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Analysing Migration Flows From and To ENC Through the MIG-SEARCH databases

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Abstract

The objective of this paper is twofold: first, to collect statistical information on migration flows from and to ENP countries and its potential determinants and second, to specify and estimate gravity models in order to provide benchmark scenarios for policy analysis. In particular, two datasets have been compiled: the MIG-SEARCH database and the MIGEU-SEARCH database. The MIG-SEARCH database includes data for nearly 200 countries for a long time period starting in 1960 and ending in 2010 and it provides information on bilateral migration flows and stocks and several variables related to the economic, social, political and cultural pull and push factors identified by the literature. The MIGEU-SEARCH database provides similar information only for the EU27 countries and a shorter period (2002-2007), but data are available at the yearly frequency. In fact, the MIGEU-SEARCH focuses on within Europe migration flows using annual data before and after the last accession to the EU.

The descriptive analysis of these two datasets shows some interesting facts regarding population trends and migration flows in the EU and ENC. The main conclusion is that we expect a clear increase in migratory pressures from ECN to the EU in a near future. The rest of working papers in this work package will carry out in-depth analysis about several policy dimensions using the same dataset and a similar methodology that will permit to improve the main conclusions from this benchmark model.

Keywords

Bilateral migration, gravity models

JEL Classification

F22, O15 R23

1. INTRODUCTION

The free movement of workers is one of the fundamental principles upon which the European Union was once founded and, somehow, it is also present as a future goal in the bilateral negotiations with most neighbouring countries. As recognised in the Europe 2020 strategy, the European Union (EU) has a clear demographic challenge for the next decades. The EU will need to import foreign labour in response to gloomy demographic forecasts, in the context of ageing populations, low birth-rates, and prospects of a collapsing social security system, but it is also necessary to remain competitive in a global scenario and this means that we have to attract and retain the more skilled migrants.

This also requires improving the current control over migration flows and this is one of the reasons why the European migration policy was integrated into the European Neighbourhood Policy (ENP) from the very beginning. The EU neighbouring countries are the main countries of origin and transit of legal and illegal migration towards Europe. Moreover, their geographical proximity, economic, cultural and historical links make them an important potential source of labour force. In fact, nearly all Action Plans, the main tool of the ENP, contained proposals for actions in areas such as border management and management of migration flows. The EU proposed actions in the field of migration, asylum, visa policies, trafficking and smuggling, illegal migration and police cooperation.

Taking this into account, one of the main objectives of the SEARCH project is to analyse which has been the impact of ENP on current migration flows and to identify potential migration scenarios and policy options.

The objective of this paper is not to carry out an extensive literature review of previous work (which has been carried out under Work Package 1 of the SEARCH project) but to provide a common methodological and data framework that will be extended in the rest of working papers under this Work Package. In particular, with this aim, in a first stage, statistical information on migration flows from and to countries included in the ENP (from now on ENC) and Russia and its potential determinants have been collected and described and, in a second stage, gravity models are specified and estimated in order to provide benchmark scenarios for policy analysis. As previously mentioned, the use of common databases and methodological approach in the rest of working papers in this work package will permit to carry out in-depth analysis about several policy dimensions that will permit to improve the main conclusions from this benchmark model.

The rest of the paper is structured as follows: first, in section 2, main trends in population and migration flows from and to ENC and Russia are shown; next, in section 3, the datasets elaborated within this task are clearly described; section 4 describes the benckmark gravity models and, last, section 5 concludes with some final remarks.

2. POPULATION AND MIGRATION TRENDS FROM AND TO ENC

In this section, data from the World Bank Data Catalog are used in order to provide a brief description of past trends in population growth and migration flows from and to European Neighbourhood Countries (ENC) plus Russia.

As it can be seen from table 1, the population of the European Neighbourhood Countries (ENC) plus Russia is nowadays above 400 million people. While in the sixties of last centuries, the population in the South ENC (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Syria and Tunisia) was around sixty million people, a similar figure to the population in East-ENC (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine), nowadays it is substantially higher: 204 million people vs. 75 million. The Russian population has also experienced a very important growth moving from 250 million people in 1960 to 420 million people in 2010. Population growth has been clearly higher in Russia and the South ENC than in the EU-27 that has increased its population from 400 million people in 1960 to 500 million people in 2010.

As shown in tables 2 and 3, there is a very high heterogeneity regarding migration trends in ENC countries during the last 50 years. While some countries such Israel during the whole period or Russia during the last thirty years have been net receivers of migration flows, other countries such as Belarus, Egypt or Tunisia have clearly lost population due to migration during the considered period. An additional interesting feature of migration from ENC countries is that it is highly concentrated in some destination countries due to geographical proximity or strong political, economic or colonialist linkages (see table 4). For instance, most migrants from Algeria or Tunisia go to France and most migrants from East ENC go to Russia. In fact, one interesting result is that European Union countries are not always the main destination of migrants from ENC: for instance, emigrants from Egypt choose as Saudi Arabia as first destination, those from Lebanon prefer to migrate to the United States or those from Syria go to Jordan, Kuwait or Saudi Arabia. Migration flows between ENC countries has been quite relevant in the more recent period. Nowadays, about 10% of total population in East ENC has been born abroad while this figure is around 5% in South ENC and Russia. In the EU-27, the stock of foreign born population is around 10%.

Table 1. Population trends in ENC + Russia

POPULATION		**1960**	**1970**	**1980**	**1990**	**2000**	**2010**
AM	Armenia	1,867,396	2,518,408	3,096,298	3,544,695	3,076,098	3,092,072
AZ	Azerbaijan	3,894,492	5,171,999	6,166,000	7,159,000	8,048,535	9,047,932
BY	Belarus	8,198,000	9,040,000	9,643,000	10,189,000	10,005,000	9,490,500
GE	Georgia	3,645,600	3,967,800	4,467,700	4,802,000	4,418,300	4,452,800
MD	Moldova	2,544,000	3,045,000	3,397,000	3,696,000	3,639,588	3,562,062
UA	Ukraine	42,783,010	47,316,501	50,043,550	51,892,000	49,175,848	45,870,700
Total ENC- East		**62,932,498**	**71,059,708**	**76,813,548**	**81,282,695**	**78,363,368**	**75,516,066**
DZ	Algeria	10,799,997	13,746,185	18,811,199	25,299,182	30,533,827	35,468,208
EG	Egypt	27,903,093	35,923,283	44,952,497	56,843,275	67,648,419	81,121,077
IL	Israel	2,114,020	2,974,000	3,878,000	4,660,000	6,289,000	7,624,600
JO	Jordan	844,000	1,508,000	2,181,000	3,170,000	4,797,500	6,047,000
LB	Lebanon	1,907,573	2,464,286	2,794,638	2,948,372	3,742,329	4,227,597
LY	Libya	1,349,004	1,994,000	3,063,000	4,334,459	5,231,189	6,355,112
MA	Morocco	11,625,999	15,309,995	19,566,920	24,781,105	28,793,236	31,951,412
SY	Syria	4,566,822	6,368,017	8,906,543	12,324,116	15,988,534	20,446,609
TN	Tunisia	4,220,701	5,127,000	6,384,000	8,154,400	9,563,500	10,549,100
Total ENC-South		**65,331,209**	**85,414,766**	**110,537,797**	**142,514,909**	**172,587,534**	**203,790,715**
Total ENC		**128,263,707**	**156,474,474**	**187,351,345**	**223,797,604**	**250,950,902**	**279,306,781**
RU	Russia	119,897,000	130,404,000	139,010,000	148,292,000	146,303,000	141,750,000
Total ENC + Russia		**248,160,707**	**286,878,474**	**326,361,345**	**372,089,604**	**397,253,902**	**421,056,781**

Note: Palestinian territory is not considered due to the lack of data

Table 2. Accumulated net migration by decades in ENC + Russia

ACCUMULATED NET MIGRATION		1960	1970	1980	1990	2000	2010
AM	Armenia	80,879	142,430	97,262	-114,499	-725,000	-175,000
AZ	Azerbaijan	35,979	-65,536	-85,359	-258,668	-243,237	106,528
BY	Belarus	-174,866	-220,098	-72,286	-21,799	*-25,905*	-30,010
GE	Georgia	87,231	-36,371	-143,479	-85,941	-934,105	-459,021
MD	Moldova	182,250	217,003	84,650	-89,430	-373,256	-491,748
UA	Ukraine	-285,919	594,986	247,971	27,378	-446,638	-212,835
Total ENC- East		**-74,446**	**632,414**	**128,759**	**-542,959**	**-2,748,141**	**-1,262,086**
DZ	Algeria	-433,115	-838,090	-147,566	13,306	-190,000	-280,000
EG	Egypt	-50,100	-289,800	-1,475,236	-1,348,419	-2,054,942	-717,702
IL	Israel	167,565	281,199	228,425	68,022	702,257	376,570
JO	Jordan	119,245	290,067	-110,464	199,855	213,210	109,022
LB	Lebanon	40,000	-15,000	-296,001	-440,002	230,000	87,500
LY	Libya	46,023	121,206	209,411	165,260	-40,600	-40,600
MA	Morocco	-12,967	-423,104	-614,593	-300,000	-950,000	-1,289,000
SY	Syria	-15,000	-32,000	-243,173	-233,502	-200,000	492,385
TN	Tunisia	-172,625	-368,048	-145,463	-49,196	-98,872	-100,599
Total ENC-South		**-310,974**	**-1,273,570**	**-2,594,660**	**-1,924,676**	**-2,388,947**	**-1,362,424**
Total ENC		**-385,420**	**-641,156**	**-2,465,901**	**-2,467,635**	**-5,137,088**	**-2,624,510**
RU	Russia	-973,612	-938,489	315,615	2,013,615	4,427,937	2,700,163
Total ENC + Russia		**-1,359,032**	**-1,579,645**	**-2,150,286**	**-454,020**	**-709,151**	**75,653**

Note: Palestinian territory is not considered due to the lack of data

Table 3. Immigrant stock as a percentage of population in ENC + Russia

IMMIGRANT STOCK (% POPULATION)		1960	1970	1980	1990	2000	2010
AM	Armenia				18.6%	18.7%	10.5%
AZ	Azerbaijan				5.0%	4.3%	2.9%
BY	Belarus				12.3%	11.2%	11.5%
GE	Georgia				7.0%	4.9%	3.8%
MD	Moldova				15.7%	13.0%	11.5%
UA	Ukraine				13.3%	11.2%	11.5%
Total ENC- East					**12.4%**	**10.5%**	**9.9%**
DZ	Algeria	4.0%	1.2%	1.0%	1.1%	0.8%	0.7%
EG	Egypt	0.8%	0.6%	0.4%	0.3%	0.3%	0.3%
IL	Israel	56.1%	47.4%	36.9%	35.0%	35.9%	38.6%
JO	Jordan	45.7%	35.3%	37.2%	36.2%	40.2%	49.2%
LB	Lebanon	7.9%	7.7%	8.6%	17.8%	18.5%	17.9%
LY	Libya	3.6%	6.1%	10.1%	10.6%	10.7%	10.7%
MA	Morocco	3.4%	0.8%	0.4%	0.2%	0.2%	0.2%
SY	Syria	6.0%	5.8%	5.6%	5.6%	5.8%	10.8%
TN	Tunisia	4.0%	1.0%	0.6%	0.5%	0.4%	0.3%
Total ENC-South		**5.0%**	**3.7%**	**3.4%**	**3.5%**	**4.0%**	**5.0%**
Total ENC					**6.7%**	**6.0%**	**6.3%**
RU	Russia				7.8%	8.1%	8.7%
Total ENC + Russia					**7.1%**	**6.8%**	**7.1%**

Note: Palestinian territory is not considered due to the lack of data

Table 4. Main destination countries of immigrants from ENC + Russia in 2010 as a percentage of total immigrant stocks

Source country	Main destination countries (% of total migrant stocks in 2010)
Algeria	France (75.5%), Spain (5.2%)
Armenia	Russian Federation (56.7%), United States (8.9%), Ukraine (6.1%), Azerbaijan (4.9%)
Azerbaijan	Russian Federation (60.5%), Armenia (11.5%), Ukraine (6.5%)
Belarus	Russian Federation (54.3%), Poland (6.4%), Ukraine (15.6%)
Egypt, Arab Rep.	Saudi Arabia (26.9%), Jordan (22.8%), Libya (10.6%), Kuwait (8.5%)
Georgia	Russian Federation (60.9%), Armenia (7.2%), Ukraine (6.8%), Greece (4.0%)
Israel	West Bank and Gaza (64.3%), United States (14.6%)
Jordan	West Bank and Gaza (50.3%), Saudi Arabia (23.5%)
Lebanon	United States (19.6%), Australia (14.4%), Canada (13.2%), Germany (9.3%), Saudi Arabia (8.8%), France (6.8%)
Libya	Israel (25.9%), United Kingdom (11.0%), Chad (10.1%), United States (9.8%), Jordan (7.3%), Egypt (6.6%)
Moldova	Russian Federation (36.9%), Ukraine (21.9%), Italy (11.6%), Romania (5.0%)
Morocco	France (27.9%), Spain (25.8%), Italy (15.8%), Israel (8.1%), Belgium (5.7%), Netherlands (5.5%)
Russian Federation	Ukraine (33.4%), Kazakhstan (20.2%), Israel (6.5%), Belarus (6.2%)
Syrian Arab Republic	Jordan (30.6%), Kuwait (13.0%), Saudi Arabia (11.8%), Unitd States (7.1%)
Tunisia	France (46.4%), Italy (18.7%), Libya (13.0%), Germany (5.7%)
Ukraine	Russian Federation (55.9%), Poland (5.1%), United States (5.1%)

Note: Palestinian territory is not considered due to the lack of data

The main conclusion from this descriptive analysis is that modelling migration flows from and to ENC requires the consideration of a wide selection of origins and destinations and not only bilateral flows from and to these countries to the European Union.

3. THE MIG SEARCH DATABASES

It is a difficult task to collect data on homogeneous international migration for a large number of countries (Fertig and Schmidt, 2000). There are problems of data availability and difficulties in getting comparable statistical information across countries. Annex 1 shows a summary picture of currently databases for the analysis of migration from and to a wide set of countries with a long enough time series perspective. The different databases are grouped depending on the institution in charge of collecting and disseminating the data. From our comparative analysis of these datasets, the most complete source seems to be World Bank Bilateral Migration Database 1960-2000 completed with the World Bank Bilateral Migration Matrix 2010. Data based primarily on the foreign-born concept are presented. Over one thousand census and population register records are combined to construct decennial matrices corresponding to the last five completed census rounds. The only problem with this dataset is that it provides information on stocks rather than on flows. However, as data on immigration stocks are based on national censuses, they will be probably of higher quality than those that report annual immigrant flows, as censuses deal with unambiguous net permanent moves. This justifies that the stocks of immigrants will be chosen as dependent variable for part of our empirical analysis analysis. Besides immigration stocks, an additional number of variables related to pull and push factors of migration (as shown in table 5) have been collected and will be used in the empirical analysis.

While the main aim of our analysis is to analyse the potential role of ENP, it is also interesting to analyse the effect the last EU enlargement on migration flows from these countries to the EU. As data for intra-EU flows is much more detailed than the one available for a wider sample of countries, two different datasets have been constructed: the MIG-SEARCH database and the MIGEU-SEARCH database.

Table 5. Migration pull and push factors

	Pull factors	Push factors
Economic and demographic	o Poverty o Unemployment o Low wages o High fertility rates o Lack of basic health and education	o Prospects of higher wages o Potential for improved standard of living o Personal or professional development
Political	o Conflict, insecurity, violence o Poor governance; o Corruption.	o Safety and security o Political freedom
Social and cultural	o Human rights abuses o Discrimination based on ethnicity, gender and religion	o Family reunification o Diaspora migration o Freedom from discrimination

Source: Adapted from Praussello (2011)

The MIG-SEARCH database includes data for nearly 200 countries for a long time period starting in 1960 and ending in 2010 and it provides information on bilateral migration stocks (accumulated flows by decades can, however, be calculated as difference between stocks) and several variables related to the economic, social, political and cultural pull and push factors identified by the literature as shown in table 5. As previously mentioned, bilateral migration data have been obtained from the World Bank Bilateral Migration Database 1960-2000 and the World Bank Bilateral Migration Matrix 2010, while the rest of explanatory variables have been collected from additional sources such as the World Bank Development Indicators, the CEPII Geodist dyadic dataset, the Quality of Government dataset and the Fraser Institute, among others. The current version of the dataset includes 193060 observations (from the 231672 potential observations: bilateral relations between 197 countries in 6 periods) and 83 variables.

The MIGEU-SEARCH database provides similar information only for the EU27 countries and a shorter period (2002-2007), but data are available at the yearly frequency. In fact, the MIGEU-SEARCH focuses on within Europe migration flows using annual data before and after the last accession to the EU. The source for bilateral migration flows in this second dataset is the EUROSTAT project “Migration Modelling for Statistical Analyses (Mimosa)”. Regarding explanatory variables, similar sources have been obtained although the available information is significantly lower as not all data are availab le at annual frequency. It currently includes 5580 observations (bilateral relationships between 31 countries and 6 time periods) and 51 variables.

Annex 2 provides a more detailed description of the contents of the two datasets. At this stage, the databases are only available to all researchers within the SEARCH project, but in the future, once the information has been verified and tested, access to them will be granted to all potentially interested researchers through the SEARCH Open Data catalogue. Both datasets are currently distributed as independent STATA data files, but other formats will be available on request.

4. A BENCHMARK GRAVITY MODEL FOR ENC

There are many theoretical hypotheses and models concerning the determinants of migration but, at the moment, there is no single coherent theory of international migration. Gravity models are based on Newton's gravity law and not generally derived from any particular theoretical economic modelling. However, they are widely used in the empirical analysis of trade, foreign direct investment and migration flows due to their relatively good forecasting performance. In particular, migration stocks or flows between two countries are supposed to increase with their size and decay with the distance between the two countries.. Usually, the most representative variables of the economic size of countries are GDP or population. Therefore, it is expected that migration be a positive function of population size of the host and home country and a negative function of distance (which controls for migration costs). As in this paper, usually gravity models are enlarged with other economic (i.e. differences in the level of development) and institutional variables (conflict, violence, ethnic or religious discrimination, among others) related to different pull and push factors (see, among others, Volger and Rotte, 2000; Hatton and Williamson, 2002; Gallardo-Sejas et al., 2006; Kim and Cohen, 2010).

Two different empirical exercises are carried out in this section: first, the MIG-SEARCH database is used to identify the long run migration trends and, second, the MIGEU-SEARCH database permits to quantify the impact of the last EU enlargement on migration flows to the rest of EU member states. The results shown here do not intend to provide detailed explanations of factors behind migration flows but just to illustrate the kind of analysis that will be further extended in other

Tables 6, 7 and 8 show the results of estimating the benchmark gravity model using the MIG-SEARCH database. Results in table 6 show the relevance of size and geographical distance, but also the network effects that have characterized recent migration trends. Three different econometric methods have been used in order to avoid the problem of "excess of zeros" when analysing bilateral migration trends. The first column shows the results when applying Ordinary Least Squares while the second column contains the results when estimating a Poisson and the

third column the ones obtained when estimating a negative binomial to account for potential over-dispersion. The comparison from these three columns show important differences in the size of the effect which prevents us to use these estimates to elaborate future scenarios for migration trends. However, the results in terms of the statistical significance of the potential explanatory variables are robust to the different model specification and estimation methods.

The results in table 7 show the relevance of different pull and push factors, but perhaps the most relevant results from our analysis are shown in table 8. The results from this table show that once these different pull and push factors are controlled, migration flows from ENC countries to the rest of the world are higher than they should be according to the model. When we concentrate on flows from ECN to the EU (second and third column of table 8), this "surplus" in migration is even higher. This result shows the strong ties between these countries and the EU and how the ENC could clearly increase migratory pressure from these countries in the future. However, no significant effect is found when we test the differential effect of having signed Action Plans in the late two thousands(in fact, the "surplus" migration effect seem to be associated to the decade of the nineties of the last century and probably related to the end of the USSR). In any case, this conclusion should be taken with cautious, as perhaps the considered time span is still too short to appreciate the effects of the ENP.

Last, the analysis of the last EU enlargement using a similar econometric framework with the MIGEU-SEARCH database is shown in table 9. The results shown in this table show a clear positive and significant effect of the last EU enlargement that reinforces the previous conclusion about future migration flows from ENC to EU countries.

Table 6. Bilateral migration stocks and potential determinants – MIGSEARCH database (1)

	(1) OLS Coeff.	(2) Poisson Coeff.	(3) Negative Binomial Coeff.
Total Population - origin + destination	0.000***	0.000***	0.000***
Simple distance (most populated cities, km)	-0.251***	-0.176***	-0.058***
Contiguity (d)	114132.486***	5754.160***	11157.818***
GDP per capita differences - destination minus origin	0.091***	0.035***	0.008***
Immigrants stock - country of origin	0.001***	0.000***	0.000***
Immigrants stock - country of destination	0.005***	0.000***	0.000***
Common language (d)	1764.277**	490.746***	269.272***
Colonial relationship (d)	65390.287***	5679.241***	5134.814***
Common colonizer post 1945 (d)	3558.128***	801.603***	-50.236***
Observations	128021	128021	128021

Coefficients/Marginal effects
(d) for discrete change of dummy variable from 0 to 1
Fixed time effects also included in the model.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7. Bilateral migration stocks and potential determinants – MIGSEARCH database (2)

	(1) Coeff.	(2) Coeff.	(3) Coeff.	(4) Coeff.	(5) Coeff.	(6) Coeff.	(7) Coeff.
KOF Index of Globalization - origin	59.054***						
KOF Index of Globalization - destination	-30.313						
Democracy – origin		226.545***					
Democracy – destination		136.876**					
Index of Democratization –origin			113.784***				
Index of Democratization – destination			-2.725				
Freedom of Religion - origin				-1206.394***			
Freedom of Religion - destination				1072.408**			
Fraser Institute - Chain index - origin					186.351		
Fraser Institute - Chain index - destination					1240.043*		
Fraser Institute - Chain index 5 - origin						-611.809	
Fraser Institute - Chain index 5 -destination						1525.499***	
Fraser Institute - Chain index 5b - origin							-808.092*
Fraser Institute - Chain index 5b - destination							1309.950***
Observations	102064	99876	100444	89614	48054	47690	23023

OLS estimates.
All regressors shown in table 6 and fixed time effects also included in the model.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8. Bilateral migration stocks and potential determinants – MIGSEARCH database (3)

	(1) All countries Coeff.	(2) EU destination Coeff.	(3) EU destination Coeff.
Total Population - origin + destination	0.000***	0.000***	0.000***
Simple distance (most populated cities, km)	-0.236***	-0.896***	-0.893***
Contiguity	114170.488***	74133.430***	74330.175***
GDP per capita differences - destination minus origin	0.080***	0.057***	0.059***
Immigrants stock - country of origin	0.001***	0.001***	0.001***
Immigrants stock - country of destination	0.005***	0.005***	0.005***
Common language	1742.085*	2576.844	2517.212
Colonial relationship	65437.295***	35287.139***	35223.554***
Common colonizer post 1945	3564.445***	312.488	458.206
ENP_destination	-1521.104		
ENP_origin	3807.461***	7375.801***	
ENP1970_origin			28581.715
ENP1980_origin			17381.482
ENP1990_origin			15055.926**
ENP2000_origin			7761.058
ENP2010_origin			3459.775
Observations	128021	18200	18200

Marginal effects
(d) for discrete change of dummy variable from 0 to 1
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9. Bilateral migration flows and potential determinants – MIGEU-SEARCH database

	(1) Coeff.
Total Population - origin + destination	0.000***
simple distance between capitals (capitals, km)	-0.105
Contiguity	3333.237***
Unemployment rate differences - destination minus origin	-80.738***
Immigrants stock - country of origin	0.000
Immigrants stock - country of destination	0.000**
Common language	-503.551
Colonial relationship	7887.373***
Common colonizer	-570.111*
After accession to the EU	495.056**
Observations	4050

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5. FINAL REMARKS

The main conclusions from our analysis are the following:

- The descriptive analysis of population and migration trends in the ENC countries has permit they are a very heterogenous group, so no general conclusion can be obtained for all them. While some countries such Israel during the whole period or Russia during the last thirty years have been net receivers of migration flows, other countries such as Belarus, Egypt or Tunisia have clearly lost population due to migration during the considered period. An additional interesting feature of migration from ENC countries is that it is highly concentrated in some destination countries due to geographical proximity or strong political, economic or colonialist linkages but not limited to the European Union countries. Moreover, migration flows between ENC countries have been quite relevant in the recent past: an intensification of South-South migration due to the effect of ENP is more than probable. These results also limit the scope of partial analysis regarding future migration flows between ENC and the EU.

- Usual gravity controls including usual pull and push factors have the expected sign and are statistically significant. In particular, bilateral migration increases with population in origin and destination countries, but also with migration stocks, which can be interpreted as favourable evidence about the role of networks. Economic differences are also relevant. Geographic distance discourages migration while geographic contiguity, linguistic proximity or former colonial relationship have a positive and significant effect. We have also devoted particular attention to globalization trends, deregulation in labour markets and other institutional features such as democratization or freedom of religion. All this variables are relevant and explain part of the recent trends in migration flows.

- Regarding the particular situation of ENC, our results show that once these different pull and push factors are controlled, migration flows from ENC countries to the rest of the world are higher than they should be according to the model. When we concentrate on flows from ECN to the EU, this “surplus” in migration is even higher. This result shows the strong ties between these countries and the EU and how the ENC could clearly increase migratory pressure from these countries in the future. However, no significant effect is found when we test the differential effect of having signed Action Plans in the late two thousands, but perhaps the considered time span is still too short.

- Last, the analysis of the last EU enlargement using a similar econometric framework but the MIGEU-SEARCH database that permits the analysis of migration flows at the yearly frequency, shows a clear positive and significant effect that reinforces the previous conclusion about future migration flows from ENC to EU countries.

The use of common databases in the rest of working papers in this work package will permit to carry out in-depth analysis about several policy dimensions that will permit to improve the main conclusions from this benchmark model.

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ANNEX I. BRIEF DESCRIPTION OF DATA SOURCES FOR MIGRATION ANALYSIS

United Nations datasets

Data set	Countries covered	Time period considered	Description	
United Nations Global Migration Database v.0.3.6	More than 200 countries (including ENC)	The time period varies from country to country. It relies on different sources such as population censuses, population registers, nationally representative surveys and other official statistical sources.	Migration stocks by origin and by destination (when possible, disaggregated by gender and age group)	http://esa.un.org/unmigration/ (It currently requires previous registration).
United Nations World Population Prospects, the 2010 Revision	197 countries (including ENC)	5 year intervals since 1950 to 2010 (projections from 2010 to 2100)	Net number of migrants Net migration rate	http://esa.un.org/unpd/wpp/index.htm
United Nations Trends in International Migrant Stock: Migrants by Age and Sex, 2011	196 countries (including ENC)	Data for 1990, 2000 and 2010 with small variations as it is based on Population Census	Estimated number of international migrants at mid-year Total population at mid-year by age and sex International migrants as a percentage of the population Percentage distribution of international migrants by age and sex	http://esa.un.org/MigAge/
United Nations International migration flows to and from selected countries: The 2010 Revision	43 countries (including some ENC)	Annual data from 1960 to 2010, but for most country it starts after 2000	Number of immigrants and emigrants by country of residence, citizenship and country of birth.	http://esa.un.org/MigFlows/MigrationFlows.html (It is also available as a CD-ROM)

OECD datasets

Data set	Countries covered	Time period considered	Description	
OECD Database on immigrants in OECD and non-OECD countries (DIOC-E) 3.0	32 OECD and 68 non-OECD destination countries and 233 countries of origin (including some ENC countries)	2000	Bilateral flows to OECD countries and non-OECD countries	http://www.oecd.org/migration/dioc/extended
OECD Database on Immigrants in OECD countries (DIOC)	OECD countries	2000	Bilateral flows to OECD countries with very high detail on gender, age, education level, duration of the stay, labour force status, occupation and activity sector.	http://www.oecd.org/document/51/0,3746,en_2825_494574_40644339_1_1_1_1,00.html
OECD International Migration Data 2011	OECD countries and the Russian Federation	Annual data 2000-2009	Stocks and flows of immigrants and labour market outcomes of immigrants (2008-2010)	http://www.oecd.org/document/30/0,3746,en_2649_37415_48326878_1_1_1_37415,00.html

Eurostat datasets

Data set	Countries covered	Time period considered	Description	
Eurostat International Migration and Asylum	46 countries for international migration flows (it varies depending on the topic)	Annual data from 1998 to 2010, but again depending on the chosen topic	International Migration and Asylum (migr) Regional migration statistics (migr_r) Acquisition and loss of citizenship (migr_acqn) Asylum (migr_asy) Enforcement of Immigration Legislation (migr_eil) Active population and workers by citizenship (migr_lab) International migration flows (migr_flow) Population by citizenship and by country of birth (migr_stock) Residence permits (migr_res)	http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database

ILO datasets

Data set	Countries covered	Time period considered	Description	
ILO LABORSTA	140 countries	Annual data from 1986 to 2008	Inflows and outflows by gender, employment status, occupation and economic sector.	http://laborsta.ilo.org/STP/guest

World Bank datasets

Data set	Countries covered	Time period considered	Description	
World Bank Bilateral Migration Database 1960-2000	226 countries	1960, 1970, 1980, 1990, 2000	Bilateral migration flows	http://data.worldbank.org/data-catalog/global-bilateral-migration-database
World Bank Bilateral Migration Matrix 2010		2010	Bilateral migration flows	http://go.worldbank.org/JITC7NYTT0
World Bank Panel Data on International Migration 1975-2000	6 OECD destination countries and 194 countries of origin (including some ENC countries)	5 year intervals since 1975 to 2000	Number of immigrants by educational attainment	http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:21866422~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html

Additional sources

Data set	Countries covered	Time period considered	Description	
Global Migrant Origin Database	226 countries	2000	Bilateral matrix of stocks	http://www.migrationdrc.org/research/typesofmigration/global_migrant_origin_database.html
Migration Modelling for Statistical Analyses (Mimosa) dataset	EU-27	Annual data for 2002-2007	matrix of flows by origin/destination, sex and age; immigration and emigration by citizenship and country of birth, sex and age; population by citizenship and country of birth, sex and age;	http://mimosa.gedap.be/
CARIM database on migration	17 Southern and Eastern Mediterranean (SEM) and Sub-Saharan Africa (SSA) countries and 19 destination countries	Annual data from 1990 to 2010 but the availability is quite different from country to country.	Demographic and economic module Legal module Socio-political module	http://www.carim.org
CARIM-East database on migration	7 Eastern European countries and 27 destination countries	Annual data from 1990 to 2010 but with very different availability from country to country	Demographic and economic module Legal module Socio-political module	http://www.carim-east.eu/

ANNEX II. THE MIG-SEARCH AND THE MIGEU-SEARCH DATABASES

Variable	Description
year	year
cname_o	Country Name Origin
cname_d	Country Name Destination
iso_o	Country of origin - iso3d code
iso_d	Country of destination - iso3d code
migstocks	Bilateral migration stocks
ur_o	Unemployment rate - country of origin
gdppc_o	GDP per capita - country of origin
migstock_o	Immigrants stock - country of origin
pop_o	Population - country of origin
ur_d	Unemployment rate - country of destination
gdppc_d	GDP per capita- country of destination
migstock_d	Immigrants stock - country of destination
pop_d	Population - country of destination
contig	1 for contiguity
comlang_off	1 for common official of primary language
comlang_ethno	1 if a language is spoken by at least 9% of the population in both countries
colony	1 for pairs ever in colonial relationship
comcol	1 for common colonizer post 1945
curcol	1 for pairs currently in colonial relationship
col45	1 for pairs in colonial relationship post 1945
smctry	1 if countries were or are the same country
dist	simple distance (most populated cities, km)
distcap	simple distance between capitals (capitals, km)
distw	weighted distance (pop-wt, km)
distwces	weighted distance (pop-wt, km) CES distances with theta=-1
DR_IG_d	KOF Index of Globalization - country of destination
DR_IG_o	KOF Index of Globalization - country of origin

Variable	Description
FI_CI1_GOVSIZE_d	Fraser Institute - Chain index 1 - country of destination
FI_CI2_LEGAL_d	Fraser Institute - Chain index 2 - country of destination
FI_CI3_SOUNDMONEY_d	Fraser Institute - Chain index 3 - country of destination
FI_CI4_TRADE_d	Fraser Institute - Chain index 4 - country of destination
FI_CI5_REG_d	Fraser Institute - Chain index 5 - country of destination
FI_CI_SUM_d	Fraser Institute - Chain index sum - country of destination
FI_CI5b_LABREF_d	Fraser Institute - Chain index 5b - country of destination
FI_CI1_GOVSIZE_o	Fraser Institute - Chain index 1 - country of origin
FI_CI2_LEGAL_o	Fraser Institute - Chain index 2 - country of origin
FI_CI3_SOUNDMONEY_o	Fraser Institute - Chain index 3 - country of origin
FI_CI4_TRADE_o	Fraser Institute - Chain index 4 - country of origin
FI_CI5_REG_o	Fraser Institute - Chain index 5 - country of origin
FI_CI_SUM_o	Fraser Institute - Chain index sum - country of origin
FI_CI5b_LABREF_o	Fraser Institute - Chain index 5b - country of origin
fh_ipolity2_d	Democracy (Freedom House/Imputed Polity)
icrg_qog_d	ICRG Indicator of Quality of Government
p_democ_d	Institutionalized Democracy
undp_hdi_d	Human Development Index
van_index_d	Index of Democratization
fh_ipolity2_o	Democracy (Freedom House/Imputed Polity)
icrg_qog_o	ICRG Indicator of Quality of Government
p_democ_o	Institutionalized Democracy
undp_hdi_o	Human Development Index
van_index_o	Index of Democratization
NEW_RELFRE_d	CIRI - Freedom of Religion - country of destination
NEW_RELFRE_o	CIRI - Freedom of Religion - country of origin
y1	year== 1960
y2	year== 1970
y3	year== 1980
y4	year== 1990
y5	year== 2000
y6	year== 2010
dgdppc	GDP per capita differences - destination minus origin
dur	Unemployment rate differences - destination minus origin
pop	Total Population - origin + destination

Data sources of these variables are shown in the following table.

CEPII Geodist dataset	225 countries		GeoDist 's provides several geographical variables, in particular bilateral distances measured using city-level data to assess the geographic distribution of population inside each nation. The a dyadic file includes a set of different distance and common dummy variables used in gravity equations to identify particular links between countries such as colonial past, common languages or contiguity.	http://www.cepii.fr/anglaisgraph/bdd/distances.htm
Quality of Government Dataset	207 countries	1946-2009	1.WII (What It Is) variables, that is, variables pertaining to the core features of QoG (such as corruption, bureaucratic quality, and democracy) 2.HTG (How To Get it) variables, that is, variables posited to promote the development of QoG (such as electoral rules, forms of government, federalism, legal & colonial origin, religion and social fractionalization); and 3.WYG (What You Get) variables, that is, variables pertaining to some of the posited consequences of QoG (such as economic and human development, international and domestic peace, environmental sustainability, gender equality, and satisfied, trusting & confident citizens).	http://www.qog.pol.gu.se/data/
Multiculturalism Policy Index	21 western democracies	1980, 2000 and 2010	Different indicators on multiculturalism policies	http://www.queensu.ca/mcp/index.html
Ethnic Power Relations dataset	155 countries	Annual data from 1946 to 2005	It identifies 733 politically relevant ethnic groups in 155 sovereign states from 1946 to 2005, provides group size estimates, codes the level of access to the executive branch by representatives of these groups in each year, and notes if an armed conflict was fought in the name of a particular ethnic group	http://www.epr.ucla.edu/

ANNEX III. EU Accession

Table 2: EU and euro area membership

(as at 1 January 2008)

Country	Application for membership ("candidate country")	Start of negotiations ("accession country")	Conclusion of negotiations ("acceding country")	EU Member State since	Euro area member since
Belgium	Founding member	Founding member	Founding member	1957	1999
Bulgaria	1995	1999	2005	2007	-
Czech Republic	1996	1998	2002	2004	-
Denmark	1967	1970	1972	1973	-
Germany	Founding member	Founding member	Founding member	1957	1999
Estonia	1995	1998	2002	2004	-
Ireland	1967	1970	1972	1973	1999
Greece	1975	1976	1979	1981	2001
Spain	1977	1979	1985	1986	1999
France	Founding member	Founding member	Founding member	1957	1999
Italy	Founding member	Founding member	Founding member	1957	1999
Cyprus	1990	1998	2002	2004	2008
Latvia	1995	1999	2002	2004	-
Lithuania	1995	1999	2002	2004	-
Luxembourg	Founding member	Founding member	Founding member	1957	1999
Hungary	1994	1998	2002	2004	-
Malta	1990	1999	2002	2004	2008
Netherlands	Founding member	Founding member	Founding member	1957	1999
Austria	1989	1993	1994	1995	1999
Poland	1994	1998	2002	2004	-
Portugal	1977	1978	1985	1986	1999
Romania	1995	1999	2005	2007	-
Slovenia	1996	1998	2002	2004	2007
Slovakia	1995	1999	2002	2004	-
Finland	1992	1993	1994	1995	1999
Sweden	1991	1993	1994	1995	-
United Kingdom	1967	1970	1972	1973	-

http://www.ecb.int/stats/payments/paym/html/data.en.html