions might influence the market significantly, serving as an important prerequisite of establishment of a profound legal base for the functioning of firms in the regional economic system. In the conceptual framework, the influence of the formal institutions on the market is expressed through the government intervention. Stiglitz (1996) underlines that in principle the basic elements of the East Asian miracle could be used for economic transformation in other transition states, if there was a provision of the following formal institutional incentives for the growth of developing markets: macroeconomic and political stability; broad investment in education; government policies could adapt to the changing circumstances and environments and focus on encouraging direct investments; governments were efficient in creating market institutions, like development banks and capital markets, so that markets could work more effectively; governments would aim at government-business cooperation, meaning introduction of such programmes by the governments that could serve corresponding needs of the business community. An important aspect addressed here is that the governments of East Asian states did not aim at replacing markets through the exaggerating of the governance dominance in the market regulations, competition, supply and demand prospects, but aimed effectively supporting the normal functioning of the markets through sound regulations and policies. Stiglitz (1996) states that the main mistake of the former Soviet Union countries and other socialist transition economies was that they tried to replace the market system through the planned government dictatorship without any economic rationale behind when there was a market failure observed. The same can be observed in the MENA region states, when the government becomes so dominant that it actually suffocates the market and healthy competition. In East Asia, on the other hand, the government took action and supported the market, never intending to diminish its role in its original sense. Thus, governments played a big role in the establishment of the efficient market institutions, such as long-term development banks and capital markets aimed at bonds and equities trading. This led to the development of the market institutional infrastructure, which enabled the markets to work more effectively. The governments also enforced control of financial markets so that resources were invested with the aim of further market growth. The development of a favourable business climate was also an important input originated by the government for the supplementing of the market role in the economic system. As Stiglitz (1996: 173) puts it: "By using, directing, and supplementing markets rather than replacing them, the private sector remained the centre of economic activity in most of the East Asian countries; when the private sector disagreed with the government, it was permitted to go ahead and risk its own capital."

One of the most important reasons that other transition economies, like post-Soviet states and the MENA region countries, were not able to replicate the story of high performing East Asian economies is that because of the initial high dominance of the

government in the economy, hindering progressive development, so that the concept of institutions was viewed as a burden for the economy. Bureaucracy, corruption, unfair standards of the planned economy going back to Soviet times led to what Stiglitz and Yusuf (2001) called a "corrupt government view," when the government's relationship with business results in corruption. This led to the formation of specific informal institutions, which comprised characteristic social norms, values, beliefs and behaviours of the society, which influenced the development of business culture and attitudes towards formal institutions. Informal institutions prove to be important grounds for the development of effective institutional frameworks. This is indicated in the conceptual framework within the framework of formal and informal pre-conditions. Firms are the generators of informal rules, codes of conduct, social standards and behaviours through their employees, thus generating informal pre-conditions. At the regional and local levels, development of personal contacts in order to make beneficial use of them is crucial for foreign-owned firms, which need to build up certain networks; at the same time, for domestic firms it is the reliability of oral agreements that matters, because domestic firms are already embedded in specific social networks. As Martin (2008) states, locally embedded firms, which function within certain informal institutional standards, create a sort of "institutional milieu," which in its turn facilitates the functioning of technological clusters. When the latter get established, they further encourage the formation of locally specific institutional systems, which also impact on the technological spillover among local economic agents. Stiglitz (1999) supports this view by stressing the role of institutions as "social glue," especially for transition economies. He criticizes the shock therapy, together with liberalization and decentralization in post-Soviet countries, since the methods did not encourage the development of social and organizational capital in the post-Soviet societies, which led to an absence of social norms and mentality for the transition period. Tridico (2011) has also mentioned that the transition of post-communist states should not be viewed as a simple "economic journey" from one point to another, but it should be an institutional evolutionary process, which will encourage consistency between formal and informal institutions. There is a mutual interdependence between the formal institutions (national and regional levels) and informal institutions (local level). This means, on the one hand, that formal institutions definitely have an impact on the formation of the informal social institutional environment, because social reactions to these rules and laws are being formed when rules and laws are implemented in specific local contexts from above and people are incentivized to act in accordance with those formal institutions established. On the other hand, formal institutions are already exposed to a certain informal environment and in order to make formal institutions work they need to fit in with already existing informal ones. The introduction of new formal market institutions should take into account the historical past and values of the country. While using the best experience of the East Asian model within post-Soviet transition states, it is very important to introduce government interventions in the economy in a form of gradual process of adaptation, rather than radical transformation, because in such a case the starting conditions of a specific environment really do matter. The success story

of East Asian catch-up owes also to a large extent to the fact that the economies started their growth from scratch. In contrast, in the post-Soviet states and also the MENA region countries, the catch-up process originates from already existing framework conditions, thick networks and the rules of the old system. And it is always more difficult to change the old system rather than to create the new one. In this respect, incremental building up and a long-term vision of an informal institutional framework should be a prerequisite of economic transition. Post-Soviet states together with the MENA region countries need to recover the faith and trust towards the government and formal institutions. To do so, the government should focus on supporting and facilitating the role of the economy, especially for domestic and foreign-owned firms, as Asian governments did through the introduction of special financial incentive schemes for business development, simplification of permit and license attainment, physical and intellectual property rights protection, increasing enforceability of laws and regulation policies, regarding those as important determinants, firstly, for the functioning of domestic enterprises and, secondly, for the attraction of FDI aiming at increasing knowledge and technology transfer from foreign-owned firms to domestic companies.

The conceptual framework aims at identification of exactly which aspects of the East Asian model and the BeST Consensus are more easily transferable, or are less context-specific, and which are more difficult to replicate, those that are more context-specific (Table 2).

Table 2. Possible transferability of the elements of the BeST Consensus towards the ENP countries

Elements of the BeST Consensus	Transferability/context-specificity	Reasoning
Strong role of the state: industries and technologies targeting, leading sectors upgrading, gradual phasing out of non-market interventions, pilot agencies guiding the industrialization	Not easily replicable/context-specific	*Lost faith in the state; the government used to act according to the interests of specific political groups rather than common economic rationale, as a result highly industrialized industries with no potential to compete; WTO rules; competition from other emerging markets*
Stable macroeconomic settings: lowering unemployment, stable inflation, stable budget deficit	More easily replicable/less context-specific	*Provision of stable macroeconomic conditions is the aim of any national government and is the prerequisite of economic growth notwithstanding other determinant factors*
Catch-up friendly system: "easy" crediting conditions, financial incentives for upgrading and opening of new enterprises	More easily replicable/less context-specific	*The lost face of the state might be recovered first of all through the state being supportive of the economic actors, to achieve this the governments should provide among other factors "friendly" financial and crediting conditions for start-ups development and upgrading in the existing enterprises*

(continued)

Public spending: for firms' capabilities development and broad-based education building	Not easily replicable/context-specific	*The existing institutional system lacks institutional quality, which leads to the possibilities of the government use the "loopholes" of the system for their own interests, as a result public spending when occurring within the low institutional quality environments may not lead to the initial aim, therefore the development of sound legal frameworks is needed before the public spending programs launched*
Catch-up model: government leads the market	Not easily replicable / context-specific	*The governments shall regain the faith in itself first in order to make the market accept its rule of the game*

Source: Provided by author

As can be seen from Table 2, the model of East Asian success will not serve as a blueprint since it is hardly possible to adopt all the elements of the BeST Consensus to the reality of other national and regional economic systems. Context specificity of the model leads to the difficulty in introduction of those elements which cannot survive in the reality of certain place- and path-dependent environments. Thus, while establishment of stable macroeconomic environment and catch-up friendly economic system is easier to replicate from the experience of East Asian states due to the less context specificity of these elements, the provision of the strong role of the state, public spending and the new government-market catch-up model is more difficult to adopt because of the specific local environments of the ENP countries. This proves the need to analyse further the context-specific frameworks of the ENP states in order to identify what aspects of local economic environments and specifically institutional frameworks hinder a successful transition process.

4. Institutional Transition

Transition period is always a challenging process because it involves change of something that has already been settled, a break of the system, and most importantly it always deals with transformation from an old to a new. How much of an old will still be there in the new depends on the quality of the transformation and its complexity, and the readiness of the system to accept the changes. Economic transition goes back to different spheres of social, economic and political life of any economy. Therefore, economic transition occurs together with the change of culture, social norms, habits and institutions. The roots of economic transition lie in the institutional transformation, when the new formal rules, laws and regulations have to interact with old ghosts of the past, namely informal behaviours which frame social behaviours, impact social organizations and so influence the whole economic system (Tridico, 2011). Therefore, it could possibly be claimed that institutions are path-dependent in their nature and institutional frameworks are already to some extent predetermined by the echo from the past. Furthermore, as

Martin (2008) points out, the impact of institutional path dependence is the most significant at regional and local levels, since institutions bring together local economic histories. Different institutions at different places by interacting with the economic regimes of those places produce a kind of place-dependent path dependency of institutions.

Acemoglu et al. (2001) prove the persistence of institutions from the past in specific places by presenting a theory of institutional differences between countries colonized by Europeans. By using this theory, the authors attempted to estimate the impact of institutions on economic performance using mortality rates. The results of the studies proved that settler mortality rates determine settlements, settlements determine early institutions, and there is a strong correlation between early institutions and institutions today. Acemoglu et al. (2001) also provide interesting evidence concerning the persistence of institutions. Extractive institutions, which were developed by the colonialists, are still present after the independence. The reasons for such persistence can be different, starting from the fact that introducing other institutions is always costly, so governments decide to stay with such an "inheritance" and go along with a statement that extractive institutions always brings benefits to the elite, especially if it is a small elite, so this small elite will always protect the functioning of extractive institutions. This leads to a rationale that institutions stay within a specific geographic entity over time, bringing their inherited rules and the way they are embedded in the society.

4.1 Institutions in the Post-Soviet Transition Economies: Lost Faith in the State?

The transition of post-Soviet economies from a planned economy to a market economy is a perfect example of transformation of an economic paradigm. The Soviet Union collapsed quite unexpectedly, having left behind a range of centrally planned economies from the old regime, which eliminated itself by its own means. As Nagy (2002, p5) puts it, "excessive centralization and monopolization soon created its antidote: the necessity of decentralization." As a result, huge centralized institutions started to act according to their own rules and interests, managers of big state-owned firms stopped being obedient to central orders, special interest groups strengthened, the role of the market was increased, and the state as such has been alienated. Such a development after the collapse of the Soviet Union goes in line with the Washington Consensus, proving that, in contrast to East Asian economies, post-Soviet economies have chosen a "market friendly" scenario of development rather than a "government friendly" one. The main reasons for this could possibly be the path-dependency of institutions and an endeavour of post-socialist governments to transform the economic system without transforming social systems of post-Soviet societies. Concerning institutional path dependency, it is important to mention Acemoglu et al (2001), who argued that the reason for European colonizers to leave extracting institutions or existing bad institutions in prosperous places was that these were beneficial for colonizers to take an advantage of institutional loopholes and the absence of some rules, and moreover bad institutions were of minor

concern because of the costs related to changing them. Ukraine and Russia are good examples of such government strategies in the transition periods. There is no incentive to change the legal framework, which is comfortable for the ruling elite to take advantage of bureaucracy and corruption, because existing rules are either easy to bypass or it is much more convenient to govern when there is no institution to control the governance, leading to rent-seeking and lobbying (Tridico, 2011). Another issue is that it is hardly possible to introduce a new institutional framework, without devoting attention and resources to changing the social capital and existing informal institutions embedded in the societies. When the informal institutional framework is not ready to accept the new formal rules, the initial goals cannot be accomplished. Tridico (2011) introduces an interesting concept – the dichotomy thesis, explaining the failure of transition post-communist economies to effectively catch up through the inconsistency of formal and informal institutions. He argues that "old habits, previous behavioural patterns, old ethos and the existence of old lobbies and all the informal institutions influence the dissemination of new formal institutions and their reinforcement" (Tridico, 2011: 138).

Importance of fit between formal and informal institutions is also expressed through the fact there should be a cooperative equilibrium between the state and economy agents. Such institutional arrangements are possible when there are social and economic institutions developed to monitor and report on non-cooperation, if any. Absence of such an equilibrium in East European states has triggered a whole range of other problems, such as traditional trade unions lost their credibility while they served obediently to the communist regimes; the newly created democratic unions were unable to make commitments; low wages attracted foreign investments, which led to the growing role of multinational companies, which using absence of a sound institutional environment just created powerful new lobbies and pressure groups. Nagy (2002) refers to the role of multinational companies in the transition period of Eastern European economies in a very interesting way. He explains that transition countries depend very much on their integration into the global economy and therefore their relations with multinational companies are very important. It led to an understanding that privatization was necessary to get rid of the inefficiencies of state ownership and central planning. On the other hand, it also somehow triggered the process of selling out the national wealth, when a public monopoly became a private monopoly of some interested groups, only because there was no proper institutional platform which could regulate FDI inflows. South Korea and China, on the other hand, were very strict with respect to selling out national wealth and opening their economies for FDIs, focusing on the endogenous growth and building of inner competencies of the state (Lee et al., 2011).

Post-Soviet countries also represent an interesting case scenario for the fact that the Soviet Union with its planned economy and major rule of the government after its collapse left the communist style institutional infrastructure for the independent states. The thickness of this institutional infrastructure was based on bureaucracy, corruption,

ineffective market institutions and absence of rule of law, security of property rights in the majority of post-Soviet states. This intuitional thickness resulting in an institutional lock-in has led to the situation that rebuilding of formal institutions was just not accepted by the economy, because it was not ready to incorporate the changes and there was no longer faith and trust in the state, which happened because the so called "nomenklatura" (the government officials in Soviet Union) were always "above the law" and could commit crimes, take bribes, do whatever they wanted as long as were on their powerful positions (Nagy, 2002). Swain (1998), in his comparative analysis of automotive industry in Hungary and coal mining industry in eastern Ukraine, refers to "institutional failure" in Hungary and Ukraine, triggered by asymmetrical relations between institutions. The author indicates that in Hungary foreign investors were extremely dominant at the expense of state and local institutions, which led to the exclusion of local producers from pan-European industrial networks. Inflows of foreign direct investments together with the decentralization of the economy were the main features of the economic transition of Hungary, which caused the asymmetry between the state and private business due to the formation of "cathedrals in a desert," foreign enterprises loosely connected to the domestic industrial systems due to the institutional inefficiency. In Eastern Ukraine, he argues, local producers and allied institutions were too dominant, because there was a weak national state institutional platforms and absence of specific types of institutions. Swain (1998) names three reasons of such an institutional failure in both countries: absence or exclusion of particular types of institutions; significant asymmetry in the relative power of different types of institutions and weakness of national states, which all resulted in emergence of barriers towards institutional change; institutional asymmetry triggered by overly cohesive institutional frameworks, which also hindered strategic collective action. In Eastern Europe, despite liberalization of markets and privatization waves after the collapse of the Soviet Union, the role of the state did not diminish, but has just transformed into conglomerates, mafia and banks, which only regarded their own interests.

The experience of post-Soviet economies proves that institutions are path-dependent and institutional environment has somehow been inherited by the independent states after the collapse of the Soviet Union. Due to no attention to the informal institutions and social capital, the changes that governments tried to incorporate within the years of independence did not have much success because social norms and behaviours were just not ready to accept them. Lack of government support of the economy rather than government playing the role of a constraining judge resulted in the absence of equilibrium between the economy and institutional framework, which deteriorated faith in the latter and made it impossible to impact the catch-up process.

4.2 Institutional Transformation of the MENA Region

Economic growth and development of emerging states is widely associated with the foreign direct investment flows into the latter, which trigger inflow of capital, knowledge

and new technologies. One of the primary determinants of the intensive FDI inflows is supposed to be the high quality of local institutional environments of the hosting countries, which create favourable conditions for the new entrants. Vittorio and Ugo (2006) prove that the growth of FDI flows in the MENA regions remains clearly lower than that of other developing and emerging markets, although lately most of the countries of the region have implemented substantial economic and institutional reforms in terms of increasing economic openness of the MENA states, macroeconomic stability and encouraging the private sector. A Euro-Mediterranean partnership agreement was signed, which resulted in liberalization of trade and automatically became an attractive factor for foreign-owned firms to enter the new markets. But all these positive transformations could not achieve the expected pay-off while there was still a strong bureaucratic machine running, and the import tariffs were tremendously high, which made the MENA states nearly the most protected in the world (Vittorio and Ugo, 2006). The reasons for these negative aspects still being present in the MENA regions are diverse. It is notable that in comparison to the average in the EU most MENA countries perform very poorly in terms of health and primary education, as well as higher education and training (World Economic Forum and the OECD, 2011). Thus, according to the Arab World Competitiveness Report 2011-2012 in Morocco, one of the main challenges for economic growth lies in education. Low quality of institutional support of education systems and the abundance of bureaucratic schemes led to the very low enrolment rates. Moreover, the quality of the education system does not correspond to business needs, which undermines the human capital of the region and leads to the absorptive capacity of the local knowledge base being quite low.

Meon and Sekkat (2004) provide empirical evidence on the low quality institutions negatively affecting the integration of the MENA states into the world economy. The authors used the basic specifications of manufactured export supplies and FDI inflows' determinants, adding to them the indicators of the quality of institutions, such as the corruption perception index, the corruption index provided by the World Bank, world education indicators (WEI), government effectiveness, the rule of law and a broad index of the quality of governance. The results of the study showed that the MENA states still lack the high quality of institutions, especially government effectiveness, which in its turn deteriorates the region's attractiveness for FDI inflows.

Political instability, together with corruption as a derivative effect of the inefficiency of the state regulation, are cited as the major constraints of economic growth and development of the MENA region (Hisarciklilar et al., 2006). The MENA region countries are mostly characterized by high dominance of the state in the economy. Low quality of institutions together with the high dominance of the state could be linked to the discussion of the possible introduction of the elements of the East Asia success story in other transition economies. Ineffective presence of the state in regulating, which does not drive but constrains economic growth, has come to be the problem of emerging

markets. The MENA region states turn out to be similar to the post-Soviet countries in being not able to combine the best practices of both, the Washington Consensus with its liberalization of economic system and the BeST Consensus with the supportive, and at the same time restrictive, government role.

This leads to further discussion on possible ways of raising the institutional quality of the MENA regions. In this respect, the introduction of institutional reforms aimed at maximizing the efficiency of the rule of state together with encouragement of the openness of economic systems of the Middle East and Northern Africa is needed. Mina (2012) offers two approaches that MENA states can conform to: a first best approach, namely strengthening the domestic institutional functions to approach the performance of industrialized countries; and a second best approach, i.e. signing and entering into force bilateral investment treaties in tandem with improving their institutional functions.

Both of these approaches deal mainly with the reinforcement of domestic institutions and balancing between domestic and international institutional environments in order to enter the international economic arena. Mina (2012) stresses that institutional reforms promoted by the World Bank, the IMF or the WTO presume a number of appropriate institutional arrangements to which countries have to conform, namely a best practice to follow. He finds that the best practice scheme does not involve interactions between institutional features, whereas the second best practice considers a cooperative component in the system of institutional arrangements, which also employs a transfer of knowledge and experience between the involved actors. In his study, Mina uses panel data for the period of 1992-2008 and analyses the first and second best approaches to reducing the risk of investment expropriation to encourage FDI flows. Mina also assesses the performance of domestic institutional functions at the regional and country levels, comparing the domestic institutional function performance, both property rights protection (PRP) and political, to 24 OECD countries using the International Country Risk Guide (ICRG) political risk components (a higher score indicates a lower risk) (Table 3).

The results prove that reducing the risk of expropriation of investment, ensuring government stability as two basic PRP institutional functions, has a positive impact on FDI flows. Mina suggests that PRP can be strengthened by entering into force bilateral investment treaties with OECD countries in addition to increasing investor protection domestically. The results also prove that the influence of bilateral investment treaties is not as strong as that of domestic institutional strengthening. The adoption of a second best approach in order to increase PRP impacts positively on FDI flows, but its positive influence is dependent on the success of the first best approach.

Therefore, the MENA states are currently undergoing a complex institutional evolution, which should be adjusted to its internal environment. There is a definite need for finding equilibrium between the openness of economy and high dominance of government

regulation. Liberalization of trade in the MENA region was a tremendous step forward for the inclusion of the MENA economy in the global systems through becoming a strategic partner in the bilateral agreements around the world. The government in its turn through imposing bureaucratic constraints on the economic processes in the MENA as an emerging market leads to a rejection of institutional norms and rules in pursuit of a supportive role of the state. The recent events of the Arab Spring with a revolutionary wave of demonstrations, protests and widespread societal turmoil only prove no consensus between society and politics and lost faith in the state in the long run. Uncertainty about the future social and political environment and the ever-lasting institutional weaknesses impact negatively on the economic growth of the region (World Economic Forum and the OECD, 2011). Thus, the aspect of lost faith in the state can be traced back once again within the discussion of ineffective institutional change of transition states, which is a very important barrier for catch-up of the MENA countries nowadays.

5. Data on Institutional Quality in the Selected East Asia and ENP Countries

The World Bank annually publishes Doing Business Report, focusing on the premise that economic activity requires good rules. Good rules and regulations have to be efficient, accessible and simple. Doing Business pays special attention to regulations, which provide stronger protection of investor rights. It takes the perspective of domestic, primarily small, companies and measures the regulations applying to them through their life cycle. Doing Business 2012 covers 183 economies, namely 46 economies in Sub-Saharan Africa, 32 in Latin America and the Caribbean, 24 in East Asia and the Pacific, 24 in Eastern Europe and Central Asia, 18 in the Middle East and North Africa, 8 in South Asia and 31 OECD high-income economies. The Doing Business sssessment is based on the results of the survey, which is carried out with the help of the questionnaire that uses a simple business case to ensure comparability across economies and over time. In 2012, the World Bank ranked economies on the basis of ten areas of regulation: for starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. Doing Business Index is calculated as the ranking on the simple average of its percentile rankings on each of the ten topics (World Bank, 2012).

The ranking of 2006 in comparison to 2012 on the Ease of Doing Business for East Asia (China, South Korea, Thailand and Vietnam) and ENP countries, namely North Africa economies (Morocco, Algeria, Lebanon, Egypt) and Eastern Europe states (Ukraine, Belarus, Moldova, Azerbaijan, Armenia) are compared in Table 4. From the East Asian block, South Korea improved its position most dramatically in comparison to 2012 by 19 points. From the North African block, Egypt positively raised its ranking by 31 points. In the Eastern Europe block, all economies, except for Ukraine and Armenia, improved their position in comparison to 2011.

Having a more precise look at the ranking on the Ease of Doing Business, namely on the ten areas of regulation, according to which the countries are ranked, the ranking of different economies could be compared with the average for the region or group of countries to which the respective economy belongs. Thus, South Korea, which belongs to the OECD high income group, performs worse than the average for the group only on two parameters: registering property and protecting investors. China and Thailand belong to East Asia and the Pacific region. In the case of China, it lags behind on the majority of indicators: starting a business, dealing with construction permits, getting electricity, protecting investors, paying taxes and resolving insolvency. Thailand draws a much more successful picture than China, since only in the area of paying taxes does it fall behind the average index for the region. Morocco belongs to the Middle East and North Africa Region and performs worse than the region's average on getting electricity, registration property, protecting investors and paying taxes. Ukraine, belonging to Eastern Europe and Central Asia, lags behind the region's average within all indicators, except for two: getting credit and enforcing contracts (Table 5).

Thus, coming back to government-business relations, the supporting role of the government towards business, specifically SMEs, and facilitation of rules and regulations in the successful story of economic growth of East Asian economies, the ranking on Ease of Doing Business also suggests that South Korea is one of the leaders in the OECD high-income regional group within getting credit, trading across borders, enforcing contracts and resolving insolvency indicators. Therefore, the institutional framework in South Korea aiming at creation a supportive business environment with the rules and regulations enforcing business activity stands out as one of the determining factors in its economic leadership, whereas Ukraine, scoring the worst in the overall ranking among its regional counterparts, also scores quite low within the same indicators. trading across borders and resolving insolvency rankings in Ukraine are much lower than the region's average. This means that, firstly, internationalization processes for SMEs are burdened with complicated and business unfriendly regulations hindering FDI inflow and technological upgrading and knowledge sharing processes. Low scoring on resolving insolvency ranking is also linked to the fact that government in Ukraine lacks business supporting initiatives in order to encourage SME development. In contrast, Morocco scores much better within trading across borders and resolving insolvency parameters in comparison to its regional average, which also goes in line with its moving forward in the ranking by 21 positions in 2012 compared to 2011. Therefore, lagging behind on institutional parameters proves to impact on economic performance and overall economic growth.

The World Bank has also carried out Enterprise Surveys since 2002. The Enterprise Survey questionnaire covers such topics as corruption, crime, finance, firm characteristics, gender, informality, infrastructure, innovation and technology, performance, regulation and taxes, trade, and workforce. In 2005, the World Bank conducted such a survey in South Korea, in 2006 in Thailand, in 2007 in Morocco and in 2008 in Ukraine. The

detailed results concerning the answers on the most "institutional topics", such as corruption, regulation and taxes, are provided in Table 6 in comparison with the region's average. From the figures it can be seen that while Morocco is scoring better than the regional average of Middle East and North Africa within corruption and regulation and taxes indicator, Ukraine is lagging behind. Therefore, the corruption, regulation and taxes parameters clearly impact on the whole Ease of Doing Business ranking, in which Morocco moves notably forward in the ranking and Ukraine remains low. The corruption parameter, mostly covering the issue of giving gifts to obtain a certain permit, resembles a poor institutional infrastructure, both formal and informal. The regulations and taxes parameter shows how burdensome the rules set in the society are for the latter. Thus, in the case of Ukraine, which scores low within all the regulations and taxes indicators in relation to the regional average, the institutional framework turns out to be very "thick", leading to an institutional lock-in and heavy rules rejection by the business. In contrast, South Korea and Morocco score quite well within regulations and taxes. This proves once again how important it is for the government to create a real market, supportive institutions and not turn the rules into obstacles to be eliminated.

Another ranking is proposed by the World Economic Forum, which since 2005 has based its competitiveness analysis on the Global Competitiveness Index (GCI), a comprehensive instrument for measurement of the micro- and macroeconomic foundations of national competitiveness. And competitiveness is defined by the World Economic Forum as "the set of institutions, policies, and factors that determine the level of productivity of a country" (World Economic Forum, 2011: 4). GCI consists of 12 pillars. The first pillar is Institutions. The institutional environment is determined by the legal and administrative framework, which involves all the agents interacting together to generate wealth. The World Economic Forum (2011) suggests that the quality of institutions has a strong influence on competitiveness and growth, but the role of institutions goes beyond the legal framework. What is also very important is the government attitudes towards the markets in terms of bureaucracy, corruption, dishonesty in terms of public contracts, and transparency. The World Competitiveness Report 2012 also highlights the importance of private institutions, since private-sector transparency is indispensable to businesses in order to ensure transparency in accounting and management practices. The World Economic Forum also divides countries into factor-driven, efficiency-driven and innovation-driven economies. Thus, Ukraine belongs to the transition stage from factor-driven economies to efficiency-driven economies. Morocco, China and Thailand belong to efficiency-driven economies. South Korea belongs to the innovation-driven economies. In order to transfer from one stage to another, certain requirements must be fulfilled. For example, in order to transfer from factor-driven to efficiency-driven economies, basic requirements have to be met, and institutions adhere to these requirements, which also underpin the theory of Lee and Kim (2009) that institutions do matter for "lower" income countries. Overall, GCI covers 142 economies in 2012. A closer look on the GCI 2012 ranking of the target groups of countries is presented in Table 7.

As could be concluded from Table 7, in contrast to the World Bank Doing Business ranking, China, Lebanon and Ukraine improved their GCI ranking in 2011-2012 compared to 2010-2011. And South Korea has fallen two steps behind, although its basic requirements rank in 2012 is much higher than other East Asia countries. In terms of the ranking of institutions, in East Asia, China is the leader with the highest rank in institutions out of the sample group and the highest GCI ranking after South Korea in the group. In the North Africa region, Morocco leads the institution rank and overall GCI rank. In the Eastern Europe group, Ukraine scores the worst for institutions, although its overall ranking is better than that of other countries of the Eastern European region sample group. China and Morocco prove that when the institutional framework works well, then the overall performance of the country improves. But the case of Ukraine introduces some contradiction into this assumption, since a bad institutional score did not hinder Ukraine's overall move forward in GCI ranking. Considering the nature of the World Economic Forum GCI ranking, namely expert assessment, the specificity of Ukraine's case as a post-Soviet country in terms of bad institutional scoring but progressive overall competitiveness scoring is that in post-Soviet countries institutions have been inherited as they used to be in the Soviet Union. Bad institutions are path-dependent, which goes in line with the Acemoglu (2001) assumption of the fact that when bad institutions are inherited they are rarely changed because they are already embedded in the society. Therefore, post-Soviet countries somehow already learned to live with what they have. Competitiveness is seen as something achieved not with the help of institutions, but rather in spite of them. And again lost faith in the state in Eastern transition economies becomes an important factor, which seem to grow due to bad institutions.

Overall, it can be observed that there are some contradictions between the rankings described above. One reason for this may be that while the World Bank primarily focuses on SMEs in building its Ease of Doing Business ranking, whereas World Economic Forum focuses on expert opinions when developing GCI ranking. Institutions might be treated quite differently by SMEs and expert assessments. SMEs evaluate institutions from the perspective of the latter supporting bodies for small and medium size businesses, ease of opening and registering an entity, and obtaining licenses and permits, whereas experts focus more on the overall institutional framework of the country. Thus, Ukraine with its contradictory ranking by the World Bank and World Economic Forum is a very good example of such contradictions taking place. In Ukraine, due to not receiving a diligent support from institutions, SMEs score a very low institutional indicator and the overall Ease of Doing Business ranking falls dramatically. Experts, on the other hand, evaluate the aspect of availability and not effectiveness in the overall institutional framework. Therefore, it may be concluded as already stated above that the role of SMEs in institutional development is important because SMEs are the indicators of the effectiveness of institutional environment.

6. Summary

Many scholars agree that the role institutions play for the economic performance and growth of states is remarkably important. Apart from a range of other factors, especially geographic and macroeconomic determinants, institutions prove to have a clear impact on the latter. This means that institutions may be not the only factor of geographically uneven development, but they do act as constraints on economic growth in territories in specific ways (Martin, 2000). New institutional theory links economic growth to the quality of institutions, focusing on the immaterial aspects of institutions, namely social capital, trust and values of the society. Other scientists find the connection between economic progress and governance capabilities of the state, which are expressed through the quality of formal institutional environments and regulation bodies. Therefore, institutions appear to be the first players in the scene, setting the rules of the game.

In this paper, we interpret institutions as a set of formal and informal institutions. Behind formal institutions we mean rules, laws and regulations, the legal sphere with its specific bodies and organizations, which form the constitutional legislative framework of the economy. With informal institutions we mean a set of social norms and values, beliefs and attitudes, traditions and behavioural pursuits in achieving human needs and reacting to the formal institutional environments. We analysed the catch-up process of East Asian countries and compared their economic progress with transition economies, such as the post-Soviet states and the MENA region countries, by building up a critical discussion around the Washington Consensus versus the BeST Consensus. This has confirmed that there are a number of reasons why ENP countries are lagging behind and high performing Asian countries are outstripping competitors in terms of economic growth. Firstly, post-Soviet states and the MENA region countries did not manage to effectively change the institutions of the old regime for the new efficient ones. Secondly, even the minor institutional changes incorporated failed to work out as planned due to the lost faith in the state and absence of fit with the existing informal institutional environment. In this respect, the path-dependency of institutions is addressed with an affirmation of the fact that institutional transformation is endogenous. Furthermore, we explored the fact that institutions are also place-dependent, meaning that institutional regimes are formed within specific regional contexts and the more institutions are embedded in those regional contexts, the less flexible they are to accept the changes. And, thirdly, in contrast to East Asian states, other transition economies failed to build up government-business relationships in the form of efficient control of the business by the government, since while in South Korea, China and Taiwan government has always played the dominant restricting role leading the business and economic development, in post-Soviet and the MENA region states the government could not get rid of inefficient dominance of the past and take the lead in the present.

By and large, the paper gives an overview of conceptual paradigms of old and new institutional economics applied to the specific contexts of East Asian catch-up and the

ENP countries in transition. The conceptual framework formulated deals with the question as to whether the success story of East Asian countries could possibly be replicated to the reality of post-socialist states. The East Asian miracle should not be treated homogenously, since the model of each Asian emerging national economy has its context-specific elements. The most evident turns out to be that while the governments of South Korea, China and Taiwan played more a restrictive role, the governments of Thailand and Vietnam, for example, were more liberal towards the economy, which could be one of the explanations why the latter still lag behind the highly successful East Asian states. Therefore, the model of East Asian success will not serve as a blueprint since it is hardly possible to adopt all the elements of the BeST Consensus to the reality of other national and regional economic systems. Context specificity of the model leads to difficulty in replication of those elements which cannot survive in the reality of certain place- and path-dependent environments. Thus, while establishment of a stable macroeconomic environment and catch-up friendly economic system is easier to replicate from the experience of East Asian states due to the less context specificity of these elements, the provision of the strong role of the state, public spending and the new government-market catch-up model is more difficult to adopt because of the specific local environments of the ENP countries. What is important is to identify what prerequisites are needed to make this replication effective rather than just "one size fits all" approach. First of all, the BeST model is transferable to other economies only if it is adapted to the local specificity context. Thus, the historical past and the path-dependency of institutions in transition economies should be taken into account. What is definitely needed for the acceptance of the BeST Consensus by transition economies is building up of informal institutions, ensuring the recurrence of faith and trust towards government and its interventions in the economy, and at the same time ensuring that the formal institutional framework with all its rules and regulations aims at supporting the economy, business and the market rather than constraining it. One of the ways to achieve this is to start with reformation of the legal system aimed at facilitating the business related procedures, eradication of bureaucracy, securing financial support for knowledge and technology transfer and provision of high quality education, ensuring close links between business and education institutions. It is also important to build up a cooperative equilibrium between the state and economy agents, thus encouraging close ties between the government and business. These ties are essential for the government to establish supporting rules of the games for the economy, so that the state is aware of what is really needed by the business.

The research introduced in this paper, however, does not provide a complete strategic framework of how the countries lagging behind could catch up effectively. A more detailed study of the possible ways of assuring the fit between formal and informal institutions together with the actual process of institutional change within the framework of institutional path-dependency are important issues for the future study in the area. Analysis of the impact of institutions in the region specific contexts within the overall multilevel evaluation of institutional environments is another important concern for the future research of institutional change, as well as its influence on economic growth.

References

Acemoglu, D., S. Johnson and **J.A. Robinson** (2001), "The Colonial Origins of Comparative Development: An Empirical Investigation", American Economic Review, 91(5): 1369-1401.

Acemoglu, D., S. Johnson and **J.A. Robinson** (2002), "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution", The Quarterly Journal of Economics, 117(4): 1231-1294.

Bevan, A.A. and **S. Estrin** (2004), "The determinants of foreign direct investment into European transition economies", Journal of Comparative Economics, 32(4): 775-787.

Gerschenkron, A. (1962), Economic Backwardness in Historical Perspective. Belknap Press of Harvard University Press.

Hisarciklilar, M., S.S. Kayam and **O. Kayalica** (2006), Locational Drivers of FDI in MENA Countries: A Spatial Attempt. MPRA Paper.

Hodgson, G.M. (1995), "The Evolution of Evolutionary Economics", Scottish Journal of Political Economy, 42(4): 469-488.

Lee, K., and **B.-Y. Kim** (2009), "Both Institutions and Policies Matter but Differently for Different Income Groups of Countries: Determinants of Long-Run Economic Growth Revisited. World Development", 37(3): 533-549.

Lee, K., and **J.A. Mathews** (2010), "From Washington Consensus to BeST Consensus for world development", Asian-Pacific Economic Literature, 24(1): 86-103.

Lee, K., M. Jee and **J.-H. Eun** (2011), "Assessing China's Economic Catch-Up at the Firm Level and Beyond: Washington Consensus, East Asian Consensus and the Beijing Model", Industry and Innovation, 18(5): 487-507.

Martin, R. (2008), "Institutional Approaches in Economic Geography". In: E. Sheppard and T.J. Barnes, A Companion to Economic Geography. Oxford: Blackwell Publishing Ltd., pp. 77-94

Meon, P.-G. and **K. Sekkat** (2004), "Does the Quality of Institutions Limit the MENA's Integration in the World Economy? ", The World Economy, 27(9): 1475-1498.

Mina, W.M. (2012), "The Institutional Reforms Debate and FDI Flows to the MENA Region: The 'Best' Ensemble", World Development, 40(9): 1798-1809.

Nagy, A. (2002), Evolving Institutions and Catching-up by the Candidate Countries of the EU. IIASA Interim Report IR-02-028.

North, D.C. (1990), Institutions, Institutional Change and Economic Performance. Cambridge: Cambridge University Press.

Rafiqui, P.S. (2009), "Evolving economic landscapes: why new institutional economics matters for economic geography", Journal of Economic Geography, 9(3): 329-353.

Rodrik, D. (2004), Rethinking Growth Policies in the Developing World. Harvard University.

Rodrik, D., A. Subramanian and **F. Trebbi** (2004), "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development", Journal of Economic Growth, 9(2): 131-165.

Stiglitz, J.E. (1996), "Some Lessons from the East Asian Miracle", The World Bank Research Observer, 11(2): 151-177.

Stiglitz, J.E. (1999), Whither Reform: Ten Years of the Transition. Washington, D.C.: Paper prepared for the Annual Bank Conference on Development Economics.

Stiglitz, J.E. and **S. Yusuf** (2001), Rethinking the East Asian miracle. Washington, D.C.: Oxford University Press.

Swain, A. (1998), Institutions and regional development: evidence from Hungary and Ukraine. SEI Working Paper No. 28.

Tridico, P. (2011), Institutions, Human Development and Economic Growth in Transition Economies. UK: Palgrave Macmillan.

Vittorio, D. and **M. Ugo** (2006), Do institutions matter for FDI? A comparative analysis for the MENA countries. MPRA Paper.

Williamson, J. (1990), Latin American adjustment: how much has happened? Washington, D.C.: Institute for International Economics.

World Bank (1993), The East Asian Miracle. Economic Growth and Public Policy. Washington, D.C.: Oxford University Press .

World Bank (2012), Doing business in a more transparent world. Washington, D.C.: The International Bank for Reconstruction and Development/The World Bank.

World Bank (2013), World Bank Enterprise Surveys. Retrieved March 13, 2012, from http://www.enterprisesurveys.org/data

World Economic Forum (2011), Global Competitiveness Report 2011-2012. Geneva: World Economic Forum.

World Economic Forum and the **OECD** (2011), Arab World Competitiveness Report 2011-2012. Geneva: World Economic Forum and the OECD.

Table 3. Domestic institutional functions in MENA (1990-2008)

Function	Property rights protection					Political					
	Investment profile	*Corruption*	*Law & Order*	*Bureaucracy quality*	*Government stability*	*Ethnic tensions*	*Internal conflict*	*External conflict*	*Military and politics*	*Religion in politics*	*Democratic accountability*
Regional level											
Max institutional score	12.0	6.0	6.0	4.0	12.0	6.0	12.0	12.0	6.0	6.0	6.0
MENA	7.23	2.77	4.0	1.79	9.2	4.56	9.11	9.96	3.03	3.51	2.64
OECD	9.09	4.77	5.57	3.78	8.25	4.97	11.1	11.04	5.77	5.62	5.73
MENA-OECD ratio	0.795	0.581	0.718	0.474	1.115	0.918	0.821	0.902	0.525	0.625	0.461
Country level											
Morocco	8.0	3.0	5.0	2.0	9.6	4.7	9.4	9.9	3.9	4.1	3.3
Algeria	6.8	2.3	2.4	1.8	8.3	3.1	5.7	10.4	1.1	1.2	3.2
Lebanon	6.6	1.5	3.6	1.5	7.7	4.4	7.8	6.3	2.7	2.6	4.1
Egypt	7.0	2.2	3.6	2.0	9.2	5.4	8.4	10.1	3.0	2.5	2.8

Source: Mina (2012)

Table 4. Ranking on the Ease of Doing Business

State	Doing Business 2006 rank	Doing Business 2012 rank	Change of the rank
East Asia			
China	91	91	0
South Korea	27	8	19
Thailand	20	17	3
Vietnam	99	98	1
North Africa			
Morocco	102	94	8
Algeria	128	148	-20
Lebanon	95	104	-9
Egypt	141	110	31
Eastern Europe			
Ukraine	124	152	-28
Belarus	106	69	37
Moldova	83	81	2
Azerbaijan	98	66	32
Armenia	46	55	-9

Source: Own draft by author on the basis of World Bank (2012)

Table 5. Ranking on the Ease of Doing Business (in comparison to the region's average)

Rank 2012	South Korea	Average for OECD high-income	China	Average for East Asia and the Pacific	Morocco	Average for Middle East and North Africa	Ukraine	Average for Eastern Europe and Central Asia
Starting a business	24	**57**	151	**95**	93	**98**	112	**65**
Dealing with construction permits	26	**53**	179	**73**	75	**91**	180	**127**
Getting electricity	11	**54**	115	**75**	107	**71**	169	**129**
Registration property	71	**59**	40	**85**	144	**82**	166	**60**
Getting credit	8	**41**	67	**91**	98	**119**	24	**51**
Protecting investors	79	**63**	97	**83**	97	**95**	111	**68**
Paying taxes	38	**62**	122	**70**	112	**62**	181	**99**
Trading across borders	4	**34**	60	**77**	43	**79**	140	**105**
Enforcing contracts	2	**37**	16	**86**	89	**114**	44	**61**
Resolving insolvency	13	**27**	75	**106**	67	**99**	156	**81**

Source: Own draft by author on the basis of World Bank (2012)

Table 6. Enterprise Survey in Ukraine (2008) and Morocco (2007)

Parameter	State	Region				
	South Korea (2005)	High-income OECD countries	Morocco (2007)	Middle East & North Africa	Ukraine (2008)	Eastern Europe & Central Asia
Corruption						
Percentage of firms expected to give gifts to public officials "to get things done"	14.1	12.1	13.4	37.0	31.8	24.9
Percentage of firms expected to give gifts in meetings with tax officials	21.3	19.3	10.7	23.4	28.3	14.2
Percentage of firms expected to give gifts to secure government contract	25.8	17.3	6.4	37.9	38.5	18.0
Value of gift expected to secure a government contract (% of contract value)	0.2	1.1	0.3	3.6	3.7	1.5
Percentage of firms expected to give gifts to get an operating license	-	0.9	0	16.5	37.3	14.3
Percentage of firms expected to give gifts to get an import license	-	1.4	20.0	22.9	2.6	16.7
Percentage of firms expected to give gifts to get a construction permit	-	9.2	15.3	25.1	59.1	25.3
Bribery depth (% of public transactions where a gift or informal payment was requested)	-	3.1	8.4	20.4	30.9	14.9
Percentage of firms experiencing at least one bribe payment request	-	4.6	-	53.1	38.5	19.1
Percentage of firms identifying corruption as a major constraint	8.5	13.9	27.3	56.5	50.2	34.5
Percentage of firms identifying the courts system as a major constraint	-	17.7	36.1	28.2	39.2	20.6
Regulations and taxes						
Senior management time spent dealing with the requirements of government regulation (%)	0.1	4.2	11.4	10.8	11.3	10.6
Number of visits or required meetings with tax officials	2.2	1.4	0.9	2.5	2.1	1.7
If there were visits, average number of visits or required meetings with tax officials	2.2	1.8	4.7	3.9	3.8	2.8
Days to obtain an operating license	-	29.2	3.4	41.0	31.0	25.7
Days to obtain a construction-related permit	-	62.8	61.0	94.6	135.4	81.2
Days to obtain an import license	-	27.4	-	29.8	16.4	15.0
Percentage of firms identifying tax rates as a major constraint	15.1	29.3	55.7	47.1	55.1	39.5
Percentage of firms identifying tax administration as a major constraint	9.1	19.7	17	34.4	35.3	20.6
Percentage of firms identifying business licensing and permits as a major constraint	7.5	10.8	9.3	29.4	32.7	16.1

Source: Own draft by author on the basis of World Bank (2013)

Table 7. GCI 2011-2012

State	Basic requirements rank 2012	Institutions rank 2012	GCI 2011-2012 rank	GCI 2010-2011 rank	Change of the rank
East Asia					
China	**30**	**48**	**26**	**27**	**1**
South Korea	19	65	24	22	-2
Thailand	46	67	39	38	-1
Vietnam	76	87	65	59	-6
North Africa					
Morocco	**54**	**59**	**73**	**75**	**2**
Algeria	75	127	87	86	-1
Lebanon	**109**	**115**	**89**	**92**	**3**
Egypt	99	74	94	81	-13
Eastern Europe					
Ukraine	**98**	**131**	**82**	**89**	**7**
Belarus	-	-	-	-	-
Moldova	**102**	**106**	**93**	**94**	**1**
Azerbaijan	**59**	**68**	**55**	**57**	**2**
Armenia	**94**	**83**	**92**	**98**	**6**

Source: Own draft by author on the basis of World Economic Forum (2011)

Section 3

Investment and Trade

Is the EU the Best Trade Partner for its Neighbours?

Anna Maria Pinna, Department of Economics, CRENoS (Centre for North-South Economic Research), University of Cagliari, Italy

E-mail: ampinna@unica.it

Abstract

The main goal of this paper is to examine in depth the bilateral trade relationships between the EU and its neighbouring countries over the last fifteen years in order to identify whether trade patterns have changed over time, mainly since the introduction of the European Neighbourhood Policy (ENP) in 2004.

The European Neighbouring Countries (ENCs) are developing countries (middle-low income countries) which, thanks to their proximity to European borders, have close relations with the EU and aspire to become member states.

To achieve the main objective we have explored trade flows between the EU and the ENCs by acting in different ways. We split ENCs into four different sub-regions in order to understand regional performance. We have taken into account ENC trade flows from and to emerging economies and the major world partners so as to determine whether Europe is losing its key role and whether its main competitors are gaining market share in Europe's neighbouring countries. We have considered trade flows for different types of products so as to gain an insight into the quality of the trade relationship. Lastly, we have examined geographical and sectorial concentration in trade flows in order to analyse to what extent the ENC trade structure is vulnerable to shocks.

Keywords

European Neighbouring Policy, Trade Flows, Export Concentration

JEL Classification

F13, F14

Acknowledgments

This research was supported by the Project Sharing KnowledgE Assets: InteRregionallyCohesive NeigHborhoods (SEARCH) within the 7th European Community Framework. Programme FP7-SSH -2010.2.2-1 (266834) European Commission. The author wishes to thank participants at the second SEARCH meeting in Cagliari for helpful suggestions on a first draft of this paper, and Vania Licio for excellent research assistance.

1. Introduction

Theoretically, the easiest market access for goods exchanged in the international markets should be in geographically close countries. If other factors are constant, we know that the reducing force imposed by trade costs is weaker over shorter distances. Moreover, when one country is much richer than another, proximity trade is potentially mutually beneficial because the rich country will usually offer a wider variety of goods with superior quality while the poorer one will offer lower prices (and attractive productive locations). Accordingly, import and export flows will start from both sides. Regional trade agreements, which normally involve adjacent countries, are strongly based on this argument; overcoming national borders is meant to create larger economic spaces for exploiting economies of scale, thereby reducing costs.

This paper aims to describe the position in the international markets for those countries neighbouring the enlarged EU. According to various suggestions from the theory of international trade, we should expect the EU member countries to be the most important trade partners of the European Neighbouring Countries (ENCs). Proximity, short distance and historical ties would point to this result. Moreover, a pragmatic political agenda calls for the European Union to build an environment of security, stability and prosperity with neighbours to the south and to the east. EU documents and policy reports on EU trade policy (2011, 2012) record as hard fact that most of our neighbours rely on the EU both as their primary export market and as their primary source of imports. How far is this true? Are recent developments in the international arena introducing further developments to this "broad" picture? The first aim of this paper is to provide recent qualified evidence on the international trade links between EU member states and countries at the borders of Europe. In answering this question, we examine whether differences in the origin and destination trade structure of neighbouring countries can be attributed to their geographical position in the wider EU area map.

The novelty of our analysis relies on the distinction between different types of products. Manufacturing products can be demanded by final consumers (consumption goods) or by firms (in the case of capital and primary products, which are also called intermediate goods because they are used as input in the production process of another good). Consumption, capital and primary products are final (finished) products apt for final demand. There are also semi-finished goods (the industrial classification for end of use also calls them intermediate), i.e. goods that require further processing or parts and components to be assembled in order to compose a final good. In the last fifteen years, the relative weight of intermediate goods in total exports of low-middle income countries (all neighbouring countries except Israel belong to this income group) has been increasing. In 2010, semi-finished goods were 40% of total exports of all countries in the group, while capital products now represent 20% of total exports (they were only 8% in 1995). In fact, the increasing role of exchanges of unfinished, capital and, recently, also primary

products, is one chief characteristic of the globalization wave of the last 30 years (Miroudot, S., R. Lanz and A. Ragoussis, 2009).

This report provides an analysis of trade flows across the EU27 and its neighbouring countries, distinguishing between the Old (EU15) and New (EU12) European economies and three sub-regions in the neighbouring area (Eastern, Southern and Middle East where Israel, the only rich country in the whole group, will be treated as an outlier). The descriptive work will answer different questions addressed in separate sections of the report.

In section 2 we will describe EU trade policy in the neighbourhood area. In this report, we take the protection structure of the EU external goods market as a given; we know flows are influenced by trade barriers but we do not measure them. In this section, we describe agreements on the movement of goods between Europe and its neighbours.

Section 3 will look at total imports and exports, trying to address several questions on the relative importance of the EU with respect to alternative trade partners: how important are neighbouring countries in EU trade? Has trade between the EU and its neighbouring countries increased over time? How does it compare with the world's emerging economies (BRICs)?

Section 4 will look at origin and destination of trade flows. What is the world geographic structure of flows entering and exiting the EU neighbouring economies? Is this pattern common across the neighbouring sub-regions?

Section 5 will investigate the differences according to the type of good. How important are consumer goods with respect to other products? Does the importance of capital, primary and intermediate goods share differ in the numerous sub-regions?

In section 6 we will move the analysis to the country level. This part of the work is aimed at providing some evidence as to the degree of diversification of EU neighbours' trade. After the work of Imbs and Wacziarg (2003) uncovering a non-monotonic relationship between production diversification and level of wealth, several works have looked at the issue in trade flows. As recently shown by Easterly, Reshef and Schwenkenberg (2009), exports are typically much more concentrated than production. The dependence of a country trade on what they call the "big hit" (a product in one particular destination) increases the vulnerability of its entire trade structure.

In this part of the report we will address several questions: what is the best trade partner in world trade and within the EU27 for the 15 neighbouring countries in our project? How has this evolved in time? Is there any evidence of any geographic "concentration"?

Section 6 will integrate both country and sector analysis. What are the driving sectors in trade flows at the country level? How does it compare ENC performance in terms of concentration in the world market with the EU27 and the market created by the five emerging economies? How does the picture change when we look at the best trade partner, whether in the world or in the EU27 group?

The last section of this report will provide some concluding remarks.

2. The EU Trade Policy in its Neighbouring Region

As stated in the literature review by Wesselink and Boschma (2011, 2012), trade between the EU and its neighbouring countries is regulated by the presence of relevant barriers. In fact, the ENP promises access to the free internal market to the partner countries in exchange for political and economic reforms. None of the existing reports or projects on trade and FDI in the ENP space do actually measure the state of integration at the moment.[1] This report describes the evolution in the last 15 years of trade integration between the 27 EU countries and those economies adjacent or very near to its borders. We do not measure trade barriers; we take the protection structure of the EU external goods market as a given but we are aware that recorded flows are influenced by the presence of barriers.

We bear in mind that trade agreements regulate trade between the EU and its border countries and introduce elements of differentiation in the level of integration with the several countries interested by the ENP.

To better analyse EU trade policy in the neighbouring regions, we must consider two main categories: MED (Algeria, Egypt, Morocco, Tunisia, Jordan, Lebanon, Libya, Syria, Israel) and South Caucasus (Armenia, Azerbaijan, Georgia). Belarus, Moldova and Ukraine are not included in a trade partnership, but have a bilateral relationship with the EU.

2.1 Euro-Mediterranean Relationship

Current trade relations between the EU and the MED countries is run by the provisions of the Association Agreements (also known as Euro-Mediterranean Agreements), which include the dismantling of tariffs on industrial products under the Free Trade Agreements (FTAs).

1. Other projects do attempt to measure the actual level of integration in order to find out whether reform policies actually reach their goal. Through a FEMISE project, Neaime (13, 2005), for instance, analyses to what extent neighbouring Mediterranean and Middle Eastern countries – many of which are part of the Southern ENP policy – are integrated. He uses a model in which co-integration is examined by checking to what extent macro-economic variables between countries exhibit co-fluctuations.

The Association Agreements promote overall trade and establish the conditions for the gradual liberalization of trade in goods, services and capital. They set up a Free Trade Area between MED countries and the EU with the elimination of tariffs on industrial products, with significant concessions on agricultural products and removing barriers to trade and investment between both the EU and Southern Mediterranean Countries and between the Southern Mediterranean Countries themselves.

While Euro-Mediterranean Association Agreements are in force with most of the partners, not all Mediterranean countries have subscribed. Tunisia was the first one in 1995, followed by Morocco (2000), Jordan (2002), Egypt (2004), Algeria (2005) and Lebanon (2006). Libya and Syria have not yet signed a Free Trade Agreement with the EU. Following the events in early 2011 in Libya, negotiations for a Framework Agreement between the European Union and Libya were suspended. The ongoing internal repression in Syria has instead led to restrictive measures by the EU and has a significant impact on bilateral trade. Today, the EU-Syria relationship is still managed by the Cooperation Agreement, a bilateral agreement signed by the EU and Syria in 1977. The object of this agreement is to promote overall cooperation with a view to contributing to the economic and social development of Syria and helping to strengthen relations between the parties adopting and implementing provision measures in the fields of economic, technical and financial cooperation and trade.

The Euro-Mediterranean Agreements cover trade in goods and are complemented by a number of additional ongoing negotiations and preparations for future negotiations: to open up additional agricultural trade, to liberalize trade in services and investment, to negotiate agreements on accreditation and acceptance of industrial products, and to establish Deep and Comprehensive Free Trade Areas.

The EU supports the strengthening of trade relations amongst Southern Mediterranean Countries. The Agadir Agreement between Tunisia, Morocco, Jordan and Egypt, in force since 2007, remains open to other Arab Mediterranean countries. Israel and Jordan have signed a Free Trade Agreement. Egypt, Israel, Jordan, Lebanon, Morocco, the Palestinian Territories, Syria and Tunisia have signed bilateral agreements with Turkey. Negotiations are underway between other Mediterranean countries to establish similar agreements. The EU works closely with each of its Southern Mediterranean Partners to support economic and social transition and reform, taking into account each country's specific needs and characteristics. These programmes are funded under the European Neighbourhood Policy.

2.2 The EU-South Caucasus Relationship

The existing relationship between the EU and the South Caucasus countries is run by the Partnership and Cooperation Agreements, which entered into force with each of

them in 1999. This promotes trade, investment and harmonious economic relations between them.

It includes measures of: a) non-preferential trade (it prohibits each party from imposing discriminatory tariffs on each other or restricting the quantity of goods traded between them), b) limited preference for trade in services, and c) gradual alignment of the partner country's legislation and procedures to the main EU and international trade related laws and standards (in order to further deepen the partner's trade and economic integration with the EU, including a better practical access for its products to EU markets).

The Partnership and Cooperation Agreement also regulates bilateral relations between the EU and Ukraine; it was signed by Ukraine in 1998. Armenia is negotiating an Association Agreement with the EU; it will replace the current Partnership and Cooperation Agreement, deepening Armenia's political association and economic integration with the EU and establishing a Deep and Comprehensive Free Trade Area (DCFTA). The future Agreement is expected to improve economic governance as well as Armenia's ability to attract investment. Each South Caucasus country has an action plan under the European Neighbourhood Policy (ENP).

Through the European Neighbourhood Policy and its Eastern Partnership dimension, the EU supports closer trade and economic integration with the EU. Among other things, it has been designed to facilitate trade and economic integration with the EU by gradual regulatory alignment. The implementation of the action plans should also enable the countries to progressively become ready to negotiate, implement and sustain an ambitious Deep and Comprehensive Free Trade Area with the EU. However, so far the three countries have made only limited progress in fulfilling their respective action plans, particularly in implementing the laws they have adopted.

The new EU Eastern Partnership (EaP) started in 2009 builds upon the ENP and aims at enhancing EU relations with the Eastern ENP countries. The EaP has in particular brought a perspective of new enhanced bilateral framework agreements (Association Agreements) between the EU and its Eastern Neighbours, and definitely established possible future bilateral Deep and Comprehensive Free Trade Areas in this framework.

Through the ENPI (European Neighbourhood and Partnership Instruments), the EU provides substantial financial and technical assistance to support the regulatory alignment of the partners' trade and investment related laws and procedures.

Georgia and Armenia have been WTO members since 2000 and 2003, respectively. Azerbaijan applied for membership to the World Trade Organisation in 1997 and the process is ongoing.

With a view to supporting Azerbaijan's future WTO membership and subsequent bilateral Deep and Comprehensive FTA, negotiations on upgrading the existing trade-related provisions of the Partnership and Cooperation Agreement (non-preferential trade and investment agreement) were launched in 2010. Azerbaijan is receiving technical assistance from the EU to help it to prepare for WTO membership.

All three South Caucasus countries benefit from the EU's Generalised Scheme of Preferences (GSP). Under the current GSP Regulation, applied from 2009, all qualify for the special incentive arrangement for sustainable development and good governance (GSP+), offering advantageous access to the EU market.

The South Caucasus region plays an important role both in supplying energy to the EU and as a transit route for it. Azerbaijan is a major supplier of oil and gas to the EU. Its special strategic importance is recognized in the EU-Azerbaijan memorandum of understanding on energy signed in 2006. All three South Caucasus countries participate in the Baku Energy Initiative.

2.3 Other Bilateral Relationships

As mentioned, Belarus, Moldova and Ukraine have an individual relationship with the EU. Since Belarus' lack of commitment to democracy and political and civil rights, the EU has not yet ratified the bilateral Partnership and Cooperation Agreement concluded with Belarus in 1995 and the bilateral trade and economic relations therefore remain covered by the Trade and Cooperation Agreement concluded by the European Community with the Soviet Union in 1989 and subsequently endorsed by Belarus. Furthermore, in 2007 the EU withdrew its trade preferences to Belarus under the Generalised Scheme of Preferences, in response to Belarus' violations of the core principles of the International Labour Organisation.

The EU has been negotiating a new Association Agreement with Moldova since January 2010. The negotiations on the trade part of this agreement (Deep and Comprehensive Free Trade Area – DCFTA) started in February 2012.

The EU has negotiated a Deep and Comprehensive Free Trade Agreement (DCFTA) with Ukraine, which will be part of a future Association Agreement, replacing the present Partnership and Cooperation Agreement between the EU and Ukraine (which dates from 1998).

The Deep and Comprehensive Free Trade Area is underpinned by a regulatory approach leading to convergence with EU laws and standards. Its main objective would be the progressive integration of the economies into the EU single market by dropping customs duties, improving customs procedures, increasing the protection of intellectual

property, applying the EU sanitary and phytosanitary rules, updating rules on public procurement and competition, and removing the technical obstacles to trade.

The DCFTA negotiations are also underway with Armenia, Georgia, Jordan and Morocco.

3. ENC Trade with the EU27

To analyse trade flows between the ENCs and the EU and between the ENCs and countries in the rest world, we used the BACI[2] Database. BACI is a detailed international trade database at the product level, which includes more than 200 countries and 5,000 products. In order to reconcile data reported by over 150 countries to the United Nations Statistics Division, which distributes them via their COMTRADE database, new approaches have been developed.

The most exhaustive version of BACI provides values and quantities at the 6-digit level of the first HS classification. All the tables presented here are based on the analysis of trade values.

We used the BACI Dataset in a fifteen year period, from 1995 to 2010. Data from 1980 to 1994 are available too, but we focused our study from the second half of the nineties because most Eastern neighbouring countries were included in the ex-Soviet Union; thus, for these countries earlier data are missing. It is important to point out that our analysis does not include Palestine because it is absent in the BACI Database, so we consider 15 European Neighbouring Countries out of 16.

We begin our analysis starting from the EU-ENC trade relationship (Table 1).

3.1 How Important Are ENCs in EU27 Trade?

European Neighbouring Countries (hereafter, ENCs) do not play a key role in European trade. Table 2 shows the most important EU27 export partner and the ENCs' position in 2006 and 2010. In the top ten we find both European and non-European countries. First place is occupied by the USA and we can see the wide gap between the first and second position of China.

China, Switzerland and Russia take second, third and fourth position. Turkey, Japan, Norway, India and the United Arab Emirates are in the second half of the top ten. Brazil has strongly improved its position: from 18th in 2006 to 9th in 2011. ENCs are not in the top ten, but some of them still occupy an important position. Ukraine is the most

2. BACI is the world trade database developed by the CEPII at a high level of product disaggregation. BACI is developed using an original procedure that reconciles the declarations of the exporter and the importer. Original data are provided by the United Nations Statistical Division (COMTRADE database). The harmonization procedure enables the number of countries for which trade data are available, as compared to the original dataset, to be considerably extended (http://www.cepii.fr/anglaisgraph/bdd/baci.htm).

important EU27 partner while Armenia is less important. Algeria, Israel, Morocco and Egypt are in the top 25 of all EU27 partners.

In short, ENCs are not the most important European partners. When looking at best trade partners, economic size matters and ENCs are smaller when compared with the integrated EU economic space. Distance also matters, and that is why we would expect a better role for countries which are sharing borders and seashores with Europe. In any case, some ENCs, even if they are not in the top 10, still play an important role in European trade because they are in the top 20 or top 30.

When looking at imports (Table 3), the major EU27 import partners are the same countries we found in Table 2, but in this case China occupies first position. The gap between the first and second place is wide but not as wide as the gap between the first and the second export partner. The United Arab Emirates is not in the top ten but we do find South Korea.

Although ENCs are not in the top ten, they do occupy an important place: Algeria is the 12th import partner for the EU27. We can see that Libya lost many positions: down from 12th to 33rd. In the top thirty we find Ukraine, Azerbaijan and Israel. Jordan, Armenia and Lebanon are not important EU27 import partners.

In the last part of the paper we investigate the best destination and origin for ENC flows in world trade. Only in some cases is the best partner of European neighbours a member of the EU27.

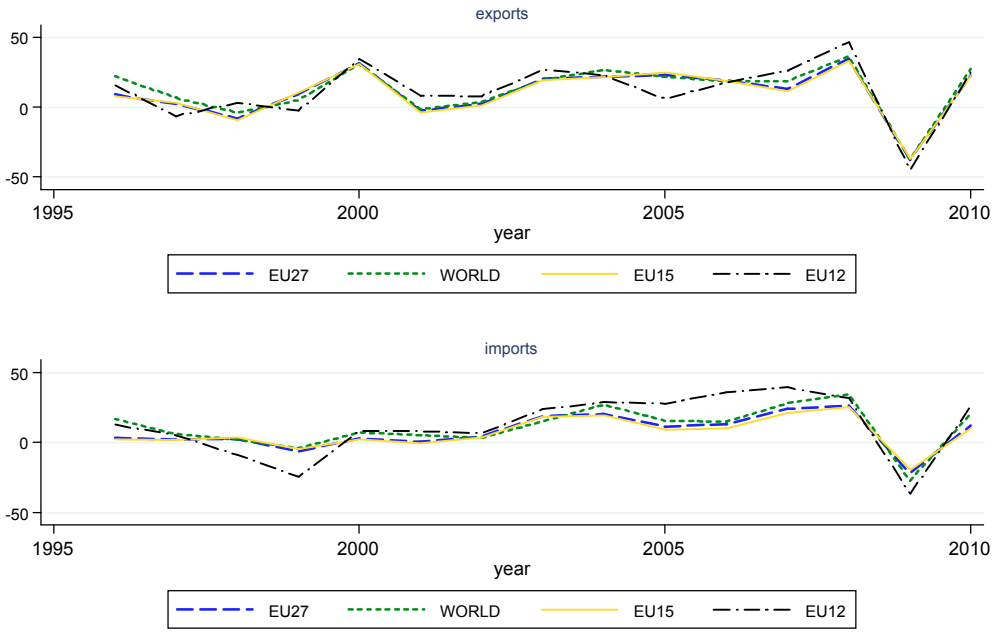
3.2 Is Trade with the EU Growing over Time?

Over the last fifteen years, ENCs have increased trade with European countries. Graph 1 shows the export and import growth rate from 1995 to 2010. ENC exports to and imports from the EU27, EU15 (Old Europe), EU12 (New Europe) and the World experienced a fluctuating trend over the last fifteen years. The black line (which refers to the EU12) has a slightly different trend from the others. Results in Table 4 confirm that ENC exports and imports have grown over the last fifteen years. ENCs have especially increased their trade relationships with new Europe and have increased their role as exporting countries.

Consistently, the analysis of trade levels (Graphs 2-3-4) confirm increasing trends for both exports and imports from the EU27. Growth is slower from 1995 to 2002, but from 2003 exports and imports show a constant increasing trend. There is a clear decrease peak due to the 2008-2009 crisis. Just to give a complete idea of such numbers, the weight of the EU15 on the EU27 total is slightly decreasing in time but in 2010 Old Europe still accounted for 90% of total ENC trade from the EU27 (see Table 5).

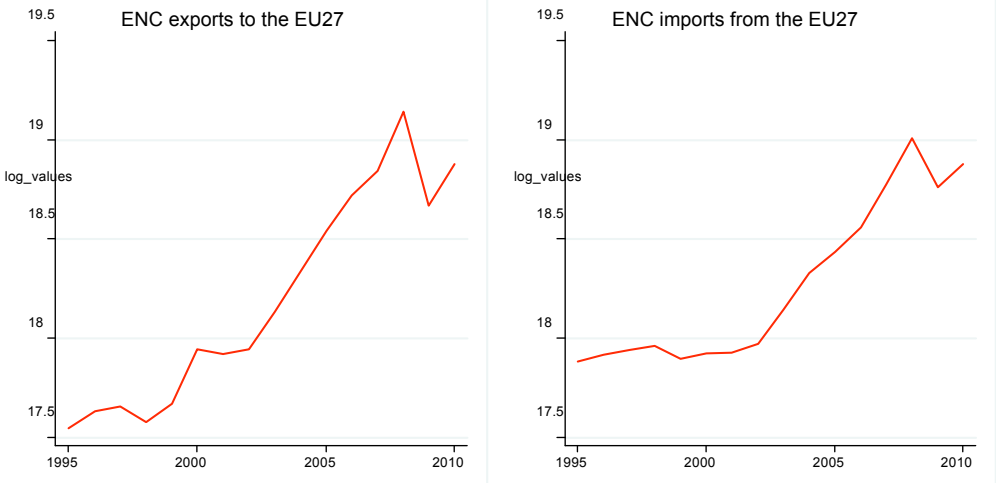
It is also clear how exports start from a lower value than imports. At the end of the period they first overcome and then match import values. The trade balance was therefore negative, but over the years the export ability of ENCs has clearly improved.

Graph 1. ENC export and import growth rates, 1995-2010



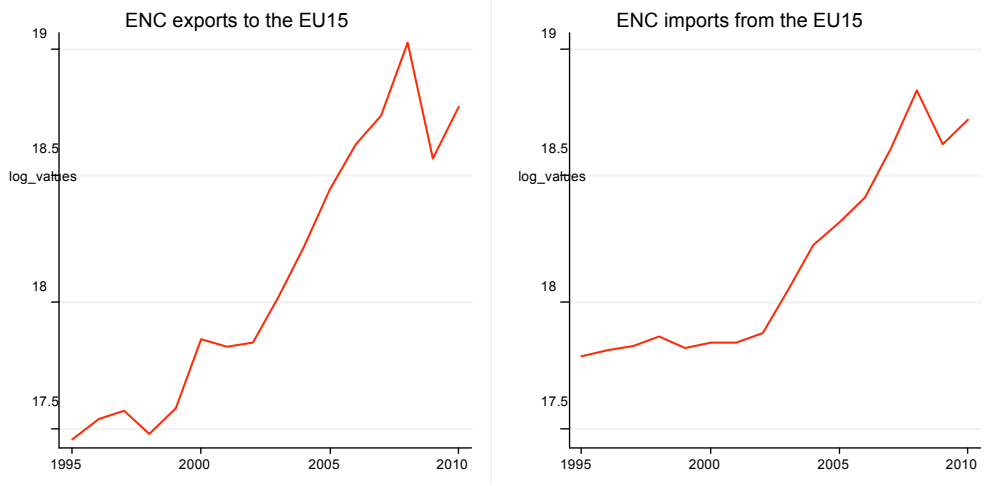
Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Graph 2. ENC exports and imports to and from the EU27, 1995-2010



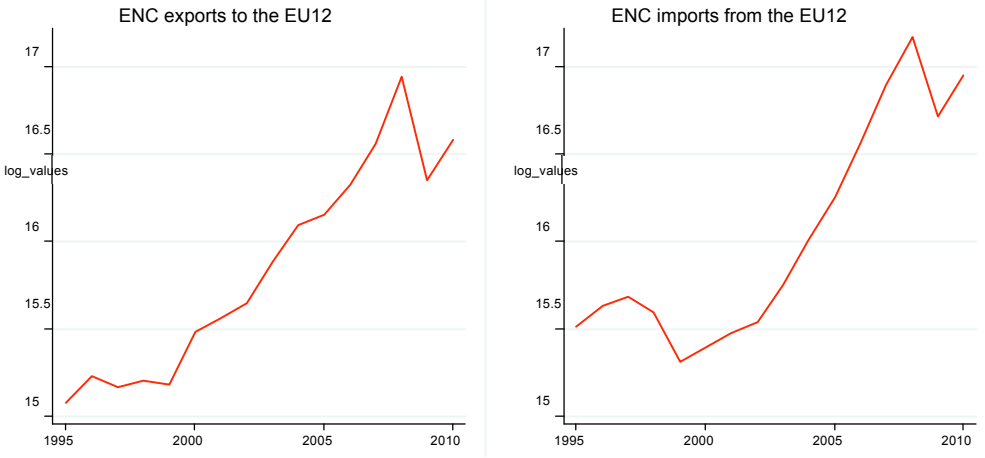
Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Graph 3. ENC exports and imports to and from EU15, 1995-2010



Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Graph 4. ENC exports and imports to and from the EU12, 1995-2010



Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Things do not change when we concentrate on the Old Europe (EU15): export and import values have increased in the last fifteen years and export values have reached and surpassed import values (graph 3); in other words, while at the beginning of the period they were mainly importers, at the end they became exporters. For trade with the EU12, the reverse is true.

Main facts:

- Regardless of their proximity position, ENCs are not in the group of most important European partners. Their relatively smaller size is not the main explanation as size

is not an issue for other countries that share borders with the EU, such as Norway and Switzerland;

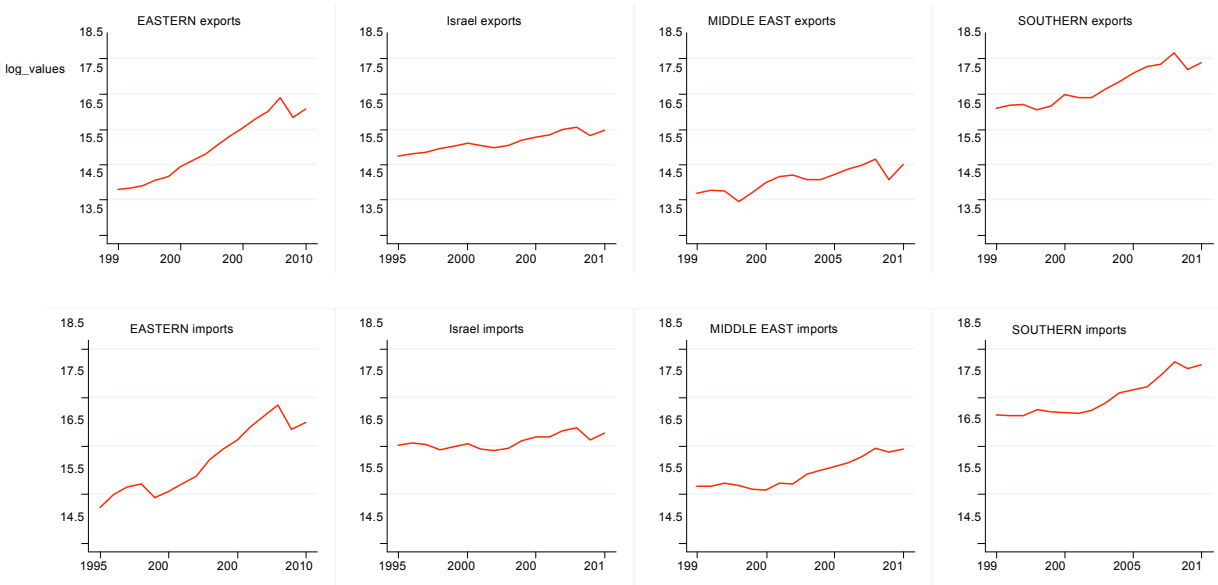
- ENC exports to and imports from the EU27 have grown over time, particularly after 2003;
- In the EU15 market, at the end of the period, ENCs were net exporters while in the EU12 market they are net importers;
- Growth rate trends reveal an increasing role for BRICS and Rest of the World countries for goods both entering and exiting the ENCs.

4. Geographic Trade Structure of ENCs

4.1 ENC Sub-Region Trade

In the following part we consider 3 sub-regions in the ENC area: Eastern (Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine) and Southern (Algeria, Egypt, Libya, Morocco, Tunisia) countries (a distinction which is followed by the EU); but we also separate out the Middle East (Jordan, Lebanon, Syria) and, inside this group, we consider Israel as an outlier, since it belongs to the group of rich economies.

Graph 5. ENC sub-region exports and imports to and from the EU15, 1995-2010



Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Graph 6. ENC sub-region exports and imports to and from the EU12, 1995-2010

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Differences across the subgroups clearly reflect the heterogeneous economic size. Each region has increased its exports over the last fifteen years. Southern ENCs export a higher volume than the others. Looking at the trend over time, all regions have recorded growing exports; the Eastern group shows the fastest growth; the Middle East group, in contrast, has experienced the worst (though positive) growth. Looking at levels, at the beginning of the period, Southern countries and Israel import more than the others, but in the second half of the 2000s Eastern ENC imports exceed Israel imports.

When looking at the EU12 market, a more fluctuating trend is evident. Eastern countries and Israel have increased their exports. Southern countries start with a decreasing trend, but at the beginning of the 2000s exports begin to grow. Middle East countries' imports go up and down during the period.

For imports to New Europe, we also noticed a growing trend for all sub-regions. Eastern ENCs import much more from the EU12, while Southern, Middle East and Israel ENCs import less.

Eastern ENCs have experienced the highest growth of exports and imports with the EU15 and EU12. When we look at exports and imports between Israel and the EU15, we see that it has the lowest growth rate.

Main facts:

- Eastern and Southern ENCs have experienced the highest export and import growth, both in the EU15 and EU12 market;
- Southern countries export and import more than other sub-regions when we look at the most important market: the EU15;
- Eastern neighbouring economies have been increasing their trade shares with important EU competitors: the BRICS, the US and the Rest of the World;
- The BRICS, the US and the other countries are also gaining presence in the other sub-regions.

4.2 What Is the Geographic Trade Structure of ENCs?

Table 6 and Table 7 illustrate ENC changes in geographical trade composition. We consider intra-trade in the sub-regions, trade within the whole ENC group, trade with the EU, BRICS and the Rest of the World. ENCs have a small internal market which accounts for between 5% and 8% (4% and 5%) of total exports (imports) in 1995, but they more than doubled at the end of the period.

Things change dramatically when looking at EU27 shares in ENC total trade. In 1995, Eastern ENCs exported (imported) more than 50% (70%) of total exports (imports) to (from) the EU27; the other sub-regions and Israel imported more than 50% of their total imports from Europe, while for exports more than 70% of Southern countries' goods and 40-50% for the other groups arrived in Europe. Starting from 2000, the BRICS and countries from the Rest of the World are gaining bigger shares at the expense of both the EU15 and EU12.

In 2010, the most important export partner of Southern and Middle East ENCs is represented by the EU15, while the Rest of the World occupies the second position.

Israel's commercial ties have always been stronger with the US than Europe.

Main facts:

- Trade within the ENC group has been increasing over time, in some cases (Eastern and Middle East) it doubled its share;
- The erosion of Europe's share in ENC trade is clear;

- In 1995, the most important partner for Eastern countries was the EU15, but starting from 2000 the BRICS started their path to become their main export and import partner;

- Southern countries have always referred to countries from the "Old Europe" as their main export and import partners. Starting from 2005, BRICS gained position, particularly for imports;

- In the Middle East region, the erosion of the EU15 position has to be coupled with the increasing role of the Rest of the World group; for imports, the emerging economies are also gaining share;

- In Israel's trade there is no reversal of position in the last fifteen years: the US and the rest of the world have reinforced their position; the EU15 is still the most important source but Old Europe and the US are losing their role in favour of the five emerging economies and the Rest of the World group.

5. ENC Trade Structure by Product Type

Goods are not the same. First, they can be demanded by consumers or firms. Furthermore, they can be final (finished) products ready for consumption or intermediate goods, i.e. goods that require further processing or parts and components to be assembled in order to make a final good. The relative weight of intermediate goods has been increasing in total exports of low-middle income countries (moving from 38% to 40%); in fact, the increasing role of exchanges of intermediates is one chief characteristic of the globalization wave of the last 30 years.

The classification of Broad Economic Categories (BEC) separates, within final goods, consumption goods, capital goods (machinery and equipment that is used for producing other goods and industrial transport equipment) and primary products (raw materials and resources used in the productive process). We have also known for decades that countries and regions may build on their strengths by progressively developing specialization in certain fields. Trading different types of goods is therefore not neutral in terms of the capability to promote development and sustainable and stable growth. The analysis of trade by type of product aims to provide important information on the ENCs' specialization structure. We already know that some of the countries in our group have a comparative advantage in their natural resources' exploitation.[3] As reported by the World Trade Report (2010), an important feature of natural resources is the dominant position of this sector in many national economies. Another crucial one is the presence

3. A definition of natural resources can be quite controversial. We refer here to stocks of materials that exist in the natural environment that are both scarce and economically useful in production or consumption, either in their raw state or after a minimal amount of processing.

of negative externalities arising from the extraction and consumption of resources and the extreme, though not permanent, price volatility of their products.

Instead, trade in capital goods has been recognized as having an important role in spreading the benefits of technological advances (Eaton and Kortum, 2000). Their weight in total exports of low-middle income countries has increased enormously in recent years, accounting for 20% of total exports (it was 9% in 1995). The increased importance of intermediate products in world trade is another indication of the multi-country nature of products. If the chain value is dependent on the action of many countries, international ties become more important.

All together, these arguments suggest that in order to determine the nature and quality of trade relations, the analysis of trade by type of product is highly relevant. This section is devoted to understanding where in the world ENC trade differs by types of product.

5.1 What Is the Trade Structure between Final and Intermediate Products? How Do Capital and Primary Goods Perform?

The geographical trade composition for our sub-regions is presented in both Table 8 (exports) and Table 9 (imports). Changes over time are reported for consumption (C), capital (K), primary (P) products, and for two types of intermediates: parts and components (PD) and processed goods (T). Computing average yearly growth rates (Table A1 and Table A2 in the Appendix) by type of good and stage of production suggests how the production structure of the ENC economy is evolving.

In 1995, in all sub-regions the EU27 was the most important export destination for all types of products. In the last year of our analysis, the situation has changed substantially for all sub-regions. The most extreme case are Eastern neighbouring economies: over the years, the EU27 has lost position and the BRICS have become the principal destination and origin for Eastern ENCs. They shifted their exports of consumption, capital and intermediate products to the emerging economies while Europe is the main destination for their primary products (which the sectorial analysis reveals is mainly made up of energy products). When looking at imports, shares are more balanced between the EU15 and BRICS, but the erosion of the EU27 position, though slower, is still present and also embraces primary products.

The case is similar for Middle East economies where trade for all product types, except for primary goods, has moved to the Rest of the World. Like Eastern economies, the EU15 still maintain a prominent position in sourcing capital goods and parts and components.

In Southern neighbouring economies the Old Europe still plays an important role, both in exports and imports. Nevertheless, the EU's relative presence has been reducing

over time. The emerging economies still do not have a role in Southern trade. Old Europe is an important demand for consumption, primary goods and parts and accessories, while it is quite important in offering parts and accessories.

In Israel, the US hold and reinforce their position as best partner followed by the EU, but the distance is increasing. From 2005, BRICS particularly started to play a role in Israeli imports.

Main facts:

- The importance of the EU in its neighbours' trade has seen major erosion over time in favour of the five emerging economies and other countries in the heterogeneous group of the Rest of the World;
- The EU is the main destination for primary products, and this is particularly true when looking at its eastern borders;
- Capital goods, i.e. products which are more likely to embody knowledge, are still traded primarily from the Old European countries but the rise in importance of the emerging economies is clear when looking at exports;
- The geographical map is appropriate for understanding the creation of value for products which need further processing or assembly, including Europe whose role is more important when selling rather than buying.

6. Geographical and Sectorial Differentiation

Moving from the classic trade theories developed since Smith (1776) and Ricardo (1817), based on the concepts of comparative advantage, specialization and international labour division, in the 50s the prevailing idea was that in order to stabilize export earnings, boost income growth and upgrade value added, developing countries had to increase the variety of their export basket. The main concept is that specialization in a narrow group of export products exposes a country to increased instability in export earnings, which can be made worse when concerned products are subject to secular declining terms of trade. There is also a growing consensus that patterns of economic development is associated with structural change in exports and increased export diversification. In virtually all regions of the world, the patterns of trade have been changing from primary exports to manufactured exports of labour-intensive types and, subsequently, to more resource-intensive manufactures.

Export diversification is variously defined as the change in the composition of a country's existing export product mix or export destination (Ali, Alwang and Siegel, 1991), or as

the spread of production over many sectors (Berthelemy and Chauvin, 2000).[4] There are well-known risks (political and economic, Collin, 2002) in concentrating exports in a few primary commodities: it exposes a country to the negative effects of unfavourable characteristics of world demand and negative supply-side features of these primary products. Moreover, concentrating the whole export activity in a few destinations involves risks for the continuity of the exporting activity.

In this part, we provide some analysis on the degree of ENC trade differentiation by looking at the geographical and sectorial concentration of both exports and imports. In a globalized set-up where goods are produced by using imported inputs, materials and intermediates, the degree of export differentiation has to be studied jointly with the degree of differentiation in import flows. The analysis will look at individual neighbouring countries.

6.1 What Is the Best Destination and the Best Origin in the World Market and EU27 Market for Each ENC? How Much Are ENCs Geographically Diversified?

We start by studying the best partner for each EU neighbour. We look at both the world and EU27 market. We expect the geographical location to be important here and, therefore, Europe to be very important. We also calculated shares of total trade, which is accounted for by the best bilateral relation.

As reported in Table 10, even if we look at the world market, 8 out of the 15 best ENC export partners are big EU15 countries, such as Germany, France and Italy. Other ENCs reveal their main export destination to be a country sharing a border or an economy which is quite near (Russia, Turkey, Iraq and Saudi Arabia); Israel mainly trades with the USA. Looking at the EU27 market, the best partners are mainly concentrated in the Old Europe; only Romania and Bulgaria appear in the table. Looking at country shares, it is clear that some destinations matter for over 40% of ENC exports.

In some cases there is no change in the best export partner during the time considered; Algeria, Armenia, Azerbaijan, Belarus, Lebanon and Ukraine, in contrast, have changed their best export destination from 1995 to 2010.

When looking at imports (Table 11), the picture changes surprisingly: in the world market, ENCs mainly import from the USA; in the EU27 market Germany is, on average, the best origin. The situation is quite stable over time. As for exports, Romania is the only EU12 with which ENCs trade. In terms of shares, the best import partners weigh less than best export partners.

The Herfindahl index is one of the trade concentration indicators used in the literature. It ranges between 0 and 1, where being close to 0 indicates well diversi-

4. When measuring export diversification, while horizontal diversification entails the adding of new products to the existing export bundle, vertical differentiation entails a shift from the primary to the secondary or tertiary sector.

fied flows.[5] Overall, Table 12 indicates that ENC exports are somehow geographically diversified and for some countries diversification has increased over the years. In 1995, in both the world and EU market, Armenia and Libya had less diversified exports than other ENCs; in other words, they focus their exports on just one or a few countries. If we look at the world market we have to add Georgia (whose exports are less concentrated in the EU), while Morocco has a higher geographical concentration in Europe than the world. On the other hand, Ukraine is the most geographically diversified country in both markets. Over the years, there have been changes: Egypt in the world market and Israel in the restricted EU27 group have become the most diversified exporting countries.

Looking at import flows, Table 13 allows us to say that ENC imports are more diversified than ENC exports. Looking at the world market, in 1995, Jordan and Syria had the more diversified imports, whereas after fifteen years, in 2010, the most diversified was Egypt. Looking at just Europe, in 1995, Ukraine had the most diversified imports, while in 2010 it was Armenia.

Main facts:

- Most important export and import partners for ENCs are represented by Old Europe countries;

- Geographical concentration of ENC trade flows is higher in exports than imports.

6.2 Which Is the Best Sector and the Best Partner? How Much Are ENCs Diversified by Sector?

In this section we study export and import concentration looking at trade by sector. We use disaggregation at the 3-digit level of the ISIC classification of manufacturing activities. We also merge the analysis by sector with the ones just discussed on the best trade partner. The point that can be made is quite intuitive. If one country concentrates its flows in a few destinations and on top of this only some sectors are of interest, the vulnerability of the whole trade system increases.

In fact, for several of the ENC countries, specially those from the South (Algeria, Lybia, Egypt and Syria), their main export is oil and natural gas, either to Europe or to the rest of the world; this sector matters for about 80% of their exports in their best destination. Eastern ENC countries export more machinery or agricultural products. The Middle East and Israel have no predominant export sector, it depends on destination. In general (Table 14), at the world level and even when the first destination does not have a big share, in 7 out of 15 countries the first exporting sector accounts for more than 50% of total exports in the country. When concentrating on the EU27 market, in 8 out of 15

5. As pointed out by Cadot, Carrère and Strauss-Kahn (2007), the Herfindahl index measures concentration rather than diversification, but some papers have applied this and other concentration indexes (Gini, Theil) to export diversification, and reviewed these measures applying them to imports.

cases the best exporting industry accounts for more than 80% of total exports. When the best partner in the world and EU market is not the same, shares are normally lower in the destination outside the EU. Sectorial shares are below 40% in Egypt, Morocco and Tunisia (Southern group), in Israel in the Middle East and Moldova for the Eastern countries.

There are some clear dynamics over time: sometimes the change concerns the best exporting destination without a change in the main goods exported. This is the case whenever the first products exported are in the primary energy sector (oil and gas). In other cases, the main exporting sectors change, and some of them, such as Morocco and Tunisia, suggest a shift to an upgrading linked to the presence of foreign firms in the country.

Why are these numbers so important? When such a sectorial concentration is revealed in the destination where exports are higher, the presence of export differentiation in other destinations has a smaller weight. We can expect the degree of export differentiation of an economy to be quite low.

In Table 15, we can evaluate the degree of sectorial concentration in total world exports. In Algeria, Azerbaijan and Libya concentration has increased. In Syria it has decreased but is still higher than the other ENCs. When we calculate the same index in the EU27 market, all countries except Israel reveal a higher export concentration. This is even stronger for Algeria, Azerbaijan and Libya. When considering the five emerging economies, the degree of sectorial concentration is clearly even higher in the total BRICS market. Except for Egypt, Jordan, Lebanon, Morocco and Tunisia, diversification in the best BRICS export destination is higher than in the best EU destinations.

Moving to imports (Table 16), manufacture of machinery and textile products predominates. Percentages are not as high as those seen in Table 14, which leads us to say that imports are more diversified than exports; ENC imports from their most solid origin shows a wider variety of products. As seen for exports, there is no correlation between different import partners across the years and different best sector.

Greater sector diversification is supported by results in Table 17: Herfindahl index values are closer to 0. As seen for geographical diversification, ENCs experienced less sector diversification from their best origin partner. Looking at BRICS, things do not change: ENC imports from BRICS are more diversified than exports to BRICS. Not surprisingly, in the BRICS best origin, Herfindahl index values are lower than those referring to the whole BRICS market.

Main facts:

- ENCs export mainly petroleum and natural gas products to their best destination, but especially import from their best origin manufacture of machinery and textile products;
- ENC exports are less diversified by sector than imports;
- No correlation between changes in trade partner and sector over the years;
- ENC trade, in the best destination or origin, is less diversified when the partner is located in Europe rather than outside Europe.

7. Conclusions

The patterns of economic interaction between the EU and its neighbouring countries (ENCs) in terms of trade have changed during the last fifteen years. Certainly, an essential role has been played by the European Neighbourhood Policy (ENP), which was introduced in 2004. Almost all fifteen ENCs have signed or are going to conclude an association agreement with the EU and are deepening their trade relationships in order to open up extra agricultural trade, to liberalize trade in services and investment, to negotiate agreements on accreditation and acceptance of industrial products, and to create deep and comprehensive free trade areas.

The point is that despite all these efforts the ENCs do not play a key role in European trade. They are smaller than EU members but other small countries, such as Norway and Switzerland, are among the 10 best EU partners. They are poorer than Europe, but they also have all the advantages of proximity. Therefore, we can say that Europe is unexpectedly losing its primary position in the neighbouring markets.

ENC exports to the EU27 have grown over the years, especially starting from 2004 when, as mentioned above, the bilateral relationships between the EU and its neighbouring countries were strengthened. With respect to the EU15, the ENCs switched from a net importer role to a net exporter position, while, looking at EU12 market, the ENCs have always been importers. Data show that the BRICs are gaining strength over Europe and are expanding into those regions where the EU27 had primacy.

Splitting neighbouring countries into sub-regions helped us to investigate ENC regional performance and how trade dynamics are deployed. We distinguished Eastern from Southern countries, but we considered the Middle East and, within this group, Israel separately.

Over the fifteen years, the ENCs have increased their intra-regional trade: while at the beginning of the period trade among the sub-regions was almost non-existent, over the years it has grown steadily and for Eastern and Middle East countries it has doubled. Eastern and, inter alia, Southern countries have experienced the highest export and import growth in both the EU15 and EU12 market; looking at levels, the Southern countries export and import more than the other sub-regions in the old EU member states.

Despite such clear increasing trends, the EU has to face important competitors in the world arena. BRICS, USA and the Rest of World group are gaining shares, undermining European importance. The EU continues to be the main destination largely for primary products and this is particularly true when looking at its Eastern borders. Capital goods, i.e. products which are more likely to embody knowledge, are still imported primarily from the Old European countries but ENCs are exporting them mainly to the emerging economies. When looking at semi-finished products, the geographical map appropriate for understanding the creation of value (i.e. products which need further processing or assembly) includes Europe. In any case, European countries tend to sell more than buy semi-finished goods.

The final part of the report looks at the concentration in trade flows. There are well-known risks (political and economic, Collier, 2002) in concentrating exports on a few primary commodities; it exposes a country to the negative effects of the unfavourable characteristics of world demand and negative supply side features of these primary products. Moreover, concentrating the entire export activity in a few destinations involves continuity risks.

We have analysed both geographical and sectorial diversification, putting together the two important pieces of information. We know which are the best EU27 and world partners for all the 15 countries bordering the European Union. Little has changed over time and most countries continue to trade first with a European Union member state. But the degree of concentration where energy is the main export product is very high and normally EU neighbours show better export differentiation in markets other than the EU.

References

Ali, R., J.R. Alwang and **P.B. Siegel** (1991), Is export diversification the best way to achieve export growth and stability? A look at three African Countries, World Bank Working Papers, No. 729.

Berthelemy, J.C. and **S. Chauvin** (2000), Structural changes in Asia and growth prospects after the crisis, CEPII Working papers, No. 00-09.

Cadot, O., C. Carrère and **V. Strauss-Khan** (2007), Export diversification: what's behind the hump?, Working Paper 200724, CER.DI.

Collier, P. (2002), Primary commodity dependence and Africa's future, Annual Bank Conference on Development Economics, Proceedings 2002, edited by B. Pleskovic and N. Stern. New York: OUP.

Eaton, J. and **S. Kortum** (2000), "Trade in capital goods", European Economic Review, Vol. 45, No. 1, 2001, pp. 1195-1235.

Easterly, W., A. Reshef and **J. Schwenkenberg** (2009), The power of exports, policy research, Working Paper Series 5081, The World Bank.

Imbs, J. and **R. Wacziarg** (2003), "Stages of diversification!", American Economic Review, American Economic Association, Vol. 93(1), pp. 63-86, March.

Miroudot, S., R. Lanz and **A. Ragoussis** (2009), Trade in intermediate goods and services, OECD Trade Policy Papers, No. 93, OECD Publishing.

Montero Luque, I. and **M. Peeters** (2009), Euro-Mediterranean process - Union for the Mediterranean: Macroeconomic and financial developments during the global crisis at the southern rim of the Mediterranean, MPRA Paper 23858, University Library of Munich, Germany, revised July 2010.

Ricardo, D. (1817), Principles of political economy and taxation, ed. R.M. Hartwell. Hammondsport: Penguin, 1971.

Smith, A. (1776), The wealth of nations, ed. E. Cannan, 2 vols. London: Methuen.

Stehrer R., J. Ali-Yrkkö, D. Hanzl-Weiss, N. Foster, P. Rouvinen, T. Seppälä, R. Stöllinger and **P. Ylä-Anttila** (2011), Trade in intermediate products and EU manufacturing supply chains, wiiw Research Reports 369, The Vienna Institute for International Economic Studies, wiiw.

Wesselink, E. and **R. Boschma (**2011), Taking Stock of Research Projects on the European Neighbourhood Policy, WP1/01 SEARCH Working Paper.

Wesselink, E. and **R. Boschma** (2012), Overview of the European Neighbourhood Policy: Its History, Structure, and Implemented Policy Measures, WP1/04 SEARCH Working Paper.

WTO (2010), World Trade Report 2010. Geneva: World Trade Organization.

Websites

http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/

http://trade.ec.europa.eu/doclib/docs/2006/december/tradoc_118238.pdf

Table 1. Bilateral trade relations between the EU and ENCs

	Sub-region in ENCs group	Region in trade area	Bilateral trade regulation with EU	Other trade ties	WTO membership
Algeria	Southern	Mediterranean	Association Agreement (2005)	enjoys trade preferences with the EU under the import regime GSP	accession in progress
Armenia	Eastern	South Caucasus	Partnership and Cooperation Agreement (1999) Association Agreement (negotiation in progress) DCFTA (negotiation in progress)	included in the European Neighbourhood Policy Baku Energy Initiative benefits from the EU's Generalised Scheme of Preferences (GSP)	since 2003
Azerbaijan	Eastern	South Caucasus	Partnership and Cooperation Agreement (1999) Non-preferential trade and investment agreement (negotiation in progress)	memorandum of understanding on energy (2006) Baku Energy Initiative benefits from the EU's Generalised Scheme of Preferences (GSP)	accession in progress
Belarus	Eastern		Trade and Cooperation Agreement (1989 with Soviet Union)	because Belarus' violations of the core principles of the International Labour Organisation, in 2007 the EU withdrew its trade preferences to Belarus under the GSP	accession in progress
Egypt	Southern	Mediterranean	Association Agreement (2004) Agreement on Agricultural, Processed Agricultural and Fisheries Products (2010)	in 2010 the EU and Egypt signed a protocol establishing a dispute settlement mechanism applicable to disputes under the trade provisions of the Association Agreement	since 1995
Georgia	Eastern	South Caucasus	Partnership and Cooperation Agreement (1999) DCFTA (negotiation in progress)	Baku Energy Initiative benefits from the EU's Generalised Scheme of Preferences (GSP)	since 2000
Israel	Middle East	Mediterranean	Association Agreement (2000) Agreement on Agricultural, Processed Agricultural and Fisheries Products (2010)	ACAA (2010)	since 1995
Jordan	Middle East	Mediterranean	Association Agreement (2002) Liberalisation of agricultural products (2005) DCFTA (negotiation in progress)	included in the European Neighbourhood Policy ACAA (negotiation in progress)	since 2000
Lebanon	Middle East	Mediterranean	Association Agreement (2006)	not yet signed the Regional Convention on pan-Euro-Mediterranean preferential rules of origin	accession in progress
Libya	Southern	Mediterranean	No Free Trade Agreement with the EU	following the events in early 2011, negotiations for a Framework Agreement were suspended in February 2011	accession in progress
Moldova	Eastern		Association Agreement (negotiation in progress) DCFTA (negotiation in progress)	included in the European Neighbourhood Policy non-preferential Partnership and Co-operation Agreement with the EU	since 2001
Morocco	Southern	Mediterranean	Association Agreement (2000) DCFTA (negotiation in progress) Agreement on Agricultural, Processed Agricultural and Fisheries Products (2012)	a protocol on Dispute Settlement Mechanism was signed and is awaiting ratification. Negotiations with Morocco on a Protocol on Services and Investments are on-going	since 1995
Syria	Middle East	Mediterranean	No Free Trade Agreement with the EU Cooperation Agreement (since 1977)	because of the violent internal repression, in 2011 the EU adopted a number of restrictive measures towards Syria	accession in progress
Tunisia	Southern	Mediterranean	Association Agreement (1995)	in 2009 the EU signed a bilateral protocol with Tunisia on the establishment of a dispute settlement mechanism	since 1995
Ukraine	Eastern		Partnership and Cooperation Agreement (1998) DCFTA (negotiation in progress)	the future EU-Ukraine Free Trade Agreement will cover all trade-related areas and also tackle the "beyond the border" obstacles	since 2008

Source: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/

Table 2. Major EU27 export partners

	2011		2006	
	rank	millions of €	rank	millions of €
USA	1	260,553	1	269,147
China	2	136,222	4	63,795
Switzerland	3	121,671	2	87,792
Russia	4	108,434	3	72,340
Turkey	5	72,671	5	50,039
Japan	6	48,968	6	44,772
Norway	7	46,529	7	38,498
India	8	40,425	10	24,394
Brazil	9	35,729	18	17,739
UAE	10	32,615	9	25,269
Ukraine	19	21,196	17	18,268
Algeria	21	17,205	26	9,968
Israel	22	16,836	20	13,972
Morocco	24	15,168	24	10,473
Egypt	25	13,944	28	9,081
Tunisia	31	10,931	30	8,719
Belarus	33	8,486	35	5,793
Lebanon	38	7,218	40	4,393
Jordan	43	5,267	47	3,198
Syria	55	3,258	55	2,677
Azerbaijan	60	2,862	58	1,955
Libya	65	2,066	44	3,676
Moldova	67	1,858	75	1,183
Georgia	72	1,588	83	926
Armenia	107	641	106	478

Source: IMF (DoTS)

Table 3. Major EU27 import partners

	2011		2006	
	rank	millions of €	rank	millions of €
China	1	292,130	1	194,945
Russia	2	198,343	3	140,920
USA	3	184,246	2	175,590
Norway	4	93,450	4	79,168
Switzerland	5	91,205	6	71,676
Japan	6	67,452	5	77,506
Turkey	7	47,593	7	41,720
India	8	39,315	15	22,615
Brazil	9	37,776	10	27,235
South Korea	10	36,101	8	40,817
Algeria	12	27,678	13	24,156
Ukraine	24	14,987	30	9,874
Azerbaijan	25	14,842	40	5,448
Israel	29	12,645	29	9,992
Libya	33	10,437	12	26,068
Tunisia	35	9,874	32	7,628
Egypt	36	9,511	31	7,654
Morocco	39	8,689	34	7,218
Belarus	51	4,220	44	4,462
Syria	57	3,071	48	3,480
Moldova	81	842	89	514
Georgia	88	614	93	471
Lebanon	100	411	119	225
Armenia	109	319	105	339
Jordan	111	313	117	233

Source: IMF (DoTS)

Table 4. ENC exports and imports average yearly growth rates in 3 sub-periods

	1995-1999		2000-2004		2005-2010	
	E	M	E	M	E	M
EU27	3%	0.4%	11%	11%	11%	11%
EU15	3%	1%	10%	10%	10%	10%
EU12	3%	-4%	17%	17%	15%	20%
BRICS	46%	45%	14%	22%	19%	19%
USA	10%	2%	12%	1%	8%	13%
REST OF WORLD	8%	8%	14%	12%	16%	15%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 5. ENC sub-region exports and imports. Average yearly growth rates

		1995-1999		2000-2004		2005-2010	
		E	M	E	M	E	M
Eastern	**EU27**	9%	3%	23%	24%	16%	14%
Southern		2%	2%	10%	11%	10%	12%
Middle East		2%	-2%	3%	11%	10%	9%
Israel		7%	-1%	3%	2%	6%	4%
Eastern	**EU15**	10%	7%	25%	25%	17%	12%
Southern		2%	2%	10%	11%	10%	12%
Middle East		2%	-1%	3%	11%	11%	8%
Israel		7%	-1%	3%	2%	5%	3%
Eastern	**EU12**	7%	-3%	20%	21%	15%	19%
Southern		-9%	-3%	8%	10%	19%	20%
Middle East		-3%	-6%	18%	16%	1%	25%
Israel		8%	-1%	6%	13%	12%	21%
Eastern	**BRICS**	137%	454%	15%	22%	17%	18%
Southern		15%	6%	11%	23%	22%	23%
Middle East		21%	10%	20%	29%	25%	18%
Israel		10%	18%	16%	14%	20%	13%
Eastern	**USA**	14%	29%	22%	7%	41%	22%
Southern		4%	-2%	27%	0.2%	10%	18%
Middle East		17%	-3%	50%	8%	-4%	19%
Israel		13%	7%	4%	0.5%	6%	3%
Eastern	**REST OF WORLD**	33%	75%	24%	19%	16%	17%
Southern		6%	6%	12%	9%	20%	20%
Middle East		8%	7%	24%	23%	15%	11%
Israel		3%	6%	4%	8%	11%	6%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 6. Export composition by world destination

		EASTERN	SOUTHERN	MIDDLE EAST	ISRAEL
1995	INTRA	4%	4%	4%	-
	REST OF INTRA	3%	1%	4%	1%
	EU15	31%	69%	46%	35%
	EU12	23%	2%	2%	3%
	BRICS	13%	4%	7%	5%
	USA	6%	7%	3%	30%
	REST OF WORLD	18%	12%	33%	26%
2000	INTRA	5%	3%	6%	-
	REST OF INTRA	5%	1%	5%	1%
	EU15	19%	68%	45%	30%
	EU12	14%	1%	2%	2%
	BRICS	34%	6%	4%	5%
	USA	4%	8%	5%	39%
	REST OF WORLD	19%	14%	32%	23%
2005	INTRA	6%	3%	8%	-
	REST OF INTRA	7%	1%	6%	1%
	EU15	24%	62%	29%	28%
	EU12	12%	1%	1%	3%
	BRICS	27%	6%	6%	8%
	USA	3%	13%	15%	39%
	REST OF WORLD	21%	15%	36%	21%
2010	INTRA	8%	4%	8%	-
	REST OF INTRA	8%	2%	8%	1%
	EU15	23%	56%	27%	24%
	EU12	10%	1%	1%	4%
	BRICS	27%	9%	8%	12%
	USA	3%	11%	8%	36%
	REST OF WORLD	20%	17%	41%	23%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 7. Import composition by world origin

		EASTERN	SOUTHERN	MIDDLE EAST	ISRAEL
1995	INTRA	4%	3%	2%	-
	REST OF INTRA	1%	1%	2%	1%
	EU15	44%	56%	47%	54%
	EU12	32%	3%	5%	1%
	BRICS	5%	6%	7%	4%
	USA	4%	11%	9%	20%
	REST OF WORLD	9%	20%	29%	20%
2000	INTRA	5%	3%	3%	-
	REST OF INTRA	1%	2%	5%	2%
	EU15	22%	53%	41%	45%
	EU12	10%	2%	3%	1%
	BRICS	43%	7%	10%	8%
	USA	4%	10%	8%	21%
	REST OF WORLD	15%	22%	30%	22%
2005	INTRA	6%	4%	3%	-
	REST OF INTRA	1%	4%	9%	2%
	EU15	24%	49%	30%	41%
	EU12	11%	2%	3%	2%
	BRICS	40%	12%	14%	14%
	USA	2%	6%	4%	15%
	REST OF WORLD	16%	23%	36%	42%
2010	INTRA	8%	4%	3%	-
	REST OF INTRA	1%	3%	11%	5%
	EU15	20%	43%	26%	36%
	EU12	12%	3%	3%	3%
	BRICS	44%	16%	18%	18%
	USA	2%	6%	6%	13%
	REST OF WORLD	14%	25%	34%	25%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 8. Exports geographical decomposition by stage

	EASTERN					SOUTHERN					MIDDLE EAST					ISRAEL				
1995	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
INTRA	5%	8%	5%	7%	4%	3%	18%	3%	7%	7%	8%	8%	2%	2%	7%	-	-	-	-	-
REST OF INTRA	0%	1%	2%	1%	5%	1%	2%	1%	0%	2%	8%	8%	4%	2%	4%	1%	0%	2%	0%	1%
EU 15	48%	30%	29%	28%	28%	79%	61%	72%	81%	59%	20%	46%	69%	56%	15%	47%	32%	63%	27%	30%
EU 12	12%	23%	45%	45%	20%	1%	2%	4%	0%	2%	2%	3%	0%	1%	6%	3%	4%	2%	3%	2%
BRICS	22%	13%	3%	7%	14%	2%	3%	3%	0%	7%	1%	1%	5%	1%	16%	5%	8%	13%	3%	4%
USA	9%	4%	1%	3%	7%	5%	5%	5%	6%	10%	7%	2%	1%	29%	4%	30%	29%	4%	37%	32%
REST OF WORLD	5%	21%	17%	10%	22%	9%	10%	13%	5%	13%	53%	33%	21%	11%	48%	14%	27%	16%	31%	31%
2000																				
	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
INTRA	5%	4%	4%	4%	6%	2%	6%	1%	3%	4%	10%	8%	1%	6%	16%	-	-	-	-	-
REST OF INTRA	1%	2%	6%	2%	7%	1%	1%	1%	0%	1%	10%	10%	1%	19%	7%	1%	0%	2%	0%	1%
EU 15	25%	6%	42%	9%	15%	76%	64%	75%	61%	55%	14%	29%	68%	42%	26%	42%	29%	50%	26%	26%
EU 12	5%	10%	22%	7%	15%	1%	1%	1%	2%	1%	2%	1%	3%	1%	2%	3%	3%	1%	2%	2%
BRICS	55%	57%	5%	64%	28%	1%	1%	5%	3%	9%	1%	0%	3%	0%	11%	2%	7%	21%	2%	4%
USA	5%	3%	1%	1%	5%	8%	5%	4%	10%	13%	14%	17%	1%	5%	4%	40%	37%	3%	34%	47%
REST OF WORLD	5%	17%	20%	13%	23%	10%	22%	12%	20%	18%	49%	34%	24%	26%	34%	12%	24%	23%	36%	19%
2005																				
	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
INTRA	10%	9%	3%	10%	6%	3%	9%	1%	3%	6%	10%	15%	2%	7%	11%	-	-	-	-	-
REST OF INTRA	1%	1%	9%	1%	10%	3%	2%	0%	1%	2%	7%	7%	3%	7%	9%	1%	1%	3%	0%	1%
EU 15	20%	6%	41%	9%	24%	73%	65%	64%	60%	52%	8%	9%	64%	35%	11%	40%	26%	50%	27%	21%
EU 12	6%	6%	21%	8%	13%	1%	2%	1%	1%	1%	1%	1%	2%	1%	1%	3%	3%	1%	3%	4%
BRICS	53%	50%	7%	52%	21%	2%	1%	7%	8%	6%	1%	1%	7%	1%	11%	4%	11%	22%	8%	6%
USA	3%	2%	1%	2%	3%	6%	2%	15%	4%	14%	36%	4%	0%	3%	9%	41%	32%	2%	33%	50%
REST OF WORLD	7%	25%	19%	17%	24%	12%	20%	12%	24%	19%	36%	62%	22%	46%	48%	11%	27%	22%	29%	19%
2010																				
	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
INTRA	14%	8%	4%	10%	10%	6%	11%	1%	4%	8%	14%	6%	2%	7%	9%	-	-	-	-	-
REST OF INTRA	1%	1%	10%	2%	9%	4%	2%	1%	1%	3%	11%	9%	2%	25%	8%	1%	1%	1%	1%	2%
EU 15	11%	4%	41%	9%	20%	57%	60%	63%	59%	44%	5%	29%	69%	26%	7%	30%	24%	35%	21%	19%
EU 12	7%	4%	11%	7%	12%	2%	2%	1%	2%	2%	1%	0%	1%	0%	1%	3%	3%	1%	3%	5%
BRICS	53%	62%	7%	58%	25%	3%	2%	10%	7%	10%	1%	1%	6%	1%	18%	7%	13%	28%	14%	12%
USA	1%	0%	6%	1%	2%	7%	3%	14%	4%	9%	21%	2%	0%	1%	6%	49%	31%	5%	26%	39%
REST OF WORLD	12%	20%	21%	15%	22%	21%	20%	10%	23%	25%	48%	52%	19%	41%	51%	10%	28%	31%	36%	23%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 9. Imports geographical decomposition by stage

	EASTERN					SOUTHERN					MIDDLE EAST					ISRAEL				
1995	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
INTRA	2%	1%	7%	1%	7%	3%	1%	6%	1%	4%	2%	0%	3%	0%	2%	-	-	-	-	-
REST OF INTRA	1%	1%	3%	0%	1%	1%	0%	2%	0%	1%	2%	0%	1%	0%	4%	0%	0%	3%	0%	1%
EU 15	44%	63%	23%	50%	40%	60%	64%	22%	67%	59%	49%	59%	15%	61%	45%	51%	48%	63%	46%	58%
EU 12	35%	19%	43%	28%	34%	2%	2%	4%	2%	4%	3%	4%	7%	2%	7%	1%	0%	1%	1%	3%
BRICS	3%	1%	15%	4%	7%	7%	2%	6%	3%	8%	6%	3%	9%	6%	8%	3%	1%	5%	1%	7%
USA	2%	6%	6%	7%	4%	5%	13%	30%	13%	6%	11%	8%	23%	12%	4%	16%	32%	9%	37%	14%
REST OF WORLD	13%	9%	3%	8%	8%	23%	18%	31%	15%	17%	26%	25%	43%	19%	31%	29%	18%	19%	16%	17%
2000																				
	EASTERN					SOUTHERN					MIDDLE EAST					ISRAEL				
	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
INTRA	4%	3%	2%	3%	11%	2%	0%	4%	1%	4%	3%	1%	2%	0%	4%	-	-	-	-	-
REST OF INTRA	1%	1%	1%	0%	0%	1%	1%	1%	1%	4%	4%	1%	3%	1%	9%	1%	0%	5%	0%	2%
EU 15	32%	41%	4%	30%	24%	56%	61%	21%	64%	56%	44%	52%	26%	51%	35%	47%	44%	54%	37%	44%
EU 12	18%	10%	3%	11%	13%	2%	1%	2%	2%	3%	4%	2%	5%	2%	3%	1%	2%	1%	1%	2%
BRICS	19%	24%	69%	41%	37%	11%	3%	8%	5%	8%	9%	7%	21%	8%	11%	7%	2%	14%	2%	14%
USA	6%	10%	1%	5%	2%	3%	17%	24%	13%	4%	8%	9%	18%	14%	3%	13%	33%	7%	40%	15%
REST OF WORLD	20%	11%	20%	9%	12%	24%	17%	40%	15%	21%	27%	27%	24%	25%	34%	31%	19%	19%	21%	22%
2005																				
	EASTERN					SOUTHERN					MIDDLE EAST					ISRAEL				
	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
INTRA	6%	5%	2%	5%	10%	3%	1%	5%	1%	6%	6%	2%	2%	1%	3%	-	-	-	-	-
REST OF INTRA	1%	0%	1%	0%	0%	2%	0%	4%	0%	7%	6%	2%	9%	1%	15%	1%	0%	3%	0%	3%
EU 15	28%	50%	3%	31%	25%	49%	63%	17%	63%	50%	33%	46%	8%	45%	26%	39%	46%	48%	43%	35%
EU 12	15%	11%	2%	14%	15%	2%	2%	3%	2%	3%	2%	3%	4%	2%	3%	2%	1%	0%	2%	3%
BRICS	28%	21%	71%	29%	35%	16%	9%	17%	8%	11%	14%	15%	10%	15%	15%	13%	6%	12%	4%	22%
USA	3%	4%	1%	4%	1%	2%	9%	11%	10%	3%	6%	5%	7%	10%	2%	9%	27%	4%	30%	15%
REST OF WORLD	19%	9%	21%	18%	12%	26%	16%	43%	16%	21%	33%	27%	59%	27%	36%	36%	20%	33%	22%	21%
2010																				
	EASTERN					SOUTHERN					MIDDLE EAST					ISRAEL				
	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
INTRA	7%	4%	4%	5%	13%	5%	1%	5%	1%	6%	5%	1%	2%	1%	3%	-	-	-	-	-
REST OF INTRA	1%	1%	0%	0%	0%	2%	1%	5%	1%	4%	6%	1%	14%	1%	18%	1%	0%	27%	0%	2%
EU 15	26%	39%	2%	30%	19%	40%	49%	22%	57%	43%	27%	38%	9%	46%	22%	34%	48%	29%	40%	33%
EU 12	15%	14%	2%	16%	15%	3%	2%	1%	3%	4%	2%	3%	3%	2%	3%	6%	3%	2%	2%	3%
BRICS	28%	27%	80%	33%	36%	21%	19%	17%	12%	14%	17%	27%	12%	16%	17%	17%	12%	17%	9%	24%
USA	3%	4%	2%	3%	1%	3%	7%	14%	7%	5%	6%	5%	12%	10%	5%	8%	18%	4%	23%	15%
REST OF WORLD	20%	12%	10%	12%	14%	27%	22%	35%	20%	24%	37%	24%	47%	25%	32%	34%	19%	22%	25%	23%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 10. Best export destination in the world and EU27 market

	WORLD MARKET			
	1995		2010	
	Best destination	Country share	Best destination	Country share
Algeria	Italy	19%	USA & Puerto Rico	23%
Armenia	Benelux	41%	Russia	15%
Azerbaijan	Turkey	18%	Italy	28%
Belarus	Germany	26%	Russia	38%
Egypt	Italy	17%	Italy	8%
Georgia	Turkey	48%	Turkey	11%
Israel	USA & Puerto Rico	30%	USA & Puerto Rico	36%
Jordan	Iraq	17%	Iraq	15%
Lebanon	Saudi Arabia	18%	Switzerland & Liechtenstein	14%
Libya	Italy	41%	Italy	33%
Moldova	Russia	42%	Russia	25%
Morocco	France	34%	France	20%
Syria	Germany	19%	Germany	18%
Tunisia	France	27%	France	27%
Ukraine	Turkey	13%	Russia	25%
	EU27 MARKET			
Algeria	Italy	29%	Italy	33%
Armenia	Benelux	58%	Bulgaria	29%
Azerbaijan	Italy	25%	Italy	55%
Belarus	Germany	31%	Netherlands	36%
Egypt	Italy	29%	Italy	25%
Georgia	Italy	23%	Bulgaria	26%
Israel	UK	17%	Benelux	16%
Jordan	Italy	21%	Italy	27%
Lebanon	France	25%	France	42%
Libya	Italy	49%	Italy	42%
Moldova	Romania	36%	Romania	29%
Morocco	France	47%	France	33%
Syria	Germany	27%	Germany	32%
Tunisia	France	32%	France	36%
Ukraine	Italy	25%	Italy	19%

Source : Prepared by the author based on CEPII-BACI DataBase (2012)

Table 11. Best export origin in world and EU27 market

	WORLD MARKET			
	1995		2010	
	Best origin	Country share	Best origin	Country share
Algeria	France	26%	France	16%
Armenia	USA & Puerto Rico	29%	Russia	20%
Azerbaijan	Turkey	39%	Russia	15%
Belarus	Germany	31%	Russia	51%
Egypt	USA & Puerto Rico	19%	USA & Puerto Rico	9%
Georgia	Turkey	20%	Turkey	16%
Israel	USA & Puerto Rico	20%	USA & Puerto Rico	13%
Jordan	USA & Puerto Rico	10%	Saudi Arabia	16%
Lebanon	Italy	17%	USA & Puerto Rico	10%
Libya	Italy	22%	Italy	18%
Moldova	Russia	27%	Ukraine	17%
Morocco	France	23%	France	15%
Syria	Italy	13%	China	15%
Tunisia	France	25%	France	19%
Ukraine	Germany	18%	Russia	35%
	EU27 MARKET			
Algeria	France	41%	France	32%
Armenia	Germany	21%	Germany	17%
Azerbaijan	Germany	27%	Germany	32%
Belarus	Germany	34%	Germany	29%
Egypt	Germany	21%	Germany	19%
Georgia	Romania	28%	Germany	22%
Israel	Benelux	23%	Benelux	18%
Jordan	Germany	19%	Germany	29%
Lebanon	Italy	27%	Italy	21%
Libya	Italy	33%	Italy	41%
Moldova	Germany	23%	Romania	24%
Morocco	France	36%	France	30%
Syria	Italy	23%	Italy	33%
Tunisia	France	34%	France	30%
Ukraine	Germany	23%	Germany	24%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 12. Herfindahl Export index (geographical diversification)

	WORLD MARKET		EU27 MARKET	
	1995	2010	1995	2010
Algeria	0.0933	0.1006	0.1286	0.1648
Armenia	0.2714	0.0854	0.3975	0.1795
Azerbaijan	0.0906	0.1032	0.1138	0.3174
Belarus	0.1074	0.1700	0.1173	0.1501
Egypt	0.0584	0.0302	0.1025	0.1087
Georgia	0.2507	0.0536	0.1118	0.0951
Israel	0.1126	0.1390	0.0832	0.0663
Jordan	0.0680	0.0759	0.1005	0.1167
Lebanon	0.0805	0.0509	0.0957	0.1872
Libya	0.2121	0.1542	0.2789	0.2015
Moldova	0.2008	0.1032	0.1526	0.1338
Morocco	0.1393	0.0798	0.2357	0.1870
Syria	0.1092	0.0882	0.1573	0.1998
Tunisia	0.1414	0.1176	0.1796	0.1796
Ukraine	0.0579	0.0731	0.0814	0.0514

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 13. Herfindahl Import index (geographical diversification)

	WORLD MARKET		EU27 MARKET	
	1995	2010	1995	2010
Algeria	0.1018	0.0599	0.1958	0.1328
Armenia	0.1381	0.0665	0.0932	0.0481
Azerbaijan	0.1795	0.0680	0.0927	0.1255
Belarus	0.1368	0.2683	0.1308	0.1002
Egypt	0.0641	0.0352	0.0837	0.0713
Georgia	0.1168	0.0590	0.1092	0.0569
Israel	0.0841	0.0480	0.1068	0.0739
Jordan	0.0384	0.0532	0.0808	0.1020
Lebanon	0.0690	0.0398	0.1055	0.0957
Libya	0.0848	0.0739	0.1377	0.1905
Moldova	0.1420	0.0752	0.0836	0.0850
Morocco	0.0803	0.0586	0.1515	0.1353
Syria	0.0514	0.0579	0.0916	0.1277
Tunisia	0.1071	0.0861	0.1653	0.1689
Ukraine	0.0679	0.1389	0.0673	0.0730

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 14. Best sector in the best destination

	WORLD MARKET					
	1995			2010		
	Best destination	Best sector in the best destination	Best sector share	Best destination	Best sector in the best destination	Best sector share
Algeria	Italy	Crude Petroleum and Natural Gas Production	75%	USA & Puerto Rico	Crude Petroleum and Natural Gas Production	74%
Armenia	Benelux	Other Manufacturing Industries	79%	Russia	Beverage industries	55%
Azerbaijan	Turkey	Manufacture of textiles	27%	Italy	Crude Petroleum and Natural Gas Production	99%
Belarus	Germany	Manufacture of industrial chemicals	29%	Russia	Food manufacturing	26%
Egypt	Italy	Crude Petroleum and Natural Gas Production	51%	Italy	Crude Petroleum and Natural Gas Production	34%
Georgia	Turkey	Iron and steel basic industries	82%	Turkey	Iron and steel basic industries	50%
Israel	USA & Puerto Rico	Other Manufacturing Industries	41%	USA & Puerto Rico	Other Manufacturing Industries	37%
Jordan	Iraq	Food manufacturing	72%	Iraq	Food manufacturing	17%
Lebanon	Saudi Arabia	Agriculture and livestock production	34%	Switzerland & Liechtenstein	Non-ferrous metal basic industries	74%
Libya	Italy	Crude Petroleum and Natural Gas Production	81%	Italy	Crude Petroleum and Natural Gas Production	87%
Moldova	Russia	Beverage industries	40%	Russia	Agriculture and livestock production	24%
Morocco	France	Manufacture of wearing apparel, except footwear	39%	France	Manufacture of electrical machinery apparatus…	25%
Syria	Germany	Crude Petroleum and Natural Gas Production	87%	Germany	Crude Petroleum and Natural Gas Production	91%
Tunisia	France	Manufacture of wearing apparel, except footwear	55%	France	Manufacture of electrical machinery apparatus…	38%
Ukraine	Turkey	Iron and steel basic industries	38%	Russia	Manufacture of transport equipment	21%
	EU27 MARKET					
	1995			2010		
	Best destination	Best sector in the best destination	Best sector share	Best destination	Best sector in the best destination	Best sector share
Algeria	Italy	Crude Petroleum and Natural Gas Production	75%	Italy	Crude Petroleum and Natural Gas Production	91%
Armenia	Benelux	Other Manufacturing Industries	79%	Bulgaria	Metal Ore Mining	100%
Azerbaijan	Italy	Agriculture and livestock production	57%	Italy	Crude Petroleum and Natural Gas Production	99%
Belarus	Germany	Manufacture of industrial chemicals	29%	Netherlands	Petroleum refineries	98%
Egypt	Italy	Crude Petroleum and Natural Gas Production	51%	Italy	Crude Petroleum and Natural Gas Production	34%
Georgia	Italy	Iron and steel basic industries	59%	Bulgaria	Metal Ore Mining	92%
Israel	UK	Other Mining	15%	Benelux	Other Mining	40%
Jordan	Italy	Other Mining	29%	Italy	Non-ferrous metal basic industries	50%
Lebanon	France	Manufacture of wearing apparel, except footwear	31%	France	Manufacture of machinery except electrical	84%
Libya	Italy	Crude Petroleum and Natural Gas Production	81%	Italy	Crude Petroleum and Natural Gas Production	87%
Moldova	Romania	Food manufacturing	53%	Romania	Manufacture of electrical machinery apparatus…	34%
Morocco	France	Manufacture of wearing apparel, except footwear	39%	France	Manufacture of electrical machinery apparatus…	25%
Syria	Germany	Crude Petroleum and Natural Gas Production	87%	Germany	Crude Petroleum and Natural Gas Production	91%
Tunisia	France	Manufacture of wearing apparel, except footwear	55%	France	Manufacture of electrical machinery apparatus…	38%
Ukraine	Italy	Iron and steel basic industries	34%	Italy	Iron and steel basic industries	61%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 15. Export Herfindahl index (sectorial diversification)

	1995					
	World market	EU27 market	BRICS market	Best world destination	Best EU27 destination	Best BRICS destination
Algeria	0.4735	0.5741	0.2575	0.5853	0.5853	0.4977
Armenia	0.1924	0.2770	0.7704	0.6519	0.6519	1.0000
Azerbaijan	0.1889	0.2101	0.8437	0.1836	0.4510	1.0000
Belarus	0.1313	0.1346	0.1217	0.1566	0.1566	0.1172
Egypt	0.1449	0.1802	0.3510	0.2764	0.2764	0.8515
Georgia	0.3392	0.1439	0.1916	0.6676	0.4217	0.2544
Israel	0.0974	0.0564	0.0922	0.1921	0.0601	0.0900
Jordan	0.1271	0.1245	0.4731	0.5602	0.2062	0.4831
Lebanon	0.0631	0.0472	0.1504	0.1461	0.1272	0.2744
Libya	0.6267	0.6799	0.7200	0.6693	0.6693	0.9993
Moldova	0.1324	0.1628	0.2320	0.2334	0.2780	0.2334
Morocco	0.1087	0.1422	0.6715	0.1913	0.1913	0.8563
Syria	0.4167	0.5517	0.5692	0.7518	0.7518	0.6816
Tunisia	0.1753	0.2439	0.8993	0.3108	0.3108	0.9854
Ukraine	0.1022	0.0658	0.4908	0.2289	0.1471	0.4007
	2010					
	World market	EU27 market	BRICS market	Best world destination	Best EU27 destination	Best BRICS destination
Algeria	0.5587	0.6471	0.4571	0.6015	0.8298	0.7937
Armenia	0.1220	0.2167	0.2091	0.3086	0.9956	0.3086
Azerbaijan	0.7987	0.9548	0.3472	0.9789	0.9789	0.2207
Belarus	0.1126	0.4034	0.0898	0.0962	0.9508	0.0962
Egypt	0.0674	0.1195	0.1747	0.1488	0.1488	0.4838
Georgia	0.0756	0.1374	0.1221	0.2584	0.8503	0.2403
Israel	0.0870	0.0599	0.1193	0.2031	0.1829	0.1690
Jordan	0.0842	0.1052	0.5406	0.0774	0.3048	0.5052
Lebanon	0.0724	0.1735	0.8288	0.6016	0.6942	0.9649
Libya	0.7872	0.8223	0.9695	0.7620	0.7620	0.9757
Moldova	0.0743	0.0874	0.0874	0.0950	0.1388	0.0950
Morocco	0.0891	0.1060	0.3340	0.1371	0.1371	0.7278
Syria	0.2730	0.7550	0.1480	0.8274	0.8274	0.7797
Tunisia	0.0875	0.1216	0.3619	0.1761	0.1761	0.8116
Ukraine	0.0833	0.0761	0.0661	0.0782	0.3743	0.0782

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table 16. Best sector in the best origin

	WORLD MARKET					
	1995			2010		
	Best origin	Best sector in the best origin	Best sector share	Best origin	Best sector in the best origin	Best sector share
Algeria	France	Manufacture of transport equipment	17%	France	Manufacture of transport equipment	17%
Armenia	USA & Puerto Rico	Agriculture and livestock production	69%	Russia	Crude Petroleum and Natural Gas Production	31%
Azerbaijan	Turkey	Food manufacturing	45%	Russia	Manufacture of transport equipment	14%
Belarus	Germany	Manufacture of machinery except electrical	18%	Russia	Crude Petroleum and Natural Gas Production	53%
Egypt	USA & Puerto Rico	Agriculture and livestock production	43%	USA & Puerto Rico	Agriculture and livestock production	29%
Georgia	Turkey	Food manufacturing	54%	Turkey	Manufacture of other chemical products	11%
Israel	USA & Puerto Rico	Manufacture of electrical machinery apparatus…	22%	USA & Puerto Rico	Manufacture of machinery except electrical	17%
Jordan	USA & Puerto Rico	Agriculture and livestock production	36%	Saudi Arabia	Crude Petroleum and Natural Gas Production	54%
Lebanon	Italy	Manufacture of machinery except electrical	15%	USA & Puerto Rico	Petroleum refineries	41%
Libya	Italy	Petroleum refineries	19%	Italy	Petroleum refineries	37%
Moldova	Russia	Crude Petroleum and Natural Gas Production	35%	Ukraine	Food manufacturing	19%
Morocco	France	Manufacture of textiles	14%	France	Manufacture of transport equipment	15%
Syria	Italy	Manufacture of machinery except electrical	43%	China	Manufacture of machinery except electrical	16%
Tunisia	France	Manufacture of textiles	18%	France	Manufacture of electrical machinery apparatus…	19%
Ukraine	Germany	Manufacture of machinery except electrical	23%	Russia	Crude Petroleum and Natural Gas Production	53%
	EU27 MARKET					
	1995			2010		
	Best origin	Best sector in the best origin	Best sector share	Best origin	Best sector in the best origin	Best sector share
Algeria	France	Manufacture of transport equipment	17%	France	Manufacture of transport equipment	17%
Armenia	Germany	Non-ferrous metal basic industries	46%	Germany	Manufacture of machinery except electrical	27%
Azerbaijan	Germany	Food manufacturing	20%	Germany	Manufacture of transport equipment	31%
Belarus	Germany	Manufacture of machinery except electrical	18%	Germany	Manufacture of machinery except electrical	34%
Egypt	Germany	Manufacture of machinery except electrical	27%	Germany	Manufacture of machinery except electrical	27%
Georgia	Romania	Petroleum refineries	98%	Germany	Manufacture of transport equipment	31%
Israel	Benelux	Other Mining	70%	Benelux	Other Mining	38%
Jordan	Germany	Manufacture of machinery except electrical	22%	Germany	Manufacture of machinery except electrical	34%
Lebanon	Italy	Manufacture of machinery except electrical	15%	Italy	Petroleum refineries	35%
Libya	Italy	Petroleum refineries	19%	Italy	Petroleum refineries	37%
Moldova	Germany	Manufacture of machinery except electrical	24%	Romania	Petroleum refineries	43%
Morocco	France	Manufacture of textiles	14%	France	Manufacture of transport equipment	15%
Syria	Italy	Manufacture of machinery except electrical	43%	Italy	Petroleum refineries	47%
Tunisia	France	Manufacture of textiles	18%	France	Manufacture of electrical machinery apparatus…	19%
Ukraine	Germany	Manufacture of machinery except electrical	23%	Germany	Manufacture of machinery except electrical	19%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

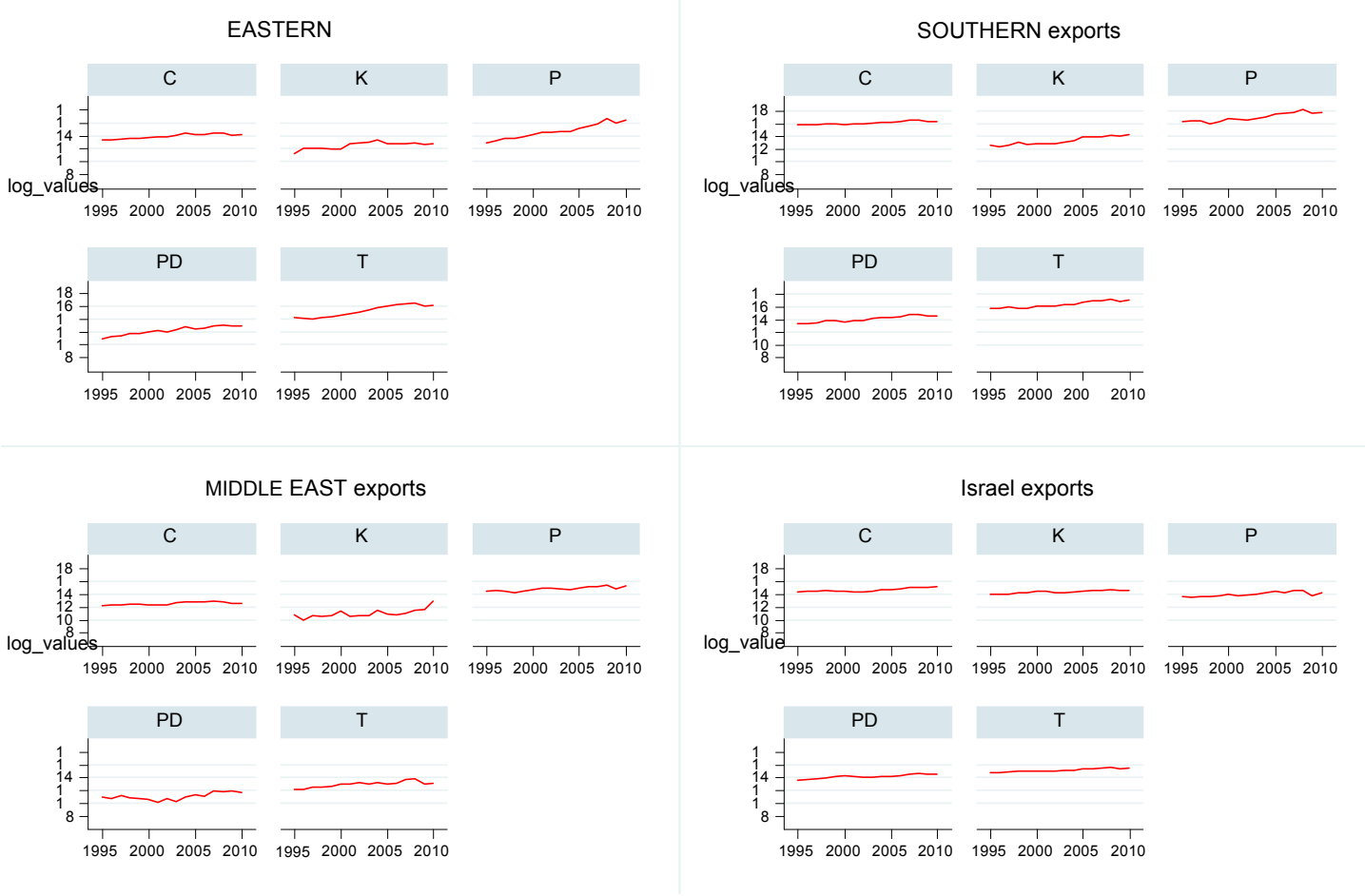
Table 17. Import Herfindahl index (sectorial diversification)

	1995					
	World market	EU27 market	BRICS market	Best world origin	Best EU27 origin	Best BRICS origin
Algeria	0.0699	0.0687	0.0844	0.0894	0.0894	0.0937
Armenia	0.1728	0.1199	0.2358	0.5308	0.3177	0.2719
Azerbaijan	0.1369	0.1301	0.2466	0.2088	0.0881	0.3594
Belarus	0.0482	0.0483	0.1197	0.0748	0.0748	0.1416
Egypt	0.0582	0.0663	0.0590	0.2220	0.1130	0.0483
Georgia	0.1724	0.1696	0.2630	0.3299	0.9591	0.4676
Israel	0.0556	0.0636	0.0753	0.0974	0.4845	0.1070
Jordan	0.0448	0.0636	0.0816	0.1618	0.0959	0.0536
Lebanon	0.0344	0.0374	0.0843	0.0487	0.0487	0.0714
Libya	0.0563	0.0688	0.2155	0.0833	0.0833	0.4458
Moldova	0.0510	0.0529	0.1679	0.1709	0.1004	0.1709
Morocco	0.0429	0.0561	0.0804	0.0647	0.0647	0.1825
Syria	0.0692	0.0949	0.0723	0.1900	0.1900	0.1256
Tunisia	0.0503	0.0687	0.0738	0.0696	0.0696	0.1499
Ukraine	0.0428	0.0436	0.0855	0.0811	0.0811	0.1034
	2010					
	World market	EU27 market	BRICS market	Best world origin	Best EU27 origin	Best BRICS origin
Algeria	0.0704	0.0714	0.0810	0.0943	0.0943	0.0925
Armenia	0.0333	0.0555	0.0596	0.1190	0.1077	0.1190
Azerbaijan	0.0509	0.0894	0.0543	0.0561	0.1552	0.0561
Belarus	0.1041	0.0969	0.2264	0.2805	0.1519	0.2805
Egypt	0.0463	0.0655	0.0493	0.1160	0.1153	0.0643
Georgia	0.0463	0.0881	0.0564	0.0419	0.1313	0.0615
Israel	0.0440	0.0568	0.0534	0.0696	0.1879	0.0579
Jordan	0.0444	0.0765	0.0454	0.3137	0.1699	0.0701
Lebanon	0.0520	0.0730	0.0398	0.2205	0.1290	0.0613
Libya	0.0581	0.0886	0.0542	0.1684	0.1684	0.0734
Moldova	0.0353	0.0489	0.0894	0.0621	0.1871	0.2242
Morocco	0.0441	0.0507	0.0596	0.0671	0.0671	0.1271
Syria	0.0490	0.0756	0.0507	0.0682	0.2461	0.0682
Tunisia	0.0491	0.0556	0.0753	0.0785	0.0785	0.1686
Ukraine	0.0556	0.0514	0.1693	0.2866	0.0743	0.2866

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

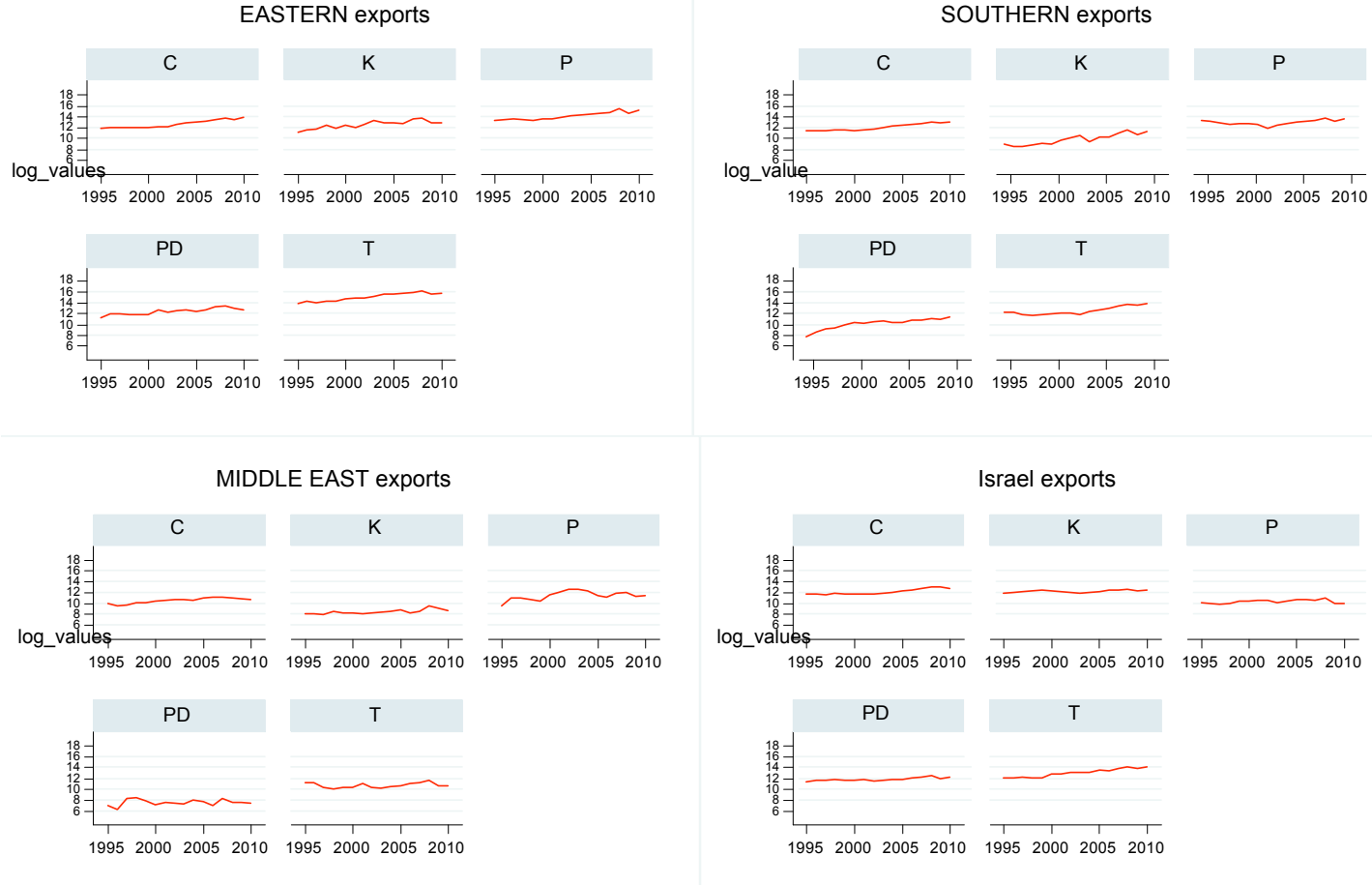
Appendix:

Graph A1. ENC sub-region exports to EU15



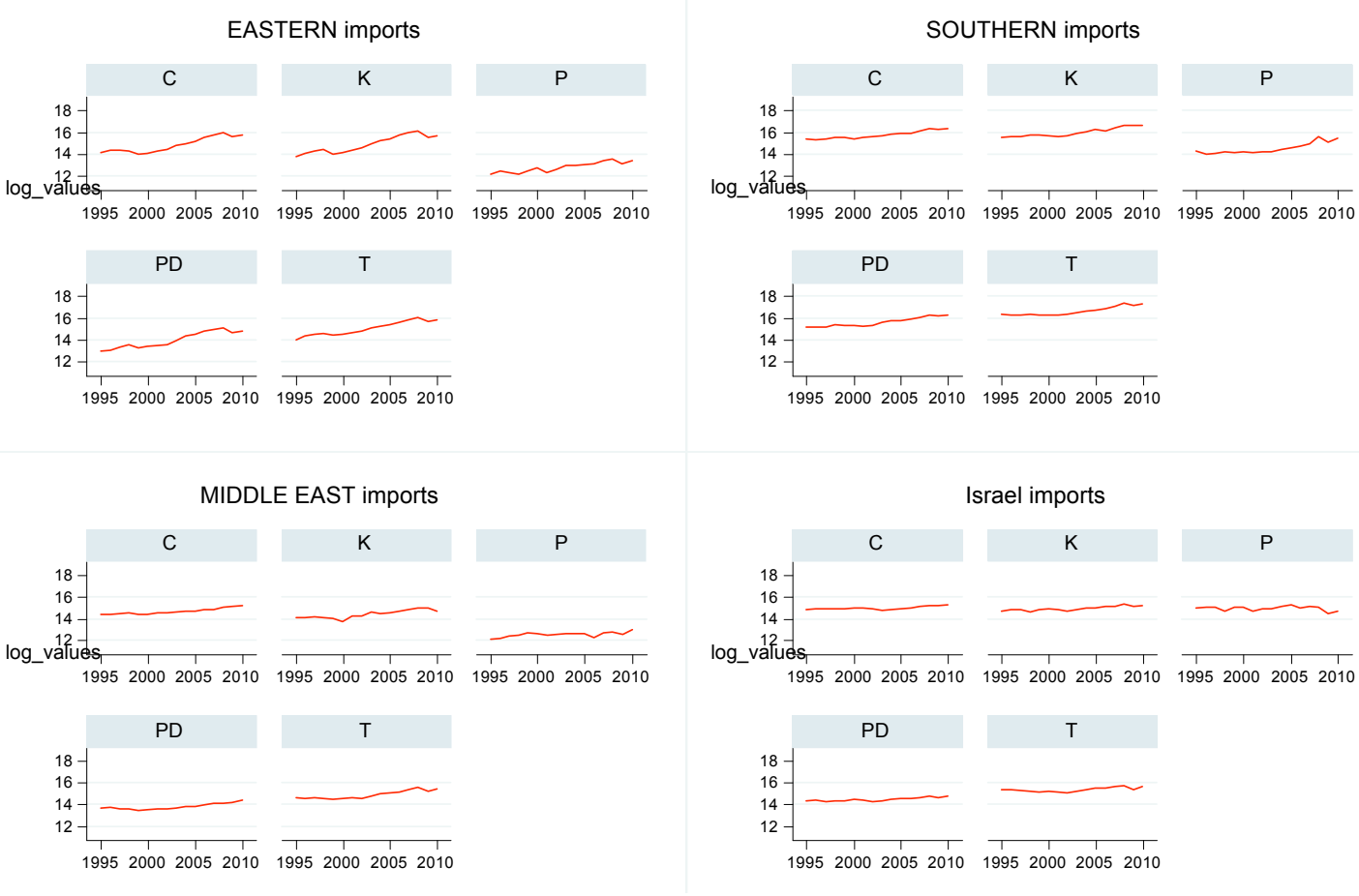
Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Graph A2. Sub-region ENC exports to EU12



Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Graph A3. ENC sub-region imports from EU15



Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Graph A4. ENC sub-region imports from EU12

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table A1. ENC sub-region stage exports yearly growth rates in 3 sub-periods: 1995-1999; 2000-2004; 2005-2010

		1995-1999					2000-2004					2005-2010				
		C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
Eastern	EU27	8%	26%	15%	20%	5%	18%	29%	14%	30%	27%	4%	7%	37%	10%	7%
Southern	EU27	3%	12%	3%	12%	1%	11%	12%	12%	16%	8%	4%	13%	13%	7%	10%
Middle East	EU27	6%	7%	3%	2%	4%	14%	21%	2%	25%	7%	-4%	67%	11%	15%	14%
Israel	EU27	4%	10%	4%	16%	5%	8%	-3%	7%	-2%	4%	9%	6%	3%	6%	6%
Eastern	EU15	8%	25%	30%	27%	4%	18%	52%	10%	26%	34%	-1%	3%	41%	10%	6%
Southern	EU15	3%	12%	3%	11%	1%	11%	13%	12%	17%	8%	4%	13%	13%	7%	9%
Middle East	EU15	6%	9%	3%	0%	11%	15%	23%	1%	26%	7%	-4%	71%	11%	15%	15%
Israel	EU15	4%	9%	4%	16%	5%	8%	-3%	8%	-2%	4%	9%	5%	3%	5%	5%
Eastern	EU12	6%	31%	2%	16%	9%	20%	27%	20%	39%	21%	17%	14%	28%	11%	11%
Southern	EU12	4%	11%	-13%	81%	-7%	21%	33%	6%	2%	21%	17%	36%	14%	31%	26%
Middle East	EU12	8%	9%	74%	161%	-13%	6%	11%	27%	36%	14%	-5%	17%	7%	23%	6%
Israel	EU12	3%	18%	6%	11%	4%	11%	-4%	2%	7%	12%	15%	11%	-1%	15%	14%
Eastern	BRICS	142%	587%	125%	1721%	90%	18%	17%	23%	9%	15%	13%	25%	67%	16%	14%
Southern	BRICS	-1%	1%	25%	110%	14%	22%	50%	28%	39%	-4%	28%	218%	18%	5%	35%
Middle East	BRICS	11%	31%	40%	20%	18%	18%	137%	35%	511%	11%	22%	40%	15%	64%	35%
Israel	BRICS	-17%	3%	34%	7%	12%	19%	12%	12%	34%	19%	30%	11%	8%	23%	31%
Eastern	USA	10%	48%	67%	31%	15%	11%	14%	22%	257%	15%	-10%	-10%	164%	13%	41%
Southern	USA	12%	8%	-4%	25%	6%	4%	9%	59%	-2%	12%	13%	32%	13%	13%	4%
Middle East	USA	7%	152%	19%	2242%	132%	68%	-19%	51%	18%	32%	-6%	5%	147%	-12%	31%
Israel	USA	7%	15%	6%	7%	16%	7%	-6%	3%	-4%	8%	19%	7%	33%	12%	3%
Eastern	REST OF WORLD	85%	83%	29%	209%	28%	30%	35%	20%	36%	24%	26%	8%	43%	9%	12%
Southern	REST OF WORLD	4%	24%	3%	37%	11%	6%	17%	21%	18%	5%	27%	16%	10%	8%	29%
Middle East	REST OF WORLD	15%	106%	3%	38%	11%	18%	42%	12%	76%	42%	19%	17%	11%	30%	16%
Israel	REST OF WORLD	-1%	11%	21%	13%	-4%	6%	7%	10%	-4%	7%	14%	7%	21%	15%	10%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Table A2. ENC sub-region stage imports yearly growth rates in 3 sub-periods: 1995-1999; 2000-2004; 2005-2010

		1995-1999					2000-2004					2005-2010				
		C	K	P	PD	T	C	K	P	PD	T	C	K	P	PD	T
Eastern	EU27	-5%	7%	-8%	6%	11%	24%	31%	7%	32%	20%	16%	13%	10%	13%	15%
Southern	EU27	3%	5%	-2%	5%	-2%	11%	12%	7%	13%	11%	10%	10%	24%	12%	14%
Middle East	EU27	1%	-1%	10%	-5%	-5%	7%	24%	4%	9%	12%	10%	5%	14%	11%	12%
Israel	EU27	1%	3%	3%	1%	-6%	-2%	3%	4%	0%	6%	11%	7%	-6%	4%	5%
Eastern	EU15	-4%	9%	8%	10%	16%	25%	33%	10%	30%	20%	16%	10%	8%	9%	11%
Southern	EU15	3%	6%	-3%	5%	-1%	11%	12%	6%	13%	11%	10%	10%	27%	12%	14%
Middle East	EU15	1%	0%	15%	-5%	-3%	8%	23%	-1%	9%	11%	10%	4%	15%	11%	9%
Israel	EU15	1%	3%	3%	1%	-6%	-2%	3%	4%	0%	5%	8%	6%	-7%	4%	5%
Eastern	EU12	-6%	1%	-19%	-1%	5%	22%	24%	6%	35%	19%	17%	22%	15%	22%	20%
Southern	EU12	1%	0%	3%	14%	-8%	16%	20%	24%	9%	7%	21%	19%	3%	21%	28%
Middle East	EU12	9%	-8%	-8%	8%	-13%	1%	36%	26%	16%	21%	15%	14%	49%	14%	37%
Israel	EU12	7%	9%	16%	10%	-7%	16%	11%	-4%	12%	23%	38%	24%	33%	18%	12%
Eastern	BRICS	99%	766%	1027%	383%	225%	38%	29%	19%	27%	22%	19%	24%	16%	17%	23%
Southern	BRICS	16%	17%	8%	21%	-1%	19%	39%	35%	23%	18%	21%	33%	18%	23%	24%
Middle East	BRICS	20%	26%	-1%	20%	7%	27%	50%	1%	27%	34%	18%	22%	31%	14%	18%
Israel	BRICS	19%	14%	21%	36%	18%	15%	28%	11%	19%	14%	18%	22%	12%	24%	11%
Eastern	USA	67%	31%	10%	13%	17%	16%	4%	16%	24%	7%	22%	18%	80%	3%	15%
Southern	USA	6%	7%	-5%	6%	-4%	-3%	-3%	2%	4%	7%	25%	10%	31%	7%	29%
Middle East	USA	-2%	3%	-5%	2%	2%	5%	10%	19%	2%	10%	16%	10%	24%	19%	41%
Israel	USA	-1%	14%	0%	12%	1%	-5%	0%	7%	-1%	8%	9%	-1%	5%	0%	8%
Eastern	REST OF WORLD	21%	30%	1496%	38%	66%	22%	22%	17%	23%	21%	25%	22%	8%	7%	24%
Southern	REST OF WORLD	10%	10%	1%	6%	5%	11%	18%	2%	11%	9%	16%	23%	19%	20%	23%
Middle East	REST OF WORLD	7%	6%	48%	8%	9%	18%	22%	66%	11%	22%	17%	5%	6%	10%	12%
Israel	REST OF WORLD	4%	4%	8%	10%	7%	7%	4%	27%	0%	9%	11%	7%	-2%	9%	10%

Source: Prepared by the author based on CEPII-BACI DataBase (2012)

Firms' Alliances in the European Neighboring Countries

The aim of this task is to give a first overview of the relationships between the European Union (EU) and the European Neighboring Countries (ENC) looking at the transactions and agreements carried out by companies in the forms of Merger and Acquisitions (M&A), Joint Venture (JV) and Strategic Alliances (SA). All these type of deals among firms located in different countries can be interpreted as a valuable proxy for the exchange of knowledge across countries and regions.

M&A, JV and SA deals represent just one of the numerous channels of knowledge diffusion (like co-inventorship, patent citations and research networks) which are worth considering to have a comprehensive picture of the knowledge exchange between the EU and ENC.

In first part we analyze the M&A deals in detail while in second part we provide a first descriptive analysis of other type of firms' agreements, such as Joint Venture and Strategic Alliances.

Mergers and Acquisitions and Knowledge Flows

Maria Chiara Di Guardo and Raffaele Paci, CRENoS (Centre for North-South Economic Research), University of Cagliari, Italy

E-mail: diguardo@unica.it and paci@unica.it

Abstract

In the last two decades, Mergers & Acquisitions (M&A) activities worldwide rose to an unprecedented level, mainly due to two factors: globalization and technological progress. M&A transactions, whatever their motivation, generate potential knowledge flows between bidder and target firms that happen before, during and after the deal in the form of: information exchange in the due diligence phase and among managers; access to new technologies and organizational competencies; task and human integration; interaction of different organizational cultures; transfers of capabilities and resource sharing. Consequently, M&A transactions represent a valuable proxy for the exchange of knowledge across the geographical areas where companies are located, therefore offering the opportunity to investigate the knowledge flows between the European Union and its neighboring countries.

The aim of the paper is to analyze in detail the M&A deals in the European Neighboring Countries (ENC) in order to explore the knowledge flows between firms in those areas and external firms. More specifically, we will examine the geographical directions of M&A and their sectoral scope. Data on M&A deals are retrieved from the SDC Platinum database (Thomson Financial) considering the period 2000-2011. Taken together, M&A data provide interesting evidence on the overall market-level impact of M&A on the ENC and thus on the knowledge links that have been generated.

Keywords

Mergers & Acquisitions, Knowledge Flows, European Neighboring Countries

JEL

G34, L24, F23, O33

Acknowledgments

We would like to thank Davide Pinna and Marta Foddi for their excellent work in preparing the database.

1. Introduction

In the last two decades, Mergers & Acquisitions (M&A) activities worldwide rose to an unprecedented level resembling a sort of "M&A fever" (Inkpen et al., 2000). This trend has been attributed mainly to two factors: globalization and technological progress. On the one hand, the growth of some emerging economies (East Asia, BRIIC) has greatly increased the competitive pressures. In this scenario, M&A are strategic tools that firms use to achieve economies of scale and gain in market shares, to establish a transnational bridgehead without excessive startup costs, to gain excess to a foreign market, and to circumvent government regulations.

On the other hand, technological progress has increased the skills premium, leading to what the literature has named "superstar" or "winner take all" effects (Davidson et al., 2012). In this context, many acquisitions are attempting to obtain highly developed technical expertise and skills of employees, high functioning teams for product development, or specific new technologies in fast-paced industries (Kozin and Young, 1994; Wysocky, 1997). Moreover, as some empirical studies show, M&A might act as an important vehicle for learning and organizational renewal (Barkema and Vermeulen, 1998; Karim and Mitchell, 2000; Vermeulen and Barkema, 2001) and might constitute positive shocks that revitalize organizations, broaden their knowledge base, and enhance their ability to react adequately to changing circumstances.

In general, M&A transactions, whatever their motivation, represent important decisions for both bidder and target firms which involve relevant knowledge flows between them (Hussinger, 2010) and, consequently, between the geographical areas where companies are located. Further, the synergies expected from M&A often hinge on the acquiring firm's ability to successfully transfer knowledge to the acquired unit (Birkinshaw et al., 2000). There are several activities performed by the two companies involved in an M&A which generate potential knowledge transfer embedded in the deal: information exchange in the due diligence phase and among managers; access to new technologies and organizational competencies; task and human integration; interaction of different organizational cultures; transfers of capabilities and resource sharing.

We recognize that knowledge transfer in M&A is neither unilateral nor automatic and that the relevance and importance of effective knowledge flows is a function of the recipient unit's availability to open to new knowledge as well as the function of the knowledge itself in terms of codifiability, teachability and observability. Nevertheless, an M&A deal is the outcome of complex search and decision processes by both the bidder and the target and, in most cases, it involves knowledge flows which are part of the organizational change process that happens before, during and after the M&A deal.

Therefore, the M&A transactions, exploiting the interregional complementarities, represent a valuable proxy for the exchange of knowledge across countries and regions and thus offer the opportunity to exploit the knowledge flows between the European Union (EU) and the European Neighboring Countries (ENC). M&A deals represent just one of the numerous indicators of knowledge diffusion which are worth considering, such as co-inventorship, patent citations, research networks and technological alliances. In section 4.5.1 we focus on M&A while in section 4.5.2 we examine other types of agreements among firms like Joint Venture and Strategic Alliances. Moreover, other potential channels of knowledge flows which involve the ENC are examined by Usai et al. (2012) and Autant Bernard and Chalaye (2012).

The relationships between EU and adjacent countries is a central issue because, after the last enlargements in 2004 and 2007, the eastern borders of the EU shifted drastically, reaching countries characterized by extremely different economic, cultural, social and political conditions with respect to the EU. As a consequence, the EU, as an alternative to further enlargements, has developed an integrated policy towards the non-candidate countries neighboring the EU at both the eastern and Mediterranean borders. So far, sixteen countries belong to the ENC group with different negotiating status and are involved in the European Neighborhood Policy (ENP) launched in 2004. Within the whole ENP it is useful to distinguish two strands: the eastern regional program which includes six countries on the eastern border (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) and the southern regional program with ten countries of the southern border (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia and Palestinian Territory).

The aim of the ENP is to create close, peaceful and cooperative relationships with bordering countries generating stronger economic integration and cross-border co-operation programs (COM 373, 2004). Since its launch, the ENP has exhibited a significant degree of stability and continuity as reported by the annual review published by JCMSs (Whitman and Juncos, 2010 and 2011).[1] The core drivers of the ENP are investment facilities, technical and financial support and, more generally, the promise of enhanced relations in trade and people mobility. Thus, in addition to institutional and cultural issues, the ENP covers a large number of economic themes like markets liberalization, trade, FDI, research, innovation diffusion, education, labor migration, and environmental and safety standards.

The literature has mainly focused on the governance perspective of the European integration policy with the EU and on the movements of tangible elements like goods (trade), capital (FDI) and people (migration) while less attention has been devoted to the flows of knowledge and innovation. Moreover, in spite of the importance of the M&A phenomenon in terms of economic value and, more important for our perspective, knowledge flows, we know surprisingly little about M&A transactions that involve, as target or bidder, firms

1. For a comprehensive overview of the ENP, see also Whitman and Wolff (2010) and Wesselink and Boschma (2012).

located in the ENC. So far, the existing literature on M&A activity has primarily examined the European Union and North American markets (Moschieri and Campa, 2009) overlooking the ENC in spite of the fact that the M&A market value in Central and Eastern Europe had tripled between 2004 and 2006 (PricewaterhouseCoopers, 2006). The relevance of the phenomenon is clear at least from a theoretical point of view. For the ENC, in fact, M&A could be a fast way to activate knowledge transfer processes and to generate an important innovation pressure. Innovation considerations are, indeed, central to merger policy (Katz and Shelanski, 2004) because dynamic efficiency is critical to successful economic performance and innovation itself is a key dimension of market performance, which is potentially affected by a merger.

The aim of the paper is to investigate in detail the M&A deals in the ENC in order to explore the knowledge flows between firms in those areas and external firms. More specifically, we will focus on the geographical directions of M&A transactions to assess the role of spatial and cultural proximity among countries. Moreover, we will examine the sectoral scope of the deals to assess the degree of industrial and technological relatedness of the transactions.

Data on M&A deals was retrieved from the SDC Platinum database (Thomson Financial) considering transactions between 1 January 2000 and 31 December 2011, for which the target or acquirer companies are based in one of the sixteen EU Neighboring Countries. We analyze each ENC, as target or acquirer, distinguishing between two macro-groups: ENC-East and ENC-South.[2] We selected large, medium-sized, and small takeover transactions because, following Moeller et al. (2004), we believe that a focus only on large takeovers may give an incomplete picture of the impact of acquisitions on the ENC. Our final sample includes 6,299 announced transactions in which the target company is based in one of the ENC, and 3,871 announced transactions in which the acquirer company is based in one of the ENC. Taken together, these data provide interesting evidence on the overall market-level impact of M&A on the ENC and thus on the knowledge links that have been generated.

The paper is organised as follows. In section 2, we describe the general dimension of the phenomenon; in section 3, we evaluate the ENC as the target of the M&A process while in section 4 we analyze the role of ENC as acquirers in the M&A process. Some concluding remarks are presented in section 5.

2. The General Dimension of the Phenomenon

M&A offer the fastest means of building a sizeable presence in a new market, yet are fraught with risks of overpayment, inability to fully assess the value of acquired assets, and post-acquisition challenges, including cross-cultural integration. As Silverman (1999) observes, a firm's technological resource base significantly influences its M&A

2. In the empirical analysis, the Palestinian Territory is not included since it is never the acquirer or target of M&A deals.

cross-border decisions. In particular, a firm elects to enter markets in which it can exploit its existing technological resources and in which its existing resource base is strongest. However, Teece (1980) stresses how, for this to be true, it must be the case that the transfer of such excess resources is subject to market failure. In fact, if these resources can be efficiently sold, then there would not be any need for expansion. Moreover, Rossi and Volpin (2004) tested the relationship between shareholder/creditor rights and cross-country M&A and find that M&A activity is larger in countries with better accounting standards and stronger shareholder protection.

Therefore, we need to interpret the magnitude and geographical directions of the transactions considering that firms' decision are affected by the economic, political and social events which are taking place in the various countries.

This article examines the evolution of the ENC M&A market between January 2000 and December 2011. Data are retrieved from the SDC Platinum which contains M&A deals and joint ventures updated daily through over 200 English and foreign language news sources, SEC filings and their international counterparts, trade publications, wires and proprietary surveys of investment banks, law firms and other advisors. It includes all corporate transactions involving at least 5% of the ownership of a company where the transaction was valued at $1 million or more (after 1992, deals of any value are covered) or where the value of the transaction was undisclosed. Both public and private transactions are covered.

Let us now briefly consider the definitions of M&A in details. Merger means any transaction that forms one economic unit out of two or more previous ones. Broadly speaking, there are three types of mergers. In a horizontal merger, two or more direct competitors, producing in the same market, are joined. A vertical merger links firms that are in different stages of production within a particular market. Finally, conglomerate mergers are unions of firms that are neither direct rivals, nor produce in the same production chain. Acquisition means that company X buys a part of company Y sufficient to acquire its control (Ross et al., 1999). From our data is not possible to distinguish between the different types of transactions so, as is common in the literature, we just consider M&A as a whole.

Table 1 shows data on M&A activities sorted by country and status of the transaction for the period 2000-2011. In our sample, the most active M&A markets are Ukraine (2,425 deals announced as target of which are 1,658 completed, and 1,093 are deals announced as acquirer of which 858 are completed) and Israel (1,588 deals announced as target and 1,559 as acquirer). A considerable number of transactions is also shown by Egypt and Jordan. The remainder of the ENC account for less than 18 per cent of the total number of announced deals and 20 per cent of completed deals both as target and bidder. Thus, excluding Ukraine and Israel, the number of deals involving the ENC is extremely low, especially when the ENC act as acquirer.

Among the ENC-East group, Ukraine is the "new star" in attracting investments (PricewaterhouseCoopers, 2006) and it represents one of the most important target countries. Moreover, Ukraine borders both the EU and Russia and is characterized by a strong co-operation willingness (Wolczuk, 2008) with an asymmetric interdependence with the EU (Melnykovska and Schweickert, 2008). Among the ENC-South group, Israel represents the most important target nation in terms of number of M&A. Despite its geographical location, Israel is part of the West economy with major GDP comparable with that of the richest EU countries and with a R&D average expenditure accounting for 4.5 per cent of GDP, more than Italy or Germany.

There are no great differences between the ENC-East and ENC-South groups in the magnitude of the transactions since each area represents almost 50 per cent of the deals announced and completed, despite the fact that, in terms of aggregate GDP, ENC-East is almost five times smaller than ENC-South, and that in 2008 the population of ENC-East was 75 million against 197 million for ENC-South. Table 1 also shows some similarities across countries. For example, looking at the ENC as a target, M&A deal volumes in Morocco and Belarus – which is often regarded as the "last dictatorship" in Europe – are similar, although their governance regime is quite different. In contrast, the numbers are totally different when we look at these two regions as acquirers (24 transactions for Belarus, against 112 transactions for Morocco).

If we weight, by taking their ratio, the number of M&A in which the ENC is target with GDP (constant value of the year 2005, in euros), Jordan (4%) is the most active in M&A, followed by Moldova (3.7%) and Ukraine (3.7%). When we use the number of M&A in which the ENC is acquirer, Jordanian firms are still the most active in the M&A process, followed by Israel (1.2%) and Ukraine (1.3%). This result is only partially consistent with prior research that has established a link between the legal environment and its effect on the ability of the country to attract and sustain M&A activity.

An interesting aspect of M&A transactions is how many announced deals are actually completed and if there are significant differences between countries in the completion rate. From Table 1 we can see that on average 64.9 per cent of announced M&A deals get completed when the ENC are involved as target (see also Figure 1), and on average 71.2 per cent of announced M&A deals get completed when the ENC are involved as acquirers. The highest percentage of completed deals as acquirer is found in Moldova (89%), Azerbaijan (87%) and Jordan (88%), while in Jordan (83%) and Morocco (81%) we record the highest percentages as target countries. At the other end of the list, we find Libya and Egypt and Azerbaijan and Belarus which, as target nations, see only 60 and 50 per cent of completed transactions, respectively. This may signal a situation of uncertainty in these countries linked to the political situation which makes the completion of the acquisitions more difficult.

If completion upon announcement as acquirer happens more often in ENC-East than in ENC-South, we find a different situation when the ENC is the target. Moreover, international and domestic deals do not have a similar likelihood of completion. This data could indicate for these countries some kind of resistance to international integration linked to political and institutional issues. Many developing countries in this area, for cultural, religious reasons or simply for fear of giving too much control to foreign multinationals, are hostile to incoming foreign direct investment, especially the hegemonic powers of the West in the form of the USA and the EU. As a result, some developing countries have pursued an active policy of restricting incoming M&A. At the same time, these data could be related to a peculiar economic situation characterized by high corruption and low indexes in ease of doing business (World Bank Database, 2008-2009), which have a direct effect on the M&A process. For instance, in Algeria, 65 per cent of the firms pay the cost of corruption, through informal payments to public officials, while in Egypt this figure increases to 98 per cent (World Bank Database, 2010). We verify the partner countries with the highest number of completed deals: in the case of Syria, the partner countries are India, Egypt and Saudi Arabia, while uncompleted M&A are with firms from the USA and UK.

Moreover, the number of uncompleted M&A are sector-specific. Politically sensitive sectors of the economy, those which are of strategic importance for the government, are characterized by a high degree of political control (Keeler, 1993). Therefore, it would be logical to think that firms involved in M&A in politically sensitive areas are less likely to complete the deal without problems. In countries like Ukraine and Moldova, natural resources are a politically sensitive sector of the economy compared to services, for example. Moreover, empirical literature finds that regulation of the local market has a significant impact on mergers. A high degree of regulation in the target countries tends to prevent foreign firms from acquiring local players, while deregulation and privatization often leads to increasing M&A activities (Buch and DeLong, 2004). The case of Israel is interesting, characterized by a lower level of completed over announced M&A, both as acquirer (63.3%) or target (59.4%). We can speculate that this result is linked with the peculiar political situation of Israel, where the conflict between Hamas and Israel and the religious tensions in that areas may have played a decisive role in limiting the rate of completion.

Other interesting elements on M&A flows can be seen by looking at the net acquirer rate for each country *i*, computed on completed deals, defined as:

$$(A_i - T_i) / (A_i + T_i)$$

where *A* and *T* are the deals when country *i* is, respectively, the acquirer and the target. The index goes from -1 when the country does not perform any acquisition to +1 when it has only acquisitions; the value is equal to 0 when the two flows are equal.

From Figure 2 we can see that only three countries are net acquirer: Libya and Lebanon (with a low number of total deals) and also Israel, which is, however, characterized by a very high number of transactions. All other countries show a negative index since the number of target deals is higher than acquisition deals.

Since we are interested in analyzing the deals which have been effectively implemented, in the rest of the paper we limit our attention to the completed M&A, investigating their geographical and sectoral dimensions in detail.

3. The ENC as Target

In this section, focusing on the completed deals, we analyze the evolution over time of M&A when the ENC firm is the target. We will pay specific attention to the geographical and sector dimensions of the transactions to assess whether spatial, cultural and cognitive proximity play a relevant role in influencing firms' decisions.

In general, M&A deals represent important decisions for organizations. M&A could be motivated by a range of factors, such as growth by market expansion, acquisition of special resources, achievement of scale economies, geographical expansion and international diversification. It has been argued that firms may engage in M&A to increase their market power, increasing their size relative to industry competitors and reducing competition (Scherer and Ross, 1990). As a matter of fact, M&A often involve diversification and expansion into new markets. At the same time, they can be disruptive, producing unexpected entries by buyers, cross-cultural dislocation, and changes in strategic assumptions about a local market (Ghoshal & Bartlett, 1990). Clealy, M&A decisions depend on the availability of appropriate targets.

We start by analyzing in Table 2 the evolution over the period 2000-2011 of the number of completed M&A deals in the ENC as target (see also Figure 3). The overall distribution of deals by year shows that, after a decline in the period 2000-2002, the M&A market has grown very quickly from the year 2005 especially in the eastern ENC. At the same time, we can see a tendency to decrease in the last two years due specifically to the sharp reduction shown by Ukraine, because of the international economic crisis. In the southern area, we note that for countries like Libya or Syria the number of M&A deals is almost constant across the years, while in Jordan we observe an incredible and constant increase in the level of M&A deals, especially after 2005.

It is interesting to link our findings with the international diffusion of M&A to comment on some interesting processes. Literature has emphasized that M&A generally occur in waves and cycles (Fauli-Oller, 2000). The so-called "Fifth Wave" between 1993 and 2000 was characterized by cross-border M&A, and mega mergers, and was particularly remarkable compared to its predecessors. For the first time, continental European firms

were as eager to participate in takeovers like their US and UK counterparts, and M&A activity in Europe hit levels similar to those experienced in the US. The "Sixth Wave" invests the period between the years 2003-2008 with a sharp increase of M&A activities in 2006 both in terms of numbers and value. This wave is characterized by the globalization process, private equity pressure, and shareholder activism. Since the start of globalization, multinational companies have been engaging more heavily in cross-border trade and investments, which has heightened economic interdependence among national markets. Finally, from 2008 to 2011, M&A activity sank to its lowest levels since 2004, due to the economic downturn.

As Table 2 and Figure 3 show, while Israel's M&A time flow seems consistent with the international M&A waves approach, the data for countries like Ukraine and, more generally, for the whole ENC-East group, are inconsistent with the international pattern. In fact, we do not observe a decreasing level of M&A after 2008 but a constant and relevant increase, and this process does not start in 2004 but only after 2006. These peculiar "waves" are probably related to the political and economic environment that characterized this area. All countries, to a greater or lesser extent, have had imperfect "transitions" to capitalism and democracy. In many of them since 1998, "colored" revolutions have occurred – Belarus (2001 and 2006), Georgia (2003), Ukraine (2004) and Azerbaijan (2005) – and only in more recent years the political stabilization made it possible to open the economy to the international markets. For Belarus, for example, the increase in M&A observed lately and in countertrend with the international waves might be explained with the 2009 paradigm shift that has taken place in the EU's policy promoting functional co-operation.

This empirical evidence stresses the importance of considering the quality of the legal, regulatory and economic environment within a country to study M&A (e.g. Rossi and Volpin, 2004) while the M&A literature has in general underscored the importance of these institutional factors (Peng et al., 2009).

We complete this general description of the deals with the ENC as target by looking at the characteristics of the acquirer. Table 3 shows that the vast majority (92%) of total deals has been completed by corporate buyers and this share is quite stable across countries. Table 4 reports the status of the buyer showing that the principal component (46%) are private corporate firms followed by public companies (32%). For this dimension, there are relevant differences between areas and countries. In the ENC-South, public companies show a larger incidence (41%) due mainly to Israel (49%) while in ENC-East the presence of private firms as buyers is higher (53%), with Ukraine presenting the highest value (66%). These results confirm that public companies, which are more dependent on external evaluation, prefer to operate in more stable and secure markets like Israel. On the other hand, the entrance in unstable and risk markets like Ukraine is more likely by private companies where the decision and evaluation are more internal and centralized.

3.1 The Geographical Dimension

As we already discussed, M&A are mainly driven by economic factors, such as profit opportunities, market power, entry into new markets, and technological acquisition. However, the effectiveness of these factors is greatly mediated by proximity between bidder and target company in terms of geographical and cultural elements. In other words, it is more likely, all other factors held constant, to observe more transactions between countries which are closed in the geographical space or which are linked by historical and cultural elements. Therefore, in this section we analyze the geographical scope of M&A involving ENC as target country and we examine in detail the countries of origin of the acquirer firms in the international transactions.

Table 5 distinguishes among domestic and international or cross-border M&A. A domestic acquisition is defined as an acquisition in which the headquarters of the acquirer and the acquired firms are in the same country. An international acquisition is defined as an acquisition in which the headquarters of the acquirer and the acquired firms are located in different countries (Shimizu et al., 2004). Generally speaking, if compared to the USA or the EU, few transactions occur among domestic firms: 47 per cent on average but with Armenia, Belarus and Algeria positioned on less than 10 per cent (see also Figure 4). On the other hand, 53 per cent of M&A are cross-border and this share increases to 59 per cent if we observe only the ENC-East group. Looking at the two sub-periods, we notice a general trend of increasing the share of domestic deals (from 43% to 48%) signaling the strengthening of local firms.

Interesting and in countertrend with respect to the other ENC is the case of Jordan, with more than 77 per cent of domestic M&A. This important rate of domestic M&A, together with the increasing number of deals after the 2005, reveals an economy that is transforming and modernizing with a natural process of national concentration. Moreover, this important percentage of domestic deals could explain why Jordan is characterized by one of the highest rates of completed M&A after the announcement (83% as target and 89% as acquirer), confirming the hypothesis that domestic deals have a higher probability of completion.

In general, profit opportunities in the destination market are seen as a driver of cross-border acquisitions (Focarelli and Pozzolo, 2005). While the level of GDP in the target country has been indicated in the literature as a proxy for profit opportunities (Buch, 2000), in emerging markets the prospect of future growth seems to be more important than their actual level of total output.

In Table 6, focusing on cross-border M&A, we give an overview of the top five acquirer nations for each ENC. We observe, as expected, that strong historical, cultural, political, economic and geographical links among EU and neighborhood regions explain the pres-

ence between the top acquirers of EU countries: France in Algeria, France and Spain in Morocco, the United Kingdom in Azerbaijan. From the viewpoint of the EU, a cross-border M&A represents an important opportunity to gain competitive advantage. The literature, in fact, has emphasized that while announcements of foreign acquisitions on average have insignificant (Kiymaz, 2004) or even negative effects (Waheed and Mathur, 1995) on the stock price of the bidder, cross-border mergers in developing countries create value. More specifically, Kiymaz and Mukherjee (2000) conclude that the diversification benefits, in conjunction with the advantages of lower competition in developing countries, outweigh the political risk associated with expansion in such economies.

In international diversification decisions, companies seem to attune their choices to the traits of the host economy, and characteristics related to cultural elements have frequently been claimed to influence the M&A firms' choice. The degree of similarity between countries based on their legal, economic, administrative, political, and cultural institutions (Kostova, 1999), and institutional relatedness, the "degree of informal embeddedness or interconnectedness with dominant institutions" (Peng et al., 2005; 623) are important considerations that affect M&A strategy. The underlying assumption in this school of thought is that firms can benefit from institution-based capitals (e.g., political connections, cultural familiarity, and financial standards) better when cross-national institutional distance is low between their home and host countries. For example, cultural distance between countries is expected to back green fields because of the organizational risks of integrating foreign management into the parent organization.

Observing Table 6, we realize that, consistent with the literature, the cultural proximity between the target and the bidder in cross-border M&A is really effective. In the international cross culture management literature, differences between national cultures have frequently been conceptualized in terms of "cultural distance" (Kogut and Singh, 1988; Morosini et al., 1998). The cultural distance hypothesis, in its most general form, suggests that the difficulties, costs and risks associated with cross-cultural contacts increase with growing cultural differences between two individuals, groups or organizations. The cultural distance construct has been shown to be significantly related to the choice of foreign investment and M&A activities (Barkema et al., 1996). Cultural distance between countries has been measured in different ways. One of the most common methods is that proposed by Hofstede (1980). He argues that differences in national cultures vary substantially along four dimensions. These dimensions are labeled uncertainty avoidance, individuality, tolerance of power distance, and masculinity-femininity. A considerable body of theory and research on the role of culture distance in M&A suggests that cultural differences can create major obstacles to achieving integration benefits and are one of the key determinants for the success of M&As.

Consistent with this literature, we observe that the top acquirers in Israel are the USA, UK and Germany; in Jordan these are Kuwait, Arab Emirates and Saudi Arabia, Turkey

appears among the top acquirers only for the case of another Islamic country like Azerbaijan; in Belarus the top acquirer countries are Russia, Latvia and Ukraine and Russia is among the top acquirers in all countries which were former members of the Soviet Union.

According to network theory, interactions among agents create structural interdependencies, and agents are able to impact each other through these interdependencies (Granovetter, 2005). As noted by Turkina and Postnikov (2012), private actors are prone to emulate each other's successful practices for profit maximization (Gataskiewicz and Wasserman, 1989), efficiency (DiMaggio and Powell, 1983) or legitimacy reasons (Han, 1994; Haveman, 1993). This logic can be extended to the case of cross-border M&A: if the density of interactions between firms from the EU and firms from the ENC is high, neighborhood countries become exposed to the influence of EU-based firms that often have more advanced technical solutions and organizational practices.

Accordingly, we look at the structure of cross-border M&A between the EU and these countries to find if there are significant differences in the configuration of cross-border M&A with the ENC in terms of their propensity to integrate with the EU firms. In Egypt, only 14 per cent of M&A are from EU firms while it is less than 3 per cent in Jordan. In Israel, 10 per cent of M&A are from EU firms. In Ukraine, less than 8 per cent of M&A are from the EU with 46 per cent internal M&A. Algeria and Morocco are a significant exception to this trend: in Algeria 60 per cent of M&A are from EU (with 20 per cent from France and 20 per cent from UK) and in Morocco 36 per cent of M&A are from the EU.

3.2 The Sectoral Dimension

In this section we examine the sectoral distribution of M&A by looking at the primary sector of the target firm in the ENC countries. To give a general overview of the phenomenon we use a quite aggregate breakdown in 20 industries based on 2-digit NACE classification (see Appendix 1 for a detailed description of the sectors).

From Table 7 we can see that, on average in the ENC, the highest share of completed M&A is realized in the financial sector (38%), followed by communication (15%), while food (6.5%) and mining (5%) are the most relevant sectors among the industrial activities. Table 8 shows the three most important sectors involved in the completed M&A deals in each neighboring country. As it emerges from the table, the finance sector is the first sector involved in M&A activities for all countries except Algeria. The international financial sector has undergone tremendous change over the past decade and the banking concentration has increased in all important markets. Thus, banks, especially those from countries that had already reached a high level of concentration, started to look abroad and engaged in cross-border M&A activities. Another important trigger for the internationalization of the banking sector in the last decade was the breakdown of

the communist regimes in the Eastern European countries, which led to the opening of these markets and offered new opportunities to European banks. A number of western European banks started to acquire banks in Central and Eastern European countries in order to gain attractive new business.

At the same time, there are relevant differences across areas and countries given by the production specialization profile, the endowments of natural resources, and the liberalization pattern of the internal markets. Thus, for instance, in Algeria the first sector for number of deals is mining (25%); in Belarus the food sector shows a relatively high share of total deals (14.7%) and the same happens in Ukraine for agriculture (7.5%) and food (12.8%), while in an industrialized mature country like Israel a high number of M&As involve the machinery sector (10%).

Another interesting element worth analyzing is the sectoral relatedness of the transactions, since M&A sometimes give the opportunity to diversify in other industries. More specifically, we have explored if M&A activities of target and bidder firms are related by calculating, by each NACE sector and ENC target country, the share of M&A where the bidder and target firms belong to the same sector. This is an important dimension because we know from the literature that market and technological relatedness of merging firms have been found to play a fundamental role in the technology transfer process and the efficacy of M&A with innovation aims (Cassiman et al., 2005; Valentini and Di Guardo, 2012).

The results reported in Table 9 are quite interesting: 48 per cent of total deals are realised in the same sector and there are no major differences between ENC-East (44.4%) and ENC-South (50.9%). At the same time, we can observe important sector-specific effects. The most "closed" sector is the financial one where, on average, 85 per cent of total transactions are completed by firms operating within the same sector, signalling a strong process of horizontal mergers and market concentration. On the other hand, there are sectors, like mining and food, where the incidence of intra-industry deals is much lower, around 48 per cent, and this indicates that a process of diversification was operating.

4. The ENC as Acquirer

Some considerations developed in the above section could be extended to this section where we examine in detail the M&A activities of ENC when they act as acquirer.

Table 10 and Figure 5 show the overall distribution of deals by year and highlights the rapid growth that has occurred in the M&A market in the ENC. As observed in the case of ENC target, the M&A international waves for acquirers are perfectly represented for Israel, but do not match the data for all ENC-East countries in general and Ukraine in

particular. It is interesting to notice that, while the pattern of the eastern countries is essentially driven by Ukraine, in the case of southern nations in addition to Israel there are other countries very active in the market as acquirers. This is the case of Jordan, which shows in the years 2008-2011 a surprising high number of deals (277) as acquirer, and most of them, as we will see in the next section, are performed in the domestic market.

Table 11 shows the status of the ENC acquirers, confirming that the largest component is given by the private companies (48%); the role of the subsidiaries, which account for 26 per cent of total deals, is also relevant.

4.1 The Geographical Dimension

In this section, we examine the spatial direction of M&A activity performed by ENC firms as acquirers. Overall (see Table 12), the great majority of acquisition by ENC companies are performed in the domestic market (70%) and this propensity is higher in the eastern countries (87%) than in the southern (61%); again, the value for the two macro-areas is heavily driven by the two leading countries Ukraine (88% of total deals are intra-national) and Israel (only 52%). It is worth remarking on the high propensity to operate acquisition in the international markets shown by Libya and Lebanon.

The motives for engaging in M&A are manifold and complex. Despite the huge body of literature on the topic, there is no unanimous – not even dominant – consensus, and no single approach can render a full account. Nevertheless, we can speculate that in this case at least two factors can explain the increase of internal deals for the majority of the ENC. First, it is a measure of industry consolidation and modernization of these areas. Second, acquisitions may be chosen when the bidder firm requires new inputs that can be more cheaply acquired bundled in a company than disembodied in the market.

An important component of these inputs is product-specific knowledge; thus, we would expect that international acquisitions are often motivated by the desire to gain access to new knowledge (Björkman et al., 2007; Bresman et al., 1999; Empson, 2001; Ranft and Lord, 2002). A large body of literature has demonstrated the fundamental role played by innovation and technological capabilities in fostering long-term growth performance (Fagerberg, 1994; Fagerberg and Godinho, 2005). In order to catch up, emerging countries need to develop an endogenous capability allowing them to absorb the knowledge and technology developed elsewhere (Cohen and Levinthal, 1990). A number of studies have examined knowledge transfer in the acquisition context. Researchers have suggested that knowledge transfer is an important motive for acquisitions. Hitt et al. (1990) argued that gaining knowledge through an acquisition may enable the firm to expand its product lines without the risk involved in internal innovation. Teece et al. (1997) pointed to the role of acquisitions in decreasing transaction costs related to protecting knowledge, and Karim & Mitchell (2000) described acquisitions as vehicles to access

and transfer tacit knowledge. Other scholars have examined the effects of knowledge transfer on the post-acquisition performance. For example, the empirical studies of Capron (1999) and Capron and Pistre (2002) showed that knowledge transfer was connected to abnormal returns in acquisitions. In addition, the multiple-case study of Ranft and Lord (2002) highlighted the importance of knowledge transfer for value creation in acquisitions in general. The intensity of interaction among the EU-based firms and the ENC-based firms is crucial given that the more actors interact with one another, the greater the tendency for copying will be (DiMaggio and Powell, 1983).

We now focus on the international acquisition completed by ENC companies and investigate the specific geographical destination of cross-border M&A. Table 13 gives an overview of the top five target nations for each ENC. Again, these findings are consistent with the cultural distance literature. For example, Italy is the first target nation for Libya. Israeli firms make the highest number of deals in the USA. Morocco in France and in the African neighboring countries. Deals across former country members of the former Soviet Union are quite high.

4.2 The Sectoral Dimension

The sectoral composition of acquisitions made by the ENC is reported in Table 14 and it shows that the most relevant sector is Communication (with 23% of total acquisitions) followed by Financial services (19.8%), Food (7.3%) and Chemicals (6.9%). Thus, the sectoral composition of acquisition is different from the one seen for the case of the ENC as target countries.

In this case there are also relevant differences between countries, as we can see from Table 15, where the top three primary sectors are reported for each ENC country. For instance, among the ENC-East the Financial sector is the most important for all countries except Moldova and Armenia, where the highest number of acquisitions are in the Communication and Transport sectors, respectively. On the other hand, the southern ENC have been mainly involved in the acquisition of firms in the Communication sector, especially due to a high number of transactions completed by Israel.

5. Concluding Remarks

M&A transactions represent a potential channel of knowledge exchanges between bidder and target firms generated along the variety of activities carried out before, during and after the deal. Potential knowledge transfer is indeed embedded in several actions, such as the exchanges of information in the due diligence phase and among managers, the access to new technologies and organizational competencies, the integration of task and human resources, the interaction of different organizational cultures, the transfers of capabilities and resource sharing. Such exchanges among companies imply, as a conse-

quence, a transfer of knowledge across the geographical areas where firms are located. Therefore, M&A transactions may be used as a valuable proxy of knowledge flows between the European Union and its neighboring countries. Even though over the last decades the economic literature has devoted an increasing interest in M&A, a deep analysis of their characteristics in ENC countries still constitutes a challenge for research.

This paper offers the opportunity to investigate the ENC M&A market, thus offering new insights into the geographical and sectoral scope of the knowledge exchanges embedded in the deals involving the neighboring countries. Our analysis is based on M&A retrieved from the SDC Platinum database, considering the deals for which the target or acquirer company is located in the ENC over the period 2000-2011. Our final sample includes 6,299 announced transactions in which the target company is based in one of the ENC, and 3,871 announced transactions with the acquirer located in the ENC.

Overall, our analysis provides new insights into the trends taken by the M&A market in the ENC. The ENC M&A market still seems to be immature in terms of numbers of deals in the observed period, with a significant share of transactions announced but not completed. We also observed many differences between countries that could be a signal of a maturing path in some ENC M&A market. More specifically, the most active M&A markets turn out to be Ukraine in the East and Israel in the South. Ukraine, sharing the borders with both the EU and Russia, is characterized by a strong co-operation willingness and it represents one of the most important target country attracting relevant external investments. The case of Israel is obviously different since, despite its geographical location, it is characterized by GDP and technology levels comparable with those of the richest EU countries and is fully integrated with the western economy.

Although M&A offer the fastest means of building a presence in a new market, they are subject to relevant risks which, in the case of ENC markets, may be also connected to political instability and cultural differences. We have thus examined the share of announced M&A transactions which are actually completed. It turns out that there are significant differences between countries in the completion rate. More specifically, we found that Libya, Syria, Egypt, Azerbaijan and Belarus have relatively low share of completed transactions (50-60%). This may signal a situation of uncertainty in these countries linked to the political situation, high corruption and low indexes in ease of doing business, which makes the completion of the acquisitions more difficult, especially for the international deals. In some countries, there is a resistance to international integration due to political and institutional factors and also the fear of giving too much control to foreign multinationals.

Another interesting result which has emerged from our analysis is that the ENC show a relatively low level of domestic deals (47%) compared to the USA or the EU and this

signals the weakness of the internal production structure, although we have observed over the period considered an increasing trend in the share of domestic deals.

Focusing on the international M&A, we observe, as expected, that cross-border transactions are affected by the historical, cultural, political, economic and geographical links between EU and neighborhood countries. In general, firms entering markets characterized by cultural and political differences come across an increase in the costs and risks associated with the M&A deals. Our initial descriptive analysis confirms that the degree of cultural and institutional similarity between bidder and target firms (and countries) is indeed an important factor that affects international M&A strategy. Relevant examples of the effectiveness of geographical, cultural and institutional proximity in driving international M&A are the high number of transactions by France in Algeria; by France and Spain in Morocco; by USA, UK and Germany in Israel; by Kuwait, Arab Emirates and Saudi Arabia in Jordan; by Turkey in another Islamic country like Azerbaijan; by Ukraine in Belarus; by Russia in all countries which were former members of the Soviet Union.

Moreover, our results show that the ENC propensity to integrate with EU through international M&A deals is highly differentiated, indicating that there are opportunities for improving cross-border relationships.

Considering the sectoral dimension, the finance and banking industry shows the largest share of completed M&A deals in almost all countries. At the same time, there are relevant differences across countries in the sectoral distribution induced by the production specialization profile, the endowments of natural resources and the liberalization pattern of the internal markets. Sometimes M&A represent means to diversify in other industries and thus we have examined the sectoral relatedness of the transactions by calculating the share of deals where the bidder and target firms belong to the same sector. On average, it seems that half of the total deals are made within the same sector even though important sector-specific differences emerge. The most “closed” sector is the financial one (on average 85% of total transactions are completed by firms operating within the same sector), which signals a strong process of horizontal mergers and market concentration. On the other hand, there are sectors, like mining and food, where the incidence of inter-industry deals is much higher (52%) and this indicates that a process of diversification and cross-sector technology transfer is operating.

The main purpose of the present analysis was to build the database on M&A transactions and to provide a first descriptive analysis of the general dimension of the phenomenon while also exploring its geographical and sectoral dimensions. Future work has to be devoted to a more rigorous analysis, based on econometric methods, to assess the origin and destination determinants of M&A spatial flows and also on the inter-sectoral technological transactions in order to provide relevant indications for the implementation of the European Neighborhood Policy.

References

Autant-Bernard, C. and **S. Chalaye** (2012), Knowledge diffusion between European Neighboring Countries and the European Union, SEARCH Working Paper.

Barkema, H., J. Bell and **J. Pennings** (1996), "Foreign entry, cultural barriers, and learning", Strategic Management Journal, 17, pp. 151-66.

Barkema, H.G. and **F. Vermeulen** (1998), "International expansion through start-up or acquisition: a learning perspective", Academy of Management Journal, 41, pp. 7-26.

Birkinshaw, J., H. Bresman and **L. Hakanson** (2000), "Managing the post-acquisition integration process: How the human integration and task integration processes interact to foster value creation", Journal of Management Studies, 37, pp. 395-425.

Buch, C.M. (2000), "Why Do Banks Go Abroad? Evidence from German Data", Journal of Financial Markets, Instruments and Institutions, 9, pp. 33-67.

Buch, C. and **G. DeLong** (2004), "Cross-border bank mergers: What lures the rare animal?", Journal of Banking & Finance, 28, pp. 2077-2102.

Cassiman, B., M.G. Colombo, P. Garrone and **R. Veugelers** (2005), "The impact of M&A on the R&D process: an empirical analysis of the role of technological- and market-relatedness", Research Policy, 34, pp. 195-220.

COM 373 (2004), European Neighbourhood Policy Strategy Paper. Final. Commission of the European Communities.

Davidson Wallace, N., T. Shenghui and **J. Pornsit** (2012), Chapter 4 "Abnormal Returns and In-House Mergers and Acquisitions". In: John W. Kensinger (ed.), Research in Finance, Volume 28, Emerald Group Publishing Limited, pp. 79-99.

DiMaggio, P. and **W. Powell** (1983), "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields", American Sociological Review, 48, pp. 147-60.

Fauli-Oller, R. (2000), "Takeover Waves", Journal of Economics & Management Strategy, 9, pp. 189-210.

Focarelli, D. and **A.F. Pozzolo** (2005), "Where Do Banks Expand Abroad? An Empirical Analysis", Journal of Business, 78, pp. 2035-2065.

Gataskiewicz, J. and **S. Wasserman** (1989), "Mimetic Processes within an Interorganizational Field: An Empirical Test", Administrative Science Quarterly, 34, pp. 454-79.

Ghoshal, S. and **C. Bartlett** (1990), "The Multinational Corporation as an Interorganizational Network", The Academy of Management Review, 15, pp. 603-625.

Granovetter, M. (2005), "The Impact of Social Structure on Economic Outcomes", The Journal of Economic Perspectives, 19, pp. 33-50.

Han, S. (1994), "Mimetic Isomorphism and Its Effect on the Audit Services Market", Social Forces, 73, pp. 637-63.

Haveman, H. (1993), "Follow the Leader: Mimetic Isomorphism and Entry into New Markets", Administrative Science Quarterly, 38, pp. 593-627.

Hitt, M.A., J.S. Harrison and **R.D. Ireland** (2001), Mergers and acquisitions. A guide to creating value for stakeholders. New York: Oxford University Press.

Hofstede, G. (1980), Culture's consequences. International differences in work-related values. Beverly Hills: California: Sage.

Hussinger, K. (2010), "On the importance of technological relatedness: SMEs versus large acquisitions targets", Technovation, 30, pp. 57-64.

Inkpen, A.C., A.K. Sundaran and **K. Rockwood** (2000), "Cross-Border Acquisitions of U.S. Technology Assets", California Management Review, 42, pp. 50-71.

Karim, S. and **W. Mitchell** (2000), "Path-dependent and path-breaking change: Reconfiguring business resources following acquisitions in the U.S. medical sector, 1978-1995", Strategic Management Journal, 21, pp. 1061-1081.

Katz, M. and **H.A. Shelanski** (2004), Merger policy and innovation: Must enforcement change to account for technological change?, NBER Working Paper No. 10710.

Keeler, J.T.S. (1993), "Opening the window for reform: Mandates, crisis, and extraordinary policy-making", Comparative Political Studies, 25, pp. 433-486.

Kiymaz, H. (2004), "Cross-border acquisitions of US financial institutions: Impact of macroeconomic factors", Journal of Banking & Finance, 28, pp. 1413-1439.

Kiymaz, H. and **T.K. Mukherjee** (2000), "The impact of country diversification on wealth effects in cross-border mergers", Financial Review, 35, pp. 37-58.

Kogut, B. and **H. Singh** (1988), "The Effect of National Culture on the Choice of Entry Mode", Journal of International Business Studies, 19, pp. 411-432.

Kostova, T. (1999), "Transnational Transfer of Strategic Organizational Practices: A Contextual Perspective", Academy of Management Review, 24, pp. 308-324.

Kozin, M.D. and **K.C. Young** (1994), "Using acquisitions to buy and hone core competencies", Mergers & Acquisitions, September/October, pp. 21-26.

Melnykovska, I. and **R. Schweickert** (2008), "Bottom-Up or Top-Down: What Drives the Convergence of Ukraine's Institutions towards European Standards?", Southeast European and Black Sea Studies, 8, pp. 445-68.

Moeller, S., F. Schlingemann and **R. Stulz** (2004), "Firm size and the gains from acquisitions", Journal of Financial Economics, 73, pp. 201-228.

Moeller, S., F. Schlingemann and **R. Stulz** (2005), "Wealth Destruction on a Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave", Journal of Finance, 60, pp. 757-782.

Moschieri, C. and **J.M. Campa** (2009), "The European M&A Industry: A Market in the Process of Construction", Academy of Management Perspectives, 23.

Peng, M.W., S.-H. Lee and **D. Wang** (2005), "What determines the scope of the firm over time? A focus on institutional relatedness", Academy of Management Review, 30, pp. 622-33.

Peng, M.W., S.L. Sun, B. Pinkham and **H. Chen** (2009), "The institution-based view as a third leg for a strategy tripod", Academy of Management Perspectives, 23, pp. 63-81.

PricewaterhouseCoopers (2006), Cities of the Future. Global Competition, Local Leadership. London: PricewaterhouseCoopers.

Ross, P., R.W. Westerfield and **J. Jaffe** (1999), Corporate Finance. Boston: Irwin/McGraw Hill.

Rossi, S. and **P. Volpin** (2004), "Cross-country determinants of mergers and acquisitions", Journal of Financial Economics, 74, pp. 277-304.

Scherer, F.M. and **D. Ross** (1990), Industrial market structure and economic performance, 3rd ed. Boston: Houghton Mifflin.

Shimizu, K., M. Hitt, D. Vaidyanath and **V. Pisano** (2004), "Theoretical foundations of

cross-border mergers and acquisitions: A review of current research and recommendations for the future", Journal of International Management, 10, pp. 307-353.

Silverman, B.S. (1999), "Technological resources and the direction of corporate diversification: Toward an integration of the resource based view and transaction cost economics", Management Science, 45, pp. 1109-1124.

Teece, D.J. (1980), "Economies of scope and the scope of the enterprise", Journal of Economic Behavior and Organization, 1, pp. 223-247.

Turkina, E. and **E. Postnikov** (2012), "Cross-border Inter-firm Networks in the European Union's Eastern Neighbourhood: Integration via Organizational Learning", JCMS: Journal of Common Market Studies, 50, pp. 632-652.

Usai, S., B. Dettori and **E. Gagliardini** (2012), The technological activity of neighbouring countries: a comprehensive picture, SEARCH Working Paper.

Valentini, G. and **M.C. Di Guardo** (2012), "M&A and Innovation Quality", Strategic Organization, 10, November 2012.

Vermeulen, F. and **H. Barkema** (2001), "Learning through acquisitions", Academy of Management Journal, 44, pp. 457-476.

Waheed, A. and **I. Mathur** (1995), "Wealth effects of foreign expansion by U.S. banks", Journal of Banking & Finance, 19, pp. 823-842.

Wesselink, E. and **R. Boschma** (2012), Overview of the European Neighbourhood Policy: Its History, Structure, and Implemented Policy Measures, WP1/04, SEARCH Working Paper.

Whitman, R. and **A.E. Juncos** (2010), "Relations with the Wider Europe", Journal of Common Market Studies, 48, pp. 183-204.

Whitman, R. and **A.E. Juncos** (2011), "Relations with the Wider Europe", Journal of Common Market Studies, 49, pp. 187-208.

Whitman, R. and **S. Wolff** (eds.) (2010), The European Neighbourhood Policy in Perspective: Context, Implementation and Impact. Basingstoke: Palgrave Macmillan.

Wolczuk, K. (2008), "Ukraine and its Relations with the EU in the Context of the European Neighbourhood Policy". In: S. Fischer (ed.), Ukraine: Quo Vadis, Chaillot Paper, No. 108, Paris.

Wysocki, B., Jr. (1997), "Why an acquisition? Often, it's the people", Wall Street Journal, 10/6.

Appendix 1. Sectoral classification (based on NACE 2 digit)

Sectors		NACE label division
S1	Agr	Agriculture, Forestry, Fishing
S2	Min	Mining and Quarring
S3	Food	Manufacture of food products, beverages, tobacco
S4	Text	Manufacture of textiles, wearing apparel, leather
S5	Wood	Manufacture of wood, furniture
S6	Paper	Manufacture of paper. Printing and reproduction of recorded media
S7	Chem	Manufacture of coke, refined petroleum products, Chemicals, Pharmaceuticals, Rubber, plastic products
S8	Nm min	Manufacture of other non-metallic mineral products
S9	Metal	Manufacture of basic metals, fabricated metal products
S10	Mach	Manufacture of computer, electronic, optical products. Electrical equipment
S11	Vehic	Manufacture of motor vehicles; other transport equipment
S12	O man	Other manufacturing
S13	Electr	Electricity, gas, steam. Water supply. Sewerage, waste management
S14	Constr	Construction
S15	Trade	Wholesale and retail trade; repair of motor vehicles and motorcycles
S16	Transp	Transportation and storage
S17	Accom	Accommodation and food service activities
S18	Comm	Information and communication. Real estate. Professional, scientific and technical activities
S19	Financ	Financial and insurance activities
S20	O serv	Administrative activities. Public administration and defence. Education. Health. Arts, entertainment

Table 1. M&A per status and countries, 2000-2011

Country		Target			Acquirer		
		Total	Completed	% compl.	Total	Completed	% compl.
AM	Armenia	91	63	69.2	16	9	56.3
AZ	Azerbaijan	122	57	46.7	23	20	87.0
BY	Belarus	209	95	45.5	24	17	70.8
GE	Georgia	129	91	70.5	40	33	82.5
MD	Moldova	107	72	67.3	19	17	89.5
UA	Ukraine	2425	1658	68.4	1093	858	78.5
Total ENC- East		3083	2036	66.0	1215	954	78.5
DZ	Algeria	64	44	68.8	19	12	63.2
EG	Egypt	666	352	52.9	394	232	58.9
IL	Israel	1588	944	59.4	1559	987	63.3
JO	Jordan	458	384	83.8	367	323	88.0
LB	Lebanon	86	64	74.4	92	76	82.6
LY	Libya	28	14	50.0	26	16	61.5
MA	Morocco	205	166	81.0	112	93	83.0
SY	Syria	20	11	55.0	5	1	20.0
TN	Tunisia	101	70	69.3	27	24	88.9
Total ENC-South		3216	2049	63.7	2601	1764	67.8
Total ENC		6299	4085	64.9	3816	2718	71.2

Figure 1. M&A per ENC target, % of deals completed over total, 2000-2011

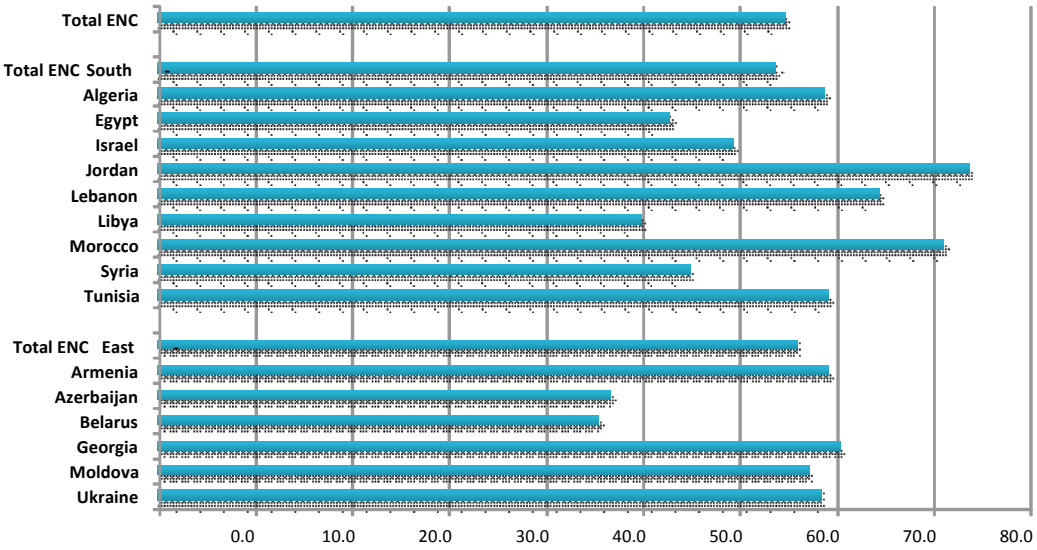


Figure 2. Completed M&A net acquirer rate, 2000-2011

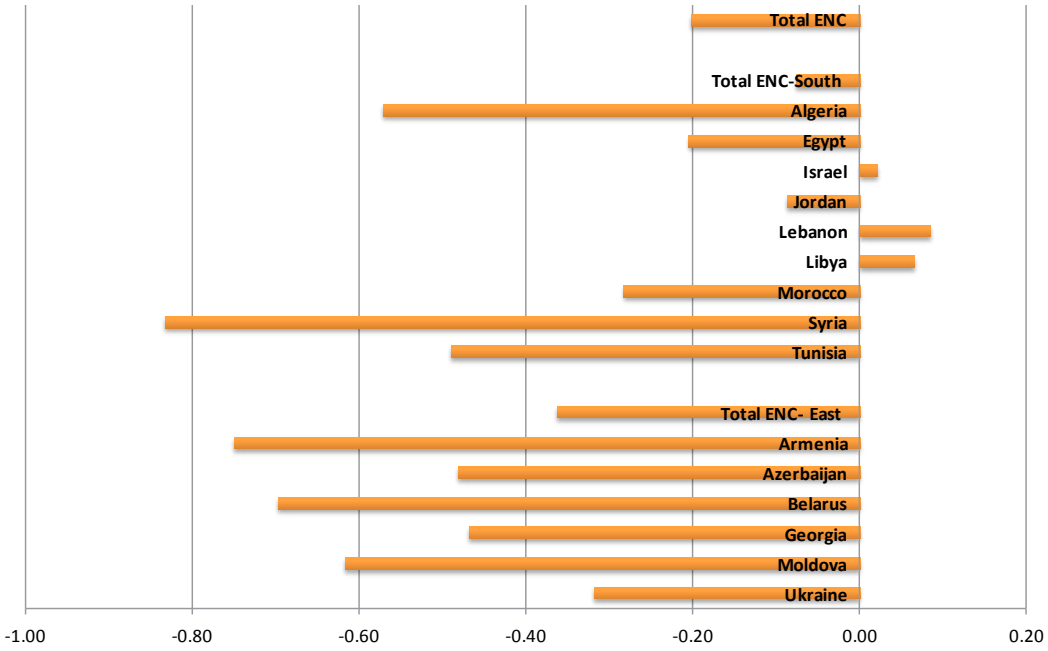


Table 2. M&A completed per target nation and year, 2000-2011

Country		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
AM	Armenia	3	4	9	9	3	3	5	10	5	4	2	6	63
AZ	Azerbaijan	3	2	5	12	2	3	2	6	10	6	5	1	57
BY	Belarus	5	7	2	4	5	3	4	14	11	3	19	18	95
GE	Georgia	3	2	2	6	1	13	20	11	10	4	11	8	91
MD	Moldova	6	4	3	11	3	8	7	9	13	1	1	6	72
UA	Ukraine	102	48	31	56	38	46	90	133	261	359	315	179	1658
Total ENC- East		122	67	52	98	52	76	128	183	310	377	353	218	2036
DZ	Algeria	7	5	0	2	5	3	7	4	7	3	1	0	44
EG	Egypt	37	23	11	13	10	20	33	34	52	34	42	43	352
IL	Israel	153	61	40	69	76	105	111	84	82	52	49	62	944
JO	Jordan	7	3	5	5	3	10	13	16	36	97	137	52	384
LB	Lebanon	12	15	4	2	1	3	2	1	6	1	8	9	64
LY	Libya	0	0	0	0	0	2	1	2	2	3	1	3	14
MA	Morocco	18	9	5	6	8	27	8	17	14	25	17	12	166
SY	Syria	1	0	1	1	1	2	0	0	0	2	3	0	11
TN	Tunisia	13	4	5	0	3	5	5	7	9	10	6	3	70
Total ENC-South		248	120	71	98	107	177	180	165	208	227	264	184	2049
Total ENC		370	187	123	196	159	253	308	348	518	604	617	402	4085

Figure 3. Completed M&A, Time flows per ENC target nations, 2000-2011

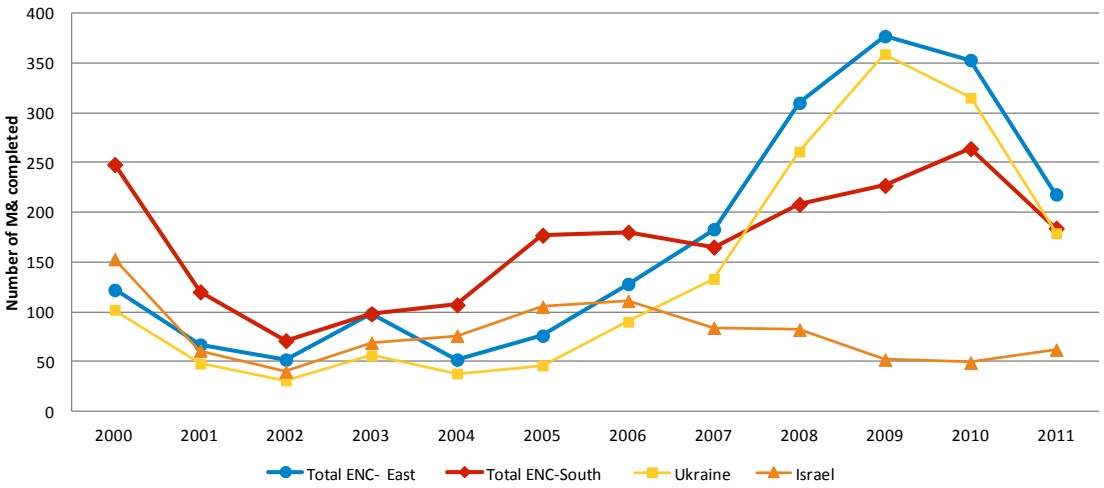


Table 3. Completed M&A in ENC target nation per type of acquirer, 2000-2011

Target Country		Corporate	Financial Buyer	Individual	Total
AM	Armenia	62	0	1	63
AZ	Azerbaijan	55	2	0	57
BY	Belarus	90	5	0	95
GE	Georgia	86	5	0	91
MD	Moldova	69	3	0	72
UA	Ukraine	1559	97	2	1658
Total ENC-East		1921	112	3	2036
DZ	Algeria	42	2	0	44
EG	Egypt	300	52	0	352
IL	Israel	831	109	4	944
JO	Jordan	347	37	0	384
LB	Lebanon	57	6	1	64
LY	Libya	13	1	0	14
MA	Morocco	155	11	0	166
SY	Syria	11	0	0	11
TN	Tunisia	64	6	0	70
Total ENC-South		1820	224	5	2049
Total ENC		3741	336	8	4085

Table 4. Completed M&A in ENC target nation per acquirer public status, 2000-2011

Target Country		Gov. owned	Investor	Joint Venture	Private	Public	Subsidiary	Total
AM	Armenia	3	37	8	294	464	138	944
AZ	Azerbaijan	1	1	3	27	27	4	63
BY	Belarus	1	2	2	47	24	19	95
GE	Georgia	6	4	0	48	23	10	91
MD	Moldova	2	2	0	41	11	16	72
UA	Ukraine	17	49	15	1105	201	271	1658
Total ENC- East		30	95	28	1562	750	458	2923
DZ	Algeria	0	0	1	12	23	8	44
EG	Egypt	11	9	5	135	130	62	352
IL	Israel	3	37	8	294	464	138	944
JO	Jordan	7	59	2	169	121	26	384
LB	Lebanon	1	3	0	26	19	15	64
LY	Libya	0	0	0	5	6	3	14
MA	Morocco	4	0	3	68	56	35	166
SY	Syria	0	0	0	4	5	2	11
TN	Tunisia	2	2	0	22	25	19	70
Total ENC-South		28	110	19	735	849	308	2049
Total ENC		58	205	47	2297	1599	766	4972

Table 5. Completed M&A in ENC target nation per transaction type, 2000-2011

Target Country		2000-2005			2006-2011			2000-2011		
		intra national	inter national	% intra.	intra national	inter national	% intra.	intra national	inter national	% intra.
AM	Armenia	4	27	12.9	2	30	6.3	6	57	9.5
AZ	Azerbaijan	4	23	14.8	9	21	30.0	13	44	22.8
BY	Belarus	0	26	0.0	9	60	13.0	9	86	9.5
GE	Georgia	5	22	18.5	23	41	35.9	28	63	30.8
MD	Moldova	8	27	22.9	6	31	16.2	14	58	19.4
UA	Ukraine	135	186	42.1	627	710	46.9	762	896	46.0
Total ENC- East		156	311	33.4	676	893	43.1	832	1204	40.9
DZ	Algeria	3	19	13.6	1	21	4.5	4	40	9.1
EG	Egypt	45	69	39.5	115	123	48.3	160	192	45.5
IL	Israel	291	213	57.7	225	215	51.1	516	428	54.7
JO	Jordan	12	21	36.4	272	79	77.5	284	100	74.0
LB	Lebanon	18	19	48.6	14	13	51.9	32	32	50.0
LY	Libya	0	2	0.0	0	12	0.0	0	14	0.0
MA	Morocco	35	38	47.9	43	50	46.2	78	88	47.0
SY	Syria	0	6	0.0	0	5	0.0	0	11	0.0
TN	Tunisia	5	25	16.7	11	29	27.5	16	54	22.9
Total ENC-South		409	412	49.8	681	547	55.5	1090	959	53.2
Total ENC		565	723	43.9	1357	1440	48.5	1922	2163	47.1

Figure 4. Intranational deals per ENC target nation (% over total), 2000-2011

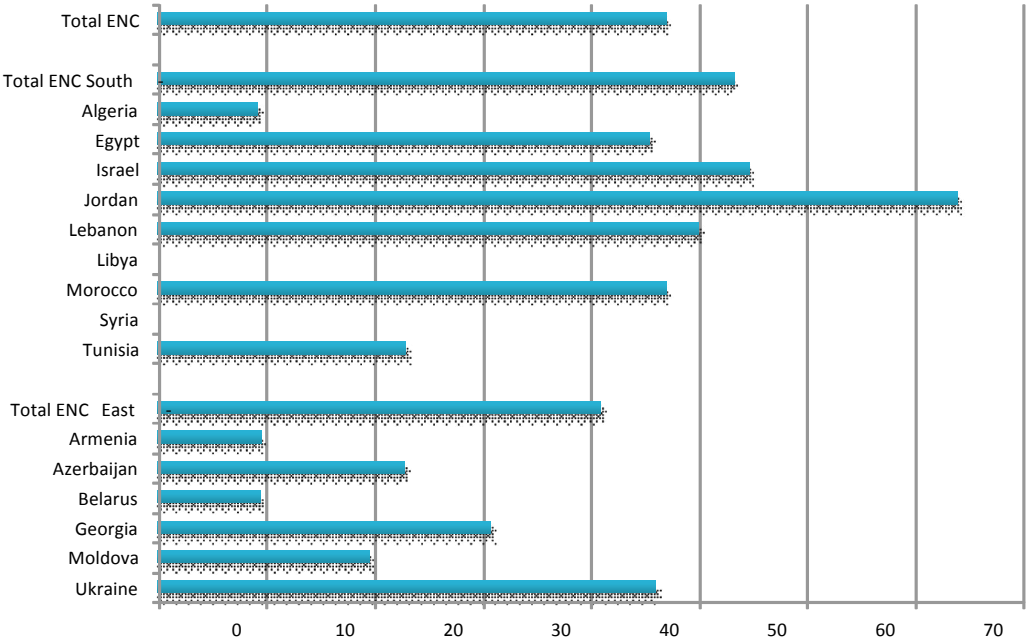


Table 6. Completed international M&A in ENC target nation per top five acquirer nation, 2000-2011

Target Country	Top 5 acquirer nations and number of deals										Concentration ratios	
	1st	no.	2nd	no.	3rd	no.	4th	no.	5th	no.	CR1	CR5
AM Armenia	Russia	26	UK	6	Canada	4	Germany	3	4 countries	2	45.6	71.9
AZ Azerbaijan	UK	8	Turkey	6	USA	5	China	4	Netherlands	4	18.2	61.4
BY Belarus	Russia	32	Latvia	5	Ukraine	5	Austria	4	Finland	4	37.2	58.1
GE Georgia	USA	9	UK	8	Russia	6	Ukraine	6	Kazakhstan	5	14.3	54.0
MD Moldova	Russia	17	UK	5	France	4	Austria	3	Ukraine	3	29.3	55.2
UA Ukraine	Cyprus	276	Russia	141	USA	59	UK	54	Austria	33	30.8	62.8
Total ENC- East		342		165		79		71		49	29.8	61.6
DZ Algeria	France	9	UK	9	Spain	4	USA	3	3 countries	2	22.5	67.5
EG Egypt	Arab Em.	26	USA	25	France	16	S. Arabia	16	UK	12	13.5	49.5
IL Israel	USA	253	UK	36	Germany	19	Canada	17	France	15	59.1	79.4
JO Jordan	Kuwait	17	Arab Em.	14	S. Arabia	8	USA	7	Bahrain	6	17.0	52.0
LB Lebanon	France	5	USA	5	Kuwait	4	S. Arabia	3	Egypt	2	15.6	59.4
LY Libya	Austria	2	France	2	UK	2	8 countries	1	-		14.3	50.0
MA Morocco	France	38	Spain	7	UK	6	USA	5	Australia	3	43.2	67.0
SY Syria	Egypt	2	India	2	Lebanon	2	5 countries	1	-		18.2	63.6
TN Tunisia	France	11	Spain	5	USA	5	Kuwait	4	3 countries	3	20.4	51.9
Total ENC-South		354		96		62		54		41	38.5	66.1
Total ENC		696		261		141		125		90	33.7	63.6

Table 7. Completed M&A in ENC target nation per primary sector, 2000-2011

Country	S1 Agr	S2 Min	S3 Food	S4 Text	S5 Wood	S6 Paper	S7 Chem	S8 Nm min	S9 Metal	S10 Mach	S11 Vehic	S12 O man	S13 Electr	S14 Constr	S15 Trade	S16 Transp	S17 Accom	S18 Comm	S19 Financ	S20 O serv	Total
AM Armenia	0	11	1	0	0	0	0	0	4	0	0	1	4	1	2	1	0	7	28	3	63
AZ Azerbaijan	0	9	2	0	1	0	1	0	0	1	0	0	5	1	0	0	0	5	25	7	57
BY Belarus	0	6	14	2	0	2	2	0	3	4	2	1	0	1	7	3	0	6	37	5	95
GE Georgia	0	9	3	0	0	0	5	3	0	0	0	0	4	0	3	8	0	11	43	2	91
MD Moldova	0	1	5	2	0	3	0	0	0	0	2	1	7	2	5	1	0	10	27	6	72
UA Ukraine	64	46	110	4	0	20	40	17	65	40	34	6	33	11	56	30	12	81	183	6	858
Total ENC- East	64	82	135	8	1	25	48	20	72	45	38	9	53	16	73	43	12	120	343	29	1236
DZ Algeria	0	11	9	0	0	0	5	3	3	1	0	0	0	0	1	0	1	1	9	0	44
EG Egypt	4	32	19	2	0	5	18	18	3	5	1	1	12	3	7	7	9	37	157	12	352
IL Israel	4	15	22	3	1	53	43	2	4	95	11	42	4	4	35	9	4	240	345	8	944
JO Jordan	1	2	7	2	0	1	9	4	4	1	0	0	8	3	8	8	6	62	249	9	384
LB Lebanon	0	0	5	0	0	0	1	0	0	0	0	0	0	0	7	0	0	7	42	2	64
LY Libya	0	2	0	0	0	0	0	2	0	0	0	0	1	1	0	0	0	1	7	0	14
MA Morocco	0	7	14	1	0	2	4	1	0	3	9	0	5	0	7	3	3	22	82	3	166
SY Syria	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	11
TN Tunisia	0	14	3	0	2	1	2	7	0	0	1	0	2	0	6	2	0	9	21	0	70
Total ENC-South	9	87	80	8	3	62	82	37	14	105	22	43	32	11	71	29	23	380	917	34	2049
Total ENC	73	169	215	16	4	87	130	57	86	150	60	52	85	27	144	72	35	500	1260	63	3285

The detailed list of sectors is reported in Appendix 1

Table 8. Completed M&A in ENC target nation per top three primary sectors, 2000-2011

Target Country	Top 3 sectors and number of deals						Concentration ratios	
	1st	no.	2nd	no.	3rd	no.	CR1	CR3
AM Armenia	Financ	28	Min	11	Metal	4	44.4	68.3
AZ Azerbaijan	Financ	25	Min	9	O serv	7	43.9	71.9
BY Belarus	Financ	37	Food	14	Trade	7	38.9	61.1
GE Georgia	Financ	43	Comm	11	Min	9	47.3	69.2
MD Moldova	Financ	27	Comm	10	Electr	7	37.5	61.1
UA Ukraine	Financ	183	Food	110	Comm	81	21.3	43.6
Total ENC- East	Financ	343	Food	135	Comm	120	27.8	48.4
DZ Algeria	Min	11	Financ	9	Food	9	25.0	65.9
EG Egypt	Financ	157	Comm	37	Min	32	44.6	64.2
IL Israel	Financ	345	Comm	240	Mach	95	36.5	72.0
JO Jordan	Financ	249	Comm	62	Chem	9	64.8	83.3
LB Lebanon	Financ	42	Comm	7	Trade	7	65.6	87.5
LY Libya	Financ	7	Min	2	Nm min	2	50.0	78.6
MA Morocco	Financ	82	Comm	22	Food	14	49.4	71.1
SY Syria	Financ	5	Min	4	Food	1	45.5	90.9
TN Tunisia	Financ	21	Min	14	Comm	9	30.0	62.9
Total ENC-South	Financ	917	Comm	380	Mach	105	44.8	68.4
Total ENC	Financ	1260	Comm	500	Food	215	38.4	60.1

The detailed list of sectors is reported in Appendix 1

Table 9. Completed M&A where the acquirer firm is in the same as the target ENC firm (% over total M&A in the sector)

Country		S1 Agr	S2 Min	S3 Food	S4 Text	S5 Wood	S6 Paper	S7 Chem	S8 Nm min	S9 Metal	S10 Mach	S11 Vehic	S12 O man	S13 Electr	S14 Constr	S15 Trade	S16 Transp	S17 Accom	S18 Comm	S19 Financ	S20 O serv	Total
AM	Armenia	-	66.7	0.0	-	0.0	0.0	0.0	-	66.7	0.0	-	100.0	44.4	-	0.0	33.3	-	100.0	80.0	-	58.7
AZ	Azerbaijan	0.0	31.3	40.0	-	-	-	100.0	0.0	-	-	-	-	100.0	0.0	0.0	0.0	-	57.1	81.0	-	52.6
BY	Belarus	-	-	85.7	50.0	0.0	100.0	33.3	-	50.0	33.3	20.0	100.0	0.0	-	60.0	50.0	-	55.6	81.3	-	63.2
GE	Georgia	-	42.9	50.0	-	-	-	66.7	75.0	0.0	-	0.0	-	50.0	0.0	25.0	16.7	0.0	50.0	100.0	25.0	51.6
MD	Moldova	-	25.0	38.5	50.0	-	50.0	0.0	0.0	0.0	-	-	-	57.1	100.0	0.0	0.0	-	64.3	89.5	0.0	54.2
UA	Ukraine	23.2	31.2	36.7	33.3	-	34.8	25.6	38.1	33.7	17.6	16.9	23.1	25.6	8.7	30.4	24.1	13.3	37.9	87.3	27.3	41.7
Total ENC- East		23.0	34.8	40.4	41.7	0.0	37.3	26.2	39.6	33.6	18.5	16.7	33.3	30.8	11.1	31.7	23.0	12.5	43.1	86.8	25.0	44.4
DZ	Algeria	-	100.0	88.9	-	-	0.0	50.0	100.0	50.0	0.0	-	-	-	-	0.0	-	-	20.0	100.0	-	68.2
EG	Egypt	0.0	60.0	64.0	12.5	0.0	23.1	35.5	50.0	25.0	0.0	-	-	77.8	0.0	27.3	50.0	50.0	60.5	83.6	14.3	52.0
IL	Israel	66.7	61.5	63.6	18.2	-	32.1	42.6	40.0	13.3	58.7	0.0	55.6	23.1	0.0	34.0	33.3	28.6	51.8	78.5	15.0	49.5
JO	Jordan	0.0	16.7	35.7	7.7	0.0	14.3	31.6	30.8	42.9	0.0	0.0	-	50.0	0.0	16.7	17.1	0.0	23.3	79.8	25.0	38.0
LB	Lebanon	-	-	50.0	-	-	0.0	100.0	-	-	-	-	-	-	-	50.0	-	0.0	63.6	93.9	0.0	71.9
LY	Libya	-	40.0	0.0	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	100.0	100.0	-	71.4
MA	Morocco	-	87.5	81.3	100.0	-	66.7	27.3	100.0	0.0	0.0	80.0	-	40.0	0.0	28.6	33.3	66.7	52.8	97.4	0.0	62.7
SY	Syria	-	66.7	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	100.0	-	81.8
TN	Tunisia	-	87.5	60.0	-	100.0	20.0	33.3	75.0	-	-	100.0	-	50.0	-	50.0	66.7	0.0	63.6	88.9	0.0	67.1
Total ENC-South		25.0	67.0	63.9	13.0	33.3	28.7	38.8	52.4	25.6	53.0	36.0	55.6	45.5	4.3	30.8	29.1	30.6	48.6	83.9	14.7	50.9
Total ENC		23.3	48.1	47.9	19.0	20.0	31.9	33.3	46.8	31.5	36.0	22.0	50.7	35.1	8.0	31.3	26.3	25.0	47.0	85.5	18.0	47.7

The detailed list of sectors is reported in Appendix 1

Table 10. M&A completed per acquirer nation and year, 2000-2011

Target Country		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
AM	Armenia	3	0	2	2	0	0	0	0	0	1	0	1	9
AZ	Azerbaijan	1	0	1	3	0	1	1	0	4	4	2	3	20
BY	Belarus	0	0	0	0	3	0	2	2	1	0	3	6	17
GE	Georgia	1	0	0	0	0	5	9	2	1	1	7	7	33
MD	Moldova	1	0	0	2	0	5	3	1	3	0	0	2	17
UA	Ukraine	60	27	13	24	16	21	29	59	140	184	187	98	858
Total ENC- East		66	27	16	31	19	32	44	64	149	190	199	117	954
DZ	Algeria	1	1	1	0	1	1	2	1	2	0	1	1	12
EG	Egypt	26	14	5	5	4	12	18	28	39	22	32	27	232
IL	Israel	141	66	44	78	78	105	104	110	83	61	56	61	987
JO	Jordan	5	1	5	1	3	11	10	10	30	81	123	43	323
LB	Lebanon	1	0	0	0	0	1	0	0	0	0	0	0	2
LY	Libya	0	1	2	2	1	1	0	2	1	2	4	0	16
MA	Morocco	12	4	0	2	1	20	8	10	8	13	12	3	93
SY	Syria	0	0	0	0	0	0	0	0	0	0	0	1	1
TN	Tunisia	3	1	2	0	1	0	1	2	1	7	2	4	24
Total ENC-South		189	88	59	88	89	151	143	163	164	186	230	140	1690
Total ENC		255	115	75	119	108	183	187	227	313	376	429	257	2644

Figure 5. Completed M&A, Time flows per ENC acquirer nations, 2000-2011

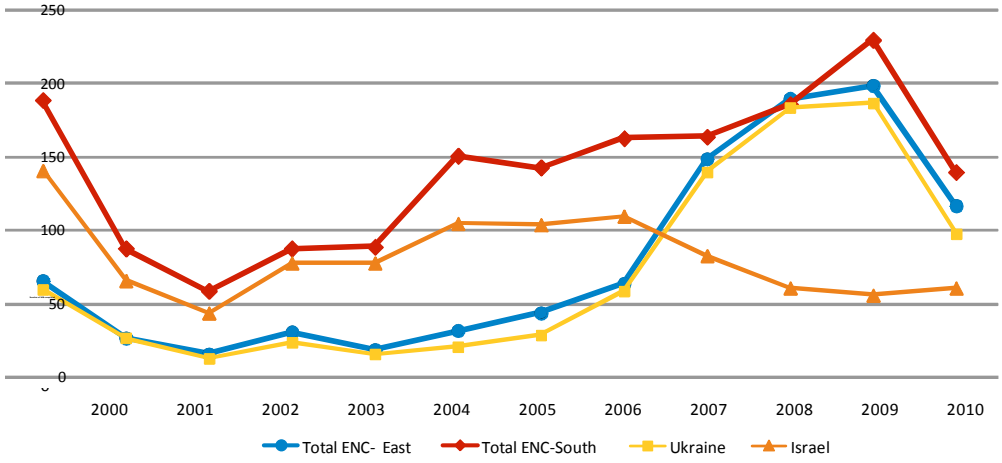


Table 11. Completed M&A in ENC acquirer nation per acquirer public status, 2000-2011

Target Country		Gov. owned	Joint Venture	Private	Public Subsidiary		Total
AM	Armenia	3	0	4	0	2	9
AZ	Azerbaijan	3	3	8	0	6	20
BY	Belarus	0	1	11	0	5	17
GE	Georgia	2	0	18	0	13	33
MD	Moldova	1	0	8	0	8	17
UA	Ukraine	43	3	525	66	221	858
Total ENC- East		52	7	574	66	255	954
DZ	Algeria	0	0	4	3	5	12
EG	Egypt	10	6	102	60	54	232
IL	Israel	6	24	466	168	323	987
JO	Jordan	3	5	72	217	26	323
LB	Lebanon	0	0	41	18	17	76
LY	Libya	3	1	5	6	1	16
MA	Morocco	7	2	23	31	30	93
SY	Syria	0	0	1	0	0	1
TN	Tunisia	2	0	14	4	4	24
Total ENC-South		31	38	728	507	460	1764
Total ENC		83	45	1302	573	715	2718

Some deals may be included in more than one category.

Table 12. Completed M&A in ENC acquirer nation per transaction type, 2000-2011

Target Country		2000-2005			2006-2011			2000-2011		
		intra national	inter national	% intra.	intra national	inter national	% intra.	intra national	inter national	% intra.
AM	Armenia	1	3	25.0	0	0	0.0	1	3	25.0
AZ	Azerbaijan	4	2	66.7	9	5	64.3	13	7	65.0
BY	Belarus	0	3	0.0	9	5	64.3	9	8	52.9
GE	Georgia	5	1	83.3	23	4	85.2	28	5	84.8
MD	Moldova	8	0	100.0	6	3	66.7	14	3	82.4
UA	Ukraine	135	26	83.9	627	70	90.0	762	96	88.8
Total ENC-East		153	35	81.4	674	87	88.6	827	122	87.1
DZ	Algeria	3	2	60.0	1	6	14.3	4	8	33.3
EG	Egypt	45	21	68.2	115	51	69.3	160	72	69.0
IL	Israel	291	221	56.8	225	250	47.4	516	471	52.3
JO	Jordan	12	14	46.2	272	25	91.6	284	39	87.9
LB	Lebanon	18	12	60.0	14	32	30.4	32	44	42.1
LY	Libya	0	7	0.0	0	9	0.0	0	16	0.0
MA	Morocco	35	4	89.7	43	11	79.6	78	15	83.9
SY	Syria	0	0	0.0	0	1	0.0	0	1	0.0
TN	Tunisia	5	2	71.4	11	6	64.7	16	8	66.7
Total ENC-South		409	283	59.1	681	391	63.5	1090	674	61.8
Total ENC		562	318	63.9	1355	478	73.9	1917	796	70.7

Table 13. Completed international M&A in ENC acquirer nation per top five target nation, 2000-2011

Acquirer Country		Top 5 acquirer nations and number of deals										Concentration ratios	
		1st	no.	2nd	no.	3rd	no.	4th	no.	5th	no.	CR1	CR5
AM	Armenia	Belarus	1	Russia	1	Ukraine	1	-		-		33.3	100.0
AZ	Azerbaijan	Turkey	3	Lithuania	1	Romania	1	Ukraine	1	Vietnam	1	42.9	100.0
BY	Belarus	Belgium	5	France	1	Ukraine	1	USA	1	-		62.5	100.0
GE	Georgia	USA	2	Ukraine	1	Belarus	1	Moldova	1	-		40.0	100.0
MD	Moldova	Romania	1	Russia	1	Ukraine	1	-		-		33.3	100.0
UA	Ukraine	Russia	33	Cyprus	6	Georgia	6	Belarus	5	Canada	5	34.4	57.3
Total ENC- East			45		11		11		8		6	36.9	66.4
DZ	Algeria	Spain	2	6 countries	1							25.0	37.5
EG	Egypt	Pakistan	5	Arab Em.	5	5 countries	4					6.9	19.4
IL	Israel	USA	185	UK	35	Germany	33	France	21	Canada	18	39.3	62.0
JO	Jordan	Arab Em.	11	S. Arabia	5	5 countries	2					28.2	46.2
LB	Lebanon	Australia	5	Egypt	5	UK	5	France	4	Cyprus	3	11.4	50.0
LY	Libya	Italy	3	Uganda	3	Bahrain	2	8 countries	1			18.8	56.3
MA	Morocco	France	2	Gabon	2	Mali	2	Mauritania	2	Senegal	2	13.3	66.7
SY	Syria	Russia	1	-		-		-		-		100.0	100.0
TN	Tunisia	France	2	Morocco	2	4 countries	1					25.0	62.5
Total ENC-South			216		58		49		28		23	32.0	55.5
Total ENC			261		69		60		36		29	32.8	57.2

Table 14. Completed M&A in ENC acquirer nation per primary sector, 2000-2011

Target Country	S1 Agr	S2 Min	S3 Food	S4 Text	S5 Wood	S6 Paper	S7 Chem	S8 Nm min	S9 Metal	S10 Mach	S11 Vehic	S12 O man	S13 Electr	S14 Constr	S15 Trade	S16 Transp	S17 Accom	S18 Comm	S19 Financ	S20 O serv	Total
AM Armenia	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	2	1	0	0	2	9
AZ Azerbaijan	0	9	2	0	1	0	1	0	0	1	0	0	5	1	0	0	0	5	25	7	57
BY Belarus	0	0	0	1	1	0	3	0	0	1	1	0	0	1	2	0	0	3	4	0	17
GE Georgia	0	9	3	0	0	0	5	3	0	0	0	0	4	0	3	8	0	11	43	2	91
MD Moldova	0	0	3	1	0	0	1	0	0	0	1	0	0	1	0	0	0	5	3	2	17
UA Ukraine	64	46	110	4	0	20	40	17	65	40	34	6	33	11	56	30	12	81	183	6	858
Total ENC-East	64	64	119	6	2	21	50	21	65	42	36	6	42	15	61	40	13	105	258	19	1049
DZ Algeria	0	6	0	0	0	0	3	0	0	0	0	0	2	1	0	0	0	0	0	0	12
EG Egypt	5	15	13	6	0	10	19	18	4	2	3	1	2	8	10	7	11	46	43	8	231
IL Israel	3	15	47	16	0	46	90	5	13	69	13	41	12	6	75	24	14	382	96	20	987
JO Jordan	0	2	14	24	0	6	21	12	4	3	3	0	6	1	21	37	9	73	85	2	323
LB Lebanon	0	4	3	1	0	2	2	1	0	0	0	0	0	0	2	0	3	14	40	4	76
LY Libya	0	3	0	1	0	0	1	0	0	0	0	0	0	1	1	1	2	2	2	2	16
MA Morocco	0	3	9	0	0	2	6	1	0	0	1	0	5	1	8	4	2	19	32	0	93
SY Syria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
TN Tunisia	0	2	1	1	0	4	1	4	0	0	1	0	0	0	3	0	0	6	1	0	24
Total ENC-South	8	50	87	49	0	70	143	41	21	74	21	42	27	18	120	73	41	542	300	36	1763
Total ENC	72	114	206	55	2	91	193	62	86	116	57	48	69	33	181	113	54	647	558	55	2812

The detailed list of sectors is reported in Appendix 1.

Table 15. Completed M&A in ENC acquirer nation per top three primary sectors, 2000-2011

Acquirer Country	Top 3 sectors and number of deals						Concentration ratios	
	1st	no.	2nd	no.	3rd	no.	CR1	CR3
AM Armenia	Transp	2	O serv	2	Food	1	22.2	55.6
AZ Azerbaijan	Financ	25	Min	9	O serv	7	43.9	71.9
BY Belarus	Financ	4	Comm	3	Chem	3	23.5	58.8
GE Georgia	Financ	43	Comm	11	Min	9	47.3	69.2
MD Moldova	Comm	5	Food	3	Financ	3	29.4	64.7
UA Ukraine	Financ	183	Food	110	Comm	81	21.3	43.6
Total ENC- East	Financ	258	Food	119	Comm	105	24.6	45.9
DZ Algeria	Min	6	Chem	3	Electr	2	50.0	91.7
EG Egypt	Comm	46	Financ	43	Chem	19	19.9	46.8
IL Israel	Comm	382	Financ	96	Chem	90	38.7	57.5
JO Jordan	Financ	85	Comm	73	Transp	37	26.3	60.4
LB Lebanon	Financ	40	Comm	14	Min	4	52.6	76.3
LY Libya	Min	3	Accom	2	Comm	2	18.8	43.8
MA Morocco	Financ	32	Comm	19	Food	9	34.4	64.5
SY Syria	Financ	1	-		-		100.0	100.0
TN Tunisia	Comm	6	Paper	4	Nm min	4	25.0	58.3
Total ENC-South	Comm	542	Financ	300	Chem	143	30.7	55.9
Total ENC	Comm	647	Financ	558	Food	206	23.0	50.2

Joint Ventures and Strategic Alliances

Maria Chiara Di Guardo and Raffaele Paci, CRENoS (Centre for North-South Economic Research), University of Cagliari, Italy

1. Introduction

In this section, we provide a first descriptive analysis of two additional channels of potential knowledge flows among firms located in the European Neighboring Countries (ENC): Joint Ventures (JV) and Strategic Alliances (SA). In general, two or more firms carry out an agreement when they combine resources to form a new, mutually advantageous business arrangement in order to achieve predetermined objectives. These agreements can be classified as Joint Ventures or Strategic Alliances.

A Joint Venture is defined as a cooperative business activity, formed by two or more separate organizations for strategic purposes, which creates an independent business entity and allocates ownership, operational responsibilities, and financial risks and rewards to each member, while preserving their separate identity. The new entity can either be newly formed or the combination of pre-existing units or divisions of the members. Even if the members' stake in the new entity varies, the members are all considered owners of the new entity. Moreover, the strategic purposes of the new entity may also differ from the individual members' strategic business objectives.

A Strategic Alliance is a cooperative business activity, formed by two or more separate organizations for a wide range of strategic purposes, which does not create an independent business entity. In other words, the parent firms try to pursue a set of goals or to meet a critical business need while remaining independent organizations.

2. Data

Data on firms' agreements are collected from the SDC Platinum database (Thomson Financial), which contains information about more than 53,000 agreements worldwide. The primary sources of these information are filings at the US Securities and Exchange Commission (SEC) and other international agencies and also trade publications, wires and news sources.

We focus on agreements announced between 1 December 2000 and 31 December 2011 in which at least one firm located in one of the ENC is involved. The total number of agreements considered amounts to 991, involving 1,575 different firms. Since each company may take part in more than one agreement we end up with a total number of 2,157 participations. To simplify the analysis, in the next section we will focus on the number of agreements and participations.

It is important to note that we have preferred to base our analysis on the announced agreements due to a lack of information on the subsequent outcome of the deal. In general, it is difficult to have complete information on the whole procedure leading to the conclusion of the agreement and therefore we are not able to distinguish between closed or pending transactions.

3. A General Overview

Table 1 presents the total number of agreements by typology and geographical area split up into Eastern neighboring countries (ENC-East) and North Africa and Middle East countries (ENC-South). We also distinguish between "intranational" deals if all the participants involved belong to the same country and "international" if at least one firm is located abroad.

Looking at the total set of 991 deals we can observe that almost all agreements (93%) are international, as they include participants located in different countries, and are carried out in the ENC-South area. Considering the typology, it can be noticed that 58 per cent of total agreements are SA. Moreover, notable differences emerge at the geographical level: in the case of ENC-East, most agreements are classified as international JV (62%) while, in the case of ENC-South, the largest share is represented by international SA (58%). In Figure 1, we present the share of agreements by typology, macro-area and internationalization level. The visual representation makes it clear that if we consider the whole sample and the ENC-South area, most deals are classified as international SA, while for the ENC-East the largest component is represented by international JV. It also appears that for ENC-East the share of intranational agreements, both SA and JV, is particularly small.

Table 2 reports the breakdown of the agreements by country. Focusing on the ENC-East countries, Ukraine shows the highest number of deals (71 out of 151) followed by Azerbaijan and Belarus (37 and 28, respectively). In the ENC-South group, the leader country is, as expected, Israel with more than 60% of total agreements in the area (540 out of 840) followed by Egypt (117 agreements). Notice that for both JV and SA the international agreements are the most important component in all countries.

Table 3 and Figure 2 present the dynamics of total agreements over the period 2000-2011. We can see that all the geographical areas show a high variability in the number of deals over time and are also characterized by a similar trend with the highest values in the years 2007-2008 and a sharp decrease afterwards.

As we have seen before, firms are willing to carry out external agreements in order to pursue their strategic goals, which may involve various activities within their business. In Table 4 and Figure 3 we split the agreements by their specific subject consider-

ing seven activities: Manufacturing Agreements, Supply Agreements, R&D Agreements, Technology Transfers, Marketing Agreements and Licensing Agreements. It is important to remark that each agreement may embrace more than one activity; moreover, in many cases the detailed information on the specific content of the deal is not available. Overall, we have information only for 481 deals. Considering the whole sample, we can see that the most common activity is the Manufacturing agreement (202), followed by the Marketing activity (160). However, we can notice that the content of the deals varies significantly according to the typology chosen. The preferred typology for firms interested in sharing production activities is the creation of a JV (74% of total deals for this activity) while for more "immaterial" activities like marketing, licensing, R&D agreement and technology transfer the less structured form of SA is largely preferred.

4. The Sectoral and Geographical Dimension

Other useful information on the characteristics of the agreements involving the ENC emerge from the analysis of the sectoral and geographical distribution of JV and SA.

In Table 5 we report the total agreements by primary sector of activity and by country. Notice that in the SDC Platinum database this information is given using the SIC classification but, with the aim of making available comparisons with other data sources, we convert data using a NACE classification with 20 sectors. In the last row of Table 5 we see that most agreements are performed in the S18 Information and Communication sector (393 equal to 62%). However, there are relevant differences in the sectoral distribution across countries and areas. The Information sector shows the highest share in several southern countries like Israel, Jordan and Egypt; on the other hand, among the eastern neighboring countries (like Azerbaijan and Belarus) a prominent position in the alliances is shown by the Mining sector. In the case of ENC-South, in the second position we find the "Financial and Insurance services" sector. Once again in order to correctly interpret these results we have to keep in mind that Israel strongly affects this data.

In Table 6 we examine how many different partners are involved in each agreement. For the large majority of agreements the number of participants is equal to 2 (89%), then only 8 per cent of total deals involve 3 firms, while very few agreements are carried out with a larger number of participants. Just as a curiosity, there is one agreement in the Telecommunication sector which involves Egypt as EN country together with firms located in 12 countries worldwide (Singapore, India, Indonesia, Pakistan, Saudi Arabia, Italy, Arab Emirates, Malaysia, Bangladesh, France and Sri Lanka).

Table 6 also shows the total amount of 2,157 participations in the 991 alliances considered. In Table 7 we analyze for each ENC the most important partner countries worldwide. As we have already remarked for the case of M&A deals, the geographical closeness and the institutional and cultural proximity also influence the probability of making

an international alliance. For instance, Russia is a preferred partner for several eastern countries like Belarus, Ukraine and Armenia. The USA is the first partner of Israel and Italy for Libya; similarly France is a top partner for Algeria and Morocco.

We will analyze the effect of geographical and other kind of proximities in the next stages of the research using more rigorous econometric techniques.

Table 1. Agreements per typology and area, 2000-2011

Absolute values

	Total agreements			Joint Ventures			Strategic Alliances		
Area	Intra.	Intern.	Total	Intra.	Intern.	Total	Intra.	Intern.	Total
Total ENC- East	5	146	151	1	94	95	4	52	56
Total ENC-South	63	777	840	28	292	320	35	485	520
Total ENC	68	923	991	29	386	415	39	537	576

% Shares

	Total agreements			Joint Ventures			Strategic Alliances		
Area	Intra.	Intern.	Total	Intra.	Intern.	Total	Intra.	Intern.	Total
Total ENC- East	3.3	96.7	100	0.7	62.3	62.9	2.6	34.4	37.1
Total ENC-South	7.5	92.5	100	3.3	34.8	38.1	4.2	57.7	61.9
Total ENC	6.9	93.1	100	2.9	39.0	41.9	3.9	54.2	58.1

Figure 1. Agreements per typology (% shares in each area), 2000-211

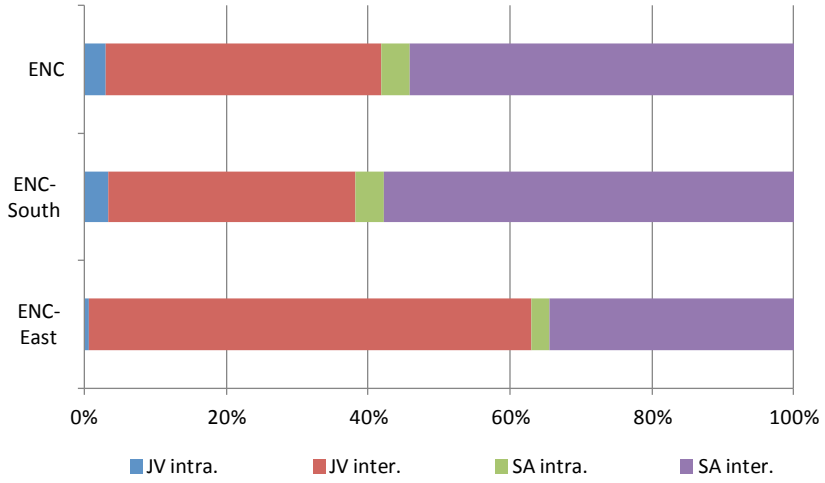


Table 2. Agreements per country and typology, 2000-2011

Country		Total agreements			Joint Ventures			Strategic Alliances		
		Intra.	Intern.	Total	Intra.	Intern.	Total	Intra.	Intern.	Total
AM	Armenia	0	7	7	0	6	6	0	1	1
AZ	Azerbaijan	2	35	37	0	22	22	2	13	15
BY	Belarus	0	28	28	0	20	20	0	8	8
GE	Georgia	0	6	6	0	5	5	0	1	1
MD	Moldova	0	2	2	0	2	2	0	0	0
UA	Ukraine	3	68	71	1	39	40	2	29	31
Total ENC-East		**5**	**146**	**151**	**1**	**94**	**95**	**4**	**52**	**56**
DZ	Algeria	5	49	54	4	29	33	1	20	21
EG	Egypt	12	105	117	11	71	82	1	34	35
IL	Israel	42	498	540	12	110	122	30	388	418
JO	Jordan	3	30	33	1	19	20	2	11	13
LB	Lebanon	1	18	19	0	7	7	1	11	12
LY	Liby	0	28	28	0	22	22	0	6	6
MA	Morocco	0	27	27	0	17	17	0	10	10
SY	Syria	0	14	14	0	9	9	0	5	5
TN	Tunisia	0	8	8	0	8	8	0	0	0
Total ENC-South		**63**	**777**	**840**	**28**	**292**	**320**	**35**	**485**	**520**
Total ENC		**68**	**923**	**991**	**29**	**386**	**415**	**39**	**537**	**576**

Table 3. Total agreements per country and year

Country		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
AM	Armenia	1	1	0	0	0	0	0	2	2	1	0	0	7
AZ	Azerbaijan	10	0	4	0	0	0	2	6	3	6	1	5	37
BY	Belarus	4	2	3	1	0	3	1	4	0	4	2	4	28
GE	Georgia	2	1	2	0	0	0	0	1	0	0	0	0	6
MD	Moldova	0	0	0	0	0	1	0	1	0	0	0	0	2
UA	Ukraine	4	3	7	4	3	4	9	16	10	2	3	6	71
Total ENC- East		**21**	**7**	**16**	**5**	**3**	**8**	**12**	**30**	**15**	**13**	**6**	**15**	**151**
DZ	Algeria	18	10	2	1	3	4	2	7	2	4	0	1	54
EG	Egypt	11	7	7	8	8	5	7	22	12	8	2	20	117
IL	Israel	63	43	32	48	41	59	45	83	65	19	16	26	540
JO	Jordan	3	1	2	1	4	2	2	6	6	1	2	3	33
LB	Lebanon	3	1	2	1	3	2	0	2	1	1	0	3	19
LY	Libya	0	2	0	3	0	1	2	10	8	2	0	0	28
MA	Morocco	1	4	1	0	4	4	1	4	2	1	0	5	27
SY	Syria	2	1	1	0	0	1	2	2	4	1	0	0	14
TN	Tunisia	0	0	0	2	1	0	1	1	2	0	0	1	8
Total ENC-South		**101**	**69**	**47**	**64**	**64**	**78**	**62**	**137**	**102**	**37**	**20**	**59**	**840**
Total ENC		**122**	**76**	**63**	**69**	**67**	**86**	**74**	**167**	**117**	**50**	**26**	**74**	**991**

Figure 2. Total agreements per macro-area and year

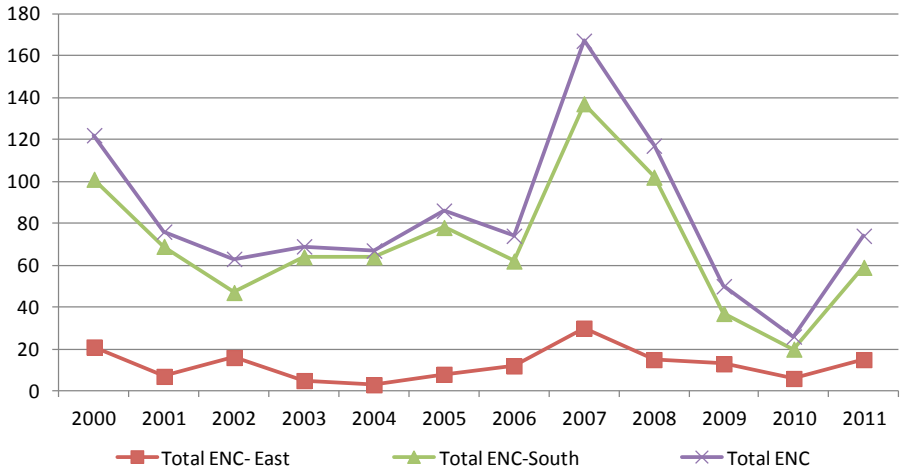


Table 4. Agreements by typology and activity

Activity	Total agreements	Joint Ventures	Strategic Alliances
Manufacturing Agreement	202	150	52
Supply Agreement	15	4	11
R&D Agreement	46	6	40
Technology Transfer	60	3	57
Marketing Agreement	110	11	99
Licensing Agreement	48	4	44
Total	**481**	**178**	**303**

Figure 3. Agreements by typology and activity

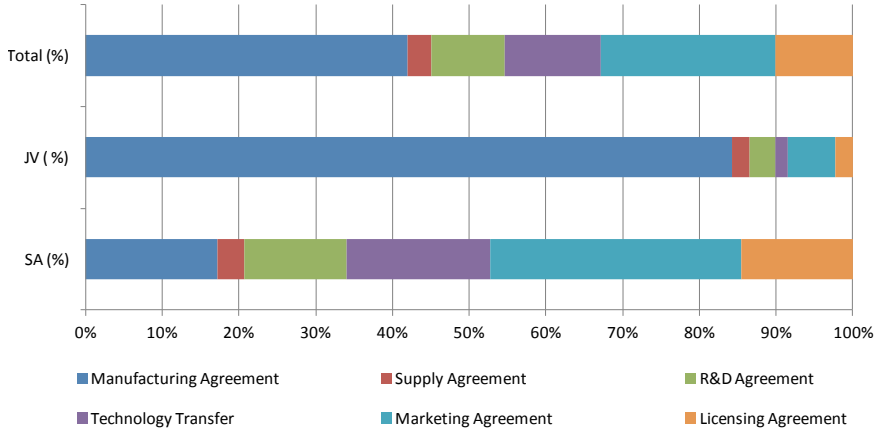


Table 5. Agreements per NACE code, 2000-2011

Country / NACE codes		S1 Agr	S2 Min	S3 Food	S4 Text	S5 Wood	S6 Paper	S7 Chem	S8 Nm min	S9 Metal	S10 Mach	S11 Vehic	S12 O man	S13 Electr	S14 Constr	S15 Trade	S16 Transp	S17 Accom	S18 Comm	S19 Financ	S20 O serv	Total
AM	Armenia	0	2	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	1	0	0	7
AZ	Azerbaijan	0	11	0	0	0	1	3	0	1	1	3	0	3	1	0	3	0	7	2	1	37
BY	Belarus	0	5	0	1	1	1	3	0	0	4	3	1	2	0	3	2	0	2	0	0	28
GE	Georgia	0	0	0	0	0	1	0	0	0	0	0	0	2	1	0	1	0	1	0	0	6
MD	Moldova	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
UA	Ukraine	0	10	3	0	0	0	5	0	2	2	11	1	6	2	7	3	0	18	1	0	71
Total ENC- East		**0**	**29**	**3**	**1**	**1**	**3**	**12**	**0**	**4**	**7**	**18**	**2**	**13**	**4**	**10**	**11**	**0**	**29**	**3**	**1**	**151**
DZ	Algeria	0	15	2	0	0	0	8	0	2	0	1	0	10	3	3	2	0	7	1	0	54
EG	Egypt	0	7	6	5	3	1	15	3	2	0	2	2	2	3	8	4	2	31	20	1	117
IL	Israel	0	5	7	5	0	18	19	2	3	21	10	13	4	4	64	9	1	291	56	8	540
JO	Jordan	0	3	0	0	0	2	2	0	1	0	4	0	1	0	0	3	0	16	1	0	33
LB	Lebanon	0	1	0	0	0	2	0	1	0	0	0	0	0	0	2	1	0	5	6	1	19
LY	Libya	0	5	1	0	0	0	2	0	1	0	2	0	2	3	0	0	0	8	4	0	28
MA	Morocco	0	3	3	0	0	0	7	0	0	2	0	0	0	2	3	0	1	4	2	0	27
SY	Syria	0	3	0	0	0	0	4	0	0	0	0	1	3	0	0	1	0	1	1	0	14
TN	Tunisia	0	1	0	0	0	1	3	0	0	1	0	0	1	0	0	0	0	1	0	0	8
Total ENC-South		**0**	**43**	**19**	**10**	**3**	**24**	**60**	**6**	**9**	**24**	**19**	**16**	**23**	**15**	**80**	**20**	**4**	**364**	**91**	**10**	**840**
Total ENC		**0**	**72**	**22**	**11**	**4**	**27**	**72**	**6**	**13**	**31**	**37**	**18**	**36**	**19**	**90**	**31**	**4**	**393**	**94**	**11**	**991**

The detailed list of sectors is reported in Appendix 1.

Table 6. Agreements by country and number of participants, 2000- 2011

		Number of participants					Total agreements	Total participants
Country		**2**	**3**	**4**	**5**	**6 & more**		
AM	Armenia	6	1	0	0	0	7	15
AZ	Azerbaijan	33	3	0	0	1	37	83
BY	Belarus	25	1	2	0	0	28	61
GE	Georgia	6	0	0	0	0	6	12
MD	Moldova	2	0	0	0	0	2	4
UA	Ukraine	67	4	0	0	0	71	146
Total ENC- East		**139**	**9**	**2**	**0**	**1**	**151**	**321**
DZ	Algeria	40	12	1	0	1	54	126
EG	Egypt	90	18	4	3	2	117	285
IL	Israel	503	27	6	3	1	540	1136
JO	Jordan	29	1	2	1	0	33	74
LB	Lebanon	16	2	0	1	0	19	43
LY	Libya	23	4	1	0	0	28	62
MA	Morocco	22	4	1	0	0	27	60
SY	Syria	11	3	0	0	0	14	31
TN	Tunisia	6	1	1	0	0	8	19
Total ENC-South		**740**	**72**	**16**	**8**	**4**	**840**	**1836**
Total ENC		**879**	**81**	**18**	**8**	**5**	**991**	**2157**

Table 7. Top three nation in agreements per country and number of participants, 2000-2011

		Top 3 Participant Nation						
		1 °	n.	2 °	n.	3 °	n.	Total
Country								
AM	Armenia	Belgium	3	Russia	3	China/USA	1	15
AZ	Azerbaijan	UK	6	Turkey	5	USA	4	83
BY	Belarus	Russia	15	Venezuela	3	China	2	61
GE	Georgia	USA	2	Azerbaijan/China	1	Russia/Turkey	1	12
MD	Moldova	Belarus	1	Ireland	1	-	0	4
UA	Ukraine	Russia	19	USA	9	5 countries	3	146
Total ENC- East			**46**		**22**		**11**	**321**
DZ	Algeria	Germany	7	Spain	6	France	5	126
EG	Egypt	Arab Em.	19	USA	16	Italy	9	285
IL	Israel	USA	233	Japan	33	UK	26	1136
JO	Jordan	USA	7	Saudi Arabia	3	Arab Em	3	74
LB	Lebanon	USA	3	Arab Em.	3	4 countries	2	43
LY	Libya	Italy	6	Egypt	4	Russia/Arab Em.	3	62
MA	Morocco	USA	6	France	5	Pakistan	3	60
SY	Syria	Belgium	2	France	2	India/Russia	2	31
TN	Tunisia	India	3	6 countries	1	-	0	19
Total ENC-South			**286**		**73**		**53**	**1836**
Total ENC			**332**		**95**		**64**	**2157**

EU Trade Policies towards Neighbouring Countries

Panagiotis Liargovas, University of Pelponnese, Greece

E-mail: liargova@uop.gr

Abstract

This paper reviews the complex EU trade policies towards neighbouring countries. It reveals that EU neighbouring countries do not form a homogenous group, either in terms of geography or in terms of income. Israel, for example, has a GDP per capita which in many cases is more than 10 times larger compared to the poorest EU neighbours (e.g. Armenia, Georgia, Egypt, Moldova and Morocco). The EU has applied a varying degree of trade integration and trade strategies to its neighbours, ranging from shallow to deep integration and from bilateral to multilateral strategy. The effectiveness of such EU trade policies is critically discussed.

1. Introduction

EU trade policy towards the neighbouring countries is covered under the general framework of the EU Regional Trade Agreements (RTAs) as well as the EU Free Trade Agreements (FTAs).[1] An effort by the EU in the 1990s to replace FTAs with multilateral trade negotiations under the umbrella of the World Trade Organization (WTO) was not successful. For internal and external reasons, the EU started to re-direct the route towards FTAs with a Communication published in 2006, known as "Global Europe".[2]

According to "Global Europe", the EU adopted a more aggressive FTA policy by determining economic criteria such as economic size, growth, tariffs and non-tariff barriers as the basis for new FTAs in order to ensure the competitiveness of the European economy.[3] Therefore, FTAs which represent for the EU a subway to implement its deep trade agenda, known as Deep and Comprehensive Free Trade Areas (DCFTAs), are seen as a bilateral means to the end of multilateral liberalization and rule making. Another important issue of the new generation FTAs is that, without WTO negotiations, the EU sees these FTAs as an opportunity to negotiate regulatory and beyond-the-border issues that are not included in the Doha Round, and also to deal with "tough" issues like agriculture, which seem almost impossible to solve in the multilateral talks.

The European Union's trade policy instruments consist of both bilateral cooperation, e.g. the European Neighbourhood Policy (ENP), Association Agreements (AAs), Partnership and Cooperation Agreements (PCAs), and multilateral cooperation, e.g. Eastern Partnership (launched in Prague in May 2009), the Union for the Mediterranean (the Euro-Mediterranean Partnership, formerly known as the Barcelona Process, re-launched in Paris in July 2008), and the Black Sea Synergy (launched in Kiev in February 2008).[4]

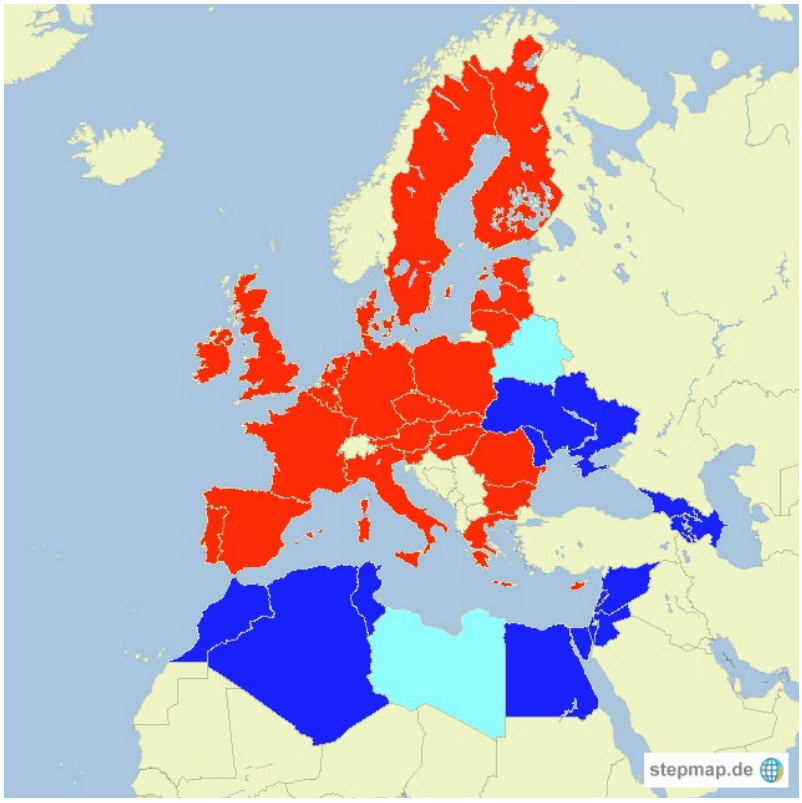
The ENP offers EU neighbours a privileged relationship which promotes common EU values such as democracy and human rights, rule of law, good governance, market economy principles and sustainable development. The ENP extends existing relationships to offer political association and deeper economic integration, increased mobility and more people-to-people contacts. It remains a pale imitation of enlargement instruments without an accession perspective, although it does not prejudge, for European neighbours, how their relationship with the EU may develop in the future, in accordance with Treaty provisions. The EU designed the ENP as a form on conditionality, a policy tool utilized by the EU in both its foreign and trade policy.[5]

1. For an overview, see Acar and Tekçe (2008).
2. For a general overview of EU trade policy, see http://ec.europa.eu/trade
3. See Liargovas (2011) p. 5.
4. See Liargovas (2011), p. 1.
5. See http://ec.europa.eu/world/enp/policy_en.htm for an extended analysis of EU ENP policy.

The main instruments of the ENP are the bilateral Action Plans between the EU and each ENP partner. These set out an agenda of political and economic reforms with short and medium-term priorities of 3 to 5 years. The ENP takes advantage of all previous agreements between the EU and the partner in question; it builds upon these agreements: Partnership and Cooperation Agreements (PCAs) or Association Agreements (AAs). Accession to the WTO is a prerequisite for EU membership and it is part of the EU's strategies towards its neighbours as the EU links political and economic considerations in implementing those strategies.[6]

The term "neighbourhood", which appeared in the EU's vocabulary for the first time in 1999, signalled "the intention to design a more coherent and strategic approach towards third countries in the EU's immediate geographical vicinity" and has been implemented through the ENP. It is only one policy framework approach among others and includes the approach of "differentiation".[7]

Figure 1. EU and the ENP partner states



Source: Miltner (2010), p. 8

6. See Mendoza (2009), p. 8.
7. See Miltner (2010) p. 7.

The ENP applies to 16 countries, of which only 14 can fully benefit from it so far.[8] Looking at a map (Figure 1) reveals that the ENP consists of three different, geographical entities that are not connected to each other, composed of different Eastern European, Southern Caucasian and Mediterranean partners.

The ENP's trade policy impact is characterized by both achievements and failures. The positive aspects of the ENP are due to its differentiated character. In contrast to the rigid Copenhagen Criteria that characterized enlargement policy, the ENP involves tailor-made agreements and conditions. Furthermore, the ENP is a structural foreign policy that forces European neighbours to adopt EU norms and institutions.

Moreover, according to an EU Commission Report on Progress achieved on the Global Europe Strategy 2006-2010, FTA negotiations launched under the economic criteria defined by "Global Europe" have made good progress.[9] Nonetheless, progress on some negotiating objectives beyond tariffs set out by "Global Europe" has been more mixed. These objectives, which were identified as crucial for securing real market access in the 21st century, included non-tariff barriers, access to resources and energy, services and investment, intellectual property (IPR), public procurement and competition policy. A major and visible aspect of "Global Europe" has been the renewed Market Access Strategy (MAS), a new cooperation initiative in Brussels and on the ground in key markets between the Commission, member states and business to address the key barriers that hold back EU trade. The Market Access Strategy helps European companies, including SMEs, access third country markets by providing information on market access conditions (free online Market Access Database – MADB) and removing market access barriers.[10]

Section 2 of this paper discusses the main differences between EU neighbouring countries. Section 3 discusses shallow and deep trade integration while Section 4 offers some conclusions and policy recommendations.

2. Do all EU Neighbours Matter Equally?

A geographical approach when assessing EU trade policies towards neighbouring countries is not very helpful. In contrast, an approach based on income and comparative advantages offers more insights. Based on this approach, we distinguish between four

8. It is composed of the EU's existing neighbours and those that have drawn closer to the EU as a result of enlargement. The ENP is open to the three Eastern European countries: Belarus, Moldova and Ukraine, with Belarus having the possibility to fully participate under the condition of reforms implemented. Russia is left outside the ENP. Besides the three Eastern European countries, the three in the South Caucasus — Armenia, Azerbaijan and Georgia — take part in the ENP, as do ten EU partners around the Mediterranean: Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Syria, Tunisia, as well as the Palestinian Authority. Out of these countries, Libya can only properly benefit from the ENP after once having fully accepted the Barcelona acquis. Some of the ENP countries, namely Armenia and Azerbaijan, are not direct neighbours of the EU by land or sea.
9. See Liargovas (2011), p. 5.
10. See Commission Staff Working Document (2010).

different types of EU neighbours: (a) Developed countries, (b) Emerging upper middle income countries, (c) Hydrocarbon countries, and (d) Lower middle income countries.

2.1 Developed Countries

This group includes countries which are wealthier than the EU average and the biggest eurozone economies, such as Iceland, Norway, Switzerland and Israel. Israel has a GDP per capita which in many cases is more than 10 times larger compared to the poorest EU neighbours. Its average annual growth, however, is limited.

Table 1. Economic indicators of developed neighbouring countries

Country	GDP per capita (current USD 2012)	Average annual GDP growth (per cent 2000-2012)
Iceland	41,150.8	2.4
Israel	32,060.5	3.3
Norway	99,315.8	1.6
Switzerland	77,840.1	1.7

Source: International Monetary Fund, World Economic Outlook Database, October 2012

The trade policy pattern of all these developed economies is similar to the EU's.[11] It consists of low tariffs for manufactured goods, relatively open service sectors and high levels of protection for agriculture. These countries export sophisticated manufactured products to the EU and quite easily agree to open their markets to each other.

Israel is a privileged partner of the EU.[12] The EU-Israel Association Agreement entered into force in June 2000 with the aim of providing an appropriate framework for political dialogue and economic cooperation between the parties. In the framework of the ENP, the EU-Israel Action Plan was adopted in April 2005 and established the following priorities: i) enhance political dialogue and co-operation, ii) increase economic integration particularly with the EU, inter alia, by developing trade and investment flows, by liberalising trade in services, and iii) promote co-operation in transport, energy and telecom networks. The Action Plan expired in April 2008, and has been prolonged several times, the last one until June 2010. The strategic framework for EU cooperation with Israel is established by the Country Strategy Paper (CSP) under the ENPI over the period 2007-2013.

11. The EU is Israel's first trading partner with total trade amounting to approximately €29.4 billion in 2011. The EU is Israel's major source of imports (€15.3 billion, 35% of the country's total imports). In 2011, EU imports from Israel amounted to €12.6 billion, consisting mainly of chemicals (28.3%), machinery and mechanical appliances (17%), and precious and semi-precious stones (12.1%). EU exports to Israel in the same year amounted to €14.4 billion, consisting mainly of machinery and transport equipment (37.7%), chemicals (18.3%), and other semi-manufactures (18.9%). The EU has a services trade surplus of around 1 billion EUR with Israel. See http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/israel/
12. See EC (2000).

According to the WTO, Israel's average applied MFN tariff was 7% in 2012. Over half of the tariffs are duty-free lines, and less than 5% of tariff lines exceed the 20% rate. The average applied MFN tariff on non-agricultural products is relatively low (4.2%), while tariffs on agricultural goods (WTO definition), average 24.5%.[13]

2.2 Emerging Upper Middle Income Neighbouring Countries

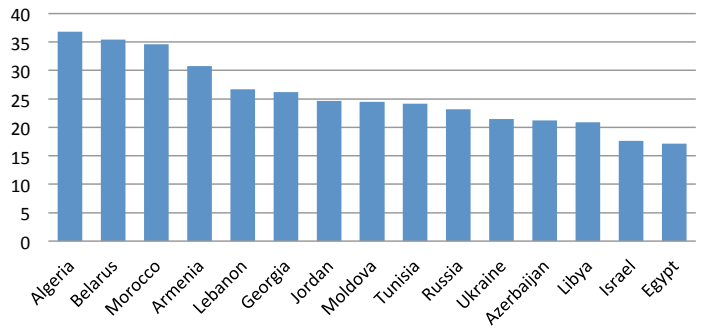
GDP per capita in these countries ranges between 3,821.1 and 10,16.9 US dollar per capita. All these countries have had dynamic economic growth rates since the beginning of 2000. Investment to GDP ratios in most of these economies (Jordan, Tunisia, Ukraine) are below 25% (Figure 2). This means that their convergence with advanced economies will be delayed.

Table 2. Economic indicators of emerging upper middle income countries

Country	GDP per capita (current USD 2012)	Average annual GDP growth (per cent 2000-2012)
Albania	3,821.1	4.9
Belarus	6,202.0	7.0
Bosnia and Herzegovina	4,261.6	3.2
Croatia	13,060.8	2.1
FYR Macedonia	4,935.2	2.5
Jordan	4,901.3	5.7
Lebanon	10,416.2	4.6
Montenegro	6,965.5	3.3
Serbia	4,916.7	3.2
Turkey	10,456.9	4.3
Tunisia	4,151.9	3.8
Ukraine	3,971.2	4.7

Source: International Monetary Fund, World Economic Outlook Database, October 2012

Figure 2. Investment rates as % of GDO (2011)



Source: International Monetary Fund, World Economic Outlook Database, October 2012

13. See http://www.wto.org/english/tratop_e/tpr_e/tp372_e.htm

These countries are characterized with relatively high average manufactured goods import tariffs as well as agricultural tariffs to the EU.[14] In addition, their services sector is less open than the EU's.

Table 3. Trade policy profile-non preferential (MFN)

Country	Average applied tariff 2011		Total number of services with GATS commitments in WTO
	Agriculture	*Manufacturing*	
Albania	7.9	4.5	115
Belarus	15.2	9.0	N/A
Bosnia & Herzegovina	11.1	5.9	N/A
Croatia	10.7	4	126
FYR Macedonia	13.5	6	N/A
Jordan	17.9	8.8	110
Lebanon	16.5	4.8	N/A
Serbia	14.2	6.3	N/A
Turkey	41.7	4.8	77
Tunisia	32.7	13.5	20
Ukraine	9.5	3.8	137
EU27	***13.9***	***4.0***	***115***

Source: WTO trade statistics database

The bilateral trade and economic relations between the EU and **Belarus** are suspended until political and civil conditions improve in Belarus.[15] This is the reason why the EU has not yet ratified the bilateral Partnership and Cooperation Agreement concluded with Belarus in 1995. Furthermore, in June 2007 the EU withdrew its trade preferences to Belarus under the Generalised System of Preferences, in response to Belarus' violations of the core principles of the International Labour Organisation. Since 2010, the EU has imposed unilateral import quotas for Belarus covering trade in textile and clothing products. The unilateral quotas replaced the EU-Belarus textile agreement that Belarus no longer wanted to renew after joining the Customs Union with Russia and Kazakhstan.[16]

The EU is **Ukraine's** most important trading partner and accounts for about one third of Ukraine's external trade. Ukraine's primary exports to the EU are iron, steel, mining products, agricultural products, and machinery. EU exports to Ukraine are dominated by machinery, transport equipment, chemicals, and agricultural products. Ukrainian exports

14. Ukraine, however, represents an exception, which is due to the Ukraine's membership of the WTO, in 2008. The EU has negotiated a Deep and Comprehensive Free Trade Agreement (DCFTA) with Ukraine. The DCFTA will be part of a future Association Agreement, which will replace the present Partnership and Cooperation Agreement between the EU and Ukraine (which dates from 1998).
15. See Council of the EU (2012).
16. Besides these problems, the EU is Belarus' second main trade partner with almost a one third share in the country's overall trade. Russia is Belarus' most important trading partner and absorbs almost half of Belarus' international trade. Belarus' exports to the EU are dominated by mineral fuels. Other product categories – such as chemicals, agricultural products, machinery and textiles – all form a much lower share. The EU mainly exports machinery, transport equipment and chemicals to Belarus. See http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/belarus/

to the EU are to a very large extent liberalised thanks to the Generalised System of Preferences (LINK) granted by the EU to Ukraine since 1993. In 2010, Ukraine's use of the Generalised System of Preferences reached a high level of 72.2% of the eligible products.[17]

The EU's Association Agreement with **Jordan** entered into force on 1 May 2002.[18] The Association Agreement progressively establishes a Free Trade Area between the EU and Jordan over 12 years. In addition, negotiations on liberalisation of agricultural products were concluded in 2005. The protocol on Dispute Settlement Mechanisms for trade between the EU and Jordan entered into force on 1 July 2011. Jordan is one of the partners of the Euro-Mediterranean Partnership (Euromed).[19] In March 2012, Jordan started negotiations with the EU to establish Deep and Comprehensive Free Trade Areas (DCFTAs). An Agreement on Conformity Assessment and Acceptance of industrial products (ACAA) would enable Jordanian products of selected sectors to enter the EU market without additional technical controls. Jordan has made good progress in the preparations for this agreement and has chosen electrical products, toys, gas appliances and pressure equipment as priority sectors. In February 2004, Jordan signed the Agadir Agreement with Egypt, Morocco and Tunisia.

Lebanon is one of the partners of the Euro-Mediterranean Partnership (Euromed). Lebanon has not yet signed the Regional Convention on pan-Euro-Mediterranean preferential rules of origin but participates in the revision of the existing rules. The Regional Convention will replace the current network of bilateral protocols, facilitate the revision of existing rules of origin, and thus enhance regional trade and economic integration.[20] As a result of the EU-Lebanon Association Agreement, Lebanese industrial as well as most agricultural products benefit from free access to the EU market. Lebanon is in the process of accession to the WTO. Negotiations started in 1999.

Tunisia was the first Mediterranean country to sign an Association Agreement with the EU, in July 1995. Tunisia finalized the dismantling of tariffs for industrial products

17. Ukraine ranks 12th, among the most effective users of the EU's Generalized System of Preferences.
18. See ECSC 2002/357/EC, Council and Commission Decision of 26 March 2002 on the conclusion of the Euro-Mediterranean Agreement establishing an Association between the European Communities and their member states, on the one hand, and the Kingdom of Jordan, on the other.
19. After Saudi Arabia, the EU is Jordan's second trading partner – with a total trade amounting to approximately €3.5 billion in 2011. The Jordanian economy is dominated by services (65% of its GDP) and by industry (30%), whereas the agricultural sector represents only a small part of the economy (4.5 %) of Jordan. EU imports of goods from Jordan are dominated by chemicals and mineral products. EU exports to Jordan consist mainly of mechanical appliances, chemicals and agricultural products. The two largest exporting industries in Jordan are the pharmaceutical industry and the phosphate and potash extraction industries. 75% of Jordan's pharmaceutical production is exported. Jordan's phosphate and potash extraction industry is among the largest in the world. See http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/jordan/
20. Bilateral trade between the EU and Lebanon has been increasing steadily over the past years, with an average annual growth of 12.0% since 2007. In 2011 the EU ranked as the first trading partner for Lebanon, covering almost 30% of Lebanese trade. EU imports from Lebanon consist mainly of semi-manufactured, agricultural products, fuel and mining products, chemicals and machinery and transport equipment. EU exports to Lebanon consist mainly of machinery and transport equipment, energy products, agricultural products and chemicals. The Lebanese economy is based primarily on the service sector. The service sector accounts for more than 70% of the country's GDP. Construction, tourism, and financial services are the most prominent sectors among Lebanon's exports and imports of commercial services. Lebanon's economy is characterized by a high level of imports and by substantial trade deficits. The deficits are largely offset by foreign income earnings, including capital inflows, remittances from the Lebanese diaspora as well as the tourism, banking and insurance sectors. See http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/lebanon/

in 2008, thus making Tunisia the first Mediterranean country to enter a free trade area with EU.[21] In February 2004 Tunisia signed the Agadir Agreement with Jordan, Morocco and Egypt. Tunisia has started to implement the new Pan-Euro-Mediterranean system of cumulation of origin. As it is applied, the system of cumulation of origin will allow Tunisia to export goods made with components imported from elsewhere without losing preferential access to the EU market. In December 2009, the EU signed a bilateral protocol with Tunisia on the establishment of a dispute settlement mechanism.

2.3 Hydrocarbon Exporters

This group consists of countries which are hydrocarbon producers and exporters. Exports of fuels and mining products of Algeria, for example, account for 98.5 of its total exports. For Azerbaijan, Libya, Russia and Syria the corresponding figures are 96.2%, 67.2%, 71.8% and 52.5%, respectively.[22]

Russia, Algeria, Libya, Azerbaijan and Syria together account for about half the EU's imports and almost half the EU's oil imports. According to Europe's energy portal Factsheet, 42% of the EU's final energy consumption is made of petroleum products.

Table 4. Top 5 sources of EU gas imports

Russia	35%
Norway	*27%*
Algeria	*14%*
Qatar	*8%*
Libya	*3%*

Source: EU Energy in Figures, Statistical pocketbook, 2012

Table 5. Top 5 sources of EU oil imports

Russia	34%
Norway	14%
Kazakhstan	6%
Iran	6%
Azerbaijan	4%

Source: EU Energy in Figures, Statistical pocketbook, 2012

21. Tunisia's exports to the EU are dominated by manufactured products (of which clothing and machinery and transport equipment are the most important exports), energy and agricultural products. Tunisia's imports from the EU are dominated by machinery and transport equipment, energy and chemicals. Flows of Foreign Direct Investment to Tunisia are concentrated on the development of the infrastructure network as well as of the textiles and clothing sectors. For more information, see http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/tunisia/
22. Source: WTO trade database.

Hydrocarbon exporters have relatively high per capita income levels (with the exception of Syria) but this is the result of the hydrocarbon rent rather than proper economic development.

Table 6. Economic Indicators of hydrocarbon exporters

Country	GDP per capita (current USD 2011)	Average annual GDP growth (per cent 2000-2012)
Algeria	5,659.7	3.6
Azerbaijan	7,226.6	12.5
Libya	12,878.8	8.9
Russia	13,764.8	4.8
Syria	2,802.6	N/A

Source: International Monetary Fund, World Economic Outlook Database, October 2012

In the last ten years, trade between the EU and these economies have risen substantially as the result of income improvements. Russia has become the biggest export destination.

The pattern of trade between the EU and these countries includes exports of oil and gas to the EU, and imports of manufactured goods plus some services and agricultural products from the EU. The trade pattern is shaped by strong dependence on hydrocarbon exports. This raises a number of political and trade problems. One such problems relates to the security of supplies as highlighted by the gas supply disruptions of 2006 and 2009 by the Russian export monopoly Gazprom and the supply disruptions of the 2011 descent of Libya into civil war. None of these countries are members of WTO (except Russia) so there is no reach of the least common denominator as regards international trade laws.

Trade policies of these countries are relatively protectionist. They have a high rate of average import tariffs on manufactured goods and high levels of protectionism in the services sector.

Table 7. Trade policy profile-non preferential (MFN)

Country	Average applied tariff 2011		Total number of services with GATS commitments in WTO
	Agriculture	*Manufacturing*	
Algeria	23.3	17.8	N/A
Azerbaijan	14.1	8.2	
Libya			N/A
Russia	14.3	8.7	122
Syria	22.7	12.9	N/A

Source: WTO trade statistics database

Their business climate is also negative. All these countries suffer from corruption. According to Transparency International, Russia and Azerbaijan rank 168 as regards the Corruption Perceptions Index, Algeria 112, Libya 168 and Syria, 129.[23]

The European Union is **Algeria's** largest trading partner, absorbing almost half of Algerian International trade.[24] Following the conclusion of negotiations in December 2001, Algeria and the EU signed an Association Agreement in the framework of the Euromed Partnership in April 2002. With 98% of EU imports from Algeria in 2011 being energy, Algeria ranked as the EU's third largest energy provider (4.7% of total EU energy imports), for a value of €26.8 billion in the same year. Chemicals represented, with only 1.1 % of the total, the second most important Product Group in the EU's imports from the country.

As regards **Azerbaijan**, 99.5% of total exports to the EU consist of mineral products (essentially fuels – oil and gas).[25] EU exports to Azerbaijan consist of machinery and transport equipment (47.6%), miscellaneous manufactured articles (20.1%) and manufactured goods (14%). All three South Caucasus countries (Armenia, Azerbaijan, Georgia) benefit from the EU's Generalised System of Preferences (GSP). Under the current GSP Regulation, applying from 1 January 2009, all of them qualify for the special incentive arrangement for sustainable development and good governance (GSP+), offering them a particularly advantageous access to the EU market. Armenia, Azerbaijan and Georgia each have an Action Plan under the ENP, designed to help, inter alia, their closer trade and economic integration with the EU, in particular through gradual regulatory alignment. Of particular concern is the poor level of intellectual property protection in all three countries. Oil and gas from the Caspian Sea is shipped to the EU in particular through pipelines crossing Georgia and Turkey (Baku-Tbilisi-Ceyhan, Baku-Supsa and Baku-Tbilisi-Erzurum). Caspian oil is also transported from Azerbaijan to the Georgia

23. See http://cpi.transparency.org/cpi2011/results/
24. For more information, see: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/algeria/
25. For more information, see: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/regions/south-caucasus/

port of Poti and Batumi by rail. In the future, energy supplies should be shipped via a completed "southern corridor" that should include, inter alia, the Nabucco gas pipeline. All three countries participate in the Baku energy initiative. Negotiations on a Deep and Comprehensive Free Trade Area (DCFTA) could not start as Azerbaijan is not a member of the World Trade Organisation (WTO), which is a pre-condition for the start of DCFTA negotiations.

The negotiations for a Framework Agreement between the EU and **Libya** started in November 2008. The aim was to include a Free Trade Agreement covering trade in goods, services and investment. This would provide new export opportunities and higher legal predictability for EU exporters, mainly in areas such as services and establishment, public procurement and gas and oil markets. However, following the events in early 2011 in Libya, negotiations were suspended in February 2011. Therefore, Libya is the only Mediterranean country – with the exception of Syria – that has not yet concluded a Free Trade Agreement with the EU.[26] Libya has n observer status in the Euromed Partnership.

Bilateral EU-Syria relations are governed by the Cooperation Agreement signed in 1977. **Syria** and the EU have negotiated an Association Agreement. However, the signing of the Association Agreement between the EU and Syria has been put on hold by the EU due to the internal situation in Syria. The ongoing internal repression in Syria has also led to restrictive measures by the EU and has a significant impact on bilateral trade.[27] Restrictive measures implemented by the EU also concern the financial and transport sector as well as the financing of certain enterprises and infrastructure projects in Syria. In addition to this, funds and economic resources of persons and entities supporting and/or benefiting from the Syrian regime have also been frozen.

The Partnership and Cooperation Agreement between the EU and **Russia** has been the framework of EU-Russia relations since 1997 and regulates the political and economic relations between the two parties. Russia joined the World Trade Organisation (WTO) on 22 August 2012. The recent WTO accession of Russia will prevent it from adopting unilateral tariff hikes, as has been the case in the past. Russia is the third trading partner of the EU and the EU the first trading partner of Russia. Trade between the two economies showed steep growth rates until mid-2008 when the trend was

26. In 2010, before the Arab Spring and the popular uprising in Libya, the EU was an important trading partner for Libya accounting for 70% of the country's total trade, which amounted to approximately €35.5 billion in 2010. Despite the decrease in trade during 2011, the EU-Libya trade relationship is confirmed by 2011 statistics. Libya continues to be a fundamental energy exporter to the EU. For more information, see http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/libya/

27. The EU was the first trading partner for Syria with total trade amounting to approximately €6.1 billion in 2011. Trade with the EU covered about 20% of Syrian trade. Prior to the EU's restrictive measures against Syria, most of Syria's export to the EU consisted of energy goods (fuels and mining products) along with some agricultural and textile products. EU exports to Syria consist mainly of machinery and transport equipment and chemical products. As a result of restrictive measures imposed by the EU since 2011, bilateral trade volumes are contracting significantly and the trade structure is changing. For more information, see: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/syria/

interrupted by the economic crisis and unilateral measures adopted by Russia that affected EU-Russia trade. Since 2010 mutual trade has resumed its growth reaching record levels in 2011.[28]

2.4 EU's Poorest Neighbours

Moldova, Georgia, Armenia, Egypt and Morocco are the EU's poorest neighbours. They have income levels less than half of the EU's poorest member state, Bulgaria (in 2012 per capita income is 14,234.572 USD, according to the latest IMF World Economic Outlook Statistics).

Table 8. Economic indicators of the EU's poorest neighbours

Country	GDP per capita (current USD 2011)	Average annual GDP growth (per cent 200-2010)
Armenia	3,135.0	7.80
Georgia	3,513.6	6.40
Egypt	3,109.5	4.40
Moldova	2,135.9	5.10
Morocco	2,987.9	4.8

Source: International Monetary Fund, World Economic Outlook Database, October 2012

Moldova, Georgia and Armenia are very small countries with limited commercial potential for the EU. Exports of these countries to the EU are dominated by agricultural products. The EU exports both industrial goods and agricultural products.

Table 9. Trade policy profile-non preferential (MFN)

Country	Average applied tariff 2010		Total number of services sectors with GATS commitments in WTO
	Agriculture	*Manufacturing*	
Armenia	6.8	2.2	106
Georgia	7.2	0.7	125
Moldova	10.5	3.7	147
Egypt	66.3	9.3	
Morocco	41.2	10.2	45
EU27	13.5	4	115

Source: WTO trade statistics database

28. EU exports to Russia are dominated by cars, medicines, car parts, telephones and parts and tractors. EU imports from Russia are dominated by raw materials, in particular oil (crude and refined) and gas. For these products, as well as for other important raw materials, Russia has committed to freeze or reduce its export duties. The EU is the most important investor in Russia. It is estimated that up to 75% of Foreign Direct Investment stocks in Russia come from EU member states. For more information, see: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/russia/

Due to their size, Armenia, Georgia and Moldova are not major trade targets. They have trade policy regimes that are significantly more open than the EU. They have low tariffs and have service trade regime that is as open as the EU's.[29] The EU offers these countries trade preferences under the GSP.

The EU has been negotiating a new Association Agreement with **Moldova** since January 2010. The negotiations on the trade part of this agreement (Deep and Comprehensive Free Trade Area – DCFTA) started in February 2012.[30] Moldova's exports to the EU are already liberalised to a large extent under the EU Autonomous Trade Preferences. This preferential regime (together with the Generalised System of Preferences Plus regime) offers the most favourable access to the EU market for Moldova. It grants Moldova unlimited and duty free access to the EU market for all products originating in Moldova, except for certain agricultural products (for which tariff rate quotas are defined). Moldova is also a member of the Commonwealth of Independent States (CIS). In October 2011, a free trade agreement was signed among eight CIS member states. Moldova has been a member of the World Trade Organization since 26 July 2001.

EU-**Armenia** bilateral trade relations are currently regulated by a Partnership and Cooperation Agreement in force since 1999. But negotiations were launched in July 2010 to update this agreement by a future Association Agreements. The EU has also started negotiations with Armenia for a Deep and Comprehensive Free Trade Agreement that will be part of the Association Agreement.[31] The current Partnership and Cooperation Agreement – in force since July 1999 – does not include tariff preferences, but prohibits quantitative restrictions in bilateral trade and also envisages progressive regulatory approximation of Armenia's legislation and procedures to the most important EU and international trade related laws and standards which aims at facilitating practical access of Armenian products to the EU market. Under the EU Generalised System of Preferences, Armenia has been benefiting from the special incentive arrangement for sustainable development and good governance, the so-called Generalised System of Preferences Plus (GSP+), since July 2005. This arrangement offers Armenian exports advantageous access to the EU market since it provides for a zero duty rate for 6,400 tariff lines. The Republic of Armenia has been a member of the WTO since 5 February 2003.

29. According to Messerlinet al. (2012), Georgia is fully open to FDI and recognizes the technical standards of the EU and of other trading partners.
30. The EU is Moldova's first trading partner with more than 40% of Moldova's total trade – followed by Russia and Ukraine. Overall trade with Moldova accounts for only 0.1% of the EU's overall trade. EU exports to Moldova are dominated by machinery, transport equipment, chemicals, fuels, mining products and agricultural products. EU imports from Moldova to the EU (€842 million in 2011) are mainly agricultural products, clothing, textiles and machinery. Over half of Foreign Direct Investment came from the EU member states and more than 10% of the Commonwealth of Independent States member countries. For more information, see: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/moldova/
31. The EU is Armenia's main trading partner, accounting for around 30% of Armenia's total trade. EU imports from Armenia chiefly consist of manufactured goods, crude materials, miscellaneous manufactured articles, and machinery and transport equipment. EU exports to Armenia are dominated by machinery and transport equipment, miscellaneous manufactured articles, chemicals and foodstuffs. The total value of preferential Generalised System of Preferences (GSP) imports from Armenia into the EU is steadily increasing, from EUR €61 million in 2009 to €109 million in 2011. Armenia's GSP utilisation rate is high: around 90%. The main EU Armenia imports under GSP preferences are: base metals (80%), textiles (15%) and foodstuffs (2%). For more information, see: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/armenia/

Egypt is a big economy of 81 million, with one third of its working population employed in agriculture. Egypt practices high levels of trade protectionism, particularly in agriculture. The EU-Egypt Association Agreement, in force since 2004, established a free trade area with the elimination of tariffs on industrial products and significant concessions on agricultural products. In addition, an ambitious agreement on agricultural, processed agricultural and fisheries products entered into force on 1 June 2010. Since 2004, EU-Egypt bilateral trade has more than doubled and reached its highest level ever in 2011 (from €11.5 billion in 2004 to €23.3 billion in 2011). The EU is traditionally Egypt's main trading partner, covering more than 30% of Egypt's trade volume and ranking first both as Egypt's import and export partner.[32] In February 2004, Egypt signed the Agadir Agreement with Jordan, Morocco and Tunisia. This committed all parties to removing all tariffs on trade between them and to harmonizing their legislation with regard to standards and customs procedures. The Agadir Agreement entered into force in July 2006 and the implementation is ensured by the Agadir Technical Unit in Amman. The Agadir Agreement foresees the pan-Euro-Mediterranean cumulation of origin. Egypt has not yet signed the Regional Convention on pan-Euro-Mediterranean preferential rules of origin but participates in the revision of the existing rules.

Morocco has a significant growth potential due to lower external tariffs in the WTO, and deeper domestic economic reforms. An Association Agreement between the EU and Morocco entered into force on 1 March 2000, and provided for a Free Trade Area. In addition, an EU-Morocco Agreement on agricultural, processed agricultural and fisheries products entered into force 1 October 2012. A protocol on Dispute Settlement Mechanism was signed and is awaiting ratification. Negotiations with Morocco on a Protocol on Services and Investments are on-going. The EU is Morocco's first trading partner.[33] Morocco is one of the partners of the Euro-Mediterranean Partnership (Euromed). Morocco is part of the Agadir Agreement with Egypt, Jordan and Tunisia. Morocco is the first Mediterranean country to have adopted the new Pan-Euro-Mediterranean system of cumulation of origin, in December 2005. The system – which makes it simpler to import products manufactured in more than one country throughout the Mediterranean basin – is generating new opportunities for economic operators in Morocco, notably in the textile sector. It is also an important spur for further regional economic integration in the whole Mediterranean area.

32. EU imports of goods from Egypt are dominated by energy, followed by chemicals and textiles and clothes. EU exports to Egypt consist mainly of machinery and chemicals. EU exports of services to Egypt are dominated by business services, while the EU imports from Egypt consist mainly of travel services and transport. For more information, see: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/egypt/

33. The two most important sectors are textiles and agricultural goods. Morocco's exports to the EU are dominated by three main areas: clothing, agricultural products, and machinery and transport equipment. Morocco's imports from the EU are dominated by machinery and transport equipment, manufacture goods, chemicals and fuels. EU exports of services to Morocco consist mainly of communications and business services and transportation, while the EU mainly imports travel services, transportation and communications services from Morocco. For more information, see: http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/countries/morocco/

3. From Shallow to Deep Trade Integration

The previous section revealed that the degree of trade integration between the EU and its trading partners varies considerably. According to Dreyer (2012), four types of arrangements appear to have crystallized between the EU and its partners over the last decades:[34]

1. Participation in the Single Market including labour mobility, but exclusion from the Common Agricultural Policy (CAP);

2. Customs union excluding Agriculture and Movement of Labour;

3. "Shallow" bilateral free trade agreements (FTAs);

4. No formalised bilateral agreements.

In the first category, one finds countries which belong to the European Economic Area (EEA), i.e. Iceland, Norway and Liechtenstein. These partners are obliged to apply EU rules and the *acquis communautaire* built up since 1957 but are not part of EU political institutions and decision-making. They keep their sovereignty in trade policy and are not part of the Common Agricultural Policy. A variant on the arrangement with Iceland, Norway and Liechtenstein is the one with Switzerland with whom a set of bilateral agreements has been in place since 1999.

The second category includes Turkey. Since 1996, there has been duty free trade between both parties and Turkey applies the same external tariffs as the EU. The trade arrangements with Turkey cover technical standards, intellectual property and other trade-related rules. Agricultural goods are largely left out of the customs union.

The third category includes the weakest trade policy agreements which are currently in force in the neighbourhood. These are the free trade agreements with the Middle Eastern and Northern African economies that emerged from the 1990s Barcelona Process, called the "Euromed" Association Agreements. Euromed was organized into three main dimensions, which remain today as the broad working areas of the partnership:[35] (a) Political and Security Dialogue, aimed at creating a common area of peace and stability underpinned by sustainable development, rule of law, democracy and human rights, (b) Economic and Financial Partnership, including the gradual establishment of a free trade area aimed at promoting shared economic opportunity through sustainable and balanced socio-economic development, and (c) Social, Cultural and Human Partnership, aimed at promoting understanding and intercultural dialogue between cultures,

34. See Dreyer (2102) p. 16.
35. For an overview, see http://www.eeas.europa.eu/euromed/barcelona_en.htm

religions and people, and facilitating exchanges between civil society and ordinary citizens, particularly women and young people. Since 2004, Euro-Mediterranean relations have fallen within the European Neighbourhood Policy (ENP). Within the framework of bilateral relations, the EU aimed at creating a network of "closed friendship" with which the EU can enjoy peaceful and co-operative relations. By working closely with each of its Mediterranean partners the EU established support programmes for economic transition and reform which took into account each country's specific needs and characteristics.[36] Finally, in 2008 cooperation agreements were re-launched as the Union for the Mediterranean (UfM). It is a multilateral partnership with a view to increasing the potential for regional integration and cohesion among Euro-Med partners and linked to the goal of the Barcelona Declaration.[37] Projects address areas such as economy, environment, energy, health, migration and culture. As of September 2010, the UfM has a functional secretariat, based in Barcelona, a Secretary General and six deputy secretary generals.[38] This functional organization represents a major innovation, compared to the past.

The last category includes hydrocarbon exporters, Russia and some of the EU's poorest neighbours in the Black Sea and in the Caucasus. There is no formal arrangement with most of these countries. The EU offers unilateral trade preferences to its poorest neighbours under the GSP scheme and has recently launched free trade negotiations with them.

3.1 Has Shallow Integration Worked So Far? The Euromed Case

As discussed above, Euromed is one example of shallow trade integration between the EU and the neighbouring countries. Many studies have tried to make an assessment of this trade strategy. Most of them are critical, but there are also studies which focus on the positive (long-term) trade effects. Below, we summarize the main arguments for and against Euromed:

- The agreements signed so far cannot reach their trade targets because these agreements do not significantly liberalize trade beyond the benchmark set by the WTO's body of rules and treaties on goods trade, services trade, trade-related intellectual property rights, government procurement, investment, technical standards, sanitary standards and antidumping rules.[39] In this sense, they can be considered "WTO minus".

- The agreements are concentrated almost exclusively on manufacturing goods. The EU allows its partners long transition periods to apply duty free treatment to its

36. Since 1995, the European Commission has supported the Barcelona Process with the provision of €16 billion from the Community budget [20 KB]. Loans from the European Investment Bank amount to approximately €2 billion per year (see http://www.eeas.europa.eu/euromed/barcelona_en.htm).
37. See Tino (2012), p. 3.
38. Along with the 27 EU member states, 16 southern Mediterranean, African and Middle Eastern countries are members of the UfM: Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Israel, Jordan, Lebanon, Mauritania, Monaco, Montenegro, Morocco, the Palestinian Authority, Syria, Tunisia and Turkey.
39. See Dreyer (2012) p. 18.

manufactured exports. But agriculture is not essentially liberalised, in either direction. There have been some reductions of tariffs in some fruit and vegetables, as well as an expansion – but not elimination – of quotas. In addition, trade rules relating to technical barriers to trade, sanitary regulations,[40] intellectual property and public procurement of investment in current agreements, when it exists, is not legally binding. On services, future negotiations on liberalization are called for but have never seen progress.

- Rules of origin are too restrictive on imports of goods to the EU. In its FTAs, as a general rule, the EU requires countries to produce 50-70% of a product locally for it to apply for duty free status.

- The agreements contribute to a closer integration between the economies of southern Mediterranean countries and the EU, but they do not foster inter-Mediterranean economic integration.[41] While EU-Arab countries' trade relations strengthen, the lack of free trade among Arab States still exists. This is due to the absence of "one single" regionalism in the North Africa/Middle East area as the European one. The Agadir Agreement, which is the most important commercial initiative among Arab States has not contributed to the creation of a Deep and Comprehensive Free Trade Area with their current members.[42]

- The agreements signed so far cannot overcome domestic resistance to liberalization, especially in services, manufacturing and agriculture. This resistance comes from both sides: EU member states with a more conservative attitude towards agriculture and Mediterranean countries which struggle with industrial competitiveness.[43]

- According to a recent survey conducted in the four sea basins, including the Mediterranean,[44] EU enlargement did not have a positive impact on the Mediterranean region because the preoccupations of the countries of northern Europe are totally different from those of the southern European countries. The enlargement has driven the preoccupations of Europe eastwards. At the same time, the new EU members are not very interested in establishing relations with the countries of the southern Mediterranean, above all for cultural reasons. Also in economic terms

40. Many partners consider EU sanitary standards a means to protectionist abuses. This is due to the fact that the EU has a philosophical approach to sanitary and phytosanitary standards (SPS) that differs from most of its trading partners in the world. It abides by the "precautionary principle" which, in trade policy, allows it to take preventive import measures on health, safety and environmental grounds even if the harm of their consumption is not necessarily supported by science. See Dreyer (2012) pp. 34-35.
41. Tino (2012), p. 4.
42. The Agadir Agreement is a free trade agreement between Egypt, Jordan, Morocco and Tunisia. Named after the Moroccan city of Agadir, where the process to set up the pact was launched in May 2001, it was signed in Rabat in February 2004 and came into force in March 2007. The Agadir Agreement is open to further membership by all Arab countries that are members of the Arab League and the Greater Arab Free Trade Area, and linked to the EU through an Association Agreement or an FTA. Its purpose is to facilitate integration between Arab states and the EU under the broader EU-Mediterranean process, but it has other ramifications as well. One important feature of the Agadir Agreement is that it uses the EU's rules of origin.
43. See Dreyer (2012) p. 19.
44. The field research of the EU4Seas project was designed to provide empirical evidence which is comparable amongst topics, within sub-regions and across the four covered areas. For more details, see http://www.eu4seas.eu/

the companies in these countries do not enjoy the same facilities as those of the southern European countries when they do business on the southern shore of the Mediterranean.

- Based on the same survey, the ENP in 2004 was considered as a dramatic shift for the region; it was designed for eastern European countries, and was very much based on differentiated bilateralism rather than multilateralism; the idea was to *Europeanise* without enlarging, so it was not good at fostering sub-regionalism in the southern Mediterranean.

- As a response to the Arab Spring the EU firstly issued two European Commission Communications – *Partnership for Democracy and Shared Prosperity with the Southern Mediterranean*[45] and *New Strategy for a Changing European Neighbourhood*[46] – and then launched a New ENP.[47] The policy is based on new features, including a "more for more" approach,[48] the importance of mutual accountability between the EU and its partners, the need for partnerships not only with governments but also with civil society (e.g. NGOs, businesses, academia, media, unions and religious groups) and a recognition of the special role of women in reshaping both politics and society. The new ENP approach also recognized the importance of differentiation and tailors relations to the level of ambitions of partners. It is therefore based on the respect for every partners' specificities and their own reform path. The new policy has enshrined greater flexibility and set out a framework for tailored responses, matching the specific requirements of the countries, their progress in undertaking reforms, and the nature of the partnership they seek with the EU. But how "renewed" is the new ENP in the case of southern Mediterranean countries? If we exclude the principle of "more for more" as well as the shift towards greater differentiation, the new ENP continues to be based on the democratic clause of political conditionality, which has been characterizing the Euro-Mediterranean relations since the Barcelona Process, and to use still pre-existing legal instruments and approaches.[49]

- Saif and Hujer (2009) argue that improving trade and investment relations between the EU and the Mediterranean region have not contributed to better governance, human

45. European Commission, Joint Communication to the European Council, the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions: a Partnership for Democracy and Shared Prosperity with the Southern Mediterranean, COM(2011) 200 final, Brussels, 8.3.2011.
46. European Commission, Joint Communication to the European Council, the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions: New strategy for a changing European Neighbourhood, COM(2011) 303, Brussels, 25.5.2011.
47. European Commission, Joint Communication to the European Council, the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions: delivering on a new European Neighbourhood Policy, JOIN(2012) 14 final, Brussels, 15.5.2012.
48. Only those partners willing to embark on political reforms and to respect the shared universal values of human rights, democracy and the rule of law have been offered the most rewarding aspects of the EU policy, notably economic integration (based on the establishment of Deep and Comprehensive Free Trade Areas – DCFTAs), mobility of people (mobility partnerships), as well as greater EU financial assistance. Equally, the EU has reacted to violations of human rights and democracy standards by curtailing its engagement.
49. See Tino (2012), p. 11.

rights, the rule of law or increased democracy in the respective Mediterranean Partner Countries. On the contrary, the present evidence suggests that while trade and investment have achieved sustained growth, governance and the human rights situation in most of the ENP countries have deteriorated. According to them, whether this situation has arisen due to carelessness on the EU side or as a result of soft and cynical polices adopted to stabilize and perpetuate friendly regimes is open to question.

- Studies that use gravity models have tried to assess the long-term impact of ENP on EU-neighbouring countries' bilateral trade.[50] Montalbano and Nenci (2012) showed a likely strong and robust impact on EU-MED trade integration of the new "deep integration" efforts made by the EU. This was confirmed by both the applied dummy strategy and the non-parametric matching technique. Their result seemed to be linked to other factors than simply trade preferences alone. Their empirical evidence is relevant both to policymaking, since it provides an "ex ante" assessment of the efficacy of deep integration under the EU-MED regional cooperation framework, and to the methodological point of view, since it contributes to improvements in empirical estimates of the "policy impact" of EU preferential agreements.

- Finally, Ghoneim et al. (2012), with the use of a gravity model, showed that further steps towards deep integration would lead to much more significant gains. In this regard, the elimination of non-tariff barriers is expected to increase EU exports to MPs up to 60%. In addition, MPs' imports and exports to the EU could also considerably increase due to an improvement of logistics performance in these countries.[51]

3.2 Deep and Comprehensive Free Trade Agreements

The main trade policy component of the ENP is the Deep and Comprehensive Free Trade Agreement (DCFTA). The idea of a Deep and Comprehensive Free Trade Agreement goes beyond the traditional concept of trade liberalization. Besides the full elimination of tariffs on trade in goods, it also includes reduction/removal of non-tariff barriers, liberalization of investment regime, liberalization of trade in services, and far-reaching harmonization/mutual recognition of various trade and investment related regulations and institutions. The main goal is to promote mutual trade and investments and achieve welfare and employment effects. In late 2008, under the Eastern Partnership, the EU opened negotiations towards a DCFTA with Ukraine, Moldova and the Caucasus economies. In December 2011, the European member states issued the European Commission with four mandates to prepare negotiations for Deep and Comprehensive Free Trade Agreements (DCFTAs) with the four signatories to the Agadir Agreement (2007): Egypt, Tunisia, Morocco and Jordan.

50. For EU-MED trade flows, see, for example, Abediny and Péridy (2008); Ruiz and Villarubia (2007); Pastore et al. (2009); CASE/CEPS, 2009; Hagemejer and Ciselik (2009); Bensassi et al. (2009); Jarreau, (2011).
51. See Ghoneim et al. (2012), p. 1.

In essence, the concept of Deep and Comprehensive Free Trade Agreement is relatively new in EU external trade policy and has been offered to EU neighbours as the major economic integration instrument within the framework of the European Neighbourhood Policy and Eastern Partnership. It is based on experience of the Single European Market, the EEA and trade agreements between the EU and the prospective EU candidates.

The DCFTA will imply actions such as regulatory convergence giving priority in competition policy, public procurement, and investment protection, sanitary and phytosanitary measures. Obviously, the European decision to promote the realization of DCFTAs is highly significant because it contributes to fostering a closer integration between the economies of neighbouring countries and the EU single market.

For the most advanced partners this could lead to a progressive economic integration with the EU internal market under the slogan "full partnership without membership" (EC, 2011), but will it work?[52] The DCFTA even if "deep" and "comprehensive" enough does not include the automatic guarantee of success. It very much depends on political will and administrative capacity to implement all its provisions in a timely and accurate manner.

But even if there is a political will, a problematic issue is related to the demanding nature of DCFTAs which makes it quite difficult for new association agreements to be signed. For many neighbouring countries it is all looking like a delaying tactic: make the conditions so severe that they will not agree, and so leave them in indefinite uncertainty. Unless there is some sharp rethinking and policy movement in the EU institutions, also requiring movement in the mandates they receive from the member states, there will be no further progress in bilateral trade.[53]

Another critique is that the DCFTAs strengthen economic relations in the direction of EU-neighbouring countries, e.g. EU-southern Mediterranean countries. So, even if the DCFTAs are instrumental to the realization of a deeper integration, they do not contribute directly to enhancing inter-regional trade.

In addition, Europe as a powerful global player has much more bargaining power than its low-income negotiating partners, e.g. Mediterranean countries. This is compounded by the fact that the EU will not negotiate with Egypt, Tunisia, Morocco and Jordan as a group to establish a region-to-region agreement, which might have increased their bargaining power and helped to promote their efforts towards enhanced regional integration under the Agadir Agreement in force since 2007. Promotion of regional integration is in fact a professed goal of the Euro-Mediterranean trade partnership. Instead, the EU has opted to negotiate reciprocal trade agreements with each country individually. Hence, any outcome of the negotiations will almost as a matter of course be biased in favour of European big business.

52. See Peridy (2012).
53. See Liargovas (2011), p. 6.

3.3 Bilateralism vs. Multilaterism as an EU Trade Policy Approach towards its Neighbours

Another important issue in the EU trade towards neighbouring countries is related to the issue of bilateralism vs. multilateralism as an EU trade policy approach. The EU's recent emphasis on bilateral rather than multilateral agreements can be explained by various reasons. First, they seem easier to conclude. Politicians and businessmen find this very attractive because they are looking for quick results. Second, they can cover more areas. Bilateral trade agreements can deal with issues such as investment, competition, technical standards, labour standards or environment provisions, where there is no consensus among WTO Members. Thirdly, because of political or geopolitical considerations. For developing countries, negotiating with the EU, there is usually the expectation of exclusive preferential benefits, as well as expectations of development assistance and other non-trade rewards. Finally, they are often used as instruments for domestic reform in areas where the multilateral system offers a weaker leverage.

But bilateral agreements have limitations as well. First, bilateral agreements create discrimination. Countries outside an agreement will try to conclude agreements with one of those that are inside to avoid exclusion. In other words, the consequence is that the preferences obtained through forming a preferential agreement against competitors tend to be short-lived. Secondly, bilateral agreements cannot solve systemic issues such as rules of origin, antidumping, agricultural and fisheries subsidies. Thirdly, the proliferation of regional trade agreements can greatly complicate the trading environment, creating a web of incoherent rules. For example, rules of origin complicate the production processes of businesses that may be obliged to tailor their products for different preferential markets in order to satisfy them. Finally, to many small and weak developing countries, entering into a bilateral agreement with the EU means less leverage and a weaker negotiating position as compared to multilateral talks.[54]

4. Conclusions and Policy Recommendations

The present analysis leads us to some conclusions and policy recommendation as regards EU trade policies towards its neighbours:

1. Both EU and the neighbouring countries should eliminate tariffs. Countries wishing to export must agree to import first to source cheaper inputs and to test their competitiveness in global markets;

2. A close interface between Single Market policies for services on the one hand and agreement on specific conditions to be met on a case-by-case basis on the other is a necessary condition for extending service trade liberalization (including regulatory aspects). Foreign direct investment in manufacturing and in key service sectors must

54. See Liargovas, p. 7.

be liberalised; Rules of origin (ROOs) of the free trade zone must be liberal and user-friendly so that the production chains operate smoothly and more actors are allowed to be involved. In order to facilitate the development of regional industrial supply chains, the EU's current ROO system would need to be rethought. It is too restrictive on imports of goods to the EU and among its neighbours.

3. Non-tariff barriers to imports such as overly trade-restrictive accreditation procedures for technical standards should be kept to a minimum.

4. The complicated EU bureaucracy is another aspect which does not facilitate the relations between the neighbouring countries and the EU. Europe's cacophony in external policy suggests it has abdicated any pretence of having a long-term vision for the region. It has developed a habit of articulating a discourse, issuing documents, allocating money, creating bureaucracies that seem to lead a life of their own, beneath or above which the real issues of immediate concern are discussed: migration controls, restrictions on free trade and counter terrorism and coordinated responses (military, intelligence, information sharing, police cooperation). What is articulated in EU documents and discourse does not necessarily reflect the challenges the region confronts.

5. Political problems often create barriers to any effort. The key issue is to learn to cooperate ignoring the political controversies. Instead of isolating a country, it is preferable that the country concerned receives funds, regardless of the political scenario (example of Tunisia), so you can revert to the population and influence economic development. While the EU was previously prompted to give support to dictatorial regimes in various governments in the Mediterranean Sea, the EU should now establish clear conditions and a multilateral basis.

6. To be effective on democracy issues, especially in the case of Arab countries, the EU must adopt unified and coordinated policies not only on trade, but also on related issues and especially on aid programmes. The way to do this is through positive conditionality which could gradually be introduced to make incremental progress in the right direction. Issues such as the environment and labour standards should form part of trade packages if trade is to be used effectively in this way.

7. According to Emerson (2010), the concept of "Deep and Comprehensive Free Trade" should be reconsidered and adapted to the circumstances of the eastern partners, bearing in mind also that the Mediterranean partners were granted free trade without this Deep and Comprehensive addition. Emerson suggests as an optional template a Basic Free Trade Agreement (BFTA) for the time being, starting soon. The degree of mandatory EU acquis compliance would be limited to that strictly required for trade; to go further would be an option that would receive EU encouragement and assistance, but not an obligation or pre-condition. Otherwise no policy movement will mean no free trade deliverables.[55]

55. See Emerson (2010) for more details.

References

Abedini, J. and **N. Péridy** (2008), "The Greater Arab Free Trade Area (GAFTA): an Estimation of Its Trade Effects", Journal of Economic Integration, 23(4): 848-872.

Acar, S. and **T. Mahmut** (2008), "Multilateralism or Bilateralism: Trade Policy of the EU in the Age of Free Trade Agreements", International Conference on Emerging Economic Issues in a Globalizing World, Izmir, 2008, available at: http://eco.ieu.edu.tr/wp-content/proceedings/2008/0817.pdf

Bensassi, S., I. Martínez-Zarzoso and **L. Márquez-Ramos** (2010), Economic integration and the two margins of trade: An application to the Euro-Mediterranean agreements, CREMed WP 2/2010.

CASE-CEPS (L. de Wulf and **M. Maliszewska, eds.)** (2009), Economic Integration in the Euro-Mediterranean Region, CASE-CSER report.

Commission Staff Working Document (2010), "Report on progress achieved on the Global Europe strategy, 2006-2010" SEC(2010) 1268/2, available at: http://trade.ec.europa.eu/doclib/docs/2010/november/tradoc_146941.pdf

Council of the European Union, Council conclusions on Belarus 3191st Foreign Affairs Council meeting, Luxembourg, 15 October 2012

Dreyer, I. (2012), "Trade Policy in the EU's Neighbourhood. Ways Forward for the Deep and Comprehensive Free Trade Agreements", Studies and Research, 90, Notre Europe, available at: http://www.notre-europe.eu/media/I.Dreyer_TradePolicyInEUNeighbourhood_NE_May2012.pdf

Emerson, M. (2010), Rendez-vous with Eastern Europe, CEPS Commentary, Brussels.

European Communities (2000), "Euromediterranean Agreement", Official Journal of the European Communities, L147/3, 21/06/2000, available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:147:0003:0156:EN:PDF

EC (2011), A new response to a changing Neighbourhood, Joint Communication to the European Parliament, the Council, the European Economic And Social Committee and the Committee of the Regions, COM(2011).

Ghoneim, A.F., N. Péridy, J. López González and **M. Mendez Parra** (2012), Shallow vs. Deep Integration in the Southern Mediterranean: Scenarios for the region up to 2030, MEDPRO Technical Report No. 13/March, available at: www.ceps.eu/ceps/dld/6795/pdf

Hagemejer, J. and **A. Cieslik** (2009), "Assessing the impact of the EU-sponsored trade liberalization in the MENA countries", Journal of Economic Integration, 24(2): 344-369.

Jarreau, J. (2011), Economic integration in the EuroMed: current status and review of studies, CEPII, WP No 2011-07.

Liargovas, P. (2011), EU's Trade Policy in the Four Seas: A multilateral approach, Policy Paper, eu4seas, available at: http://www.eu4seas.eu/images/stories/policy_papers/WP5/eu4seas_policy_paper_trade_liargovas.pdf

Made, V. (2011), EU Strategy towards the Baltic Sea: A Multilateral Approach, EU4 Papers.

Rodriguez Mendoza, M. (2009), Trade and Trade Policies in the 4 Seas. The interface between the WTO and EU frameworks, EU4 papers.

Messerlin, P., M. Emerson, G. Jandieri and **A. Le Vernoy** (2011), An Appraisal of the EU's Trade Policy Towards its Eastern Neighbours: The Case of Georgia, Groupe d'Economie Mondiale Science Po, Paris, and Centre For European Policy Studies, Brussels.

Miltner, P. (2010), The Union for the Mediterranean and the Eastern Partnership: A Comparative Analysis, Department of European Interdisciplinary Studies, College of Europe, available at: http://www.coleurope.eu/sites/default/files/thesis/miltner.pdf

Montalbano, P. and **S. Nenci** (2012), Assessing the Trade Impact of the European Neighborhood Policy on EU-MED Free Trade Area, Economics Department, Working Paper Series, No. 31-2012, University of Sussex, available at: http://www.sussex.ac.uk/economics/documents/wps31-2012-montalbano.pdf

Pastore, F., A. Ferragina and **G. Giovannetti** (2009), "A Tale of Parallel Integration Processes: A Gravity Analysis of the EU Trade with Mediterranean and Central and Eastern European Countries", Review of Middle East Economics and Finance, Berkeley Electronic Press, 5(2).

Peridy, N. (2012), Economics Research International, Volume 2012, Article ID 616793, doi:10.1155/2012/616793 "Some New Insights into Trade Potential between the EU and its Mediterranean Partners".

Tino, E. (2012), "The European integration, the Arab regionalisms and the Euro-Med relations after the Arab Spring: is the Pan-Euro-Mediterranean Free Trade Area a viable project yet?", ECPR – Sixth Pan-European Conference on EU Politics Tampere,

Finland – 13-15 September 2012, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2148677

Ruiz, J.M. and **J.M. Vilarrubia** (2007), The Wise Use of Dummies in Gravity Models: Export Potentials in the Euro-Med Region, Bank of Spain Working Paper, No. 0720.

Saif, I. and **M. Hujer** (2009), Have Trade Relations Between the European Union and Mediterranean Countries Promoted Democratic Values in the South?, International Institute for Democracy and Electoral Assistance, available at: http://www.idea.int/resources/analysis/upload/Saif_paper13.pdf

Section 4

Labour Mobility

Length of Stay in the Host Country and Educational Achievement of Immigrant Students: The Italian Case

Adriana Di Liberto, CRENoS (Centre for North-South Economic Research), University of Cagliari, Italy

E-mail: diliberto@unica.it

Abstract

Using Italian data on language standardized tests for different levels of schooling we investigate 1) if the observed gap in educational attainments in first-generation immigrants tends to lower the longer their stay in Italy and 2) if younger children tend to catch up faster than their older schoolmates. The analysis confirms the presence of a significant gap between native and immigrant students in school outcomes for all grades, with first-generation immigrants showing the largest gap. Further, the comparison between both first and second-generation immigrant students and the results across the different grades suggest that the significant gap observed in the first-generation is mainly due to the negative performance of immigrant children newly arrived in Italy and that interventions at younger ages are likely to be more effective. Finally, we find that the immigrant students' area of origin also plays a role in their school performance, suggesting that cultural differences affect children from different origins differently. We control for endogeneity concerns using both schools and classroom FE estimators, and results are robust to a specific sub-sample that controls for cheating, different model specifications and the use of maths test scores as dependent variable.

Keywords

Immigrant Students, Educational Attainments, Age at Immigration

JEL Classification

J15, I21

1. Introduction

> *"In order to close the achievement gap, institutional changes must be made at the school level, including changes in language teaching… Proficiency in the language of instruction is a major tool and precondition for learning."*
> *OECD (2010)*

Since the last decade of the 20th century European countries have experienced large waves of migration flows from both within and outside the EU. As a consequence, the integration of third-country nationals has been identified as a priority at European level. Migration-related issues are a central part of the Stockholm Programme, adopted by the EU member state governments at the December 2009 European Council.

Among the proposed indicators of migrant integration, language skills and educational attainments are identified as crucial. Low skilled workers are more at risk of poverty or social exclusion and young people with a migrant background are found to be at greater risk of dropping out of school and of exiting the education and training system without having obtained an upper secondary qualification. Data are striking: in 2008, regardless of gender, the share of early school leavers with a foreign background was four percentage points higher than that of their counterparts with native-born parents (Eurostat, 2011b). In general, the school performance gap between native and immigrant children is well-documented for a number of industrialized countries and it is a real concern for policy-makers since it also predicts a gap in labour-market performance and other long-term outcomes.

In this paper we use the language standardized test data provided by INVALSI, the Italian institute in charge of evaluating schools' performance, to analyse the gap of young immigrant children in Italy. In particular, we examine if this gap is significantly influenced by pupils' length of stay in Italy, their age at immigration and their area of origin. Italian data are most suitable for studying these issues. Together with Spain and Greece, Italy is a recent migration destination. As of 31 December 2008, in Italy the percentage of foreigners as a share of the total population was 6.5%, of whom 1.9% were citizens of (other) EU member states and 4.6% were from non-EU countries. With respect to educational levels, according to PISA 2009 results, Italy has some of the largest native-immigrant school performance gaps among OECD countries.[1] In particular, this result holds for second-generation students, even after adjusting for socioeconomic background (OECD, 2012). Furthermore, the share of early leavers from education and training (aged 18-24) among the subgroup of foreign-born is 46%, compared to 19%

1. "In 2009, the reading scores of immigrant students were lower than those of non-immigrant students in 23 out of 28 OECD countries with sufficient data. The performance gap reaches 99 points in Mexico, more than 80 in Iceland and more than 72 in Italy. In Finland, Austria, Belgium, Sweden, Denmark and France, the gap is 60 points or more, the equivalent of over a year and a half of schooling," OECD (2012).

observed for the total population.[2] Finally, among the EU countries, Italy has the lowest proportion of foreign citizens with tertiary education and a large proportion of low educational attainment level (Eurostat LFS, 2008). In sum, migrants in Italy have a lower level of income and are at increased risk of poverty and social exclusion. With its low educational attainments of both migrants and natives, Italy is among the group of countries most at risk.[3]

In this study we investigate the differences in standardized language test scores between immigrant and Italian children conditional on personal, family and school characteristics, distinguishing between first and second-generation immigrants. Although we do not have longitudinal data, for first-generation immigrants we are able to study whether the age at immigration influences their academic achievements. In particular, unlike most previous studies in this field, our data allow us to compare the results obtained by children enrolled in different grades, more specifically, the second and fifth year of (primary) school, sixth and tenth year (secondary school).[4] Indeed, since the Italian INVALSI data sample at multiple ages, they permit a broader picture showing if the immigrant students impact of not speaking the language of instruction at home changes across educational levels. Comparing the results across the different grades, we investigate if the educational gap narrows at a different pace in the early or later years of a student's life. That is, we address the important question of whether the age at arrival and the length of stay in the host country matters for immigrants' educational achievements. Indeed, sociologists have long identified immigrants who arrived as young children, the so-called 1.5 generation, as different from those who arrived after and observed that the outcomes of the two groups may significantly differ.[5]

We focus on language tests because the lack of language skills plays a crucial role in immigrants' integration processes. Further, we also concentrate on the age of immigrant children and their length of stay in the host country since an extensive literature suggests that, although people can learn languages at any age, young children have an innate ability to learn the rules of new languages, and this ability tends to decrease by adulthood (Johnson and Newport, 1989)[6] In particular, the recent existing literature on the economics of the language examines the impact of immigrants' host country language ability on long-term economic and social outcomes. For example, Bleakley and Chin (2004, 2010) estimate the causal impact of English-language ability on different outcomes; namely, earnings in the US and on marriage, fertility, and residential location choices. First, they

2. At the European Union level, the share of foreign-born early school leavers aged 18-24 is higher than the share of early school leavers aged 18-24 from all populations. The most marked differences in the shares are in Germany, Greece, Spain, France, Italy and Cyprus, Austria and Finland.
3. In 2008, the rate of being at risk of poverty or social exclusion among foreign-born persons was highest in Greece (45%), followed by Belgium, Italy and France, the latter over 30%. See European Union (2011).
4. We exclude data on the national exam performed by all Italian students at the end of year eight since they are not comparable with those used in this study.
5. "…first generation immigrants who arrive at a young age are often more similar to second-generation ones than to adults from the first-generation. Individuals who immigrate to a new country before or during their early teens bring with them characteristics from their home country but experience at least some of their formative years while in a new country." See Sweetman et al. (2014).
6. Moreover, children who learn a language before adolescence are more likely than older learners to attain native-like pronunciation (Patkowski, 1990).

find a significant positive effect of English-language skills on wages among childhood immigrants, where much of this effect appears to be mediated by years of schooling. Second, their results also stress that English proficiency affects other outcomes: it raises the probabilities of being divorced, marrying a US native, having a more educated and higher earning spouse, having fewer children, and, for some groups, living outside of ethnic enclaves. Overall, these results indicate that language skills have an important role not only for labour market outcomes but also in the process of social assimilation.

Our analysis is also related to the growing literature that dates back to the end of the nineties and investigates the role of social distance and social capital on economic outcomes (Helliwell and Putnam, 1999). In general, note that social distance is a very broad concept which refers to the cognitive relationship between two cultures that co-exist within an individual, and it is influenced by many factors, including the immigrant's length of residence. Glaeser (1999) argues that, together with educational levels, one of the factors that appear to be crucial in creating social capital at the community level is ethnic and linguistic heterogeneity.[7] Moreover, according to linguistic scholars, social distance is one of the socio-cultural factors affecting second language acquisition by immigrants which, in turn, is crucial for their integration in the host country.[8]

This study is structured in six different sections. The next section introduces the literature review, while the third the descriptive analysis. Section 4 discusses the main results and Section 5 the extensions and robustness checks. Conclusions are in Section 6.

2. Literature Review

Among economists, only relatively few recent studies address the important question of whether age at arrival and length of stay in the host country matters for immigrants' educational achievements. Most early studies focused on traditional immigrant countries, such as the United States and Canada, but among more recent studies we also find an increasing number of papers that exploit new immigrant receiving countries datasets. Among the former, we include the seminal paper of Borjas (1995) who found that age at immigration could bias estimates of economic integration in cohort models, while subsequent studies by Schaafsma and Sweetman (2001) using Canadian data, and Chiswick and DebBurman (2004) and Gonzalez (2003) using American data, have explicitly addressed issues directly related to age at immigration and educational attainments.

More recently, Böhlmark (2008) has exploited a panel of siblings graduating after nine years of schooling in Sweden from 1988 to 2003 to examine the impact of age at im-

7. Alesina and La Ferrara (2002) also document the positive effects of homogeneity on social participation across American states. They argue that schools are a primary area where social capital is developed.
8. According to Schumann's Acculturation Model, social distance explains the acquisition of second language and it is influenced by many factors, such as the equality of native and immigrant groups, assimilation or integration, enclosure, cohesiveness, size, cultural congruence, attitude and length of residence. See Schumann (1976).

migration on school performance among immigrant ninth-graders upon graduation. The use of siblings allows him to control for likely neighbourhood effects, which constitute a potential source of bias in his cross-sectional estimation analysis. Indeed, immigrant families can hardly be considered randomly assigned to cities and neighbourhoods, or children to schools, and he exploits the sibling strategy to control for any omitted variables capturing time-invariant, family-specific characteristics, assuming that older and younger siblings would have performed equally well in the absence of immigration. Unlike older studies that identify a critical age at seven, Böhlmark (2008) finds that the estimated critical age at immigration is about nine: children arriving in Sweden up to about the third year of school seem to catch up well with their peers who came before preschool age, and this result is stable for both boys and girls. Above the age of nine, however, he finds a strong negative impact on performance.[9] Second, similarly to natives, immigrant girls outperform immigrant boys and the age-at-immigration performance profiles are similar in shape for children with different parental educational backgrounds. Moreover, he also finds significant differences by geographical origin: the estimated age-at-immigration performance profiles are steepest for Asian children and flattest for Western children.

Ohinata and Van Ours (2012) investigate the determinants of the observed differences in test scores by both first and second-generation immigrants and native Dutch children, conditional on personal and family characteristics and classroom environment. Their sample includes children aged nine and ten and, for the first-generation immigrants, they study whether the age at immigration influences the school outcomes. Their educational attainment outcomes include language, science and maths test scores and they find that these are affected by both age at immigration and whether or not one of the parents is native Dutch. However, when exploring if age at immigration has an effect on the educational attainment of the immigrant children, language results are omitted from the analysis due to shortage of data. Results from science and maths test scores suggest that age at immigration is important: the later immigrant children arrived in the Netherlands, the lower their educational achievement. Finally, they also find that second-generation immigrants do not have lower language scores compared to native Dutch children, irrespective of the origin of their parents.[10]

Among the recent non-European studies, we briefly mention two additional analyses. The first is Cortes (2006) who, using educational performance data of children in San Diego and Miami, finds that the gap in test scores between first-generation and second-generation immigrant children decreases the longer the former reside in the United States. Finally, similar to Böhlmark (2008), Corak (2012) analyses high-school dropout rates in Canada and finds that up to age 9 the chances of being a high-school dropout do not

9. Cahan et al. (2001) suggest that age seven may represent a critical age. Similarly, using Norwegian data, Bratsberg et al. (2011) point to age seven as the critical age for non-OECD students.
10. In fact, the datasets employed in this study are the 2006 Progress in International Reading Literacy Study (PIRLS) and the 2007 Trends in International Mathematics and Science Study (TIMSS), and age at immigration information is only available in TIMSS and, therefore, this analysis is only possible for the science and maths scores and not for the reading scores.

vary according to age, but children arriving after that age are more likely not to graduate from high school.

Mostly due to data limitations, cross-country analyses represent the exception rather than the rule and none of them focuses specifically on the age at arrival. One exception is provided by Heath et al. (2012), who compare cross-country results based on PISA data and confirm the existence of a late-arrival penalty for immigrant students. However, results are heterogeneous across countries, with Italy, Belgium, Sweden and Ireland being the countries with the largest late-arrival penalties. Second, using TIMSS data, Sweetman (2010) finds that length of stay beyond the first year has no impact on standardized test score results in a comparison of immigrant children in Australia, Canada and the United States.[11]

Finally, to our knowledge, no existing empirical research addresses the question of the age at arrival of immigrants and their educational outcomes for the Italian case. We will therefore investigate this issue in the following sections.

3. Data and Descriptives

Our source of data is the database provided by the National Institute for the Evaluation of the Educational System of Instruction and Training (henceforth, INVALSI), a government agency that carries out a yearly evaluation of students' achievement in both mathematics and language. Since the focus of the paper is on language skills of immigrant students, we use the results on the overall language test (or Italian test), which covers the different domains of reading comprehension, knowledge of the language and grammar. In Section 5 we will also discuss some evidence using the results on the maths test as a robustness check. Further, in order to better compare the results for students attending different years and grades, we use the normalized values of the language standardized test. The latter are the test scores for language expressed as percentage of right answers, and values range from 0 to 100. In general, INVALSI tests are similar to the PISA standardized tests since their aim is to measure how far students have acquired the knowledge and skills essential for full participation in the knowledge society. Unlike PISA tests, the INVALSI standardized tests are compulsory for all Italian schools, both public and private, and all students attending specific school grades.

In our analysis we use the 2010-11 school-year data for four stages of schooling: second and fifth grade of primary school, sixth grade of lower secondary school, and tenth grade upper secondary school. We therefore use four different samples, each consisting of approximately 400 to 500 thousand individuals/students per year (see Table 1). The Italian school system starts at age six, with five years of primary school (grades 1 to 5), followed by three years of lower secondary school (grades 6 to 8). Upper secondary

11. See also Sweetman et al. (2014) for a recent survey.

education starts at year 9 and lasts three to five years depending on the type of school chosen. INVALSI tests were introduced in the 2008-09 school year, but tenth grade students were given these evaluation tests for the first time only in 2010-11. For this reason, tenth year data need to be interpreted with some caution since, for this specific year, the language test had been intentionally designed by INVALSI to be easier than normal. Finally, note that the tests made in primary schooling are easier than those of both lower and upper secondary school students and this is reflected in a higher level of correct answer for second and fifth graders.[12]

INVALSI also collects detailed information about a significant number of student backgrounds and family characteristics. In particular, this data are collected through a separate "Family Questionnaire" sent to each family before the test, a "Student Questionnaire" completed by each student the first day of the test, and a general information part on the students that is compiled by school administrative staff. However, one important exception is represented by primary school children attending year 2, for whom data on personal characteristics are not collected. Therefore, for this cohort we do not perform any regression analysis and only report some descriptive statistics on the proportion of immigrant students and their school outcomes depending on their age of arrival in Italy and their place of birth since they provide some interesting hints.

Datasets enable us to distinguish between Italian and non-Italian students. It is important to note that this classification refers to a pure citizenship criterion and that, unlike other countries, in Italy this follows the *Ius sanguinis* rule, according to which individuals' identity (and their citizenship) is determined by family and not territory.[13] Thus, following Tonello (2011), from now on we will use the terms native or Italian as synonyms, implying that a student born abroad is native/Italian if at least one of the parents is an Italian citizen. Conversely, for immigrant students we use a standard approach and separate first-generation students, that is, students born abroad of foreign-born parents, from second-generation students, that is, Italian-born children of foreign-born parents.

Table 1 introduces the main data on students enrolled in the Italian schools for all grades examined, distinguishing natives from immigrant students. The overall percentage of immigrant students is broadly similar across the different grades and ranges from 9.7% in year 6 to 7.3% in year 10. As also stressed by Contini (2013), the observed lower share of students in upper secondary school may be the result of the immigrant student's relative disadvantage: drop-out and non-continuation rates among immigrants are much higher than among natives, and a much higher percentage of children entering upper secondary education opt for leaving the school system, especially during the first two years of upper secondary schooling. Furthermore, the distribution of first

12. See INVALSI (2011).
13. The Italian citizenship rules follow the Roman law rule of the *Ius sanguinis* that states that citizenship is defined by the family of birth and not the country of birth. In other country studies where the *Ius soli* is applied, that is, the right of anyone born in the territory of a state to nationality or citizenship, we find that the native vs. non-native categorization follows different criteria with respect to the ones described here.

and second-generation immigrant students reveals some interesting variation across the different grades. In particular, the percentage of second-generation pupils is higher among younger children (second grade), while older students in grade 10 have a larger proportion of first-generation immigrants (5.2% versus 1.6 of second generation). This is a well-known phenomenon in the analysis of migration patterns. In countries with established migration histories, there is a larger proportion of second-generation students than first-generation students. Conversely, in countries like Italy, where immigration is a recent phenomenon, first-generation students are the majority. The 2011 Census data show that the Italian immigrant population is extremely young: the mean age average of the total immigrant population is about 31.[14] Thus, it is likely that the change in pattern between the two components of immigrant students is firstly observed in the earlier years of schooling.[15]

Table 2 presents the distribution of immigrant students in the traditional three Italian geographical areas: North, Centre and South. In Italy there is a deep, persistent duality between the developed North-Centre and the less developed South and this may affect migration flows. Table 2 confirms the expected patterns. First of all, there are large variations in the geographic distribution of immigrant students, with the richer northern areas that receive, as expected, the vast majority of migration flows.[16] In fact, around 60% of all immigrant students (both first and second-generation) are located in this area of the country, while in the South these percentages range from only 9% (second-generation immigrants among second graders) to a maximum of 21% for tenth graders.

In Table 3 we identify the distribution of first-generation immigrant students considering, for each grade, their place of birth. We also include information on second-generation immigrant students that, needless to say, are born in Italy. Unfortunately, for the former INVALSI has collected information only for a few large geographical macro-areas and we are only able to identify immigrant students who are born 1) in a EU27 country, 2) in a European country outside EU27, or 3) outside Europe. Thus, despite the vast literature that stresses that differences in educational attainments vary significantly across ethnic communities, data disaggregated by country of birth are unfortunately not available. However, from recent data on Italian migration flows by country of origin it is possible to infer that the first group, EU27, mainly consist of children born in one the New EU member states. In fact, the number of EU27 citizens migrating to a member state other than their own has significantly increased during the last years and peaked in 2007, but the largest group is formed by the newer EU countries: Romanians, followed by Poles and Bulgarians.[17] At the same time, from migration flows data we may infer that the sec-

14. Istat (2012).
15. See OECD (2012).
16. This is also well-documented at the country level: immigrants across countries and the more developed countries usually have a higher share. See Brunello and Rocco (2012). Note also that the geographic distribution of the total number of Italian students (both natives and immigrants) is similar, around 40% between North and South, with less than 20% in the Centre.
17. The EU27 member states received 384,000 Romanian citizens, 266,000 Polish citizens and 91,000 Bulgarian citizens. See European Union (2011).

ond group includes first-generation students born in one of the East-European countries that are involved in the European Neighbourhood Policy (ENP). The ENP is a specific policy that supports political and economic reforms in sixteen of Europe's neighbouring countries from the East and Southern borders of the EU. In particular, this policy was conceived after the 2004 enlargement of the EU with 10 new member countries, in order to "avoid creating new borders in Europe" and promote good governance and social development in Europe's neighbourhood. Therefore, it should also work as an effective integration tool for the management of migration flows for the European Union since EU countries are the main destinations of migrants from the sixteen ENP countries. Finally, the third category, students from outside Europe, is the most heterogeneous and does not even enable us to distinguish immigrant students by continent of birth. Considering the first-generation student sample, we observe that, with the exception of second graders, the largest group of immigrant students (more than 40%) comes from non-European countries. Among younger children (second grade) EU27 immigrants are more numerous and, due to the enlargement of the European Union, they are expected to further increase in the near future.

Table 4 provides statistical evidence of the differences in the language test score results between native and immigrant students. First, as observed in most countries, we find that native students obtain on average a significantly higher score than migrants in all years, and that second generation immigrant students perform better than first-generation. Second, we identify the place of birth of first-generation students in order to investigate if even at this macro-area level, it affects students' test results. For students in all grades, data suggest that the test performance of European, both EU27 and other European, students, is consistently better than that achieved by students from other countries. In particular, for primary school students (both second and fifth graders), the average test scores of EU27 first-generation students is even higher than that achieved on average by the second-generation students. In general, these data suggest that, as also found in analysis of other countries, in Italy differences in educational attainments vary significantly across the immigrant students' place of origin. This suggests that the quality of the country of origin schooling system and, more broadly, institutional and cultural factors play a role.

In Table 5 we classify first-generation immigrant students based on how long they have been living in Italy before starting school. INVALSI data provide information on specific age ranges and we are able to distinguish between pupils who have lived in Italy before starting school for i) only one year, ii) between 2-4 years, iii) between 5 and 7 years, and iv) for more than 7 years. Table 5 includes their language test results correspondingly.[18]

18. More precisely, the Questionnaire asks these students how old they were when they arrived in the country of assessment but classifies the data differently depending on the students' grades. For example, while for INVALSI second grade pupils we know the exact age at which first generation immigrants arrived in Italy, for upper secondary (tenth grade) students we only have information on specific age ranges: up to 3 years, 4 to 6 years, 7 to 9 years, 10 to 12 years, 13 to 15 years and, finally, 16 years or older.

Moreover, in order to ease the analysis, we show the test score results for natives and second-generation once more. As expected, we find that the length of stay of first-generation immigrants explains a significant part of their observed achievement gap with the second-generation group. In general, for all schooling grades we observe a similar pattern: as expected, the longer their stay in Italy, the lower the achievement gap.

Moreover, interesting results arise when we compare the data on the specific levels of schooling. First, for primary school children (second and fifth graders) we find that after having spent 5 or more years in Italy, the percentage of correct answers of a first-generation student is almost identical to that obtained by second-generation students. Note that these are almost certainly students who have never attended any other school system but the Italian one. Conversely, for children attending secondary schools (sixth and tenth graders) differences between first and second-generation persist even after more than 5 years spent in the host country. Note that these students are likely to have previously attended a different schooling system before the Italian one. In particular, for sixth graders the achievement gap between first and second-generation immigrants is 6% (54.7 vs. 51.1), while for tenth graders it increases to 9%. This evidence therefore confirms what has been found in other studies. First, we find that, in terms of educational achievements, first-generation immigrant students who arrived in Italy at a young age are almost indistinguishable from second-generation immigrants (see Van Ours and Veenman, 2006, among others). In particular, if immigrant students have only attended the Italian school system, they are very likely to get the same test results irrespective of their first or second-generation status.

Further, Table 5 also shows that the sub-group of New EU member states first-generation immigrant students, or EU27, performs better than the two remaining groups: the former group average test score results are almost identical to the second-generation results. Conversely, the largest gap is observed for non-European immigrants. Overall, these differences across area of origin indicate that other factors, such as language, institutional structures and cultural features of the country of origin, are likely to play a role in the observed educational disadvantage.

In sum, comparing the test results across different grades we firstly find that the gap between native immigrant students is significant and persistent in all years of the Italian school system. This is not surprising since the gap in the educational attainment of Italians versus immigrants has already been found to be one of the highest across OECD countries in other studies. As shown by Dustmann et al. (2011), this evidence cannot simply be explained by the fact that Italy tends to attract immigrants with low qualifications. In this case, the gap would be mainly due to the socioeconomic background of immigrant families. The formal skills gap across the two groups of natives and immigrants is in fact similar: that is, the observed skills of the Italian-native labour force are also low compared to other OECD countries. Moreover, these descriptives also in-

dicate that first-generation immigrant students tend to catch up with second-generation immigrant students. It seems to be a matter of time, but only if immigrant students arrived in Italy when very young and they have almost exclusively attended the Italian school system. Thus, being born abroad does not seem to cause a permanent disadvantage for first-generation immigrant children with respect to second-generation students. We will further investigate these issues in the following section.

4. Main Results

We estimate a standard education production function where student test performance in language is modelled as a function of the native vs. immigrant first and second-generation status, and a set of additional variables that control for student characteristics (gender, socioeconomic background, native/I or II generation immigrants and area of origin), school characteristics (size, school type if in upper secondary school) and area characteristics (macro-area dummies). Table 6a sums up for each level of schooling the major characteristics (mean and standard deviation) of these additional variables for our overall sample. We also replicate the Table for the specific sample of immigrant students (Table 6b).

More precisely, we examine the relationship between the immigrant status and students' outcomes using two alternative regression settings, one of which takes into account the length of stay in the Italian school system. In detail:

$$Y_{ij} = \alpha + \beta first_{ij} + \gamma second_{ij} + X'_{ij}\delta + Z_j{}'\theta + \varepsilon_{ij} \qquad (1)$$

$$Y_{ij} = \alpha + years_{ij}{}'\beta + \gamma second_{ij} + X'_{ij}\delta + Z_j{}'\theta + \varepsilon_{ij} \qquad (2)$$

In both specifications, Y_{ij} is the result obtained at the language national standardized test of student *i* attending school *j*; *first* and *second* are two dummy variables indicating, respectively, first and second-generation immigrants; *X* is a set of individual and family additional characteristics and *Z* are school and area controls. Unlike eq. 1, in Model 2 the simple dummy *first* is substituted by $years_{ij}$, a set of dummy variables indicating the length of stay in Italy of first-generation immigrants. These dummies separately identify if these students have spent a) one year, b) between 2 to 4 years, c) more than five years in the host country. An exception is found for tenth year students, for whom we have identified four rather than three dummies/categories for *years*: in this case, we distinguish the last category between c) 5 to 7 years in Italy and d) over 7 years.[19]

This analysis is performed using student data for three different stages of schooling: the fifth year (last year of primary school, ISCED 1), the sixth grade in lower secondary (ISCED 2) and the tenth grade of upper secondary school (ISCED 3). Comparing the

19. Immigrant students who reside in Italy for less than one year do not have to attend the test and are therefore excluded from the analysis.

results of several stages of schooling enables us, even if imperfectly, to disentangle the effect on language performance of students' age at arrival from the effect of how long immigrant children have been in Italy. In particular, we try to identify if pupils are particularly at risk of suffering a long-lasting gap if they joined the Italian school system at different ages. Note that our year's dummies capture both a) years in Italy before performing the test and b) age at immigration. In fact, these are two sides of the same coin: for example, a first-generation immigrant student who has spent one year in Italy and is attending the fifth year in primary schooling, has arrived in Italy around the age of nine.[20]

4.1 First and Second-Generation Immigrant Students

We start the analysis in Table 7, where we include the OLS results when estimating equation 1. In our results we always report in parenthesis robust standard errors, clustered at school level. Models from 1 to 4 show evidence for fifth year students and use a sample including approximately four hundred thousand students attending the 2010-11 school year.

Model 1 introduces the results for our most parsimonious specification. Together with immigrant dummies, it includes a series of additional controls for the students' main characteristics, that is, gender, a measure of her/his socioeconomic background, if she/he speaks a foreign language at home or an Italian dialect, and the number of students per class. First of all, estimates confirm that in Italy children of immigrants face important gaps in language test results, with first-generation immigrants being the most disadvantaged group. We find that the coefficient on first-generation immigrant is -5.2, while for second-generation it is -3.6. An F-test on the equality of these two coefficients largely rejects the null. Note that our dependent variable, the test scores results for language, is expressed as percentage of right answers. Given that the test results are between 0 and 100, the estimated coefficients can be interpreted in terms of decreased test score results: that is, *ceteris paribus*, the percentage of correct answers for first and second-generation immigrant student is on average 5.2% and 3.6% below the natives'.

Second, the index of socioeconomic background, ESCS, is positive and strongly associated with student achievement. This variable, analogous to the same one computed by OECD for the PISA project, is created by INVALSI on the basis of the occupational and educational level of the student's parents and her/his home educational and cultural resources. The individual scores of this index are obtained by a principal component analysis, with normalized zero mean and unit standard deviation.[21] The indicator of socioeconomic background is one of the most important controls in this analysis since it takes into account the influence of family on achievement and choices: in addition to their cognitive abilities, immigrant (and native) students sorting is certainly significantly

20. This is not true for students that are repeating a year or for students that attend a year lower or higher than the one that correspond to her/his age.
21. See also INVALSI (2011) and Campodifiori et al. (2012) for more details on the ESCS index.

driven by the family background (Brunello et al., 2007). Further, we also control for gender. In general, cross-country analysis shows that language gender gaps often result in favour of girls and this is also confirmed by our analysis.[22]

Third, since our focus is on language skills, we also include a dummy, foreign language, identifying if the surveyed student speaks a different language from Italian at home. Using this dummy we try to disentangle the specific role of the family language and, possibly, of cultural attachment to one's nation of origin, from other immigrant students characteristics. In general, it has been shown that if a foreign language is spoken at home, second-generation immigrant children are more likely to find difficulties during their school career and to drop out early. Moreover, even if many immigrant students speak their language of origin at home, our data stresses that a significant proportion report that the home language is the same as their destination country. We also observe a small percentage of Italian students, 1.7%, speaking a foreign language. In particular, the share of foreign language speakers at home is largest among fifth graders while it decreases for older students. For the former, the percentage of first and second-generation students who say they speak Italian at home is, respectively, 30% and 50%. The coefficients on this dummy are always negative and significant and their values confirm that foreign students from diverse language background could encounter difficulties in the host country schools.

Model 1 also includes a dummy called dialect, equal to one if Italian students speak a dialect at home. Unlike other countries, Italy shows a significant percentage of dialect speakers, between 15 to 16% across all school grades. Few studies focus on native students speaking a dialect at home, and results on this dummy are therefore not obvious. In fact, differently from immigrants, dialect speakers have exclusively attended the Italian school system and are unlikely to meet significant social integration costs. Accordingly, we may expect that dialect speaker students are able to overcome possible difficulties. However, our results show that this is not the case. Controlling for different family's socioeconomic background variables and additional student and school characteristics we find that speaking a dialect at home is significantly and negatively related to students' standardized test results.

Finally, note that in all specifications, including Model 1, we also introduce macro-area dummies.[23] In fact, previous studies show that geographical location is an important determinant of Italian students' test scores, with students in the North-East area usually outperforming the others, and those from the South being substantially behind. Our results confirm the expected territorial patterns.[24] Overall, Model 1 results are largely consistent with the literature. One possible exception is the number of students per class: its coefficient is never significant for younger children.

22. For example, PISA 2009 results report higher mean reading performance for girls in most countries.
23. We identify the following dummy variables: North-East, North-West, Centre, South, South-Islands.
24. On this see Di Liberto et al. (2013), Cipollone et al. (2010) and Bratti et al. (2007). Results are available upon request.

In Model 2 we further focus on two specific features of the students' socioeconomic background. In particular, we separately identify the role of specific family cultural upbringing, possibly not fully captured by the ESCS variable. The latter has been created using the (first) principal component analysis, a useful approach for creating a new variable that are linear combinations of a set of highly correlated original variables but that also has several shortcomings with high dimensional data or large numbers of data points as in our case. In particular, reducing a large number of variables into a smaller set of linear combinations (components), as done for the ESCS index, may hide the role of specific important components. The INVALSI dataset enables us to separately identify two important elements of the immigrant students' socioeconomic status. The first is the number of siblings (no. siblings). This indicator is important since statistics show that immigrant women's fertility rates are significantly higher than native women: respectively, 2.23 for immigrants and 1.31 for natives.[25] Thus, immigrant family size is usually larger than that of natives and in terms of educational achievements, larger families imply worse studying conditions at home, such as the absence of a quiet place for studying or less time dedicated from parents to each child. Moreover, international studies also show that, unlike natives, the presence of dependent children among migrants significantly increases the risk of poverty and also of being in a less favourable situation with regard to housing conditions: the proportions of migrants living in overcrowded dwellings is high in almost all EU countries.[26] Thus, our dummy on immigrant students may also capture the effect of children living in overcrowded dwellings.

For the second, we follow Hanushek and Woessmann (2011), who argue that the number of books at home is the best single predictor of students' performance and include a dummy equal to 1 for students with more than 100 books at home. The variable of *manybooks* is included among the determinants of the socioeconomic index but its correlation with ESCS is not high and multicollinearity does not represent an issue here.[27] Due to missing values on the new variables in this case, we are able to estimate the models on fewer observations with respect to the previous parsimonious specification. Including no. siblings and *manybooks* in the model does not significantly change the results on the ESCS coefficient, while these additional variables are both significant and with the expected sign, negative for siblings, positive for books, and cause the coefficients of both first and second-generation students to decrease. Overall, this evidence casts some doubts on the use of ESCS as a synthetic index of the individual socioeconomic background. It also suggests that specific policies directed towards improving study conditions in schools, such as providing adequate study spaces and efficient libraries, are likely to have large returns for the more disadvantaged students.

25. Considering the mothers' citizenship, in 2009 second-generation children born in Italy were mainly from Romanian (16,727), followed by Moroccan (14,370), Albanian (9,937), and Chinese mothers (just over 5,000 births). See ISTAT (2011).
26. The overcrowding indicator relates the number of rooms in the house to the number of people. See Eurostat (2011a).
27. Correlation coefficients are 0.41 for fifth graders, 0.48 for sixth graders and 0.52 for upper secondary students. We have also checked the correlation between ESCS and no. siblings and, for all levels of schooling, it is always negative and very low (around -0.10).

Finally, in Model 3 we include two important school characteristics, the school size and the average index of socioeconomic background at school level, or *escs_school*, while in Model 4 we further introduce two dummies that identify the countries (area) of origin of first-generation students. Model 3 additional variables are never significant and do not change the results seen in the previous models. Conversely, the two included areas of origin dummies are negative and significant. Our reference category is represented by students born in one of the EU27 countries, while European non-EU27 and non-Europeans are the included dummies. As said in Section 3, we may roughly identify the first group, EU27, as mainly consisting of children born in one the New EU member states, while the second group should mainly include children born in one of the East-European countries currently part of the European Neighbourhood Policy (ENP). We find that, with respect to the New EU27 member states, the schooling performance of both ENP-East European Countries and the remaining group of non-European countries is always worst. In particular, the latter group shows the largest gap in language test outcomes.

These models are replicated for the sample of sixth year students in Models from 5 to 8. In terms of students' characteristics, our analysis confirms for the most part the results on primary school children, but these results also show a widening achievement gap between first and second-generation immigrants: in Model 5, the parsimonious specification, the percentage of correct answers for first and second-generation immigrant students is on average 8.3% and 3.7% below the natives'. Moreover, another important exception is observed for our three school characteristic indicators: class size, school size and *escs_school*. The latter indicator, *escs_school*, should take into account the socioeconomic composition of the school and peer effects. Table 7 therefore shows that, unlike primary school years, for lower secondary students these coefficients are always positive and significant. In particular, this result could be driven by the presence of a sorting process, possibly related to the family background, of best students into best schools, a process absent or confined at primary school level. This evidence is consistent with other findings from recent studies that stress how in Italy the inequality of opportunities for students, while almost absent at primary school level, would arise in the early years of secondary school (years 6-8).[28] In other words, our results confirm other recent evidence suggesting that, starting from the lower secondary school level, the family background in Italy is likely to be significantly related to students' educational achievements. That is, unlike other industrialized countries, Italian schools seem unable to stop possible adverse mechanisms of intergenerational inheritance, with high intergenerational educational persistence that ultimately translates into very low intergenerational income mobility, a sign that the system suffers a significant problem of equity.

Furthermore, our results on tenth grade students (Models from 9 to 12) indicate that this initial sorting would also translate into a social tracking along the upper secondary's tracks: the positive and significant coefficient on *escs_school* is also found for upper

28. See Triventi et al. (2009), Mocetti (2012), Di Paolo (2012), and De Simone (2013).

secondary students. Models from 9 to 12 also include two additional dummies: Lyceum and Vocational. In fact, unlike their younger peers, Italian students face, at the start of upper secondary school in year 9, the choice between different possible curricula and we therefore need to include these additional variables that identify the school type. Indeed, as said above, previous studies on the Italian case reveal that at this level of schooling the educational track plays a significant role for educational outcomes. Italian students choose schools that specialize in each of these three main curricula: Lyceum, Technical and Vocational. That is, unlike other countries, Italian upper secondary school tracking is not determined by a formal assignment process to academic or vocational courses depending on students' past performance or by any alternative selection processes. The vocational/academic intensity is at its lowest/highest level in the Lyceum (with almost no vocational component) and at its highest/lowest level in Vocational schools. In between these two curricula there is the curriculum offered by Technical schools. Moreover, only Vocational schools can last for 3 rather than 5 years, even if graduates from all three school types, after five years, may continue to tertiary education. In general, empirical studies show that students in general/academic track in most cases have higher achievements than those in vocational tracks and this is true also for the Italian case (Cipollone et al., 2010; Di Liberto et al., 2013).

In general, our results on tenth graders are very similar to those previously discussed for sixth grade students. With respect to school type, in our regression analysis we use the Technical school dummy as reference and find, consistently with other studies, a positive and significant coefficient for Lyceum and a negative one for Vocational schools. Again, this does imply that the choice of type of school and curriculum is not random, while it is related to family background with immigrant students more likely to end up in lower-performing Vocational schools, because they often originate from lower social strata. However, results for tenth grade students also show that both 1) the gap between immigrant and natives and 2) between first and second-generation immigrant students is lower than that observed for fifth and sixth grades students. Reasons are twofold. First, as already said in Section 3, the language test for tenth graders was designed by INVALSI to be easier than normal, and this may affect the natives-immigrants performance gap. Second, this result may be also explained by the presence of higher drop-out rates in upper secondary school than lower levels of schooling. In other words, it is possible that the selection mechanism already described in Section 3 is at work with the most disadvantaged (mainly immigrant) students leaving the Italian school system at the end of the eighth grade level.

4.2 The Length of Stay of First-Generation Immigrant Students

We now turn our analysis to the model specification of equation 2. Results are shown in Table 8, which replicates the previous analysis substituting the single dummy for first-generation students with separate dummies that also take into account their length

of stay in Italy. That is, three dummies separately identify for how long first-generation students have been living in the host country. In detail, we classify as *late arrival* children those who have spent one year in Italy, long staying or early arrivals as those who have spent more than five years, while an intermediate category is represented by first-generation children who stayed in Italy between 2 to 4 years. Indeed, previous studies show that age at immigration significantly affects the educational attainments of first-generation immigrants, with *immigrants arriving in their teen years reaching lower educational attainment levels than those who arrived earlier*. Note that first-generation results are also likely to affect the educational attainments of (future) second-generation immigrants through intergeneration transmission mechanisms.

As before, Models from 1 to 4 display primary school children results. This evidence suggests that the late-arrival penalty for first-generation immigrant students is significant but that, after a relatively short period in the Italian school system, this gap decreases rapidly: the estimated coefficient in Model 1 drops from -11.3 for late arrival children to -3.8 and -3.4 for, respectively, immigrant children who are enrolled in the Italian school system between two to four years before the test and those that enrolled since the start of primary school (five or more years). In particular, we find that, after four years in the Italian school system, the attainment gap of first-generation immigrant students is almost identical to that observed for second-generation students (-3.41). Further, considering that the observed mean value of the language test of all five graders is 73.9, our results imply a 15% gap for a newcomer in the Italian school system that decreases to less than 5% for early arrivals children. Very similar results are found in Models 2 and 3 specifications.

In addition, Model 4 results confirm once more that the score disadvantage of first-generation immigrant children significantly depends on their country-of-origin. Including the two area of origin dummies in our regression model, we find that the value of the coefficients on the length of stay dummies decreases substantially: coefficients in Model 4 imply a 8% gap for a newcomer from a EU27 country that decreases to less than 1% for earlier (five or more years) arrivals children. That is, the early arrivals point estimate of -0.13 implies that, with respect to the average student, the difference of this group of immigrant children in test results is only -0.2%. In sum, considering the country of origin, the coefficient of the first-generation is even lower than that observed for second-generation children for whom we cannot control the area of origin.

Models from 5 to 8 show the sixth graders sample results. The decreasing pattern of the length of stay dummies is similar to that observed for primary school children. However, for sixth graders the estimated gap of late-arrivals is significantly larger and the pace at which first-generation immigrants close the gap during their stay in Italy is slower: with an observed mean value of the language test of 60.9, these coefficients imply a 25% gap for a newcomer, 10% for those enrolled between two to four years before the test, and 9% for the early arrivals. Moreover, even after controlling for many important demo-

graphic and school characteristics (Models 6 and 7) the achievement gap of long-stay first-generation is larger than second-generation students. However, as before, when we include the area of origin dummies (Model 8) we observe a significant drop in the length of stay coefficients.

For tenth grade students (Models from 9 to 12) we identify four rather than three categories for the length of stay and split the early arrival children category between c) 5 to 7 years in Italy and d) over 7 years. Unlike the youngest cohort, the tenth graders sample delivers a longer age-at-immigration performance profile. Although in an indirect and imperfect way, for this reason the tenth grade student cohort offers the most robust sample to test for the presence of a critical age above which first-generation immigrant students arriving in the destination country face strong negative impact on their school performance. Given that the mean value of the tenth graders language test is 67.5, Model 9 coefficient values imply a 20% gap for a newcomer (15-16 years old students), 10% for those enrolled between two to four years before the test (about 14-12 years old), 4% for those enrolled between five to seven years (11-9 years old), and only 2% the early arrivals (8 years or younger). Second, once we control for the area of origin (Model 12) we find that, after having spent more than four years in Italy, the first-generation achievement gap disappears, while the seven_more dummy coefficients even shows a positive sign. These results would imply a turning point around age ten: that is, children arriving in Italy up to about the end of the primary school are able to catch up in terms of language skills. Thus, our findings seem to corroborate those of previous studies that estimate a critical age at immigration of about 9.

Finally, comparing the findings across the three levels of schooling we observe that the late-arrival penalty is different for the three levels of schooling analysed: it is at its lowest for primary school children, it peaks for sixth graders, and then decreases again. That is, the estimated school attainment gap decreases when we move from lower to upper secondary school results, but it is possible to explain this puzzling result with the specificities of upper secondary school (easier test and drop outs) described above. Second, while the achievement gap always decreases for all cohorts with time, the speed at which it decreases also depends on the children's age at arrival. In fact, comparing the coefficients of immigrant students who arrived in Italy one year and those who arrived 2 to 4 years before the test we observe a 66% decrease for fifth graders, and 56% for sixth graders while the gap for tenth graders is only reduced by 48%. That is, the estimated pace at which the gap closes is slower the later the children arrive. Once more, this evidence corroborates the critical period hypothesis (Blakeley and Chin, 2004 and 2010) that assumes that children are able to learn new languages in an easy way when they are younger.

5. Robustness Checks

In this section we perform a set of robustness checks of the findings discussed above. First concerns are selection issues. Even if our set of covariates allows us to control for many likely sources of endogeneity, when the focus is on educational outcomes of immigrant students, selection issues are likely to play a role in our previous OLS analysis and the interpretation of our results in causal terms always should be taken with caution.

In order to take into account possible unobserved factors that might affect the native-immigrants' test score gap and are common within each school or class, we performed the same analysis introducing both school and classroom fixed effect. To save on space, in Table 9 and 10 we only report the results we obtain when we replicate the previous analysis with class fixed effects. This specification has the advantage that both observed and unobserved class (and school) variables are removed, overcoming many issues of self-selection. In particular, school and class fixed effects enable us to control for problems related to the non-random allocation of immigrant students across schools and classes and omitted variable problems.[29] Interestingly, inspection of Table 9 reveals very small differences for our full set of students' controls with respect to results reported in Table 7 and the same results arise when we compare the point estimates obtained with class fixed effects in Table 10 with that of Table 8.[30] Even our dialect dummy remains negative and significant and this result was not obvious. In fact, it is likely that most dialect speaker families also live in rural areas where they can take advantage of worse educational infrastructures than those living in urban areas. In this case, our OLS results would also reflect the effect of living in rural locations while FE estimates confirm that this was not the case. Overall, we take these results as fully corroborating the previous ones, even if the same fixed effects estimation is not free of other sources of selection bias.

As a second robustness check, we substitute our measure of students' socioeconomic status, ESCS, with the family educational attainment level and check if there are substantial changes in our estimates of the immigrant-native differentials.[31] Parental education is calculated as dummy variables, reflecting four different levels of education: tertiary, post-compulsory secondary, compulsory and less than compulsory, using the father or mother maximum educational attainment level, whichever is higher. Indeed, numerous studies consider parental education as the most important predictor of school performance and educational attainments. Moreover, parental education is found to be the main mechanism through which parents may achieve a better socioeconomic status.[32]

29. A recent paper for the Italian case, Ballatore et al. (2013), assumes that immigrant students are allocated more in disadvantaged schools and classes in which natives have a less favourable socioeconomic background.
30. When comparing OLS and FE results, note that, with respect to Tables 7 and 8, the exclusion of all class and school variables in Tables 9 and 10 causes the exclusion of one estimated model for each grade.
31. Note that ESCS is a composite index created also with the educational level of the parents. Unlike *manybooks*, the two variables – ESCS and parental education – are highly positively correlated (0.81 for fifth graders, very similar for sixth and tenth graders).
32. See Di Paolo (2012), among the many others.

Tables 9 and 10 show the results when using these variables instead of ESCS in our less parsimonious specification (see Models 4, 8 and 12 for fifth, sixth and tenth graders respectively). The less than compulsory schooling attainment levels is the reference category and we find, as expected, that all coefficients are positive and significant but one single exception of a non-significant coefficient for the degree level for tenth graders. In general, results suggest that substituting ESCS with parental education does not significantly affect our main results.

Next, we discuss our additional robustness evidence without including the corresponding Tables in the Appendix (available upon request). We have also replicated our analysis selecting a specific sub-sample of schools. Indeed, in the above analysis we have used the entire student population data but, in addition to this, INVALSI also conducts a specific nationally-representative survey, where the same tests are administered under the supervision of observers in each class of the sample. This survey is conducted in order to prevent and control for cheating, mainly observed in the southern areas of the country, and facilitate the procedures of data collection available on students' achievements. Despite the possible advantages – first of all, better quality data – the reduction of the sample size is significant: for example, for year 5 students, the sample reduces from almost four hundred thousand to only thirty thousand and, correspondingly, our immigrant students' observations drops from more than 45,000 to 2,856. Nevertheless, the use of this high quality data sub-sample does not change our analysis.

As a final robustness check, we have run the same regression analysis using an alternative performance variable, the test score results in mathematics. Previous studies on the impacts on multiple subjects usually find differential impacts of immigrant students across them, with typically worst performance in the language rather than maths or science test.[33] We confirm previous study findings: all the results concerning mathematics test scores are qualitatively similar to that found for the language test but smaller in size. We also confirm that the pace at which the gap closes is slower the later the children arrive: when we compare the coefficients of immigrant students who arrived in Italy one year before the test and those who arrived 2 to 4 years before the maths test we observe a very similar and large decrease for both fifth and sixth graders (58% and 57% respectively), while the gap for tenth graders is only reduced by 43%.

6. Conclusions

Using a standard education production function setting, this paper investigates whether the length of stay plays a role in the host country language skills acquisition of immigrant students in Italy. We use the students' outcomes in a language standardized test for different cohorts of Italian students collected during the school year 2010-11. In particular,

33. Recent references are Ohinata et al. (2012) and Ballatore et al. (2013). This result is plausibly explained by the assumption that immigrant learning difficulties are more sizeable during Italian language lectures than during mathematics lectures.

our regression analysis focuses on three different stages of students' school life: end of primary school (fifth grade), first year of lower secondary (sixth grade) and second year of upper secondary (tenth grade). Our results are very much consistent with the literature and are also robust to the inclusion of fixed effect at school and classroom level, in order to control for likely endogeneity problems, the use of a specific subsample of students that enables us to control for problems arising from cheating, the use of a different control set and the use of maths test scores as dependent variables.

First of all, we find a significant gap between native and immigrant students in school outcomes for all grades. In particular, the second-generation achievement gap is large and corroborates the lack of adequate integration policies in Italy already stressed in other studies.[34] However, we also find that the acquisition of language skills represents a problem also for native students speaking a dialect at home and that, starting from the lower secondary school level, the socioeconomic composition of the school and peer effects represent important determinants of the students' performance. In other words, the Italian school system seems unable to integrate disadvantaged students: due to their high social integration and language acquisition costs, immigrant students are those more at risk of poor results and social exclusion.

Second, for all levels of schooling and specifications we observe the same expected pattern: newly arrived immigrant children show the poorest performance in terms of test score outcomes, a result that can be easily explained by the lack of familiarity with the new language and more precarious living conditions with respect to early-arrivals. Furthermore, the late-arrival penalty is different for the three levels of schooling analysed: it is at its lowest for primary school children, while it peaks for sixth graders. Also, this gap decreases with time and it depends on how long they have been in Italy and results suggest that the pace at which the gap closes is slower the later the children arrive. In other words, comparing the findings across the different school grades, we see that interventions at younger ages are likely to be more effective. In particular, our results corroborate those of other recent studies that estimate a critical age at immigration of about 9.

Third, this empirical analysis indicates that the area of origin and, thus, institutional and cultural factors play a role on immigrant students' outcomes and integration. In particular, we are able to identify, even if very imperfectly, and compare the schooling performance of two different groups of children born in relatively close geographical areas: the groups of New EU member states and European country non-EU27. The database enables us to further identify a third highly heterogeneous group that includes all the rest of first-generation migrants born outside Europe. This latter group always shows the largest gap in language test outcomes. In addition, when we compare the two European groups, we find that the students' performance of those born in the most geographically remote

34. Contini (2013).

group, the non-EU27 group, is below that observed for EU27 children. Thus, it seems that the Italian school system has been able to integrate more easily the increased intra-European migration due to the EU enlargement into Central and Eastern Europe in 2004 rather than that the flow of students from other non-EU27 countries. There are many possible explanations for the different outcomes observed in these two culturally apparently similar groups. First, non-EU27 institutions are very unlike the EU27 ones: many non-EU27 countries are non-democratic while the process of democratization in New EU27 member countries has started long ago. However, these different outcomes may also be the result of a different migrant selection process due to the different immigration policies and rules between the two groups. However, our dataset and, in particular, its very broad level of aggregation, does not allow us to further investigate these important issues here. Indeed, it is fair to say that these results are more suggestive rather than conclusive.

In sum, since the acquisition of the native language by immigrants is of the utmost importance for their integration, this analysis implies that new and effective integration policies need to be urgently implemented in Italian schools. It also suggests that if the foreign children's late arrival is the result of national migration policies on family reunification, the possible benefit of delaying immigrant family reunification could be offset by the possibly large costs of students' lower school performance. Finally, our evidence seems to indicate that possible future implementation of new policies directed to integrate foreign students into the Italian schooling system should take into account cultural differences of its immigrant students and possibly avoid "one size fits all" approaches. Indeed, the success or failure of immigrants and their children to integrate into the destination country can potentially intensify conflicts within societies and, through this, affect economic growth.

In general, more should be done in order to assess the specific channels through which this feature works. Our evidence offers some clue to what can be done to foster immigrant students' school outcomes, suggesting that improving studying conditions in schools may be an effective policy for improving the acquisition of their language skills. However, much more research should focus in the future on what kind of specific interventions works.

References

Alesina, A. and **E. La Ferrara** (2002), "Participation in Heterogeneous Communities", The Quarterly Journal of Economics, 115: 847-904.

Ballatore, R., M. Fort and **A. Ichino** (2013), The Tower of Babel in the classroom: immigrants and natives in Italian schools, unpublished working paper (available at http://www.andreaichino.it/research_progress/ichino_ballatore_fort_babel.pdf).

Bleakley, H. and **A. Chin** (2004), "Language Skills and Earnings: Evidence from Childhood Immigrants", The Review of Economics and Statistics, 86(2): 481-496.

Bleakley, H. and **A. Chin** (2010), "Age at Arrival, English Proficiency, and Social Assimilation among US Immigrants", American Economic Journal: Applied Economics, 2(1): 165-92.

Böhlmark, A. (2008), "Age at immigration and school performance: A siblings analysis using Swedish register data", Labour Economics, 15 (6): 1366-1387.

Böhlmark, A. (2009), "Integration of childhood immigrants in the short and long run – Swedish evidence", International Migration Review, 43(2): 387-409.

Borjas, G.J. (1995), "Assimilation and Changes in Cohort Quality Revisited: What Happened to Immigrant Earnings in the 1980s?", Journal of Labor Economics, 13: 201-245.

Bratsberg, B., O. Raaum and **K. Roed** (2011), Educating children of immigrants: closing the gap in Norwegian schools, IZA Discussion Paper, 6138, Bonn.

Bratti, M., D. Checchi and **A. Filippin** (2007), Territorial Differences in Italian Students' Mathematical Competencies: Evidence from PISA 2003, IZA Discussion Papers 2603, Institute for the Study of Labour (IZA).

Brunello, G. and **D. Checchi** (2007), "Does school tracking affect equality of opportunity? New international evidence", Economic Policy, 22:781-861.

Brunello, G. and **L. Rocco** (2008), "Educational Standards in Private and Public Schools", The Economic Journal, 118 (533): 1866-1887.

Brunello, G. and **L. Rocco** (2012), "The effect of immigration on the school performance of natives: Cross country evidence using PISA test scores", Economics of education Review, 32: 234-242.

Cahan, D., D. Davis and **R. Staub** (2001), "Age at immigration and scholastic achievement in school-age children: Is there a vulnerable age?", International Migration Review, 35(2): 587-595.

Campodifiori, E., E. Figura, M. Papini and **R. Ricci** (2010), Un indicatore di status socioeconomicoculturale degli allievi della quinta primaria in Italia, INVALSI Working Paper No. 02/2010.

Cipollone, P., P. Montanaro and **P. Sestito** (2010), "Value-Added Measures in Italian High Schools: Problems and Findings", Giornale degli Economisti, 69(2): 81-114.

Chiswick, B.R. and **N. DebBurman** (2004), "Educational Attainment: Analysis by Immigrant Generation", Economics of Education Review, 23(4), 361-379.

Contini, C. (2013), "Immigrant background peer effects in Italian schools", Social Science Research, Vol. 42, Issue 4, July 2013, pp. 1122-42.

Coleman, J.S., E.Q. Campbell, C.J. Hobson, F. McPartland, A.M. Mood, G.D. Weinfeld and **R.L. York** (1966), Equality of Educational Opportunity. Washington, DC: U.S. Government Printing Office.

Corak, M. (2012), "Age at immigration and the educational outcomes of children". In: A. Masten, K. Liebkind and D.J. Hernandez (eds.), Realizing the Potential of Immigrant Youth. Cambridge: Cambridge University Press, pp. 90-116.

Cortes, K. (2006), "The effects of age at arrival and enclave schools on the academic performance of immigrant children", Economics of Education Review, 25: 121-132.

De Simone, G. (2013), "Render unto Primary the Things which are Primary's. Inherited and Fresh Learning Divides in Italian Lower Secondary Education", Economics of Education Review, 23: 12-23.

Di Liberto, A., F. Schivardi and **G. Sulis** (2013), "Managerial Practices and Students' Performance", Mimeo.

Di Paolo, A. (2012). "Parental Background and Educational Opportunities: Evidences across Cohorts for Italy and Spain", Revista de Economía Aplicada, 58-(XX-2012): 119-146.

Dustmann, C., T. Frattini and **G. Lanzara** (2011), "Educational Achievement of Second-generation Immigrants: An International Comparison", Economic Policy, 27(69): 143-185.

European Union (2011), Migrants in Europe: A statistical portrait of the first and second generation. Luxembourg: Publications Office of the European Union.

Eurostat (2011a), Migrants in Europe: A statistical portrait of the first and second generation. Luxembourg: Publications Office of the European Union.

Eurostat (2011b), Indicators of Immigrant Integration. Luxembourg: Publications Office of the European Union.

Glaeser, E. (1999), "The Formation of Social Capital", Mimeo.

Gonzalez, A. (2003), "The Education and Wages of Immigrant Children: The Impact of Age at Arrival", Economics of Education Review, 22: 203-212.

Hanushek, E.A. and **L. Woessmann** (2011), "The Economics of International Differences in Educational Achievement". In: E.A. Hanushek, S. Machin and L. Woessmann (eds.), Handbook of the Economics of Education, Vol. 3. Amsterdam: North Holland.

Heath, A. and **E. Kilpi-Jakonen** (2012), Immigrant Children's Age at Arrival and Assessment Results, OECD Education Working Papers, No. 75, OECD Publishing.

Helliwell, J. and **R. Putnam** (1999), Education and Social Capital. NBER WP 7121. Cambridge: National Bureau of Economic Research.

INVALSI (2011), Rapporto tecnico sulle caratteristiche delle prove INVALSI 2011. Technical Report, INVALSI.

ISTAT (2011), Natalità e fecondità della popolazione residente, Statistiche Report.

ISTAT (2012), Il censimento della popolazione straniera, 15° Censimento della popolazione.

Johnson, J.S. and **E.L. Newport** (1989), "Critical Period Effects in Second Language Learning: The Influence of Maturational State on the Acquisition of English as a Second Language", Cognitive Psychology, 21(1): 60-99.

Mocetti, S. (2012), "Educational choices and the selection process: before and after compulsory schooling", Education Economics, 20(2): 189-209.

Myers, D., X. Gao and **A. Emeka** (2009), "The gradient of immigrant age-at-arrival effects on socioeconomic outcomes in the U.S.", International Migration Review, 43(1): 205-229.

OECD (2010a), Closing the Gap for Immigrant Students: Policies, Practice and Performance, OECD Reviews of Migrant Education. Paris: OECD Publishing.

OECD (2010b), PISA 2009 Results: Overcoming Social Background – Equity in Learning Opportunities and Outcomes (Vol II). Paris: OECD Publishing.

OECD (2012), Untapped Skills. Realizing the potential of immigrant students. Paris: OECD Publishing.

Ohinata, A. and **J.C. Van Ours** (2012), "Young immigrant children and their educational attainment", Economics Letters, 3: 288-290.

Patkowski, M.S. (1990), "Age and Accent in a Second Language: A Reply to James Emil Flege", Applied Linguistics, 11(1): 73-90.

Schaafsma, J. and **A. Sweetman** (2001), "Immigrant Earnings: Age at Immigration Matters", The Canadian Journal of Economics, 34(4): 1066-1099.

Schumann, J.H. (1976), "Social distance as a factor in second language acquisition", Language Learning, 26(1): 135-143.

Sweetman, A. (2010), "Immigrant children in elementary school: an international perspective". In: McDonaldd, T., E. Ruddick, A. Sweetman and C. Worswick (eds.), Canadian Immigration: Economic Evidence for a Dynamic Policy Environment. Montral and Kingston: Queen's Policy Studies Series, McGill-Queen's University Press.

Sweetman, A. and **J.C. Van Ours** (2014), Immigration: What About The Children And Grandchildren?, Tilburgh University Discussion Papers, No. 2014-009.

Tonello, M. (2011), Immigrant background peer effects in Italian schools, WP No. 14/2011, Università di Torino.

Triventi, M. and **P. Trivellato** (2009), "Participation, performance and inequality in Italian higher education in the 20th century", Higher Education, 58: 285-306.

Van Ours, J.C. and **J. Veenman** (2006), "Age at immigration and educational attainment of young immigrants", Economics Letters, 90(3): 310-316.

Appendix. Description of Variables

Dependent Variables:

- *Language_test*: INVALSI Italian test, normalized scores.
- *Math_test*: INVALSI Mathematics test, normalized scores.

Test scores results are measured as the fraction of correct answers.

Additional Controls:

- *gender*: Dummy=1 if female.
- *ESCS*: It follows the lines of PISA's homologous index. It is based on parental education, occupational status and a number of home possessions. The individual values are obtained by a principal component analysis. By construction, the average of the ESCS index is equal to 0 and its standard deviation is 1.
- **_parents*: Father or mother max educational attainment level (whichever higher) dummies reflecting 4 different levels of education: tertiary, post-compulsory secondary, compulsory and less than compulsory.
- *dialect*: Dummy=1 if language spoken at home is dialect.
- *foreign language*: Dummy=1 if language spoken at home is not Italian.
- *no. stud_class*: Number of students per class.
- *non europe*: Dummy=1 if born outside Europe.
- *other european*: Dummy=1 if born in Europe but no EU27.
- *no. siblings*: Number of siblings, 4 indicates 4 or more.
- *manybooks*: Dummy=1 if more than 100 books at home.
- *school_size*: Number of students per school.
- *escs_school*: Average School Level ESCS Index.
- *foreign 1st generation*: Dummy=1 if students born abroad of foreign-born parents.
- *foreign 2nd generation*: Dummy=1 if native-born children of foreign-born parents.
- *Lyceum*: Dummy=1 if the upper secondary school type is "Licei".
- *Technical*: Dummy=1 if the upper secondary school type is "Tecnici".
- *Vocational*: Dummy=1 if the upper secondary school type is "Professionali".
- *Campione*: Dummy=1 if school selected for monitoring by INVALSI.

The length of stay variables are constrained by the data on upper secondary school first-generation immigrant students produced by INVALSI. This dataset enable us to identify first-generation immigrant students by their age of arrivals in Italy according to the following age intervals: 16 years old (or older), between 13 and 15 years old, between 10 to 12 years old, between 7 to 9 years old, between 4 to 6 years old, 3 years old or younger.

Table 1. Distribution of native and immigrant students by grade attended

	Native students	%	Total Immigrants	%	Total number
2nd grade (primary)	453591	91.3	43325	8.7	496916
5th grade (primary)	462483	91.1	45090	8.9	507573
6th grade (lower sec.)	467687	90.3	50038	9.7	517725
10th grade (upper sec.)	398421	92.7	31339	7.3	429760
	Immigrants 1st generation	%	Immigrants 2nd generation	%	
2nd grade (primary)	14168	2.9	29157	5.9	
5th grade (primary)	23895	4.7	21195	4.2	
6th grade (lower sec.)	30935	6.0	19103	3.7	
10th grade (upper sec.)	23017	5.4	8322	1.9	

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Table 2. Distribution of immigrants students by macro-areas (percentage values)

Macroregions	Immigrants 1st generation	Immigrants 2nd generation
2nd grade primary school		
North	59.8	68.1
Centre	22.3	22.9
South	17.9	9.0
Italy	100.0	100.0
5th grade primary school		
North	63.0	66.0
Centre	23.0	22.9
South	14.0	11.1
Italy	100.0	100.0
6th grade lower secondary school		
North	64.4	66.4
Centre	22.8	21.6
South	12.7	12.0
Italy	100.0	100.0
10th grade upper secondary school		
North	64.6	58.8
Centre	22.8	20.3
South	12.6	20.9
Italy	100.0	100.0

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Table 3. Distribution of immigrant students by place of birth

				2nd generation		1st generation						
	Total No.	%		Italy	%	EU Countries (EU27)	%	Other European (non-EU)	%	Non Europe	%	Tot. %
2nd grade primary school												
1st generation	14168	2.8				5728	40.3	3257	22.9	5183	36.5	100.0
2nd generation	29157	5.7		29157	100.0							100.0
Total immigrants	43325	8.4		29157	67.3	5728	13.2	3257	7.5	5183	12.0	100.0
5th grade primary school												
1st generation	23895	4.9				8319	34.4	5777	23.8	9799	41.7	100.0
2nd generation	21195	4.1		21195	100.0							100.0
Total immigrants	45090	8.9		21195	45.4	8777	18.8	6067	13.0	10640	22.8	100.0
6th grade lower secondary school												
1st generation	30935	6.4				9317	30.0	7911	25.2	13707	44.7	100.0
2nd generation	19103	3.7		19103	100.0							100.0
Total immigrants	50038	9.6		19103	36.8	9868	19.0	8277	15.9	14670	28.2	100.0
10th grade upper secondary school												
1st generation	23017	5.2				6033	26.2	7375	31.6	9609	42.2	100.0
2nd generation	8322	1.6		8322	100.0							100.0
Total immigrants	31339	8.0		8322	23.8	6962	19.9	8390	24.0	11211	32.1	100.0

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Table 4. Average test scores: languages test results (by immigrant status and place of birth)

	Place of birth			
	Italy	EU Countries (EU27)	Other European (non-EU)	Non Europe
2nd grade primary school				
Natives	73.2			
Immigrants (1st generation)		63.7	59.7	55.7
Immigrants (2nd generation)	61.6			
5th grade primary school				
Natives	74.7			
Immigrants (1st generation)		68.7	65.2	61.3
Immigrants (2nd generation)	67.8			
6th grade lower secondary school				
Natives	62.2			
Immigrants (1st generation)		52.0	49.6	44.1
Immigrants (2nd generation)	54.7			
10th grade upper secondary school				
Natives	68.3			
Immigrants (1st generation)		60.7	60.1	53.4
Immigrants (2nd generation)	63.8			

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Table 5. Language average test score: first-generation immigrants by place of birth and time spent in Italy before the test

		Time spent in Italy before the test			
		1 year	2/4 years	>5 years*	>7 years
2nd grade primary school					
EU Countries (EU27)		61.3	63.3	65.1	
Other European (non-EU)		55.4	59.9	60.9	
Non Europe		51.2	55.2	58.0	
Total 1st generation		55.8	59.7	61.5	
2nd generation	*61.6*				
Natives	*73.2*				
5th grade primary school					
EU Countries (EU27)		63.4	70.0	69.9	
Other European (non-EU)		58.8	65.6	67.2	
Non Europe		52.8	62.2	64.3	
Total 1st generation		57.6	66.0	66.9	
2nd generation	*67.8*				
Natives	*74.7*				
6th grade lower secondary school					
EU Countries (EU27)		43.5	53.9	54.6	
Other European (non-EU)		42.4	50.6	52.0	
Non Europe		35.4	45.2	47.9	
Total 1st generation		39.0	49.4	51.1	
2nd generation	*54.7*				
Natives	*62.2*				
10th grade upper secondary school					
EU Countries (EU27)		47.3	57.2	62.0	62.9
Other European (non-EU)		49.3	55.6	60.1	62.7
Non Europe		41.1	48.3	53.3	57.0
Total 1st generation		44.3	52.9	58.0	60.4
2nd generation	*63.8*				
Natives	*68.3*				

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

For tenth grade students the column on more than 5 years corresponds to 5 to 7 years

Table 6a. Descriptive statistics: whole sample

Variables	5th grade		6th grade		10th grade	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
gender	0.49	0.50	0.48	0.50	0.49	0.50
ESCS	0.00	1.04	-0.02	1.05	0.02	1.00
dialect	0.15	0.35	0.16	0.37	0.15	0.35
foreign language	0.07	0.26	0.07	0.26	0.05	0.21
no. stud_class	19.3	4.37	21.7	3.90	21.4	4.67
no. Siblings	1.24	0.88	1.25	0.92	1.24	0.87
manybooks	0.25	0.43	0.30	0.46	0.31	0.46
campione	0.06	0.24	0.07	0.26	0.09	0.29
foreign 2nd generation	0.04	0.19	0.03	0.18	0.02	0.13
foreign 1st generation	0.05	0.21	0.06	0.23	0.06	0.23
one_year	0.01	0.10	0.01	0.11	0.00	0.05
two_4years	0.01	0.12	0.01	0.11	0.01	0.08
five_more/five_7years	0.02	0.14	0.03	0.17	0.01	0.09
seven_more					0.02	0.14
other European	0.01	0.11	0.02	0.12	0.02	0.13
non Europe	0.02	0.14	0.03	0.16	0.02	0.15
EU27	0.02	0.13	0.02	0.13	0.01	0.12
school_size	102.6	45.9	147.0	77.7	179.0	77.5
escs_school	-0.01	0.47	-0.03	0.48	0.00	0.47
Lyceum					0.47	0.50
Technical					0.33	0.47
Vocational					0.20	0.40
North_East	0.18	0.38	0.18	0.38	0.18	0.38
North_West	0.25	0.43	0.25	0.43	0.24	0.43
Centre_North	0.18	0.39	0.18	0.38	0.18	0.38
Centre_South	0.23	0.42	0.23	0.42	0.24	0.43
Islands_South	0.16	0.37	0.17	0.37	0.17	0.37

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Table 6b. Descriptive statistics: immigrant students

Variables	5th grade		6th grade		10th grade	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
gender	0.49	0.50	0.47	0.50	0.51	0.50
ESCS	-0.52	0.93	-0.54	0.93	-0.41	0.95
foreign language	0.63	0.48	0.62	0.49	0.59	0.49
no. stud_class	19.02	4.09	21.23	3.50	20.99	4.43
no. siblings	1.53	1.08	1.55	1.11	1.54	1.12
manybooks	0.11	0.32	0.13	0.33	0.13	0.34
school_size	110	44	147	76	183	72
escs_school	-0.01	0.39	-0.02	0.40	-0.13	0.40
Lyceum					0.24	0.43
Technical					0.38	0.48
Vocational					0.38	0.49
foreign 1st generation						
one_year	0.10	0.30	0.12	0.33	0.03	0.18
two_4years	0.15	0.36	0.14	0.34	0.10	0.29
five_more/five_7years	0.23	0.42	0.29	0.46	0.12	0.32
seven_more					0.29	0.45
other European	0.13	0.34	0.16	0.37	0.24	0.43
non Europe	0.23	0.42	0.28	0.45	0.32	0.47
EU27	0.19	0.39	0.19	0.39	0.20	0.40
North_East	0.28	0.45	0.28	0.45	0.28	0.45
North_West	0.36	0.48	0.38	0.48	0.35	0.48
Centre_North	0.23	0.42	0.22	0.42	0.22	0.42
Centre_South	0.07	0.26	0.07	0.25	0.09	0.28
Islands_South	0.06	0.23	0.06	0.23	0.06	0.24

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Table 7. OLS estimates: main results

Dependent variable: standardized language test results	5th grade - primary school				6th grade - lower secondary school				10th grade - upper secondary school			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
gender	0.57***	0.55***	0.55***	0.57***	2.94***	2.91***	2.93***	2.92***	2.48***	2.43***	2.61***	2.61***
	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.11)	(0.11)	(0.11)	(0.11)
escs	2.90***	2.45***	2.45***	2.46***	4.88***	4.07***	3.80***	3.81***	1.35***	0.75***	0.40***	0.38***
	(0.04)	(0.04)	(0.03)	(0.03)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
dialect	-1.55***	-1.40***	-1.39***	-1.36***	-3.44***	-3.16***	-3.06***	-3.04***	-1.12***	-1.12***	-0.87***	-0.88***
	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)	(0.10)	(0.10)	(0.10)	(0.12)	(0.12)	(0.12)	(0.12)
foreign language	-3.24***	-3.06***	-3.06***	-2.86***	-5.13***	-4.77***	-4.79***	-4.36***	-3.07***	-2.91***	-2.85***	-2.61***
	(0.14)	(0.14)	(0.14)	(0.15)	(0.14)	(0.14)	(0.14)	(0.15)	(0.18)	(0.18)	(0.18)	(0.18)
no. stud_class	0.01	0.00	-0.00	-0.01	0.17***	0.16***	0.13***	0.13***	0.16***	0.16***	0.09***	0.09***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
other european				-2.91***				-1.87***				-0.47
				(0.32)				(0.32)				(0.29)
non europe				-5.23***				-4.82***				-4.55***
				(0.30)				(0.29)				(0.30)
no. siblings		-1.02***	-1.02***	-0.97***		-1.58***	-1.58***	-1.53***		-0.32***	-0.29***	-0.24***
		(0.03)	(0.03)	(0.03)		(0.03)	(0.03)	(0.03)		(0.03)	(0.03)	(0.03)
manybook		2.14***	2.14***	2.11***		3.06***	3.10***	3.00***		2.24***	2.08***	2.08***
		(0.06)	(0.06)	(0.06)		(0.08)	(0.08)	(0.08)		(0.07)	(0.07)	(0.07)
school_size			0.00	0.00			0.00**	0.00**			0.01***	0.01***
			(0.00)	(0.00)			(0.00)	(0.00)			(0.00)	(0.00)
escs_school			0.05	0.10			1.40***	1.50***			4.94***	4.95***
			(0.17)	(0.17)			(0.18)	(0.19)			(0.31)	(0.31)
foreign1st generation	-5.20***	-4.76***	-4.76***	-2.10***	-8.30***	-7.64***	-7.66***	-5.46***	-4.50***	-4.22***	-4.22***	-2.39***
	(0.18)	(0.18)	(0.18)	(0.24)	(0.18)	(0.18)	(0.18)	(0.24)	(0.17)	(0.17)	(0.17)	(0.24)
foreign 2nd generation	-3.57***	-3.11***	-3.12***	-3.24***	-3.74***	-3.02***	-3.05***	-3.33***	-2.22***	-1.96***	-2.08***	-2.19***
	(0.16)	(0.16)	(0.16)	(0.16)	(0.17)	(0.17)	(0.17)	(0.17)	(0.19)	(0.20)	(0.20)	(0.20)
Vocational									-9.77***	-9.80***	-8.77***	-8.73***
									(0.28)	(0.28)	(0.29)	(0.29)
Lyceum									9.15***	8.90***	6.50***	6.51***
									(0.24)	(0.24)	(0.29)	(0.29)
Constant	74.33***	74.92***	74.78***	74.78***	59.91***	60.80***	61.02***	61.02***	65.37***	65.14***	64.78***	64.70***
	(0.26)	(0.26)	(0.30)	(0.31)	(0.36)	(0.36)	(0.36)	(0.37)	(0.45)	(0.44)	(0.45)	(0.45)
Macro-area dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	410800	379405	379405	368234	436670	412474	412474	399229	388451	371575	371575	371250
R-squared	0.078	0.086	0.086	0.089	0.167	0.178	0.179	0.182	0.303	0.308	0.316	0.317

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Standard errors are clustered at school level; *** p<0.01, ** p<0.05, * p<0.1.

Table 8. OLS estimates: length of stay of first-generation immigrants

Dependent variable: standardized language test results	5th grade - primary school				6th grade - lower secondary school				10th grade - upper secondary school			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
gender	0.59***	0.58***	0.58***	0.57***	2.95***	2.93***	2.94***	2.93***	2.48***	2.43***	2.61***	2.61***
	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.11)	(0.11)	(0.11)	(0.11)
escs	2.93***	2.48***	2.47***	2.45***	4.91***	4.11***	3.83***	3.81***	1.37***	0.76***	0.40***	0.38***
	(0.04)	(0.04)	(0.03)	(0.03)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
dialect	-1.50***	-1.36***	-1.34***	-1.35***	-3.37***	-3.10***	-2.99***	-3.01***	-1.09***	-1.09***	-0.83***	-0.87***
	(0.09)	(0.09)	(0.09)	(0.09)	(0.11)	(0.10)	(0.10)	(0.10)	(0.12)	(0.12)	(0.12)	(0.12)
foreign language	-3.43***	-3.22***	-3.22***	-2.95***	-5.66***	-5.26***	-5.29***	-4.86***	-4.41***	-4.19***	-4.14***	-2.93***
	(0.14)	(0.14)	(0.14)	(0.15)	(0.15)	(0.15)	(0.15)	(0.14)	(0.20)	(0.20)	(0.20)	(0.18)
no. stud_class	0.00	0.00	-0.00	-0.00	0.17***	0.16***	0.13***	0.13***	0.16***	0.16***	0.09***	0.09***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
other european				-3.39***				-3.78***				-2.25***
				(0.31)				(0.31)				(0.27)
non europe				-5.55***				-6.28***				-5.91***
				(0.28)				(0.27)				(0.28)
n. siblings		-1.01***	-1.01***	-0.97***		-1.59***	-1.59***	-1.52***		-0.34***	-0.31***	-0.23***
		(0.03)	(0.03)	(0.03)		(0.03)	(0.03)	(0.03)		(0.03)	(0.03)	(0.03)
manybooks		2.13***	2.13***	2.11***		3.00***	3.03***	3.01***		2.28***	2.11***	2.10***
		(0.06)	(0.06)	(0.06)		(0.08)	(0.08)	(0.08)		(0.07)	(0.07)	(0.07)
school_size			0.00	0.00			0.00**	0.00**			0.01***	0.01***
			(0.00)	(0.00)			(0.00)	(0.00)			(0.00)	(0.00)
escs_school			0.09	0.11			1.49***	1.51***			4.95***	4.95***
			(0.17)	(0.17)			(0.19)	(0.19)			(0.31)	(0.31)
foreign 2nd generation	-3.41***	-2.98***	-2.99***	-3.19***	-3.42***	-2.73***	-2.75***	-3.04***	-1.71***	-1.47***	-1.59***	-2.07***
	(0.16)	(0.16)	(0.16)	(0.16)	(0.17)	(0.17)	(0.17)	(0.17)	(0.19)	(0.20)	(0.19)	(0.19)
one_year	-11.32***	-10.88***	-10.89***	-7.95***	-15.23***	-14.57***	-14.61***	-11.01***	-13.27***	-12.98***	-12.96***	-10.12***
	(0.39)	(0.39)	(0.39)	(0.41)	(0.31)	(0.31)	(0.31)	(0.34)	(0.64)	(0.65)	(0.65)	(0.67)
two_4years	-3.80***	-3.43***	-3.44***	-0.83***	-6.67***	-6.05***	-6.09***	-2.98***	-6.86***	-6.69***	-6.68***	-4.55***
	(0.26)	(0.26)	(0.26)	(0.28)	(0.29)	(0.29)	(0.29)	(0.31)	(0.37)	(0.37)	(0.36)	(0.38)
five_7years	-3.44***	-3.04***	-3.05***	-0.13	-5.56***	-4.96***	-4.98***	-1.66***	-2.64***	-2.40***	-2.38***	-0.43
	(0.21)	(0.22)	(0.22)	(0.26)	(0.22)	(0.21)	(0.21)	(0.26)	(0.32)	(0.32)	(0.32)	(0.35)
seven_more									-1.47***	-1.14***	-1.12***	1.25***
									(0.25)	(0.25)	(0.25)	(0.31)
Vocational									-9.79***	-9.81***	-8.78***	-8.71***
									(0.28)	(0.28)	(0.29)	(0.29)
Lyceum									9.16***	8.91***	6.51***	6.51***
									(0.24)	(0.24)	(0.29)	(0.29)
Constant	74.33***	74.93***	74.78***	74.77***	59.86***	60.77***	61.01***	60.98***	65.32***	65.10***	64.74***	64.67***
	(0.26)	(0.26)	(0.31)	(0.31)	(0.37)	(0.36)	(0.37)	(0.37)	(0.45)	(0.44)	(0.45)	(0.45)
Macro area dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	399343	368826	368826	368234	423262	399856	399856	399229	388451	371575	371575	371250
R-squared	0.081	0.089	0.089	0.090	0.170	0.180	0.182	0.183	0.303	0.308	0.317	0.318

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Standard errors are clustered at school level; *** p<0.01, ** p<0.05, * p<0.1.

Table 9. Fixed effect estimates: main results

Dependent variable: standardized language test results	5th grade - primary school				6th grade - lower secondary school				10th grade - upper secondary school			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
gender	0.52***	0.50***	0.51***	0.52***	2.89***	2.86***	2.86***	2.88***	2.17***	2.14***	2.14***	2.11***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
escs	2.84***	2.43***	2.42***		4.50***	3.80***	3.78***		0.35***	0.01	-0.00	
	(0.02)	(0.02)	(0.02)		(0.03)	(0.03)	(0.03)		(0.02)	(0.02)	(0.02)	
degree_parents				6.88***				10.21***				-0.03
				(0.07)				(0.08)				(0.06)
high school_parents				4.61***				7.30***				0.83***
				(0.06)				(0.07)				(0.05)
compulsory_parents				1.93***				3.22***				0.31***
				(0.08)				(0.09)				(0.07)
dialect	-1.45***	-1.37***	-1.36***	-1.24***	-2.89***	-2.73***	-2.71***	-2.55***	-0.74***	-0.73***	-0.73***	-0.70***
	(0.06)	(0.06)	(0.06)	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)	(0.06)	(0.06)	(0.06)	(0.06)
foreign language	-2.95***	-2.81***	-2.62***	-2.80***	-4.97***	-4.67***	-4.32***	-4.59***	-2.65***	-2.59***	-2.41***	-2.28***
	(0.11)	(0.11)	(0.12)	(0.13)	(0.13)	(0.14)	(0.14)	(0.15)	(0.14)	(0.14)	(0.14)	(0.14)
foreign1st generation	-5.06***	-4.63***	-2.11***	-2.67***	-7.92***	-7.35***	-4.83***	-5.98***	-3.59***	-3.44***	-1.74***	-1.78***
	(0.14)	(0.15)	(0.20)	(0.21)	(0.15)	(0.16)	(0.23)	(0.24)	(0.13)	(0.13)	(0.19)	(0.19)
foreign 2nd generation	-3.44***	-2.98***	-3.15***	-3.55***	-3.44***	-2.85***	-3.11***	-4.03***	-1.55***	-1.44***	-1.54***	-1.46***
	(0.12)	(0.13)	(0.13)	(0.14)	(0.15)	(0.16)	(0.16)	(0.17)	(0.14)	(0.14)	(0.14)	(0.14)
other european			-2.88***	-2.68***			-2.28***	-1.64***			-0.83***	-0.66***
			(0.29)	(0.31)			(0.30)	(0.33)			(0.22)	(0.22)
non europe			-4.98***	-4.60***			-5.21***	-4.60***			-3.89***	-3.70***
			(0.26)	(0.29)			(0.27)	(0.30)			(0.23)	(0.23)
n. siblings		-0.97***	-0.92***	-0.91***		-1.39***	-1.34***	-1.35***		-0.16***	-0.11***	-0.09***
		(0.02)	(0.02)	(0.02)		(0.03)	(0.03)	(0.03)		(0.02)	(0.02)	(0.02)
manybooks		2.01***	1.99***	2.56***		2.61***	2.53***	3.76***		1.46***	1.46***	1.50***
		(0.05)	(0.05)	(0.05)		(0.06)	(0.06)	(0.06)		(0.04)	(0.04)	(0.04)
Constant	74.97***	75.66***	75.59***	72.25***	62.13***	63.05***	63.04***	57.96***	67.94***	67.80***	67.75***	67.58***
	(0.02)	(0.04)	(0.04)	(0.06)	(0.03)	(0.05)	(0.05)	(0.07)	(0.03)	(0.04)	(0.04)	(0.05)
Classroom fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	410800	379405	368234	348474	436670	412474	399229	372005	388451	371575	371250	363381
R-squared	0.081	0.090	0.093	0.094	0.129	0.138	0.141	0.145	0.023	0.026	0.027	0.028

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Classroom-level fixed effect estimates. *** p<0.01, ** p<0.05, * p<0.1.

Table 10. Fixed effect: length of stay of first-generation immigrants

Dependent variable: standardized language test results	5th grade - primary school			6th grade - lower secondary school				10th grade - upper secondary school				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
gender	0.53***	0.51***	0.50***	0.52***	2.90***	2.87***	2.86***	2.88***	2.17***	2.14***	2.14***	2.11***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
escs	2.84***	2.44***	2.42***		4.51***	3.81***	3.78***		0.36***	0.01	-0.00	
	(0.02)	(0.02)	(0.02)		(0.03)	(0.03)	(0.03)		(0.02)	(0.02)	(0.02)	
degree_parents				6.87***				10.18***				-0.03
				(0.07)				(0.08)				(0.06)
high school_parents				4.60***				7.28***				0.82***
				(0.06)				(0.07)				(0.05)
lower secondary_parents				1.93***				3.20***				0.31***
				(0.08)				(0.09)				(0.07)
dialect	-1.43***	-1.35***	-1.35***	-1.24***	-2.83***	-2.67***	-2.68***	-2.54***	-0.72***	-0.71***	-0.73***	-0.69***
	(0.06)	(0.06)	(0.06)	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)	(0.06)	(0.06)	(0.06)	(0.06)
foreign language	-3.13***	-2.97***	-2.72***	-2.81***	-5.49***	-5.14***	-4.73***	-4.70***	-3.39***	-3.30***	-2.43***	-2.32***
	(0.11)	(0.11)	(0.11)	(0.12)	(0.13)	(0.14)	(0.13)	(0.15)	(0.13)	(0.13)	(0.13)	(0.13)
foreign 2nd generation	-3.31***	-2.87***	-3.09***	-3.54***	-3.11***	-2.55***	-2.88***	-3.97***	-1.25***	-1.15***	-1.53***	-1.43***
	(0.12)	(0.12)	(0.13)	(0.14)	(0.15)	(0.16)	(0.16)	(0.17)	(0.14)	(0.14)	(0.14)	(0.14)
other european			-3.39***	-2.89***			-3.97***	-2.41***			-1.83***	-1.67***
			(0.28)	(0.30)			(0.28)	(0.32)			(0.19)	(0.20)
non europe			-5.34***	-4.68***			-6.47***	-4.97***			-4.57***	-4.39***
			(0.24)	(0.28)			(0.25)	(0.29)			(0.20)	(0.20)
n. siblings		-0.97***	-0.92***	-0.91***		-1.40***	-1.34***	-1.35***		-0.17***	-0.11***	-0.09***
		(0.02)	(0.02)	(0.02)		(0.03)	(0.03)	(0.03)		(0.02)	(0.02)	(0.02)
manybooks		2.01***	1.99***	2.56***		2.56***	2.54***	3.76***		1.48***	1.47***	1.50***
		(0.05)	(0.05)	(0.05)		(0.06)	(0.06)	(0.06)		(0.04)	(0.04)	(0.04)
one_year	-10.96***	-10.53***	-7.68***	-8.32***	-14.64***	-14.12***	-10.41***	-12.40***	-12.64***	-12.44***	-10.20***	-9.99***
	(0.33)	(0.34)	(0.35)	(0.38)	(0.29)	(0.29)	(0.32)	(0.36)	(0.56)	(0.57)	(0.57)	(0.60)
two_4years	-3.74***	-3.36***	-0.82***	-1.80***	-6.44***	-5.92***	-2.67***	-5.14***	-6.73***	-6.59***	-4.88***	-4.95***
	(0.22)	(0.22)	(0.24)	(0.26)	(0.26)	(0.26)	(0.29)	(0.31)	(0.28)	(0.28)	(0.29)	(0.30)
five_7years	-3.44***	-3.01***	-0.17	-1.20***	-5.25***	-4.76***	-1.31***	-3.57***	-2.65***	-2.49***	-0.90***	-0.88***
	(0.18)	(0.18)	(0.22)	(0.24)	(0.19)	(0.19)	(0.24)	(0.26)	(0.23)	(0.24)	(0.25)	(0.25)
seven_more									-1.37***	-1.20***	0.73***	0.60***
									(0.16)	(0.16)	(0.19)	(0.20)
Constant	74.92***	75.60***	75.58***	72.25***	62.09***	63.03***	63.00***	57.97***	67.90***	67.77***	67.74***	67.56***
	(0.02)	(0.04)	(0.04)	(0.06)	(0.03)	(0.05)	(0.05)	(0.07)	(0.03)	(0.04)	(0.04)	(0.05)
Classroom fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	399343	368826	368234	348474	423262	399856	399229	372005	388451	371575	371250	363381
R-squared	0.084	0.093	0.095	0.096	0.131	0.141	0.143	0.147	0.025	0.028	0.030	0.030

Source: INVALSI data for school year 2010-11.

Note: See the List of Variables for additional details regarding data.

Classroom-level fixed effect estimates. *** p<0.01, ** p<0.05, * p<0.1.

Microeconometric Analysis of Determinants of Return Migration of North African Immigrants

Aomar Ibourk, Professor of Economics, University of Marrakech, Director of GRES: Research Group of Social Economics, Econometrics of Education, Labour Market and Development, Cadi Ayyad University, Marrakech, Morocco
Amine Chamkhi, PhD candidate at the Ecole des Hautes Etudes en Sciences Sociales (EHESS), Paris, France

E-mail: aomaribourk@gmail.com

Abstract

The present paper aims to provide a better understanding of the mechanisms that affect North African Return Migration. The study was first based on a theoretical reading offering a segmented structure of migrants with regard to the reasons behind return and departure. The second step was to base the features of North African Return Migration (such as return after retirement, concentration in Western Europe, clandestine migration, etc.) on the available theoretical elements. The purpose of this process was to optimize correlation and define the assimilation of the North Africa return in terms of the theoretical context. Empirically speaking, the exploitation of the MIREM (return migration to the Maghreb) survey that was carried out on North African Return Migration (Morocco, Algeria and Tunisia) revealed a heterogeneous group of profiles in accordance with the aspirations that can account for returning (preference for the native country, work, investment, etc.). Other aspects are also reflected when investigating forced return due to certain circumstances. Indeed, correspondence analysis revealed a differentiation of demographic and socioeconomic profiles during pre-, intra- and post-migration. The Multinomial Logistic Model has created in-depth outcomes while enlarging the field of the heterogeneous profiles related to gender, educational level and the period the migrant had spent in the Main Country of Immigration (MCI). The results of this analysis showed that the mechanisms influencing the decision and motivations to return differ according to groups. The results of the survey confirm the heterogeneity of the profiles constituted by a range of factors (length of stay, age at departure, times of emigration, etc.), which could help identify the migration challenges faced by both the host and origin countries. A better understanding of the motivations of return implies a better targeting of immigration policies of receiving and origins countries. Return migration may therefore constitute an alternative for the developing countries.

Keywords

Return Migration, Maghreb, Profiles, Microeconometric analysis

1. Introduction

Return migration is a link in the migration chain and we must unravel the mechanisms that interact to trigger international mobility. These mechanisms are stimulated by motives that differ according to the candidate's objective for emigration. His return can be considered as the culmination and achievement of referenced (full or partial) concrete objectives when migrating. However, these objectives are not frozen in time; they can evolve or rather stand against the established goals when departing or during the period of stay. If these objectives are counterbalanced, they may alter the process by delaying it (the return becomes a myth) or accelerating it (failure of migration).

Very few studies and research have been devoted to the analysis of return migration. This deficit is due to the lack of individual data. It also constitutes a broad field where a mixture of numerous economic, demographic, social, psychological and political reasons coexist. J.C. Dumont and G. Spielvogel (2008)[1] have conducted one the most recent studies in this field. Globally, they differentiate five decisive elements:

1. The failure of migration and the importance of the macroeconomic context;
2. Preference to consume in the native country;
3. Saving for the purpose of investment;
4. Accumulation of human capital; and
5. Circular or repetitive migration

J.P. Cassarino (2004)[2] has also emphasised five approaches, including:

1. The neoclassic approaches;
2. The New Economic Labour Migration (NELM);
3. The structural approach;
4. The transnational approach; and
5. The social network theory and return migration.

The characteristics of North African Return Migration lead us to stratify our population into five patterns:

The failure of migration: the rational behaviour prevails in this context. The migrant is seen as a rational entity where the purpose of migration is to maximise the incomes produced by the differential in wages between the host and native countries. The migrant may have to overestimate the benefits he could draw from such differentials of wages while underestimating the expenses of his period of stay (living expenses, depreciation of professional experiences, degrees he attained in the native country, and so on). In a

1. OECD, "Les migrations de retour: Un nouveau regard". In: Perspectives des migrations internationales.
2. "Theorizing return Migration: The Conceptual Approach to return Migrants Revisited". In: Managing Migration and Diversity in the Asia Pacific Region and Europe.

panel survey, which was conducted on a sample of engineers and scientists born abroad (outside the USA), Borjas (1989) concluded that scientists who were less successful are most likely to leave the sample. He also concluded that return can occur on the basis of wrong information about the economic opportunities in the USA. For our case, this pattern represents about 21% of the sample and breakdown with regard to the native country (29% for Morocco, 45% for Algeria and 26% for Tunisia).

The structural approach and return for the purpose of investment: the progress made by the homeland's institutions is a changeable criterion that may enhance returning, namely the role that can be played by governments to encourage and attract emigrant investors. This type of return equally presupposes a set of objectives to be met during the period where the emigrant's life is active. According to J.C. Dumont and G. Spielvogel, this option requires several staggered steps, including migration, saving, return and investment. The matter is concerned with maximizing the accumulation of savings in the host country, then investing it in a project and infinitely taking profit from outputs of such investment when the emigrant's life is active. Furthermore, skill acquisition in the host country also plays a decisive role to make the return project successful. For our case, this pattern represents 15% of the size of both the sample and distribution with regard to the native countries (42% for Morocco, 17% for Algeria and 41% for Tunisia).

Return of human capital: this case deals with the accumulation of the initial training in the native country with the training acquired in the host country. This case is essentially concerned with the expatriate students who go back to their homelands once they finish their studies. This complementary pattern between the training of the initial human capital and the training acquired abroad increases the output of human capital in the native country. It should be kept in mind that knowledge transfer can take place outside the physical return routine. This approach goes beyond the simple physical return through the generation of an international network capable of establishing close ties with the native country outside the sphere of the return. The example given by the Colombian CALDAS network fits into this analysis scheme. In 1991, the Colombian government set up a network composed of Colombian expatriate engineers and scientists. The idea was to encourage emigrant scientists to take part in research and development of Colombia via an exchange between members of the network. The fact is that internet has become a part of everyday life and the increasing globalisation has amplified the process. For our case, this pattern represents 5% of the size of the sample (21% for Morocco, 51% for Algeria and 28% for Tunisia).

Preference to consume in the native country and the New Economic Labour Migration (NELM): this perception includes two reasons that legitimise the choice. First of all, there is the existence of a national variable preference; then there is a desire to take profit from the differential linked to the purchasing power that may exist between the homeland and the host country at the end of the working life process. Returning may take place

when the marginal benefit from higher savings is compensated by the loss of a utility associated with living abroad. This situation tends to show that the person has probably immigrated while young. Several authors have enriched this perspective, above all Djajik (1989) and Stark, Helmenstein and Yegorov (1997). J.P. Cassarino relates the family sphere to this kind of return through the New Economies of Labour Migration. In fact, the emigrant must deal with a triple constraint, including balancing, maximization of income and length of stay, on the one hand, and transferring money to his homeland, particularly his own household, on the other. In this case, returning is seen as an outcome of this triple conciliation. For our case, this profile represents about 26.5% of the size of the sample (24% for Morocco, 41% for Algeria and 35% for Tunisia).

The transnational approach of returning and circular migration: unlike the group of structuralists and allies of NELM, returning does not form the end of a migration process. According to transnationalists, the history of migration is a continuous process. Return migration is part of a circular system of socioeconomic relations and exchanges that facilitate reintegration of migrants while providing knowledge, information and membership. J.C. Dumont and G. Spielvogel add two other factors which illustrate this type of circulation. Firstly, there is the positive correlation between the psychological cost of immigration and the length of stay (in this case, the low cost of transport increases this type of circulation). Then, the temporary aspect of residence permits may encourage emigrants to travel chronically to extend their residence permits. For our case, this profile represents about 10% of the investigations (37.5% for Morocco, 17% for Algeria and 45.5% for Tunisia).

These groups are not mutually exclusive. For example, a graduate who has finished his studies abroad and worked for an amount of time would love to go back to his homeland and invest there in a promising and illustrious project. Indeed, this case includes three approaches: accumulation of human capital, return for investment and national preference. The determinants of return are multidimensional, including socioeconomic and familial factors and institutional changes of the host country.

The purpose of what follows in the present paper is to account for the effective mechanisms of return among North African emigrants in relation to the advanced theoretical conceptions. Very few analyses have restricted themselves to a simple descriptive level. The adopted approach aims to show how the analysis of the determinants can be considerably enriched through the mobilization of multidimensional techniques. The database used innovatively allows broadening of the scope of analysis. The approach contains two complementary steps. Initially, we need to describe the structure of data and then use the results of such a description to think of a reduced model. The first step of analysis mobilizes the multidimensional techniques of description in order to reduce data with the help of the Correspondence Analysis technique. This step leads to the formulation of a typology. The second step of analysis is econometric. In other words,

it involves considering, through a multinomial, the dimensions of belonging to profiles determined in the previous step. The considered illustrative varieties are either individual or socio-demographic.

2. The Typology of Returning Migrants

This section aims to account for the effective return mechanisms among North African emigrants in relation to the advanced theoretical conceptions. We have conducted two response modalities in conjunction with the theoretical elements previously mentioned (Table 5).[3]

This is concerned with locating the reasons behind advanced returning in the investigation and then trying to classify them according to the predominant theoretical stream by associating the new constituencies with socio-demographic, socio-familial and economic features of the respondents.

2.1 Background and Methodology

The data used come from the MIREM[4] survey, which was conducted in the North African region on a sample composed of 992 emigrants, who have chosen to go back to their native countries (Algeria: 332, Morocco: 330 and Tunisia: 330). The structure of the questionnaire attempted to underline a biographical analysis via the determination of different stages which the emigrant underwent during his career; that is, starting from the preparation for the migration project and its concretisation to settling down in the native country and infinite return. The richness of the context (566 varieties to be raised) and the diversity of profiles of individuals as well as countries (national/regional dimension) make the MIREM survey an excellent platform for empirical studies on the effective mechanisms of returning among North African emigrants while taking into account the different advanced theoretical conceptions. The structure of the questionnaire comprises three steps:[5]

1. Situation in the native country before departure;
2. Time spent in the Main Country of Immigration (MCI);
3. Returning to the native country.

The application of Correspondence Analysis focuses on a formation of a typology of returning migrants based on a set of variants.

3. Response to question O.1.1 "Which are the three main reasons that brought you back to your country of origin?"
4. For more information, refer to the MIREM site: http://www.mirem.eu/donnees/enquete/methodologie
5. For more information, refer to the MIREM site: http://www.mirem.eu/donnees/enquete/methodologie

2.2 The Developed Profiles

The MIREM database concerning the effective returning of North African emigrants provides a variety of profiles. It makes it possible to shape a classification based essentially on the educational level and incentives behind returning. The profiles generated by the Correspondence Analysis generally conform with the specificities of North African migration to Europe.

The (axis) 1 reproduces about 35.7% of the information while that of (axis) 2 is about 24.6%. More than half the information is projected by the two axes (60.3%) (Table 6)

The study of the table of contributions in relation to the inertia of the two axes enables us to dissociate two aspects. As far as the first factorial axis is concerned, we note an opposition between labour migration and migration to complete studies. Several explanatory varieties are used to characterize each of the two groups. Profile number 1 is associated with the first waves of migration. It is mainly concerned with emigrants born and from the rural areas with a low educational level, who went to work in Western Europe (primarily France, Belgium, Netherlands and Germany) in activities such as workers' jobs and trades. The main returning motivation linked to this group is "preference for the native country".

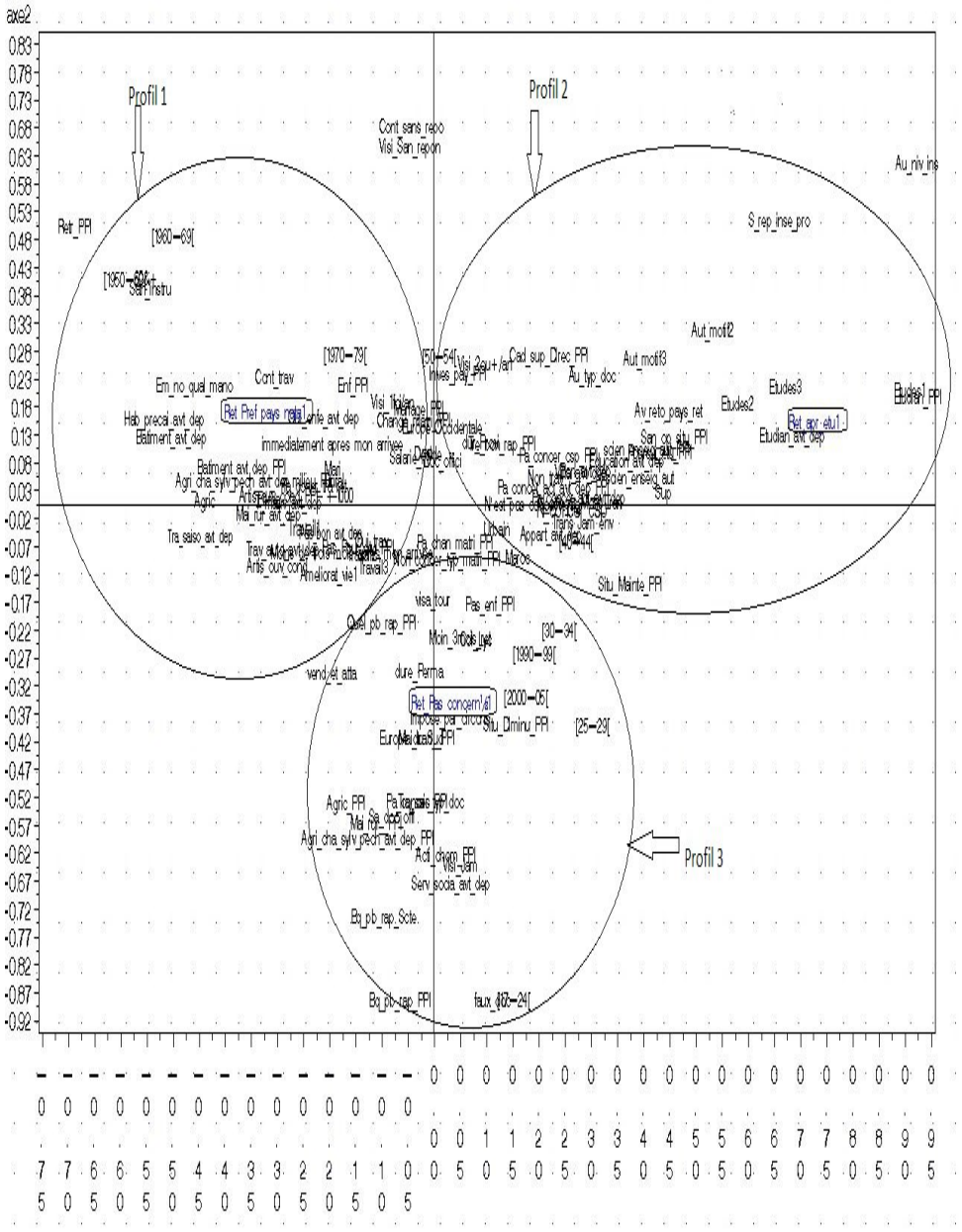
Profile number 2 is concerned with people who have emigrated to complete their studies abroad, in particular. This category is referred to as the main trigger for "returning after studies in the MCI." We can define this type of migration as post-graduate mobility. What makes them primarily different from the first category is that the pre-migratory socioeconomic features are more advantageous than the first group. There are other criteria that make the two groups different from each other, above all the professional inactivity in the countries they chose to settle in, the returning age and the higher educational level.

The second factorial axis shows an opposition between returning voluntarily and the forced and/or imposed returning due to certain circumstances.

The common feature shared by the two first profiles has to do with returning voluntarily (a desired one), though the reasons vary from one group to another. Profile number 3 differs from the others according to the reason due to certain circumstances. It is primarily marked by a clandestine migration; a very low age category when departing; a recent emigration period, and a mid-educational level (middle and high school levels). We also have to note that this group is based in Southern Europe (Spain, Italy, Greek, etc.); it shows no tangible interest in returning.

Because of its fragile situation on the regulatory level, it is hardly surprising that this group refuses to return unless it meets its migration objectives. One can detect this group refers mainly to the statements that show determination to settle down permanently in a given host country.

Figure 1. Correspondence analysis and related profiles



The results of the Multiple Correspondence Analysis are as follow:

1. Returning because of preference for the native country is associated with a classical labour migration marked by a set of factors that are generally consistent with the end of the working life process (the age category when leaving the MCI, emigration decade, and the emigrant's age during the survey). This profile's features do not deviate from the theoretical prediction which provides two reasons for returning: national preference and the desire to benefit from the purchasing power differential.

2. The second result has to do with return migration after completing studies. Moreover, the features specified in this group, either during the pre-migratory stage or time spent in the host country, confirm the complementary dimension between the initial training in the native country and that acquired in the host country. In this case, returning is seen as a success of the migration project. However, we assume that its success depends on the attraction of the job market in the native country as well as opportunities to lead possible careers.

3. As far as the forced or imposed returning due to certain circumstances is concerned, it is revealed by a set of features which make it different from the others. In this respect, it has to do with a failure to migrate because the purpose of migration was not accomplished and the investment has not been absorbed.

Although the Correspondence Analysis has enabled us to distinguish three profiles, each of which has its own specificities, we notice that it does not account for everything in terms of the theoretical reasons mentioned before. Both returning following a failure to migrate and for the purpose of investment are not included in the factorial plan of the Correspondence Analysis, and their respective contributions to the formation of factorial axes remain negligible.

2.3 Disparity of Profiles According to the Educational Level, the Amount of Time Spent and the Average Age

The analysis of the table of the increasing number of reasons behind returning has allowed us to shed more light on the specificities of each group. The most relevant features deal with a hierarchical stratification based on the educational level, the average age at the time of the survey, the amount of time spent in the MCI, and the origin and birth environment. Furthermore, we have grouped together the profiles of both returning for other reasons and after temporary migration with regard to weak workforces for the purpose of better translating the results into actions.

Nearly three quarters (74%) of emigrants who have returned preferring to settle in the native country are illiterate or have a primary educational level. In contrast, more than

83% of emigrants who have returned after completing studies have a higher level of education. We must also note that these two extreme proportions do not discard the other profiles, including clandestine migration, investment in the native country and failure to migrate. People with these profiles have a predominantly middle or high school educational level (53%, 50% and 44%, respectively). Nevertheless, we should not ignore the specificity of returning after a temporary migration and other reasons, as nearly half of the emigrants (49%) have a higher educational level.

The average age at the time of returning and the period the emigrant had settled differ greatly according to the profiles. The structural approach and returning for investment assume that the migrant has to overcome a triple constraint: migration, maximization of income and investment in the native country. The reconciliation of this triple constraint implies a distribution of working life time between the MCI and the native country. Moreover, it is hardly surprising to conclude that the period the emigrant spent in the MCI is the longest (15.7 years following the group that prefers to return for national preference). This period is deemed necessary in order to maximize the income and then enjoy a productive investment in the native country. Furthermore, the average age when leaving the MCI is quite low (39.2 years), which creates a compromise between the distribution of working life in both native and host countries. As far as the group which prefers to return favouring the native country over the host country is concerned, it records the longest average period in the MCI (28.9 years) as well as the highest average age when leaving such a country (54.6 years). Several studies justify this national preference by psychological feelings of belonging to a given territory. The example given by A. Constant and D. Massey concretises this approach. They have analysed data concerning the return migration of temporary workers in Germany between 1984 and 1997 as they noted that large transfers are accomplished in the native country. Other studies account for the preference to settle down in the native country with the loss of marginal utility generated by the professional performance in the host country in favour of consumption in the homeland, benefiting from the differential of the purchasing power between the two (Hill [1987] and Djajic and Milbourne [1988]). Thus, we assume that both cases (feelings of patriotism and/or taking advantage of the differential of purchasing power) correspond mostly to emigrants who have completed the phase of working life in the MCI and return to the homeland for retirement. The results of the descriptive analysis confirm this hypothesis as nearly 54% of respondents chose to go back to the homeland for retirement reasons.

Unlike the first two profiles mentioned above, returning after completing studies and clandestine and temporary migration feature a standard period of a shorter settling down period in the MCI (7, 8 and 10 years, respectively). The standard age for returning is also lower among any confused profile (33.9, 32.5 and 38.4 years, respectively). Returning after completing studies can be stimulated by a positive correlation between finding professional opportunities in the native country and the end of studies (more than 61% of re-

spondents asserted that they found a job immediately, before three months and/or less than three after their return).[6] As far as the last two profiles (temporary and clandestine migration) are concerned, they can be synonymous with both the end of an employment contract for the first part and the policy of forced return, which falls within the framework of fighting against clandestine migration, for the second part.

3. Equations of Belonging

3.1 The Choice of Varieties

The theoretical conception of return migration for investment has shed light on a wide range of elements deemed necessary to come to an investment project in the country of birth. These factors include in particular the time spent abroad, which must correspond to a sufficiently long period to enhance the accumulation of (physical and human) capital but without altering the period of the emigrant's working life. The reconciliation of the triple constraint — migration, accumulation and return for investment — responds to the optimal residence time. The empirical results conducted by both J. Wahba and B. McCormick (2002) on the Egyptian returning migrants and F. Gubert and C. Norman (2008) on the North African investors have further enriched the return perception for investment. The history of migration in the native country (the origin environment and the place chosen to settle down as well as the emigration period) and the professional experience (type of activity, professional training in the host country) affect the probability of conducting an investment project. The structural approach adopted by J.P. Cassarino insists on the attraction of the development of infrastructures and the political stability of the host country with regard to the general way of returning and, more specifically, the migrant investors. The human and physical capital accumulated by savings and learning constitutes two major catalysts in the initiation of the return project.

The migrant's integration within the social fabric of his original society plays a complementary role. It also constitutes an alternative safety valve preventing a re-emigration elsewhere. Thus, the family dimension is logical when accelerating or decelerating the moment of returning decision. G. Gmelch (1980) concludes that the process of the emigrant's returning is often altered by his family environment (wife and children). Having children while being in the MCI works against the development of the return project, including the linguistic barriers of children at school or the wife's professional career. On the other hand, Constant and Massey (2000, 2003) have shed light on returning acceleration stimulated by the presence of a wife and children in the native country. Hence, the family dimension plays the role of a temporal regulator to extend the period of stay in the MCI.

6. Question q_r3: How long after returning home did you find your first job?

The survey reveals that there is a negative correlation between having children in the native country and the period of stay. The more the period of stay in the MCI increases, the more the proportion of emigrants who have had children before departure decreases. The situation is reversed when comparing it to the period of stay and having children in the country where the immigrant has settled.

Let us assume that the length of stay in the host country is affected by the combination of having children in the MCI (the extension of the length of stay) or by having them living in the native country (returning acceleration). The returning profiles for preference for the native country, investment, temporary migration and failure to migrate have the highest rates of children born in the host country (58%, 53%, 43% and 40%) and their average length of stay is also the longest (29 years, 14 years, 10 years and 13 years, respectively). The profiles of return after completing studies and clandestine migration show the lowest average length of stay in the MCI. Such profiles also show the highest celibacy rates before departure and during the period of stay in the MCI (81% of emigrants who return after completing studies remain single before departure and during the period of stay in the MCI as opposed to 74% of forced returning migrants).

Although the three North African countries do not share a variety of socio-cultural, linguistic, religious and other environment elements, dissimilarities can be found in terms of the macro-economic context and the history of migration of each country. Based on the same survey, an empirical study conducted by F. Gubert and C. Norman (2008) concluded that nearly a third of migrants have conducted a project when returning. However, the two authors have also noted significant dissimilarities with regard to probability of investment by country. Algeria differs clearly in terms of a lower share of emigrants who have become self-employed, on the one hand, and the weaker proportion of others who have become investors, on the other. Both authors justify their results by the fact that a significant portion of Algerians in the sample began their migration process well before their Tunisian or Moroccan counterparts. In addition, The Algerian returning migrants are on average older and most of them are now retired. The fact that they held low-skilled jobs did not allow them to acquire entrepreneurial skills.

The most relevant variables include in particular the educational level (without the primary one) which plays a significant[7] role with regard to the returning group preferring the native country. This seems to be consistent with the results received later on. The North African labour migration in Western Europe took on many aspects during the 1950s and 1960s and also the mid-1970s. One of these constitutes the highest illiteracy rates among the newly-arrived emigrants in European territory.

7. *** $p<0.001$, *** $p<0.05$, *$p<0.1$.

3.2 The Model

Starting from a configuration of six classes, we now seek to assess the impact of certain variables on the probability of belonging to a given class. The estimated Multinomial Logistic Model takes into account individual and socio-demographic varieties: the origin and birth environment, sex, native country, educational level, reasons for emigration (improving the standard of living, work, family) and so on. The model was estimated by referring to the class characterized by return after temporary or other migration. Let us consider Y*i*0 as the varieties corresponding to the reference profile, temporary return migration and others. Y*i*1 shows the investment in the native country; Y*i*2 indicates the preference for the native country; Y*i*3 corresponds to the accumulation of the human capital; Y*i*4 is associated with failure to migrate; and Y*i*5 has to do with clandestine migration. The utility of each possibility corresponds to a linear model:

If the random terms, the three previous models are independent and identically distributed with extreme values of type I, then we can write the following formula:

$$
\begin{aligned}
Y_{i0}^{*} &= x_i \beta^{0} + u_{i0} \\
Y_{i1}^{*} &= x_i \beta^{1} + u_{i1} \\
Y_{i2}^{*} &= x_i \beta^{2} + u_{i2} \\
Y_{i3}^{*} &= x_i \beta^{3} + u_{i3} \\
Y_{i4}^{*} &= x_i \beta^{4} + u_{i4} \\
Y_{i5}^{*} &= x_i \beta^{5} + u_{i5}
\end{aligned}
$$

Such an estimation is made according to the method of maximum likelihood used, which ensures consistent and efficient estimators once the model is correctly specified.

$$
\Pr ob(Y_{ik} = 1 \mid x_i) = \frac{e^{x_i \beta^{k}}}{1 + \sum_{r=1}^{5} e^{x_i \beta^{r}}}, \qquad k = 1..5
$$

$$
\Pr ob(Y_{i0} = 1 \mid x_i) = \frac{1}{1 + \sum_{r=1}^{5} e^{x_i \beta^{r}}}.
$$

3.3 The Results of the Model

The empirical model confirms the heterogeneous aspect of returning profiles and also the influence of a certain number of varieties before the drawing up of the project for migration taking place during the amount of time spent in the host country.

- The level of secondary school education has the same effect of belonging on all groups in relation to reference profile, with the exception of the negative effect of

returning after completing studies (-0.9). An emigrant with a middle or high school educational level has more opportunities to be a part of the reference group rather than belonging to that of returning after completing studies. This result seems to be logical because being graduates decreases the probability of belonging to this class. The reality is that this variable has further familiarized us with the educational level of other profiles that are predominantly secondary school.

- Being a man maximizes the opportunities of belonging to a returning class for investment in the native country. This effect can be interpreted with reference to the social labour division between men and women. In the North African context, men are regarded as key workers; the distribution of gender in entrepreneurship is highly gendered. For instance, the share of Moroccan businesses run by women rises to 10% of the total number of businesses.[8]

- The change of marital status in the host country is another factor that makes the profiles differ from each other. We can assume that changing marital status positively and significantly affects all the groups, except for that of returning after completing studies. Our hypothesis suggests that such an event plays a role in extending the length of stay in the host country. The results of the descriptive analysis support this trend as we notice that returning after completing studies and after temporary migration and others have the shortest length of stay in the host country (7 and 10 years, respectively).

- The frequency of visits in the country of birth is another aspect that differentiates the returning profiles. The recurrence of visits in the native country (several times a year) is significant and positively affects emigrants' investments and rate of returning in their country of origin after completing studies. In contrast, we notice the opposite effect of belonging to the group profile related to clandestine migration (-1.27). This seems to be logical if we take into account the specific feature of clandestine migration and its impact on the frequent visits paid to the native country.

- The native country negatively and significantly affects reference groups of profiles all together, except for returning for investment.

4. Conclusion

During the last twenty years, the globalization process has been instrumental in enhancing the mobility of labour. "Globally, the trade/GDP ratio was increased to 1.5 during the nineties. Within the same period, the ratio of GDP foreign direct investments has risen to 3 (WTO, 2004), and the "stock of immigration of OECD countries has also risen up to 50%." But given the migration restrictions imposed by the northern states, this windfall

8. International Finance Corporation, Genre-Entrepreneuriat-Accès aux Marchés (GEM), Morocco, 2005.

may dry up in the coming years. Returning is thus required as a legitimate alternative for emigrants to keep pace with their country's development. Furthermore, this policy increasingly keeps drawing attention to the migration policies established by the native country, which enhances the emigrants' returning and integration in Morocco. However, these return-assisted policies have not met the expected outcomes.

If public intervention seems to be necessary, its effectiveness largely depends on the conditions of its implementation. In this context, the TOCKTEN experience introduced by Morocco in 1994 and the FINCOM programme in 2007 are extremely instructive in the sense that they attach importance to two major elements, including the provision of statistics and the measures management.

i. The provision of statistics: the range of issues that could be raised in terms of analyses would significantly be enlarged if countries update their administrative records and undertake partnerships that would enable them to follow up their immersed populations.

ii. The measures management: the effectiveness of a measure depends on targeting degree. In principle, the more the measure is well-targeted, the larger the effectiveness opportunities become. Indeed, the migrants' category is statistically too heterogeneous so that it will be subject to the same device. The motives that encourage a young post-graduate holder of a degree in the host country largely differ from the objectives of an emigrant who went back to his homeland after retirement. The empirical analysis of the MIREM survey on North African Returning Migrants reinforces this assumption by highlighting the uniqueness of North African dynamism (clandestine migration, returning for preference of the host country and its consistency with returning after the end of the working life process). The length of stay in the host country is also discriminating. It is higher when referring to returning groups for the purpose of investment (15.7 years) and for those who prefer to settle down in the native country (29 years). It therefore involves the correlation between duration and savings in order to account for consumption or investment in the native country. In contrast, we have found shorter length of stay when referring to those who return after completing studies (7 years), clandestine migration (8 years) and temporary or other migration (10 years). Within the native country, the combination of the length of stay and the respondent's age with regard to those who return after completing studies shows the dominance of the effect of providing professional opportunities on the returning-decision of this profile. Other involved discriminatory varieties include in particular the frequent visits paid to the native country and the change of status in the host country.

The targeting measures will not take place unless the measures concept is based on a realistic analysis of profiles, which undermines the implicit assumption that statistical categories used are homogeneous. The work carried out in this context follows this logic in that it seeks to analyse the development of the returning project by highlighting the specificities and sensitivity of each return category.

References

Afsa Essafi, C. (2003), Les modèles logitpolytomiques non ordonnés : théorie et applications, working document series « Méthodologie Statistique », Institut National de la Statistique et des Etudes Economiques (INSEE), No. 0301, pp. 19-67.

Borjas, G. and **B. Bratsberg** (2007), "Who Leaves? The Outmigration of the Foreign-Born", The Review of Economics and Statistics, Vol. 78, No. 1, February, pp. 165-176.

Cassarino, J.P. (2004), "Theorising Return Migration: The Conceptual Approach to Return Migrants Revisited", International Journal on Multicultural Societies (IJMS), Vol. 6, No. 2, pp. 253-279.

Cassarino, J.P. (dir.) (2007), Migration de retour au Maghreb, réintégration et enjeux de développement, general report, MIREM.

Dean, Y. (2004), "Why Do Migrants Return to Poor Countries? Evidence from Philippine Migrants' Responses to Exchange Rate Shocks", Gerald R. Ford School of Public Policy and Department of Economics, University of Michigan, July, pp. 2-8.

Docquier, F. and **H. Rapoport** (2007), « L'immigration qualifiée, remède miracle aux problèmes économiques européens? », Reflets et perspectives de la vie économique, Vol. XLVI, Université de Boeck, pp. 95-111.

Dumont, J.-Ch. and **G. Spielvogel** (2008), « Les migrations de retour : un nouveau regard ». In: OECD, Perspectives des migrations internationales. Paris: SOPEMI, pp.181-246.

Dustman, Ch. and **J. Mestres** (2008), "Remittances and Temporary Migration", December, pp. 4-5.

Dustman, Ch. and **Y. Weiss** (2007), "Return Migration: Theory and Empirical Evidence from the UK", British Journal of industrial Relations, June, pp. 236-256.

Dustman, Ch. (2007), "Return Migration, Investment in Children, and Intergenerational Mobility. Comparing Sons of Foreign- and Native-Born Fathers", The journal of Human Resources, XLIII.2, April.

Dustman, Ch. (2001), "Why Go Back? Return Motives of Migrant Workers", Department of Economics, University College London.

Lahlou, M. (2006), Migration de retour au Maroc : une approche socio-économique et institutionnelle, Projet MIREM (Migration de retour au Maghreb), October.

Khachani, M. (2010), La migration des personnes hautement qualifiées le cas du Maroc, CARIM, Notes d'analyse et de synthèse, 2010/37, pp. 1-23.

Stark, O. and **S. Fan** (2007), "The brain drain, 'educated unemployment', human capital formation, and economic betterment", Economics of Transition, Vol. 15(4), pp. 629-660.

Table 1a. Average length of stay and average age profiles according to the return

Variables	Profile	Mean	Standard Deviation
Length of stay in the main countries of integration (SEJ_PPI)	Other reason + temporary migration	10.31	9.64
	Investment in the country of origin	15.71	10.10
	Preference country of origin	28.91	12.35
	Accumulation of human capital	7.02	5.09
	Failed migration	12.70	10.86
	Illegal migration	8.05	7.26
	Total	**15.87**	**13.08**
Age at the time of the survey (AGE)	Other reason + temporary migration	41.75	10.55
	Investment in the country of origin	62.88	134.58
	Preference country of origin	59.35	16.18
	Accumulation of human capital	38.79	8.01
	Failed migration	43.69	12.41
	Illegal migration	36.68	10.70
	Total	**48.69**	**54.52**
Age at start (AGE_dep2)	Other reason + temporary migration	38.4	9.73
	Investment in the country of origin	39.2	9.59
	Preference country of origin	54.6	12.72
	Accumulation of human capital	33.9	6.0
	Failed migration	39.2	11.38
	Illegal migration	32.5	9.9
	Total	**41.4**	**13.68**

Table 1b. Correlation test between the average length of stay and the average age compared to profiles.

Variables		Sum of squares	ddl	Sum of squares	F	Signification
Length of stay in the main country of settlement (SEJ_PPI)	Intergroup	64951.62	5	12990.32	126.60	0.00
	Intragroup	96044.45	936	102.61		
	Total	160996.07	941			
Age at the time of the survey (AGE)	Intergroups	107772.15	5	21554.43	7.49	0.00
	Intragroups	2838351.84	986	2878.65		
	Total	2946123.99	991			

Table 2. Children of migrants prior to departure from country of origin

Children before emigrating						
Percentage	**Length of stay**					**Total**
	[01-09[	**[10-19[**	**[20-29[**	**[30-39[**	**40&+**	
Has had children before departure in country of origin	39%	17%	23%	4%	17%	100%
Has not had children before leaving the country of origin	46%	15%	15%	5%	18%	100%
Total	41%	16%	21%	5%	17%	100%

Table 3. Migrant children in the Main Country of Settlement

Children in the Main Country of Settlement						
	Length of stay					**Total**
	[01-09[	**[10-19[**	**[20-29[**	**[30-39[**	**40&+**	
Has had children in MCI	18%	20%	27%	10%	25%	100%
Has not had children in MCI	61%	7%	8%	3%	20%	100%
Total	43.9%	12.4%	15.3%	6.1%	22.3%	100%

Table 4. Table for estimating the multinomial logit model

Profile	Investment in countries of origin		Preference country of origin		Accumulation of human capital		Failed migration		Illegal migration	
	coefficient	signification	coefficient	signification	coefficient	signification	coefficient	signification	coefficient	signification
Constant	-1.71	****	-1.27	**	-1.69	ns	0.6	ns	0.27	ns
Place of residence										
Reference: Urban										
rural environment	0.42	ns	0.4	ns	1.07	**	0.24	ns	0.48	ns
Genre										
Reference: Women										
men	1.33	****	0.57	ns	0.31	ns	-0.14	ns	0.17	ns
Country										
Reference: Algeria										
Morocco	-0.32	ns	-1.55	****	-1.65	****	-1.4	****	-0.57	****
Tunisia	-0.67	ns	-1.66	****	-1.04	**	-1.88	****	-1.08	****
Level of education										
No level or primary	0.64	ns	2.32	****	-2.88	ns	0.82	****	1.26	****
Intermediate	0.87	****	1.03	****	-2.88	ns	0.82	ns	1.26	****
Reference: Upper										
Improvement of living conditions										
An emigrant to improve living conditions	-0.14	ns	-0.14	ns	-1.17	*	0.27	ns	-0.06	*
Reference: other reason										
Period of immigration										
An emigrant after 1990	1.06	****	1.8	****	1.38	****	0.64	ns	0.5	ns
Reference: An emigrant before										
Change of marital status in the main country of settlement										
Reference: no change										
A change of marital status in the main country of settlement	0.82	****	0.62	**	0.24	ns	0.31	****	0.34	ns
Children in the main country of settlement										
Reference: no children in the main country of settlement										
One or more children in the main country of settlement	-0.26	ns	-0.52	*	-1.33	****	-0.33	ns	0.34	ns
Transfer to country of origin										
Reference: no transfers										
Did transfers to country of origin	-0.18	ns	0.03	ns	-1.65	****	0.17	ns	0.18	ns
Contacting one or more times a week										
Reference: other situations										
Contact once a week	-0.33	ns	0.39	ns	1.41	ns	0.32	ns	-0.1	ns
Contacting one or more times per month										
Reference: other situations										
Contact once a month	-0.06	ns	0.4	ns	1.79	ns	0.52	ns	0.37	ns
Contact one or more times per year										
Reference: other situations										
Contact once a year	-0.09	ns	0.16	ns	2.89	****	0.57	ns	0.19	ns
Visit the country once a year										
Contact once a year	-0.09	ns	0.16	ns	2.89	****	0.57	ns	0.19	ns
Visit the country once a year										
Reference: other situations										
Visit the country once a year	0.83	****	0.39	ns	1.17	**	-0.6	ns	-1.27	****
Visit the country several times a year										
Reference: other situations										
Visit the country several times a year	-0.61	ns	-0.03	ns	0.23	ns	-0.62	**	-1.17	****
Log Likelihood	-1200.018									

Table 5. Reasons to return in the MIREM questionnaire, grouped according to the theoretical concepts

Codes	Modalities	Grouping	
1	Precarious employment in the country of immigration	Failed migration for economic reasons	Failed migration
6	Integration problems in the country of immigration	Failed migration for reasons of integration	
14	Unfavourable socio-cultural environment		
3	Family problems in the country of origin	Failed migration for family reasons	
4	Family problems in the country of immigration		
11	I finished my studies in the country of immigration	Return after studies	
12	Completed my training		
5	Health problems	Preference the country of origin	
7	Retreat		
13	Nostalgia for my country and its traditions		
8	Manage my business	Investments in the country of origin	
9	Creating projects		
2	To benefit from aid to return	Temporary migration	
10	End of my contract of employment in the country of immigration		
15	Other	Other reasons	
99	Do not know		
-1	Not concerned	Irregular migration	

Table 6. Contributions to the axes of inertia

Inertia and Chi-Square Decomposition

Singular Value	Principal Inertia	Chi-Square	Percent	Cumulative Percent	7 14 21 28 35 ----+----+----+----+----+---
0.18621	0.03467	3817.9	35.71	35.71	*************************
0.15441	0.02384	2625.3	24.56	60.27	*****************
0.13502	0.01823	2007.4	18.78	79.05	************
0.08968	0.00804	885.6	8.28	87.33	******
0.07707	0.00594	654.1	6.12	93.45	****
0.05730	0.00328	361.5	3.38	96.83	**
0.04515	0.00204	224.5	2.10	98.93	**
0.03217	0.00103	113.9	1.07	100.00	*
Total	0.09709	10690.3	100.00		

Degrees of Freedom = 1793

Remittances, Education and Return Migration. Evidence for Immigrants in Spain

Raul Ramos and Alessia Matano, AQR-IREA, Universitat de Barcelona, Barcelona, Spain

E-mail: rramos@ub.edu and amatano@ub.edu

Abstract

We analyse the relationship between intentions to return, remittances and human capital for immigrants in Spain. With this aim, microdata from the 2007 *Encuesta Nacional de Inmigrantes* – provided by the Spanish Institute of Statistics – are used to analyse whether more educated migrants are more or less likely to remit (the extensive margin) and, if they do remit, whether they send more or fewer remittances than less educated migrants (the intensive margin). A negative association is found between education and remittances at the extensive margin, and a strong positive relationship at the intensive margin. However, the evidence is mixed once we take into account their different origins and their intentions to return. Our results show a different behaviour of immigrants depending on their region of origin that could be related to cultural and institutional differences, which will be explored in further research.

Keywords

Migration, Remittances, Return Migration, Education.

JEL Classification

I21, F22, F24, F66, F63

Acknowledgments

The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2010-2.2-1) under grant agreement no. 266834. We also express our gratitude for the support received from Spain's Ministerio de Ciencia e Innovación (VI Plan Nacional de Investigación Científica, Desarrollo e Innovación Tecnológica 2008-2011) through the action ECO2010-16006. February 2013

1. Background and Objectives

One of the issues much discussed in recent years is the impact of migrants' education level on remittance flows (Dustmann and Glitz, 2011; Yang, 2011; Rapoport and Docquier, 2005). It has been argued in the migration literature that the negative impact of the brain drain can be offset by the remittances that skilled migrants send back home to their family. Do skilled migrants remit more or less than unskilled migrants? If they remit more than unskilled immigrants, the impact of brain drain will be lower for their home country. Given that most developed countries' immigration policies increasingly favour skilled migrants, whether they remit more or less than unskilled migrants has important policy implications for migrants' home countries. In fact, from a policy perspective, the concern is whether migration policies that shift the education composition of migrants affect remittances. Moreover, policies related to return migration are also attracting growing interest and, in particular, those intended to support the effective management of temporary migration and those that involve assistance for voluntary return. These policies can also affect remittances' flows as the behaviour of temporary and permanent immigrants is quite different. However, the return to the country of origin could have additional benefits through different channels: first, they bring back with them the education and working experience they acquired abroad together with the social capital obtained from their migration experience and, second, they may come back with the savings accumulated during their stay abroad.

The objective of this paper is to analyse the relationships between remittances behaviour, return migration and educational levels for immigrants in Spain. Studying immigration in the Spanish labour market is a matter of great interest, because in a relatively short time Spain has become a country with significant and heterogeneous migration flows in the international context. In contrast with many countries, immigration to Spain originates from a highly varied range of countries, with origins as diverse as Latin America, the Maghreb and Eastern Europe. Furthermore, immigration from Latin America is characterised by the sharing of both the Spanish language and culture, but the level of its development is clearly lower, and there are marked differences between the various countries on the continent. This feature is not common to other countries that have traditionally received immigration, such as the United States, the United Kingdom and Australia, in which immigrants (with English as their mother tongue) normally come from only a few countries, some of which have a similar level of development. Moreover, the recent economic crisis has changed the dynamics of migration flows and it is important to increase the knowledge about immigrant's behaviour in order to devise proper immigration strategies and policies to guarantee economic well-being and social stability for those immigrants particularly affected by the current worsening in labour market conditions, but also the potential impact on their countries of origin.

Taking into account the previous exposition, microdata from the 2007 *Encuesta Nacional de Inmigrantes* – provided by the Spanish Institute of Statistics – are used to analyse whether more educated migrants are more or less likely to remit (the extensive margin) and, if they do remit, whether they send more or fewer remittances than less educated migrants (the intensive margin). The main contribution of the paper is to consider the heterogeneity of the immigrant population in Spain, an issue that has been omitted in the previous literature. In particular, we will carry out a specific analysis of three particular groups of immigrants in Spain: Ecuadorian, Romanian and Moroccan, who represent three different realities in terms of their countries of origin, but that also account for an important share of total immigrant population. Our results for all immigrants show a negative association between education and remittances at the extensive margin, but a strong positive relationship at the intensive margin. However, the evidence is mixed once we take into account their different origins and their intentions to return. Our results show a different behaviour of immigrants according to their origin that could be related to cultural and institutional differences.

The rest of the paper is structured as follows: section 2 briefly summarises the literature on the topic; section 3 describes the data used in our analysis; the econometric specification and results are shown in section 4; and, last, the paper ends with some final remarks.

2. Literature Review

As highlighted by Bollard et al. (2011), there are several reasons to believe that there will be differences in the remitting patterns of highly-skilled and less-skilled emigrants, but the direction of the difference is not clear. On the one hand, several factors tend to lead highly-skilled migrants to be more likely to remit and to send larger amounts of remittances. In particular, highly-skilled individuals are likely to earn more as migrants, potentially increasing the amount they can remit. Moreover, their education may have been funded by family members in the home country, with remittances serving as repayment. Last, skilled migrants are less likely to be illegal migrants and more likely to have bank accounts, lowering the financial transaction costs of remitting. On the other hand, several other factors might lead highly-skilled migrants to be less likely to remit and to remit less. First, highly-skilled immigrants may come from richer households, which have less need for remittances to alleviate liquidity constraints. Second, highly-skilled migrants may be more likely to migrate with their entire household, so they would not have to send remittances in order to share their earnings with their household, and last, but also related to this point, they might have less intention of returning to their home country, reducing the role of remittances as a way of maintaining prestige and ties to the home community. So, the contribution of migrants to the development of their country of origin will not only limit remittances but also the resources they bring back to the country if they decide to come back (return migration) (Adams, 2011; OECD, 2008).

In fact, policies related to return migration are also attracting growing interest (Mezger Kveder, 2011) and, in particular, those intended to support the effective management of temporary migration and those that involve assistance for voluntary return. For this reason, from a policy perspective, it is relevant to understand the relationships between remittances behaviour, return migration and educational levels. The literature has suggested four main reasons to explain return migration: failure to integrate into the host country; individuals' preferences for their home country; achievement of a savings objective; or the opening of employment opportunities in the home country thanks to the experience acquired abroad. The second and third arguments suggest that perhaps return migration can be considered as part of the initial migration plan and, as a result, the behaviour of the immigrant in the foreign country will be determined by these decisions, i.e., will remit more.

There are many situations in which remittances "buy" various types of services for the immigrant who intends to return to the country of origin at some later stage, such as taking care of the migrant's assets (land and cattle, for example) or relatives (children, elderly parents) at home. In this context, education also plays a role. As pointed out by Faini (2007), migrants with higher education seem to have less intention to return than migrants with lower education as they have better prospects in the host country. If that is the case, more educated migrants should transfer less for an exchange motive, reflecting their lower propensity to return. But the bargaining power of the two parts also play a role (Aísa et al., 2011). In this context, more educated migrants are expected to remit more to compensate the family for the additional education expenditures incurred in the past. In short, the effect of education on remittances is not clear, with the sign of the effect depending on whether return intentions or bargaining issues matter more to remittance behaviour.

The existing empirical literature on the determinants of remittances and return migration is largely based on microeconometric analyses, and the findings obtained up to now are inconclusive. Many of the studies examining motives to remit have focused on altruism and self-interest. While altruism would imply a negative relationship between recipients' income (and education) and remittances sent home, self-interest might imply a positive relationship between these variables of interest. However, both the altruistic and the exchange motives for remittances yield unclear theoretical predictions as to whether more educated migrants remit more or less than do less educated migrants. Perhaps the most ambitious study in this context is the one by Bollard et al. (2011). Using microdata from surveys of immigrants in 11 major destination countries, they analyse the relationship between education and remitting behaviour. Their results show a negative relationship between education and the probability of remitting, and a strong positive relationship between education and the amount remitted. Combining these intensive and extensive margins yields an overall positive effect of education on the amount remitted for the pooled sample, with heterogeneous results across destinations. Plans to return seem to affect

only the decision to remit but not the amount sent. Regarding the relationship between remittances and return migration, it is also necessary to consider the work by Dustman and Mestres (2010). These authors have found big differences in remittance behaviour between households with permanent and temporary migration plans among immigrants in Germany. This association between the temporary character of migration and remittances reflects the fact that those immigrants who are intending to return home are also more inclined to remit. In fact, also using data for immigrants in Germany, Sinning (2011) has found that return intentions positively affect financial transfers of immigrants to their home country, and is the most relevant variable to explain individual differences in remittance behaviour. Pinger (2010) has also examined the determinants and consequences of temporary and permanent migration using a large and detailed household dataset on migration in the Republic of Moldova. The results obtained regarding remittances reveal that, in absolute terms, temporary migrants remit around 30% more than their permanent counterparts. Last, Docquier et al. (2012) have used a different perspective and have analysed aggregate bilateral remittances data. They have found that immigration policies determine the sign and magnitude of the relationship between remittances and migrants' education. In particular, they find that the relationship between remittances and migrants' education is inverse-U shaped and that for a given country pair a more skilled pool of migrants will send more remittances if the destination country has a more restrictive immigration policy.

3. The National Immigrant Survey 2007

The National Immigrant Survey (hereafter, ENI) is a survey prepared by the Spanish National Statistics Institute in order to obtain detailed information on the international nature of immigration in Spain, supplementing information gathered from regular sources of data (such as the "Padrón Municipal", the *Encuesta de Variaciones Residenciales,* the *Encuesta de Población Activa* or the "Censo de Población"), which provide partial information on the characteristics of immigration. The scope of the ENI covers all of the national territory of Spain and the data collection was conducted between November 2006 and February 2007 based on the "Padrón Municipal", using the week prior to the interview as the reference period. The survey was addressed to foreign-born individuals who (intend to) live in Spain for at least one year and the original survey sample comprises approximately 15,500 individuals.

The ENI provides detailed information on the sociodemographic characteristics of immigrants (e.g., age, gender, nationality, country of birth, marital status, education, legal status, and year of arrival in Spain), on their current work situation but also about their behaviour regarding remittances and their ties with countries of origin. The range of questions on immigration covered by the survey is very wide, comprising, among others, immigrant household structure and accommodation characteristics; family and social networks and various aspects of their migration experience.

The ENI defines immigrants as any individuals born abroad (regardless of whether they have Spanish nationality or not) who at the time of the interview had reached at least 16 years of age and had resided in a home for a year or longer (or, alternatively, in the case of individuals with less than one year's residence in Spain, had the intention to remain there for at least a year). The only exception is individuals born outside Spain who have possessed Spanish nationality from birth, but had not reached two years of age by the time of arrival in Spain. In that case, Spain was considered as their country of origin. This definition of immigrant meant, among other circumstances, that individuals born abroad but with Spanish nationality are considered immigrants, while foreign nationals born in Spain are not. Hence, this approach excludes individuals born in Spain of foreign immigrants, even if their nationality is not Spanish. It also excludes Spanish emigrants who have returned to Spain.

Regarding remittances, two different but related variables are considered in our analysis: first, to remit or not to remit and, second, the amount of remittances sent. The first variable is defined as a positive answer to the question "Do you send money out of Spain?" while the second is measured as the logarithm of the total amount of money sent overseas during the year 2007.

Human capital is proxied in two different ways: first, the information on schooling levels has been recoded as the number of finished schooling years and, second, the different schooling levels have been grouped in 3 categories: primary studies, secondary studies and tertiary studies. This second specification permits us to avoid the critique related to the potential non-linearity of human capital.

In relation to permanent and temporary migration, our data set only provides information on return intentions rather than realized returns. However, Dustmann and Mestres (2011) argue that the history of return intentions are the optimal data source for modelling the effect of return migration on economic decisions in the host country, such as labour supply, since the economic behaviour is determined by intentions, not by realizations. On the other hand, intentions are less appropriate to model return determinants and durations, since migrants are likely to adjust their plans over the course of their migration, but this is not our objective. The data set allows us to consider whether the immigrants' plans are to stay in Spain, to return to their country in the next 5 years or to move to a third country in the same period of time. In our analysis, we consider two dummy variables related to the last two categories: return migration and circular migration.

Other variables employed in the empirical analysis include gender, age, marital status, if spouse is living abroad or not, the number of children in the household and abroad, years since migration, employment status and annual income. In addition, a variable has been devised to capture immigrants' legal status, reflecting whether or not they have documents to become legally contracted employees under current Spanish law. We

have also considered whether the immigrant asked for a loan in the country of origin when migrating, if there are plans to bring family to Spain, if they are in touch with family in the country of origin and if they are owners of a dwelling in Spain. Last, the province of residence in Spain is also considered in the empirical analysis to account for potential differences in the regional labour market of the immigrant.

As previously mentioned, one of the objectives of our paper is to consider the heterogeneity of the immigrant population in Spain when analysing their remittance behaviour. In order to break down the information by area of origin, immigrants have first been grouped by country of birth, distinguishing between developed and developing countries. Developed countries include the EU15 countries, Norway, Switzerland, Iceland, Cyprus, Malta, the small European principalities, the United States, Canada, Israel, Japan, Australia and New Zealand. All other countries have been considered developing. Ecuadorian, Romanian and Moroccan immigrants are highly representative of Latin America, Central and Eastern Europe and Africa, respectively, being the three biggest groups of immigrants in Spain according to the country of birth.

Observations have been excluded from the original sample for individuals with incomplete information concerning the variables of interest; individuals who are under 16 or over 65 years of age; and those immigrants with Spanish nationality at birth. It comprises 11,013 immigrants.

4. Descriptive Statistics, Econometric Specification and Results

Table 1 provides some descriptive statistics on remittances, plans to return and education for all immigrants in Spain in 2007 and those from developed and developing countries, distinguishing between Ecuadorian, Romanian and Moroccan immigrants. As we can see, the share of immigrants sending remittances is above 40% for the whole sample, but there are important differences according to the region of origin. Only 4.4% of immigrants from developed countries sent money abroad while this share is over 53% for those from developing countries. The behaviour of immigrants from Ecuador, Romania and Morocco is quite different. While Ecuadorians and Romanians remit more than the average immigrant from developing countries, Moroccans are clearly below this average. The amount remitted is also lower for Moroccans and Romanians than the average while the figure for Ecuadorians is substantially higher. Of course, this amount is related to the economic status of the different groups in Spain (see Annex 1), but also to intentions to return: while 8 out of 10 immigrants from developing countries have plans to return to their country of origin in the next 5 years, only 1 out of 10 Moroccans have these plans. The share for Ecuadorians and Romanians are substantially higher: 14.8% and 8.2%, respectively. From this table, we can also see that the association between remittances, intentions to return and education is not very clear. Ecuadorians have similar educational levels to Romanians, but their behaviour both in plans to return and remittances behav-

iour are quite different. In fact, the share of Moroccan immigrants with tertiary studies is also similar to the other two groups but they have clear preferences to stay in Spain. At the bottom of the table, we focus only on immigrants with tertiary education. As we can see, there are still significant differences between the different groups of immigrants, both in terms of intentions to return and their remittance behaviour.

In order to analyse the factors behind remittances, we specify and estimate two different econometric models. First, we estimate a probit model for the decision to remit and, second, we estimate a regression model for the amount remitted. However, since certain factors affecting the probability of remitting and those affecting the amount remitted are linked, in the second case, a Heckman's sample selection model is used. Implementing the Heckman model requires the selection of variables that have an effect on the discrete choice of whether or not to send remittances, but not on the amount sent, so explanatory variables in both models will be different. The two models will be estimated using only information from immigrants from developing countries. The new sample is formed by 8,385 immigrants.

As independent covariates in the probit model, we include variables related to personal characteristics such as gender, age and education. Other variables that could affect the decision to remit are related to the economic situation in Spain, so we include years since migration and its square (as a proxy of assimilation in the host country), a dummy for legal status, a dummy taking value 1 if employed and a dummy if he is the owner of a dwelling in Spain. The situation and ties with the country of origin are also relevant. In this sense, we include a dummy if the immigrant asked for a loan to come Spain and some additional variables related to the family circumstances. We also expect the probability to remit to decrease if the immigrant has to maintain children living in Spain, but to increase if the children or the spouse is residing abroad. A higher probability to remit is also expected if the immigrant is in contact with the family or friends in the country of birth, if there is the intention to bring some family members to Spain, or if the immigrant has plans to return to the home country over the next five years.

We have assumed that some of these variables may affect both the decision to remit and its magnitude, while others only influence the probability of sending remittances. However, there is no consensus in the literature about which factors affect the probability of remitting, and which influence both the probability and the amount remitted. Several robustness checks have been carried out in relation to the specification of the Heckman's selection model and are available on request. The results finally presented in the paper include variables related to personal characteristics (including education), family circumstances, plans to return and the log of annual income together with the selection term.

Results for the two models are shown in Table 2. In models (1) and (3), immigrant's education is proxied by schooling years while in models (2) and (4) it is proxied by two dummies related to secondary and tertiary studies (primary studies is taken as the base category). Looking at the results for the probit model, we find no significant differences in terms of gender or marital status. Age seems to have a positive (although) very small effect on the probability to remit. Having a spouse abroad does not increase the probability to remit, but having children in Spain decreases this probability, while having children abroad clearly increases the probability, being one of the individual variables with a higher effect. Having asked for a loan and keeping in touch with the family at origin are also positive and significant. Years since migration and its square are both significant and show evidence of a non-linear relationship between the economic progress in Spain and the probability to remit: it increases during the first years in Spain but after 8-9 years it decreases substantially. The other variables related to the economic situation in Spain (legal status, employed) are also positive and significant, except for being the owner of a dwelling in Spain, which turns out to be insignificant. If we focus on the main variables of interest in our analysis, we find a positive effect of plans to return but no differential effect of plans to move to a third country. Education has a negative effect both when proxied by schooling years or educational level dummies, a similar result to the one found in the literature. Last, if we look at the dummy variables associated with Ecuador, Romania and Morocco, we cannot reject a substantial different effect between these three countries and the rest of immigrants from developing countries. Once the effect of the covariates is discounted, the probability of immigrants from Ecuador and Romania remitting is 6 and 9 percentage points higher than in the rest of the developing countries, while this probability is 12 points lower in Morocco.

Similar results are found when we look at the results for the determinants of the annual amount remitted. As expected, the log of annual income has a positive and significant effect on the amount remitted. Education now has a positive and significant effect, as found by Bollard et al. (2011). Plans to return, however, turn out to be insignificant to explain the amount remitted. Heckman's lambda is also significant, showing evidence that both decisions are somehow linked. Last, the dummy variables associated with the three countries under study show again clear differences with each other. While remittances from Moroccans are not different of those from the rest of the world, Ecuadorians send much more (17%) and Romanians send less (-20%). The factors behind these differences among countries have not been identified by the literature and could be related to institutional and cultural differences that will be analysed in further research.

5. Final Remarks

According to World Bank remittances statistics, remittances received from around the world accounted for 7.3% of GDP in Ecuador, 5.0% in Romania and 8.9% in Morocco. Remittances from Spain accounted for more than 40% in Ecuador, 30% in Romania

and 25% in Morocco. Table 3 shows that since 2007 the economic crisis hitting the Spanish economy has affected international migration flows coming to Spain. However, while the Ecuadorian population in Spain has decreased substantially, the Romanian and Moroccan population is still increasing, although at a slower pace. This different evolution is not explained by a better relative situation in any of these countries as shown in Figure 1. Several studies analysing the remittances behaviour of immigrants in different host countries have not explored potential differences among immigrants according to their region of origin. Most researchers have focused on the role of education, plans to return or other personal characteristics but no attention has been paid to other institutional and cultural characteristics that could explain this different behaviour. Our results emphasize the importance of education and the particular form of migration for immigrant behaviour, but also points that further research should explore new directions. From a policy perspective, our analysis also suggests that remittances need to be discussed in conjunction with other policies not only related to education or the particular form of migration but also to other channels potentially affecting migrants' decisions.

References

Adams, R.H. (2011), "Evaluating the Economic Impact of International Remittances On Developing Countries Using Household Surveys: A Literature Review", Journal of Development Studies, 47 (6): 809-828.

Aísa, R., J. Andaluz and **G. Larramona** (2011), "How does bargaining power affect remittances?", Economic Modelling, 28: 47–54.

Bollard, A., D. McKenzie, M. Morten and **H. Rapoport** (2011), "Remittances and the Brain Drain Revisited: The Microdata Show That More Educated Migrants Remit More", World Bank Economic Review, 25 (1): 132-156.

Docquier, F., H. Rapoport and **S. Salomone** (2012), "Remittances, migrants' education and immigration policy: Theory and evidence from bilateral data", Regional Science and Urban Economics, 42 (5): 817-828.

Dustmann, C. and **A. Glitz** (2011), Migration and Education in Handbook of the Economics of Education, Vol. IV, Chapter 4, pp. 327-439.

Dustmann, C. and **J. Mestres** (2010), "Remittances and temporary migration", Journal of Development Economics, 92(1): 62-70.

Faini, R. (2007), "Remittances and the Brain Drain: Do More Skilled Migrants Remit More?", World Bank Economic Review, 21 (2): 177-191.

Mezger Kveder, C.L. (2013), Temporary Migration: A Review of the literature, INED Documents de Travail 188.

OECD (2008), "Return Migration: A New Perspective", International Migration Outlook, part III.

Pinger, P. (2010), "Come Back or Stay? Spend Here or There? Return and Remittances: The Case of Moldova", International Migration, 48 (5): 142-173.

Rapoport, H. and **F. Docquier** (2005), The Economics of Migrants' Remittances, IZA DP1531.

Sinning, M.G. (2011), "Determinants of savings and remittances: empirical evidence from immigrants to Germany", Review of the Economics of the Household, 9: 45-67.

Yang, D. (2011), "Migrant Remittances", Journal of Economic Perspectives, 25 (3): 129-152.

Table 1. Descriptive statistics on remittances, plans to return and education

	% of immigrants sending remittances	Amount remitted	% of return immigrants	Schooling years	% with tertiary education
All immigrants	41.6	1,922 €	6.9	11.0	21.8
Developed countries	4.4	3,613 €	2.6	11.6	31.7
Developing countries	53.2	1,880 €	8.3	10.9	18.7
Ecuador	65.9	2,268 €	14.8	9.6	7.1
Romania	59.7	1,387 €	8.2	10.5	6.8
Morocco	42.0	1,509 €	1.3	8.1	6.7

	% of immigrants sending remittances	Amount remitted	% of return immigrants
Immigrants with tertiary education	29.2	1,954 €	7.0
Developed countries	4.1	2,761 €	3.8
Developing countries	42.6	1,912 €	8.7
Ecuador	60.6	1,275 €	9.0
Romania	67.6	1,891 €	8.8
Morocco	45.0	1,160 €	0.0

Table 2. Econometric results

	Probability to remit Probit marginal effects		Log of amount remitted Robust OLS coefficient	
	(1)	(2)	(3)	(4)
Male	0.00151	-0.000867	-0.0798*	-0.0809*
	[0.0127]	[0.0127]	[0.0468]	[0.0470]
Age	0.00359***	0.00426***	0.00151	0.00118
	[0.000832]	[0.000843]	[0.00267]	[0.00269]
Married	0.0223	0.0232		
	[0.0144]	[0.0145]		
Spouse residing abroad	0.0492	0.048	0.0932	0.0918
	[0.0311]	[0.0312]	[0.0691]	[0.0693]
Children living in Spain	-0.0357***	-0.0376***	-0.135***	-0.134***
	[0.00752]	[0.00754]	[0.0237]	[0.0238]
Children living abroad	0.0737***	0.0710***	0.143***	0.144***
	[0.00978]	[0.00978]	[0.0233]	[0.0234]
Years since migration	0.0199***	0.0192***		
	[0.00456]	[0.00454]		
Years since migration squared	-0.00134***	-0.00133***		
	[0.000216]	[0.000214]		
Schooling years	-0.00481**		0.0141**	
	[0.00199]		[0.00686]	
Secondary education		0.0188		0.033
		[0.0162]		[0.0527]
Tertiary education		-0.0814***		0.143**
		[0.0206]		[0.0722]
Legal status	0.0383**	0.0404**		
	[0.0176]	[0.0176]		
Employed	0.199***	0.197***		
	[0.0134]	[0.0134]		
Having a loan in country of origin	0.134***	0.132***		
	[0.0175]	[0.0176]		
Plans to return to country of origin	0.157***	0.157***	0.0769	0.0772
	[0.0212]	[0.0211]	[0.0698]	[0.0699]
Plans to migrate to a third country	0.00449	0.00796	-0.0902	-0.091
	[0.0645]	[0.0657]	[0.194]	[0.194]
Plans to bring family to Spain	0.318***	0.317***		
	[0.0125]	[0.0125]		
Keeping in touch with family at origin	0.359***	0.357***		
	[0.0267]	[0.0269]		
Owner of dwelling in Spain	-0.00559	-0.00424		
	[0.0168]	[0.0168]		
Log of annual income			0.446***	0.447***
			[0.0561]	[0.0564]
Ecuador	0.0615**	0.0619**	0.168**	0.169**
	[0.0274]	[0.0275]	[0.0791]	[0.0793]
Romania	0.0901***	0.0812***	-0.208**	-0.203**
	[0.0257]	[0.0259]	[0.0833]	[0.0835]
Morocco	-0.119***	-0.109***	0.0464	0.0304
	[0.0325]	[0.0325]	[0.130]	[0.131]
Heckman's lambda			-0.615***	-0.610***
			[0.0865]	[0.0872]
Observations	8,385	8,385	2,783	2,783
R-squared			0.158	0.157

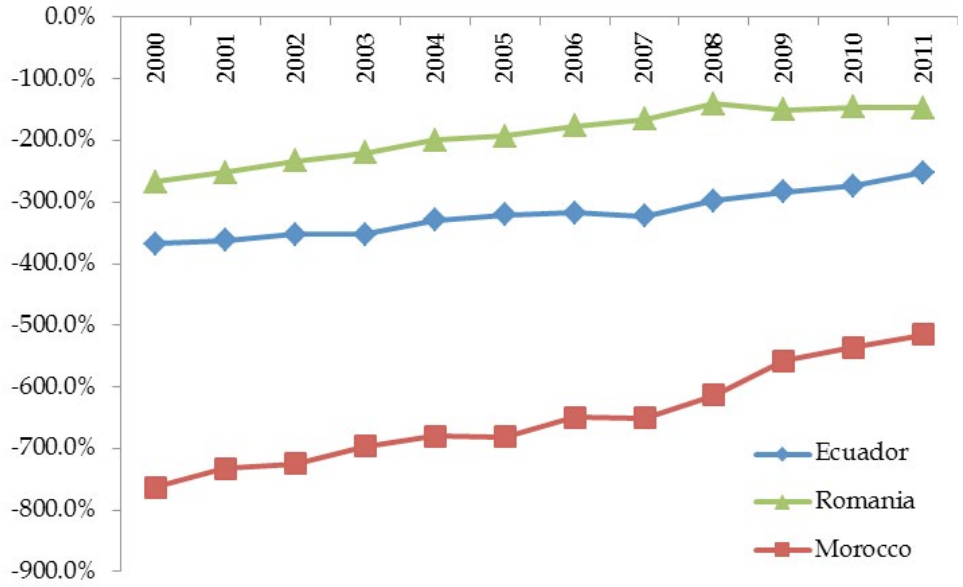
All models include regional fixed effects. Robust standard errors in brackets.

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

Table 3. Evolution of immigrant population in Spain

	All immigrants		Ecuador		Romania		Morocco	
2007	5,249,993		434,673		510,983		621,295	
2008	5,268,762	0.4%	415,535	-4.4%	702,954	37.6%	579,311	-6.8%
2009	5,648,671	7.2%	409,328	-1.5%	758,823	7.9%	627,858	8.4%
2010	5,747,734	1.8%	387,367	-5.4%	781,343	3.0%	645,156	2.8%
2011	5,751,487	0.1%	347,360	-10.3%	806,716	3.2%	648,458	0.5%
2012	5,736,258	-0.3%	293,602	-15.5%	829,936	2.9%	651,207	0.4%

Figure 1. Differences in GDP per capita (PPP-2005 constant $) between Ecuador, Romania, Morocco and Spain



Annex 1. Descriptive statistics

	All immigrants		Developed countries		Developing countries		Ecuador		Romania		Morocco	
	Mean	Sd	mean	sd	Mean	sd	mean	sd	mean	sd	mean	sd
Remit	0.416	0.493	0.0441	0.205	0.532	0.499	0.659	0.475	0.597	0.491	0.42	0.494
Amount remitted	1,922	2,577	3,613	7,464	1,880	2,317	2,268	2,847	1,387	1,964	1,509	1,656
Annual income	12,946	8,574	16,558	11,523	11,983	7,303	11,368	4,118	10,660	4,966	11,864	4,623
Return migration	0.0695	0.254	0.0255	0.158	0.0832	0.276	0.148	0.356	0.0818	0.274	0.0133	0.115
Circular migration	0.0114	0.106	0.0145	0.119	0.0104	0.101	0.0107	0.103	0.00798	0.0891	0	0
Schooling years	11.03	3.306	11.61	3.241	10.85	3.305	9.588	3.139	10.45	2.779	8.06	3.843
Primary education	0.167	0.373	0.134	0.341	0.177	0.382	0.363	0.481	0.162	0.369	0.36	0.481
Secondary education	0.588	0.492	0.534	0.499	0.604	0.489	0.554	0.498	0.747	0.435	0.417	0.494
Tertiary education	0.218	0.413	0.317	0.466	0.187	0.39	0.0708	0.257	0.0679	0.252	0.0667	0.25
Male	0.461	0.499	0.473	0.499	0.458	0.498	0.485	0.5	0.497	0.5	0.64	0.481
Age	35.49	10.59	40.13	11.2	34.03	9.951	31.28	9.254	31.61	9.532	31.49	10.87
Married	0.515	0.5	0.525	0.499	0.511	0.5	0.489	0.5	0.599	0.491	0.56	0.497
Spouse living abroad	0.0518	0.222	0.0133	0.115	0.0638	0.244	0.0494	0.217	0.0419	0.201	0.0833	0.277
Children living in Spain	0.764	0.997	0.753	0.941	0.768	1.013	1.251	1.305	0.916	1.057	1.167	1.569
Children not living in Spain	0.449	0.952	0.349	0.809	0.48	0.991	0.474	0.948	0.307	0.714	0.243	0.872
Years since migration	8.95	10.43	16.47	12.9	6.591	8.219	4.908	2.668	2.98	1.976	7.487	7.133
Legal status	0.86	0.347	0.997	0.0584	0.817	0.386	0.918	0.274	0.525	0.5	0.903	0.296
Employed	0.691	0.462	0.642	0.48	0.706	0.455	0.725	0.447	0.747	0.435	0.567	0.496
Having a loan in country of origin	0.111	0.314	0.00266	0.0516	0.145	0.352	0.303	0.46	0.156	0.363	0.0767	0.267
Plans to bring the family	0.261	0.439	0.0441	0.205	0.329	0.47	0.421	0.494	0.188	0.391	0.43	0.496
Keeping in touch with family	0.904	0.295	0.792	0.406	0.939	0.24	0.974	0.159	0.974	0.159	0.957	0.204
Owner of dwelling in Spain	0.305	0.46	0.553	0.497	0.227	0.419	0.27	0.445	0.11	0.313	0.18	0.385
Developed country	0.239	0.426										
Developing country	0.761	0.426										
Ecuador	0.0423	0.201										
Romania	0.0455	0.208										
Morocco	0.0272	0.163										
Observations	11,013		2,628		8,385		466		501		300	

The Sharing KnowledgE Assets: InteRregionally Cohesive NeigHborhoods (SEARCH) is a project financed by the European Union under the Seventh Framework Programme for Research and Technological Development in the "Socio-economic sciences and the humanities" area.

The SEARCH consortium consists of 17 partners from different European and Neighbourhood Countries (NCs).

The main objective of this project is to strengthen the integration process between the EU and the NCs by focusing on the European Research Neighbourhood (ERN), thereby fundamentally improving the understanding of institutional framework conditions of the ENP countries, and their economic interactions with the EU in terms of people, capital, trade, knowledge, and innovation, in order to improve the future definition and implementation of European Neighbourhood Policies, taking into account that "one size fits all" policy recommendations will not be appropriate due to the bilateral nature of the EU-ENP country agreements.

The specific objectives are the following:
Provide a theoretical and empirical framework on the relationships between the EU and the NCs.
Study, theoretically and empirically, the patterns of economic interaction between the EU and its neighbouring countries and estimate the sub-national effects of these interactions.
Analyse the role of labour migration and its economic and social consequences, both for destination and origin regions.
Investigate the extent to which the innovative performance of regions depends on endogenous ability in knowledge creation or on the capacity to absorb, adopt and imitate other regions' innovations.
Identify the impact of changes in the institutional structure in the neighbouring countries and regions on the prospects for improved economic development and social cohesion, and for their stronger integration with the EU and, in particular, with the new Member States.
Extract country-specific policy guidelines for policymakers in the EU and neighbouring countries to support the development of higher levels of economic integration for the growth, competitiveness and cohesion prospects of the two areas.

Consortium formed by:

Generalitat de Catalunya

Ajuntament de Barcelona