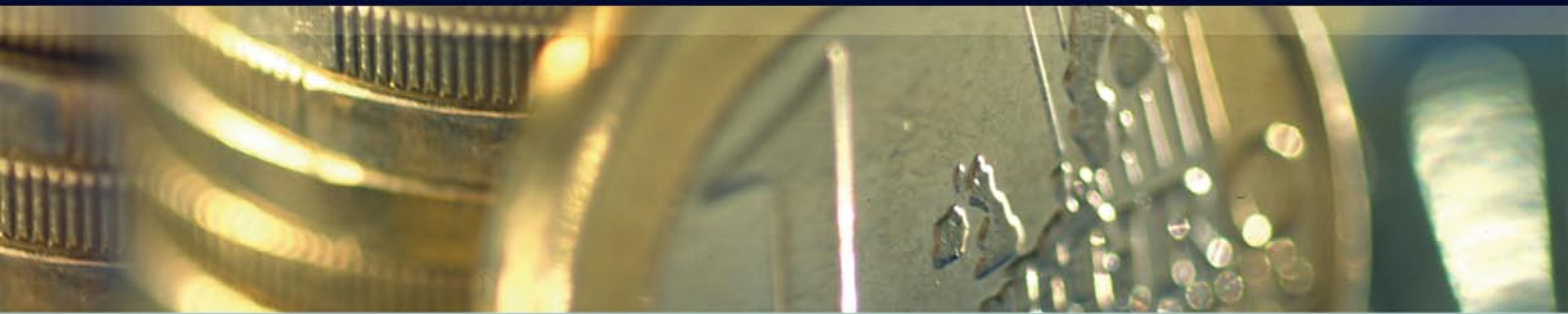


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The consistency of EU foreign policies towards new member states

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The consistency of EU foreign policies towards new member states

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Abstract

While European countries have been very generous by opening their frontiers to trade, investing in transition countries, and accepting as EU new members some of the latter, their migration policies were less liberal. The policy coherence debate is an old theme in the international economics literature, which is revisited here by looking at the relationships between aid and migration policies towards new member states. Are they substitutes or complements? What happens if eastern European labour markets conditions improve? In theory, potential migrants will stay home, and the concern of being invaded by skilled/unskilled workers searching for better conditions and higher wages in the old member states can be alleviated. But in practice, at low level of revenue in the origin countries, economic progress can result in lowering a budgetary constraint (potential migrants cannot afford the cost of moving), leading to more migration pressures. We therefore compute the critical level of GDP, above which an increase in European transfers and improvement in economic situation of the recipient country will not lead to an increase in migration pressures by decreasing the cost of moving. It amounts to 2837 \$US for within European migration. We argue that this critical level is not the same for a skilled and for an unskilled individual. In other words, the critical revenue, under which a skilled individual with better opportunities abroad decides to migrate, will be higher than the critical revenue for an unskilled worker, who may be better off by staying home and looking for a job at home: US\$15085 for the former, and US\$ 4384 for the latter. This has an important implication, namely that in some cases, increasing financial transfers will result in increasing the gap between skilled and unskilled departures from countries suffering already from a brain drain phenomena.

Keywords: Aid, Migration, Foreign policy coherence

JEL classification: F35, F22

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Disclaimer: The views and opinions expressed here are the authors' only and should not be attributed to the European Commission.

Introduction

Considerable progress in the re-unification process between Western and Eastern Europe has been achieved over the last fifteen years. This progress is the result of different factors, trade and financial opening, particularly with the EU, reforms, privatisation, and stabilisation. For the countries, which eventually entered the EU, the implementation of the European set of rules like democracy, the rule of law, the respect of the minorities, and the *Acquis Communautaire*, has played a key role in attracting investors, implementing a strong and reliable business environment, and enforcing confidence in the emerging markets. Last but not least, important amounts of financial aid have been provided to the countries, which wanted either to join the EU or to participate to the creation of a large European area and “high-quality” neighbouring. The last chapter of the European reconstruction which followed the fall of the Berlin wall has been the complete opening of the borders for individuals. The free movement of persons is currently under progress and is likely to constitute the very last step in the process of European re-integration.

Can we think of a sort of rationale behind this apparent non-consistency of the European policies towards Eastern European countries, being very liberal in the extent of trade and financial opening, generous in terms of the financial/technical assistance provided to those countries, but at the same showing some inconsistency by closing the EU’s frontiers to the immigration of Eastern Europeans? Relying upon the seminal work of Schiff (2006), this paper will try to answer the question. We present in section 1 objectives of the study, in section 2 the stylised facts, in section 3 the data, methodology, and results. In section 4 we extend the analysis of the migration/aid relationships by taking into account the skilled versus unskilled nature of the migrants coming to Western Europe. Conclusion summarizes.

1 Objectives of this study

The policy coherence debate is an old theme in the international economics literature since the seminal work of Mundell (1957). In principle trade and migration are substitute, implying that opening trade dampens the migration pressures, but they can be complementary¹.

What about aid and migration policies? Are they substitutes or complements, particularly in Europe? “Substitute” means that by improving the conditions on the local labour markets (local wages, better perspectives over the long run), the incentives for emigrating become lower, and the concern of being invaded by skilled/unskilled workers searching for better conditions and higher wages can be alleviated. “Complement” means that at low level of revenue and when potential migrants cannot afford the cost of moving because of a liquidity constraint, economic progress can result in lowering this liquidity constraint, leading to more migration pressures. We therefore ask the question whether improving living standard in Eastern and Central Europe might result in an increase or decrease of migration flows to the industrialized countries.

To our knowledge very few empirical papers have answered precisely these questions, but a recent work by Beuran, Berthelemy and Maurel (2008), which analyses the aid/migration relationships by focusing on a broader range of countries. The question is particularly relevant from a policy perspective in Europe. “Structural Fund” policies have played a key role in the catching-up process in Ireland, Greece, Portugal and Spain in the European Union, and a similar policy is now implemented in favour of new members of the European Union in Central and Eastern Europe. Our objective is to compute the critical level of GDP, above which an increase in European transfers and improvement in economic situation of the recipient country will not lead to an increase in migration pressures by decreasing the cost of moving. In other words, we want to compute the level of GDP above which aid and migration will be consistent with each other.

¹ Complementarities may exist between labour flows and trade in particular (Markusen, 1983). Schiff (2006) provides a recent survey on recent developments in this literature.

Another key issue is the skilled content of migration flows. Recall that if trade and migration were substitutes, trade would be specialized and migration should provide EU-15 countries with unskilled workers. This does not necessarily occur for two reasons. Migration and trade are not always substitutes, and the composition (skilled/unskilled) of migration does not necessarily follow the logics of specialisation. Second migration policies tend to favour skilled migration. As a result, all categories of workers have incentives for moving to Western Europe. Whatever his education, a potential migrant will take the step if the expected migration's payoff is positive.

Our prior is that the threshold, below which the migration's payoff is positive, may not be the same for a skilled and for an unskilled individual. In other words, the critical revenue, under which a skilled individual with better opportunities abroad decides to migrate, will be higher than the critical revenue for an unskilled worker, who may be better off by staying home and looking for a job at home. This has an important implication, namely that in some cases, increasing financial transfers will result in increasing the gap between skilled and unskilled departures from countries suffering already from a brain drain phenomena.

2 The stylised facts: European trade, finance and aid

2.1 Trade and Finance

The restructuring of trade and output has been extremely fast in central and eastern European countries (CEECs²). Over the course of 15 years, the whole region has succeeded in recovering the GDP level of the pre-transition period, changing the pattern of trade into a more mature one, reaching the potential volume predicted by empirical models, and more generally being integrated with Western Europe. The most striking fact in this regard is the timeline of EU accession. The time from the date when negotiations started to the date when the fifth enlargement occurred has been extremely short, significantly shorter than those for the previous enlargements in 1973, 1986, and 1995 (Duchêne et al., 2004).

² 'CEECs' refers to Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Slovenia, Hungary, Croatia, Romania and Bulgaria; 'Central European countries' refers to Poland, Czech Republic, Slovakia, Slovenia and Hungary; and 'Eastern European countries' refer to the six other CEECs. EU15 refers to the 15 countries that comprised the EU before the enlargement of May 1st, 2004.

This political agenda has been crucial to the emergence of conditions amenable to increase in production, to well-functioning markets indispensable for deepening the level of European re-construction, and to duty-free access to a Single Market. Between 1991 and 1993, CEECs opened to foreign investments, and between 1991 and 1996 they signed the Europe Association Agreements that de facto launched the accession process, resulting in EU membership for all CEECs in two waves, first in 2004, then in 2007.

In order to become eligible for accession to the EU, the CEECs had to remove, albeit gradually, their barriers to trade with the EU, introduce trade-facilitating measures, and reform their customs administration, as well as make reforms to converge to the *Acquis Communautaire*. In addition to duty-free access to EU markets that went into effect for most industrial products, the EU launched a Pan-European cumulation project. Its objectives were twofold: harmonization of the pace of duty-removal on industrial products and regionalization of the rules of origin through a diagonal cumulation system. The European Cumulation Agreement, which went into effect on January 1, 1997, linked CEECs (excluding Croatia) and European Economic Area countries through a diagonal cumulation system allowing imports in these countries to be treated as local inputs. The shift to duty free trade in industrial products was accelerated, and a single European trading bloc was fully in place on January 1, 2002.

Taken together, these measures have contributed to the emergence of well-functioning service blocs and a business-friendly environment, both necessary conditions for participation in a fragmentation-induced division of labour. As reflected by the evolution of the CEECs' trade, European transition countries rapidly changed their specialisation from traditional low value-added sectors, like textiles, clothing, and agriculture, to sectors requiring more knowledge, managerial skills, and technological competencies, i.e., high value-added sectors (Freudenberg and Lemoine, 1999). Moreover, their trading volume, especially with EU15 countries, increased dramatically (see Table 1a, Annex 1), suggesting an increasing integration of the CEECs into EU15 production networks. This evolution was driven mainly by FDI (mostly from the EU15), which were increasingly located in the CEECs (see Table 1b, Annex1). For a global assessment of the forces driving the localization of

FDI in the region and driving the process of integrating these countries into EU15 production networks, see Lefilleur and Maurel (2008).

2.2 European aid policies

In addition, the transition in CEECs benefited from an exceptional historical commitment of the EU, which opened its frontiers dramatically, invested massively, and which, after the New Member States (NMS thereafter) entry into the EU, send large transfers of funds to the poorest member states. The reason behind this historical commitment was that CEECs were perceived very soon as natural candidates for applying to EU memberships, although at the same time the conditions for entering the EU were quite demanding. The candidate countries of Eastern Europe were asked indeed to achieve the conditions for being capable of participating in the Single Market and for transforming themselves into liberal economies and political democracies (Copenhagen criteria).

Such ambitious conditions called for the implementation of a no less ambitious programme of assistance. The 'Europe Agreements' were intended to establish bilateral free trade in industrial products between the EEC and each of the CEECs, and to develop industrial, technical and scientific cooperation. Those Agreements paved the way to the eventual accession of the CEECs to the European Union. The Copenhagen European Council (21–22 June 1993) confirmed that the countries that held associate membership might become full members of the European Union, provided that they fulfilled the precise economic and political criteria: 'stability of institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities, the existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the Union. Membership presupposes the candidate's ability to take on the obligations of membership including adherence to the aims of political, economic and monetary union.' The European Council drew up a list of the Central European countries that might accede to the European Union: Poland, Hungary, the Czech Republic, Slovakia, Romania, Bulgaria, Slovenia, Estonia, Latvia and Lithuania.

In addition to the trade and financial agreements, a programme of financial aid was implemented. The Phare programme (Poland and Hungary Assistance for the

Restructuring of the Economy) was extended in 1990 to all the countries of Central and Eastern Europe (CEECs). It aimed to support candidate countries in the process of adopting and implementing the *Community Acquis* and in preparing them for the management of the Structural Funds. During the period 2000–2006, the Phare programme was supplemented by the ISPA programme for the environment and transport and the SAPARD programme for agriculture. The commitments and payments made under the different European programmes are reported in table 2.

For the period 2007–2013, the European Union has established new external aid instruments. Phare and the other pre-accession instruments (ISPA and SAPARD) have been replaced by the IPA (Instrument for Pre-Accession Assistance). The CARDS neighbourhood programme, which aimed to provide Community assistance to the countries of South-Eastern Europe so that they might participate in the process of stabilisation and association with the EU, was also absorbed by the IPA. As EU candidate countries, Turkey, Croatia and the former Yugoslav Republic of Macedonia, along with the potential candidate countries (Western Balkans), benefit from the IPA. The European Neighbourhood and Partnership Instrument (ENPI) replaced the Tacis and MEDA neighbourhood instruments in 2007.

Moreover, the European Bank for Reconstruction and Development (EBRD) was established on 15 April 1991. Up to now, this bank is responsible for the granting of loans for productive investment in transition countries, which, in turn, were committed to applying the principles of multiparty democracy and full-fledged market economy.

Whereas the Phare programme was targeted towards the countries of Central and Eastern Europe, the Tacis (Technical Assistance to the Commonwealth of Independent States) programme was intended for the Commonwealth of Independent States (CIS). As opposed to the Phare programme, Tacis was a neighbourhood instrument, not a pre-accession instrument, which was originally intended for the former USSR. The Tacis I programme covered the period 1991–1999, and was mainly intended for the restructuring of businesses and human resources and for ensuring nuclear safety. This programme was re-conducted for the period 2000–2006 under a new programme called Tacis II. Tacis II also redefined its priorities: nuclear safety and institutional, legal and administrative reform. For the first

time, an EU technical assistance programme was used as a conditionality tool following the Russian army's intervention in Chechnya in 1999.

As can be seen from the comparison of tables 2 and 3, the European Aid goes far beyond the official development aid (ODA), in financial amounts, topics covered, and objectives pursued.

Table 2: Overview of the aid provided by the EU to the EU candidates, potential candidates, and neighbours

Programmes	Period covered	Sector	Countries	Disbursements	Commitments
Phare	1990-2006	Assistance for the Restructuring of the Economy	Poland, Hungary, the Czech Republic, Slovakia, Romania, Bulgaria, Slovenia, Estonia, Latvia and Lithuania	5589 millions euros for the period up to 1998 Over 1999-2006: 5,7 billions euro	8890 millions euros for the period up to 1998
ISPA	2000-2006	Environment and Transport		2000-2005 559 millions	2000-2004 2 401 millions euros
SAPARD	2000-2006	Agriculture	Ten candidate central and eastern European countries	991 millions euros	2000-2004 2412 millions euros
CARDS	2000-2006	Reconstruction, aid to the refugees, stabilisation, implementation of democracy, rule of law...	South Eastern Europe: Albania, Bosnia-Herzegovina, Croatia, Macedonia, Serbia, Montenegro	4,65 billions euros	
IPA	2007-2013		Candidates: croatia, Turkey, Macedonia Potential Candidates: Albania, Bosnia-Herzegovina, Montenegro, Serbia, Kosovo		11,46 billions, 2006 euro prices
ENPI					

Sources: Europa, http://europa.eu/scadplus/scad_fr.htm

« Supporting enlargement, what does the evaluation show ? » , 2007, consolidated summary report

Table 3 : Official Development Aid Total, Net disbursements, constant prices 2006 USD and euro millions

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total
EU Donors (euros)	42	31	62	126	97	137	202	211	121	246	1 277
All Donors (euros)	172	272	517	355	196	276	388	402	329	406	3 313
EU Donors (source data, US \$)	53	39	77	156	121	170	250	262	150	305	1 584
All Donors (source data, US \$)	213	338	641	441	243	343	481	498	409	504	4 110

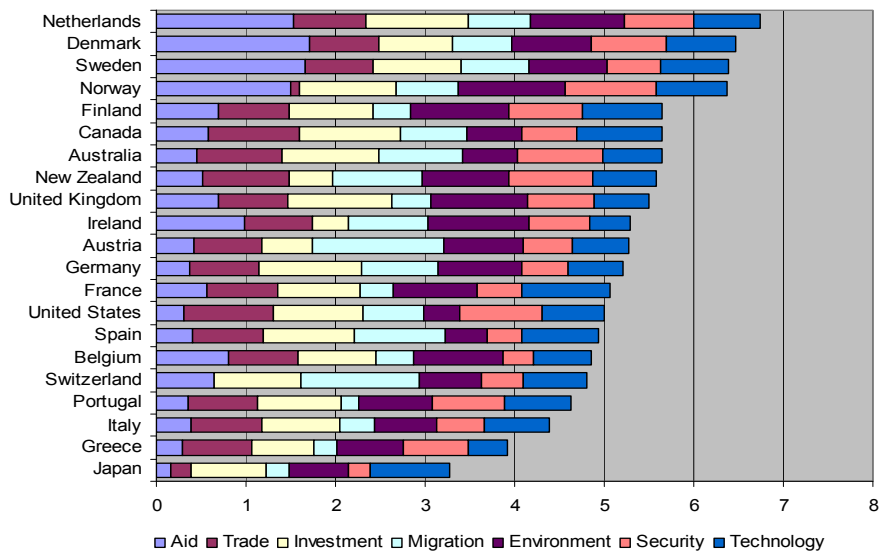
Source: OECD (DAC), Exchange rate OECD, authors calculus

2.3 Consistency of European policies

As suggested by the EU policies towards non member European countries, aid can be understood as having many components: a trade component, as reflected in the European Agreements, capital, financial assistance, and migration. For what regards all of them but migration, they were consistent during the transition period, and as a consequence, trade, finance, and aid increase simultaneously by significant amounts.

But the policies are not always coherent. Certain situations in the world are characterized by inconsistencies, which are collected by the Centre for Global Development and its “Commitment to Development Index” (Roodman, 2005, see Figure 1 below). For instance, France and Japan, which are among the biggest donors of foreign assistance, are also among the countries that implement the hardest immigration policies. Nordic countries, which give a lot of financial assistance in proportion of their GDP, and are ranked very high by the Centre for Global Development for their aid policies, do not perform particularly well with respect to immigration policies. By attracting skilled migrants from developing countries, donors destroy the capacities that they have contributed to build through their financial support. Those examples reflect the non-consistency of foreign policies of OECD countries.

Figure 1 : Consistency of Foreign Policies from OECD countries towards other countries



Source : Center for Global Development
[\(http://www.cgdev.org/section/initiatives/active/cdi_non_flash/\)](http://www.cgdev.org/section/initiatives/active/cdi_non_flash/)

For the European case, the only inconsistency was the migration policy against potential workers from EU candidate countries (some of them became members) and European neighbours. While the former is deemed to disappear because (or thanks) to the recent EU enlargements, the latter will continue to persist by following the general pattern.

Indeed the flows of workers have been quite limited over the period. In 1997, officially 950 000 individuals from the Central and Eastern European countries (CEECs) lived in the European Union, a number which accounted for only 0.2% of the total EU population. This migration, however, was unevenly spread across European Union countries: 527 000 (respectively 103 000) citizens of the CEECs lived in Germany (in Austria).

Migration seems to be therefore the less important aspect of the liberalisation process which occurred in Europe over the nineties. In Germany and Austria for instance, which share common borders with the CEECs and face the bulk of migration from Eastern neighbouring countries as suggested by the figures above, governments fear that migrants will be attracted by much higher salaries through crossing merely the borders. The labour market in EU countries suffering from high

unemployment, migration would further exacerbate the problem. One concern is the perceived possible invasion of skilled workers ready to accept lower remunerations. Other fears are stressed, like the possible abuse of existing welfare systems.

There are also concerns on the side of NMS, which face extremely high level of unemployment. Besides, as reflected in table 4, the demographic conditions are worrying, fertility rates being below the 2.1 level needed for the reproduction of the population. The dependency ratios are slightly better than in Western Europe, but they are expected to deteriorate. Some dramatic increases in emigration occurred in the early nineties, but in some cases net emigration is positive. The main fear concerns now the exodus of young and skilled nationals.

Table 4 : Demographic Indicators for 2005

Country	Birth rate, crude (per 1,000 people)	Fertility rate, total (births per woman)	Net migration	A : Population ages 15-64 (% of total)	B : Population ages 65 and above (% of total)	Dependency ratio : B/A
Bulgaria	9,0	1,31	-43078	69,4	16,8	0,44
Czech Republic	10,0	1,28	67016	71,2	14,2	0,40
Estonia	10,7	1,50	910	68,3	16,5	0,46
Hungary	9,6	1,32	65000	69,1	15,2	0,45
Latvia	9,3	1,31	-19584	68,4	16,9	0,46
Lithuania	8,9	1,27	-29755	67,8	15,5	0,47
Poland	9,4	1,24	-200000	70,7	12,9	0,41
Romania	10,2	1,32	-270000	69,8	14,8	0,43
Slovak Republic	10,0	1,25	3000	71,5	11,8	0,40
Slovenia	8,8	1,23	21506	70,5	15,6	0,42
European Monetary Union	10,3	1,50	5035748	66,8	17,7	0,50

Source : World Bank Development Indicators ; authors calculus

European migration policies have probably been much more the reflection of the population fears than of the advice from economic and demographic studies, which predicted only a limited amount of immigration in their territories. Most countries in the EU-15 decided to implement some transitory restrictions on access to their labour markets. Austria, Belgium, Finland, France, Germany, Greece, Italy, Luxembourg, Portugal and Spain were the countries that opted to set labour limitations to the citizens of the NMS; contrarily, Ireland, Sweden and United Kingdom decided against these measures for the initial period. Migration was not allowed during an initial period of two years. The restriction could then be extended for three additional years. After these first five years, another assessment of the situation is to be undertaken,

and only in cases when a serious labour-market disturbance or threat is proven, a further restraint of two years will potentially be accepted.

This implies that, at the latest, restrictions will have to be cut in 2011, and that, from relatively conservative in the past, migration policies will have to be extremely liberal in a very near future. They will have to be in coherence with all other components of the assistance, which has been and is still provided to new EU member countries. But for what regards European neighbours which are not EU members, the situation is dramatically different, in as the general framework of tight migration policies applies.

3 Data, Methodology, Results

3.1 Data

Our main data source is a panel of flows of migrants from 187 sending countries, which are developing, emerging and transition economies, to 22 OECD member countries (the members of the Development Assistance Committee of the OECD), over the period 1995-2005. We will consider whether these migrations are influenced by economic, geographic, demographic and cultural factors. We pay particular attention to the interaction that may exist between foreign assistance policy and migrations.

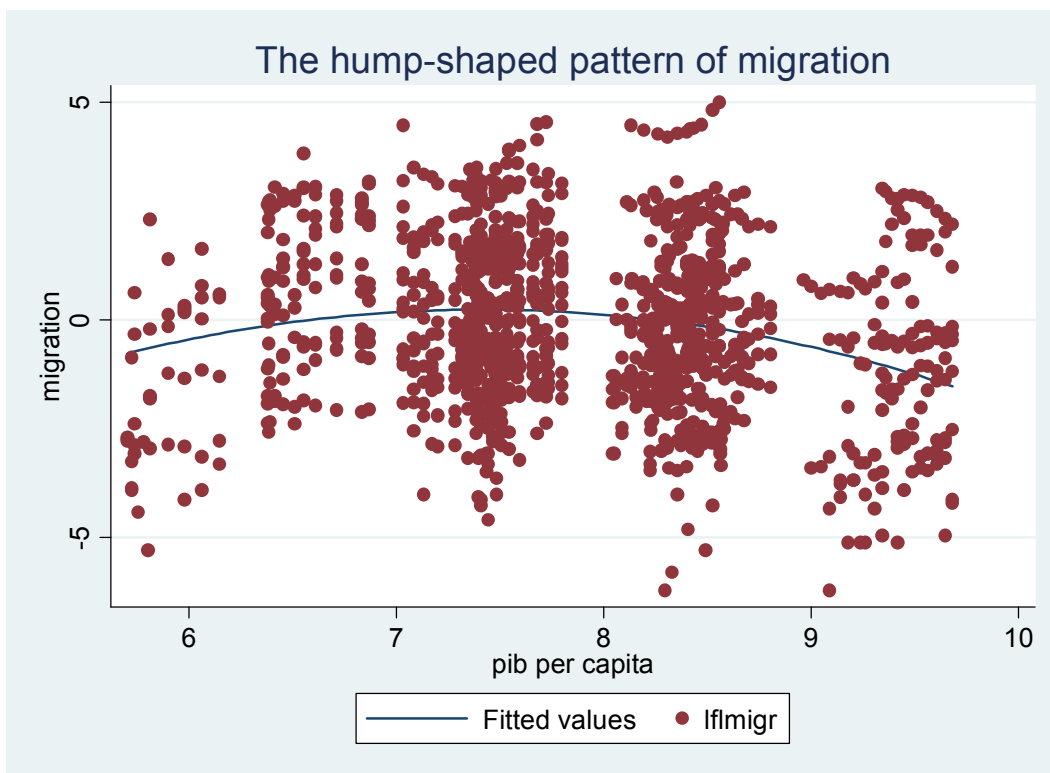
For disaggregated migration at each educational level (primary, secondary, and tertiary), we take advantage of the World Bank's recent release of an update to the global database of the Development Research Centre on Migration, Globalisation and Poverty. This database consists of a 226x226 matrix of origin-destination stocks by country (see Parsons et al., 2007, for a complete description of the database). It provides, however, only one point observation in time, for the year 2000, which restricts the quantitative research that can be performed using it. For a complete description of the sources which will be used, and the list of countries, see appendix 1.

3.2 Methodology: Equation of Migration

Migration and aid: the hump-shaped pattern

According to the purely economic determinants of migration, migration should decrease linearly with the GDP per capita of the origin country. Observed migrations fit relatively well this intuition (Massey and al., 1998), except for low levels of GDP per capita. The hump-shaped pattern hypothesis, which is recurrent in the empirical literature (Faini and Venturini, 1993, Hatton and Williamson, 2002, Adams and Page, 2003), refers to a positive correlation between GDP per capita and migration for relatively low levels of GDP per capita and to a negative correlation only for relatively higher levels of GDP per capita. We observe this pattern in our dataset (see Figure 2).

Figure 2



Source: our database (see Appendix 1) restricted to Est-West European migration

The hump-shaped pattern can be related to the existence of migration costs, which reduce the possibility of emigration from poorest countries. Migration costs include

many elements. Such costs can be reduced by geographical proximity – closer countries are generally more open to bi-directional migration –, common language, as well as historical ties implying overall knowledge of the destination country's habits.

The migration has been also explained in the literature by other factors. First a demographic factor (Hatton and Williamson, 1994): poorest countries are also youngest and young adults are more likely to migrate than old adults. Second an industrialization factor: rural population is reputed to be more reluctant to international migration (according to Hatton and Williamson, 2002, page 11, this effect is weak).

Faini and Venturini (1993) relate the evolution of migration observed in Europe from the 1960s to the 1980s to this migration hump framework; they find a positive relationship between migration and development for Greece, Portugal and Turkey, but not for the more advanced Spain or Italy. Clark et al. (2002), studying immigration to the United States between 1971 and 1998, find a negative relationship between income and migration from middle-income and high-income countries that reverses for low-income countries. Hatton and Williamson (2002) contrast emigration from a typical Western European country, East Asian country, South American country, and finally African country: only for the latter does a rise in income per capita increase migration to the US. Cogneau and Gubert (2005) highlight that Mali and Mexico are two countries where most migration comes from regions not classified as among the poorest.

We could assume that aid influences migration indirectly through its impact on income, as suggested by Faini and Venturini (1993). However, the literature on aid effectiveness in promoting growth would not support such an assumption. This literature points rather to the disappointing conclusion that the direct effect of aid on growth is not robust at best (a quantitative summary of this literature is provided in a meta analysis run by Doucouliagos and Paldam, 2005). We assume instead that by augmenting the available revenue of the recipient country, an increase in total aid might result in a lower budgetary constraint and more possibility for migration. For the

poorest transition countries³, any increase in income is likely to rise rather than decreases migration.

The gravity model of international migration

According to Sjaastad (1962) and Borjas (1989, 1994), migration can be viewed as an investment in human capital. Migrants chose the destination, where their expected payoff is higher than that of any other alternative, including home wage. Several predictions can be done from the investment in human capital approach: emigration is higher (lower) the greater the mean income in the host (source) country; it is lower the greater the level of migration costs; it is higher the greater the payoff to the observed variables in the host country relative to the payoff in the host country.

Based upon the human capital approach, the gravity model of international migration is commonly used for quantifying the potential of migration (Karemera and al. (2000) and Rotte and Vogler (1999) for instance). Hönekopp (1999) in a literature survey mentioned 10 studies on East-West migration based on gravity estimates. According to him estimates of the migration potential in these studies vary between 41 000 and 680 000 annually. Those figures are not far away from the picture, which emerges from the OECD statistics in tables 7a to 7c below.

Migration depends upon supply or push factors in the sending country, and it depends also on demand or pull factors in the receiving country. Push factors are the GDP per capita differential, the GDP per capita and the squared GDP per capita of the sending country for taking into account the liquidity constraint which can be an obstacle to a migration decision. Pull factor is essentially the GDP per capita of the host country. To those basic variables we add a trade intensity variable, measured by bilateral export from country of emigration to country of immigration, as a ratio of GDP of the country of emigration; a positive parameter would imply that labour flows and external trade are complements (pull factor), while a negative parameter would imply that there are substitutes (push factor).

We depart therefore from the following system of supply and demand equations:

³ For an interesting application of this assumption to Russia and Russian inter-regional mobility, see Andrienko and Guriev (2004).

$$D_i = s_0 GDPpc_i^{b_1} * X_{ij}^{b_2}$$

$$S_j = d_0 GDPpc_j^{c_1} * GDPpc_j^{2c_2} * X_{ij}^{c_3}$$

Combining supply and demand yield a migrant equation, where R_{ij} represent several factors restraining migrant flows, such as transport costs, linguistic, information and psychic cost of moving, historical ties, like being a former colony:

$$Migration_{ij} = a_0 (GDPpc_i - GDPpc_j)^{a_1} GDPpc_j^{a_2} GDPpc_j^{2a_3} X_{ij}^{a_4} / R_{ij}^{a_5}$$

Taking log from both side yields the following equation:

$$m_{ij} = \alpha_0 + \alpha_1 Diff_{ij} + \alpha_2 GDPpc_j + \alpha_3 GDPpc_j^2 + \alpha_4 X_{ij} + \alpha_5 R_{ij} + u_{ij}$$

Where u_{ij} stand for the error term;

m_{ij} is the log of the migration flows between countries i and j;

$Diff_{ij}$ is the difference between GDP per capita of the sending and GDP per capita of the receiving country. In principle it has a positive parameter, implying that the higher is this difference, the higher will be the incentive of moving. Besides we introduce the GDP per capita of the sending country and its squared, to fit the hump-shaped pattern mentioned above. In principle, we should put as many variables as wages, unemployment rates (even those do reflect imperfectly the employment opportunities in developing and transition countries), information about tax and social security systems. But this information is not available for a wide range of countries, particularly for the developing world.

X_{ij} is the log of trade intensity, measured by bilateral export from country of emigration to country of immigration, as a ratio of GDP of the country of emigration; a positive parameter would imply that labour flows and external trade are complements, while a negative parameter would imply that there are substitutes.

R_{ij} consists in the following set of variables:

Bilateral distance between the sending and the receiving country. This variable is a proxy for the costs related to migration: the direct expenditures for paying the transport, income losses during the migration, psychological costs due to separation from relatives, which can be assumed to be bigger if the distance is high. The latter is also a proxy for the distance between two fundamentally different social orders (the former communist society and the market, although those differences are vanishing very fast over the transition period) and for the uncertainty that those differences generate. Potential unemployment, potentially hostile attitudes of the host countries towards immigrants, the fact that human capital is not always transferable, all those factors together make migration a risky business.

Dummy variables representing historical ties: a “former colony” dummy equal to 1 when countries i and j have had in the past a colonial relation and equal to zero otherwise; a dummy for common language. We also further test whether some post-colonial ties are more influential than others (e.g. within the Commonwealth or British Empire, labour mobility is easier than between France and former French colonies). Those dummies are not active for Central and Eastern Europe however.

Dummy variables that take account that “western offshoots” have more immigrants than the “old” Europe; the strong link between United States and Latin America; and the cultural specificity of Japan, which has very restrictive attitudes vis-à-vis immigration.

There is a standard technical problem here, related to the censored nature of the dependent variable, which cannot be negative. Estimating such equations with all observations would result in potentially large biases. This problem is frequently treated by estimating equations on samples restricted to strictly positive variables. This permits also to specify equations in logarithmic form, which facilitates interpretation of parameters as elasticities. We will adopt this logarithmic specification form here. This method may result however in a second bias – known as the selection bias –, which results from the fact that the selection of a country as a destination of migration may depend on variables that also influence the number of migrants. There is no perfect solution to this problem, in absence of variables that would explain the selection of a country, but not the number of migrants, that it

receives. The most frequent approach is to assume that the selection bias is of second order, and we will adopt this approach.

3.3 Results: migration and aid, complement or substitute?

In Table 5 we present the results for the migration equation. The coefficients have the expected signs: positive for the difference in GDP per capita, suggesting that richer countries attract more migrants and that migration is determined by the income differential, positive for the sending country GDP per capita and negative for its squared GDP per capita. We interpret those latter results as confirming the hump-shaped pattern of migration. For low level of revenue, an increase in GDP per capita results in more migration instead of less.

Table 5 : Migration equation, over 1995-2005

	Coefficient	Standard Error	Z-Stat	
diff	1,450***	0,078	18,660	0,000
lgdppc_s	2,946***	0,271	10,860	0,000
lgdppc_s2	-0,086***	0,016	-5,230	0,000
tradeinten~n	1,129**	0,587	1,920	0,055
ldist	-0,576***	0,053	-10,830	0,000
colbritish	1,138***	0,303	3,760	0,000
colfrance	1,853***	0,499	3,710	0,000
colportugal	2,231***	0,826	2,700	0,007
colspain	1,978***	0,445	4,450	0,000
comlang	0,768***	0,151	5,070	0,000
offshoot	2,295***	0,194	11,850	0,000
time1	-0,031	0,037	-0,840	0,399
time2	-0,010	0,036	-0,270	0,787
time3	-0,034	0,035	-0,970	0,330
time4	-0,441***	0,030	-14,890	0,000
time5	-0,230***	0,028	-8,190	0,000
time6	-0,028	0,025	-1,120	0,263
time7	0,078***	0,025	3,130	0,002
time8	0,095***	0,026	3,680	0,000
time9	-0,018	0,025	-0,730	0,467
Intercept	-17,706***	1,342	-13,200	0,000

Number of observations : 7453, number of pair countries : 1116

R2 : 0.3282

Note: ***(resp. **, *) significant at 1 percent (resp. 5 percent, 10 percent). Student-t between brackets.

As expected, migration is a decreasing function of the physical distance. Sharing a common language or a common colonial past with the host country has a positive influence on migration flows. Trade intensity as measured by the ratio of export of the origin country on its GDP is significant and positive, suggesting that migration and trade are more complement than substitute. However, the level of significance of this

latter variable is not very high and it should be considered only as a moderately significant determinant of migration flows. Time dummies are introduced here only for the sake of taking into account a possible trend in migration flows. Parameters attached to these time dummies are significant, at least partially, but do not exhibit any clear dynamic pattern.

The presence of the squared GDP per capita of the sending country allows taking into account that citizens in the poorest countries do not migrate to the industrialized world as much as a simple theory of push and pull determinants would imply. We find the inverted-U shape relationship between living standards in the third world and migration, as expected. Using the coefficients in table 5 above, we find that migration increases with incomes up to a critical revenue value equal to US\$ 6084.

This threshold is higher than the threshold reported in Adams and Page (US\$ 1630 in 1995 prices) or US\$ 7400 in PPP prices reported in Beuran, Berthélémy and Maurel (2008).

Of course, at the policymaking level, a case-by-case discussion will be necessary. Emigration from relatively poor countries such as Albania, Armenia, Azerbaijan, Georgia, or Moldova may be positively influenced by taking initial steps toward development of their economies. Such migrations are, however, dampened by the distance of these countries from Western Europe. Conversely, emigration from relatively rich countries may be slowed by further development of their economies. This is particularly the case for all twelve new members of the European Union, whose GDP per capita is close to US\$6084. According to table 6, only one country, Slovenia, which is the richest amongst transition European countries, would face a decrease in migration outflows in the case of an increase in its revenue (whatever the cause behind this increase, be it aid or not). For all other transition countries considered here, economic progresses leading to higher income would conversely induce more emigration. This result may however depend on the specification of our equations. Further results below suggest a much smaller threshold.

Table 6: European countries, GDP per capita, constant 2000 US\$ prices, WDI

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
May 2004	Hungary	3549	3742	3954	3975	3775	3963	3677	3842	3982	4328	4633	4890	5045
	Poland	3411	3621	3875	4066	4251	4455	4537	4605	4787	5045	5230	5562	5935
	Slovak Republic	3174	3423	3613	3741	3749	3781	3910	4071	4240	4467	4733	5201	5734
	Slovenia	7975	8258	8686	9013	9480	9855	10145	10505	10792	11264	11710	12341	13016
	Czech Republic	5100	5314	5281	5245	5322	5521	5684	5805	6013	6285	6676	7056	7408
	Lithuania	2561	2701	2910	3144	3112	3263	3498	3753	4158	4487	4873	5278	5772
	Estonia	2986	3164	3555	3750	3790	4106	4438	4813	5181	5628	6213	6921	7424
	Latvia	2364	2477	2727	2904	3065	3302	3588	3854	4154	4539	5047	5695	6315
	Malta	8260	8544	8884	9146	9438	9981	9745	9925	9828	9783	10047	10322	..
	Cyprus	11870	11899	12007	12458	12916	13425	13811	13926	13947	14198	14408	14705	15071
January 2007	Bulgaria	1564	1424	1352	1415	1456	1563	1658	1742	1840	1972	2105	2251	2407
	Romania	1742	1817	1711	1632	1616	1651	1770	1888	1992	2165	2259	2438	2594
Candidate Countries	Turkey	3549	3742	3954	3975	3775	3963	3677	3842	3982	4328	4633	4890	5045
	Macedonia, FYR	1578	1589	1604	1650	1714	1785	1699	1708	1752	1820	1892	1964	2064
	Croatia	3337	3675	3857	4015	3937	4092	4333	4573	4818	5023	5238	5490	5798
Potential Candidate Countries	Albania	897	988	893	1011	1115	1197	1279	1310	1377	1450	1520	1587	1677
	Bosnia and Herzegovina	480	874	1150	1302	1398	1445	1502	1574	1629	1720	1779	1904	2037
	Montenegro	..	..	1549	1595	1428	1469	1479	1534	1611	1712	1820	1999	2152
	Serbia	..	..	..	..	1137	1193	1252	1306	1342	1458	1554	1649	1764
Low & middle income	1034	1072	1112	1124	1143	1187	1207	1235	1285	1363	1438	1529	1628	
Low income	310	318	322	325	329	334	339	342	352	368	383	398	415	
Lower middle income	701	742	774	792	824	863	901	947	1007	1078	1156	1252	1359	
Russian Federation	1618	1564	1591	1511	1614	1775	1870	1968	2122	2286	2444	2637	2868	
Moldova	331	316	325	307	300	311	334	365	395	430	468	496	516	
Ukraine	672	610	597	591	594	636	701	745	823	930	962	1039	1125	

But migrations within Europe may differ from migrations from developing to developed countries for several historical reasons. Until WWI, Europe had a geopolitical structure very different from what it became in the 20th century. The Austro-Hungarian Empire has been dismantled. Central and Eastern Europe had been separated from Western Europe during the cold war, and the end of the cold war has in turn created new waves of migrations from East to West. Migrations within Europe have been also revitalized in the past 15 years as the European Union continues to expand its membership. The civil war in the former Yugoslavia and its dismantlement has spurred emigration from South-eastern Europe.

Three models of within European migration are usually distinguished indeed. The Nordic model was introduced as early as 1954 and granted free mobility of labour within Scandinavia. The EFTA model promoted the liberalization of trade flows, but not factor flows; some EFTA countries, in particular Switzerland and Austria, allowed a large inflow of labour from abroad, but limited the social integration of the foreign work force by not allowing equal access to the labour market, to social assistance and housing and to political participation. The third and last European Community model followed yet another model of integration. While free trade was on the agenda from the very beginning, free mobility of labour between the 6 founding countries (France, Germany, Italy, Belgium, the Netherlands and Luxembourg) was allowed only when the common market was launched in 1992.

In this general framework traditional migration linkages and history matter, e.g. the colonial past in the case of Netherlands, France, Belgium, the United Kingdom and Portugal. Countries like Germany, Finland, and Greece give preferential treatment to returning migrants, who are descendants of former emigrants (Aussiedler in Germany, Ingrians in Finland, Pontean Greeks in Greece). For instance during the 1980ies, 300 000 Poles were given the authorization to emigrate, and amongst them, 60% came into Germany, with the status of Aussiedler (in other words they sought recognition of their ethnic origin in Germany). Other migrants from CEECs were belonging to ethnic minorities; for instance, 300 000 Bulgarian of Turkish origin left their country for joining Turkey. Romanian, who constitute the second largest migrant pool, emigrated mostly during the eighties towards Germany, the US, Hungary, Israel, Canada, Australia and France. It is worth noticing that Switzerland has a long

standing tradition of taking refugees and asylum seekers, i.e., migration on humanitarian grounds. Germany and Austria adopted the Swiss guestworker model of migration after WWII, intended to satisfy what were perceived to be short-term labour needs. This model may explain partially the fact that they became the main destination countries of immigration of East European migrants, as reflected in the following tables, which report migration statistics for the three main origin Eastern European countries, namely Poland, Romania and Turkey:

Table 7a: inflows of foreign population by nationality

Poland

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<u>Germany</u>		87,238	77,405	71,214	66,106	72,21	74,144	79,65	81,551	88,241
<u>United States</u>		13,824	15,766	12,035	8,451	8,773	10,09	11,769	12,711	10,51
<u>Canada</u>		2,312	2,062	1,708	1,446	1,299	1,334	1,168	1,117	1,079
<u>Netherlands</u>		..	1,385	1,397	1,464	0,891	1,316	1,437	1,593	1,53
<u>Belgium</u>		0,8	0,946	1,063	1,118	1,151	1,134	2,928	2,427	2,086
<u>France</u>		0,869	0,728	0,826	1,404	0,885	0,907	1,039	1,222	1,239
<u>Australia</u>		0,746	0,708	0,616	0,388	0,372	0,332	0,4	0,341	0,403
<u>Sweden</u>		0,909	0,682	0,601	0,613	0,673	0,649	0,809	1,065	1,017
<u>Denmark</u>		0,279	0,37	0,336	0,424	0,352	0,327	0,383	0,419	0,414
<u>Norway</u>		0,237	0,226	0,243	0,231	0,26	0,24	0,44	0,661	0,564
<u>Hungary</u>		0,307	0,221	0,199	0,152	0,062	0,075	0,076	0,095	0,069
<u>Czech Republic</u>		0,211	0,178	0,133	0,113	0,117	0,089	0,436	1,656	1,58
<u>United Kingdom</u>		..	1	..	0,053	0	0,471	1,945	..	..
<u>Spain</u>		0,436	0,82	3,834	3,672	3,875	3,456
<u>Slovak Republic</u>		0,139
<u>Italy</u>		3,852	6,655	7,055	8,742	15,254	..
<u>Greece</u>		1,344	..	..	..	..	..
<u>Austria</u>		4,951	5,12	3,499	3,511	2,454	2,899

data extracted on 2008/10/06 14:44 from OECD.Stat

Table 7b

Romania

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Germany		24,814	17,069	14,247	16,987	18,814	24,191	20,328	23,953	23,78
United States		4,871	5,799	5,545	5,104	5,678	6,863	6,628	4,887	3,655
Hungary		5,101	4,161	3,979	5,504	7,845	8,894	10,648	10,307	9,599
Canada		3,851	3,67	3,916	2,976	3,468	4,431	5,589	5,688	5,466
France		0,617	0,527	0,641	0,877	0,919	1,16	1,445	1,505	1,566
Belgium		0,332	0,324	0,384	..	0,587	0,65	0,966	0,994	0,998
Sweden		0,33	0,28	0,224	0,286	0,246	0,28	0,287	0,363	0,329
Czech Republic		0,118	0,23	0,203	0,184	0,099	0,044	0,23	0,342	0,36
Norway		0,102	0,115	0,123	0,153	0,123	0,107	0,18	0,203	0,19
United Kingdom		0,042	1,23	0	0,284	..	..
Spain		0,502	1,782	17,456	23,295	48,33	54,998
Slovak Republic		0,04
Portugal		7,847	3,248	0,933
Poland		0,017	0,073	0,084	0,152	0,169	0,181
Netherlands		0,579	0,659	0,583	0,657
Italy		5,875	20,885	20,684	18,738	50,168	..
Greece		2,05	..	..	..	..	..
Denmark		0,121	0,161	0,164	0,196	0,194	0,173
Austria		1,528	1,834	1,876	2,357	4,158	5,132

data extracted on 2008/10/06 14:44 from OECD.Stat

Table 7c

Turkey

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Germany		73,592	73,224	55,981	47,958	47,097	49,114	54,587	58,128	49,774	42,644
Netherlands		4,757	6,399	6,522	5,12	4,215	4,517	4,804	5,434	6,193	4,088
France		3,642	3,426	5,072	6,782	5,753	6,613	6,884	8,509	8,605	9,047
United States		2,947	3,657	3,138	2,676	2,215	2,606	3,215	3,375	3,029	3,835
Switzerland		3,818	3,368	2,934	2,606	2,964	2,799	3,1	3,2	2,7	2,4
United Kingdom		4	1	2	0,824	1,577	1,476	3,564	..	..	..
Belgium		2,52	2,491	1,436	2,447	2,216	2,812	2,982	3,872	3,828	3,234
Denmark		0,838	1,238	0,951	1,154	1,062	0,936	0,926	0,757	0,396	0,393
Sweden		1,112	1,05	0,842	0,794	0,779	0,696	0,734	0,839	1,183	1,133
Canada		0,747	0,631	0,662	0,803	0,832	1,097	1,224	1,356	1,444	1,796
Norway		0,277	0,32	0,35	0,461	0,471	0,356	0,408	0,584	0,468	0,483
Finland		0,148	0,149	0,187	0,135	0,131	0,14	0,243	0,269	0,271	0,249
Hungary		0,126	0,136	0,122	0,097	0,093	0,092	0,082	0,117	0,119	0,151
Spain		0,048	0,045	0,125	0,105	..	..	..
Slovak Republic		0,037	0,08
Poland		0,04	0,195	0,208	0,299	0,612	0,573	0,524
Italy		1,814	0,962	2,353	..	..	..	1,125
Greece		0,796	..	..	..	..	..	..
Austria		5,857	7,208	7,019	7,667	10,36	9,687	7,811
data extracted on 2008/10/06 14:57 from OECD.Stat											

Also the current context of labour mobility within the enlarged EU is to a large extent very different from relations between developed and developing countries. The EU has developed an ambitious policy of integration of its former Eastern neighbours. Hence migrations take place in an institutional set-up in which the ultimate goal is to facilitate the freedom of movements, including of labour, with New Member countries, while very often the policy vis-à-vis non-member countries is much more restrictive.

Despite this favourable context, the freedom of labour has been neglected during the European enlargement. If the freedom of labour became unavoidable once the CEECs entered the EU, during the pre accession period the movements of workers were regulated mostly by bilateral agreements, such as the agreement between Poland and Germany or between Austria and both Hungary and the Slovak Republic. Such bilateral agreements have provided an important framework for the temporary movement of workers from the CEECs, and they have brought advantages to both employers in the EU, and to the workers themselves; they have also had a positive effect in channelling irregular migration into legal seasonal work⁴. But they reflected also the willingness of the EU countries not to open too dramatically their labour markets when the increasing unemployment in North Western Europe would have rendered a too liberal policy particularly unpopular:

The bilateral agreements were worded in very loose terms and were not transposed into national law. For example, the German provision which regulates the work of seasonal workers and their status in Germany does not set out any specific rights or non-discrimination provisions;

As the agreements with the European Union were intended to supersede the bilateral agreements little or no effort was subsequently put into those bilateral agreements;

The quotas of nationals from the CEECs benefiting from agreements on training are not filled, principally because of the demanding criteria (for example, the requirement for proficiency in the language of the receiving state as against the low wages on offer);

⁴ Indeed the great majority of workers who benefit from bilateral employment agreements with Member States of the European Union are seasonal workers employed in Germany. In respect of Poland for example, their number is approximately eight times greater than the sum of all other categories for all four countries with which bilateral agreements have been signed.

The agreements have been a source of abuse by employers in some countries seeking to avoid the costs of employment.

We are now testing aggregated behaviours or potential migrants, and discussing whether European migrants behave the same as non-European migrants makes sense, notably when we discuss such effects as effects of incomes at home and of income differentials. We have tested the existence of specific behaviours of migration within Europe by introducing a dummy variable equal to 1 when the country of origin is in Central and Eastern Europe (including Cyprus and Malta, which have been included in the process of expansion of the European Union) and the country of destination is a Western EU member. A Wald test performed shows that the interaction of this vector of parameters with the European dummy variable is significantly different from zero at the 10% level.

Further scrutiny of results obtained for each variable which we interacted with the European dummy variable suggests that all of them are quite significant: the difference in GDP per capita, the GDP per capita of the East-European sending country and its squared, the distance, the language, the trade intensity variable. Results are reported in Table 8 below.

Table 8: Migration equation, European specificities

	Coefficient	Standard Error	Z-Stat	
diff	1,546***	0,082	18,900	0,000
diff_eur	-0,710***	0,179	-3,970	0,000
lgdppc_s	2,767***	0,276	10,010	0,000
lgdppc_seur	0,999***	0,367	2,720	0,006
lgdppc_s2	-0,068***	0,017	-4,010	0,000
lgdppc_seur2	-0,116***	0,031	-3,710	0,000
tradeinten~n	0,709	0,600	1,180	0,238
tradeinten~r	9,628***	2,710	3,550	0,000
ldist	-0,616***	0,068	-9,050	0,000
ldist_eur	0,383***	0,112	3,430	0,001
colbritish	1,232***	0,301	4,090	0,000
colfrance	1,955***	0,496	3,940	0,000
colportugal	2,386***	0,818	2,920	0,004
colspain	2,167***	0,442	4,910	0,000
comlang	0,723***	0,154	4,690	0,000
comlang_eur	-1,686**	0,829	-2,030	0,042
offchoot	2,281***	0,192	11,860	0,000
time1	-0,033	0,037	-0,870	0,386
time2	-0,010	0,036	-0,270	0,791
time3	-0,034	0,035	-0,970	0,331
time4	-0,442***	0,030	-14,790	0,000
time5	-0,232***	0,028	-8,210	0,000
time6	-0,032	0,025	-1,250	0,212
time7	0,076***	0,025	3,010	0,003
time8	0,095***	0,026	3,660	0,000
time9	-0,017	0,025	-0,670	0,502
intercept	-17,355***	1,375	-12,620	0,000

Number of observations : 7453, number of pair countries : 1116

R2 : 0.3282

Note: ***(resp. **, *) significant at 1 percent (resp. 5 percent, 10 percent). Student-t between brackets.

Migrants from Eastern Europe are less reactive to revenue differential, but the hump-shape effect is also different: its weight is higher and, more important, the threshold income for which the own income effect starts declining is lower.⁵ The end result of these two shifts, according to our computations, is that the threshold income under which migration and revenue are complement falls to 2837 \$US. According to table 6, this implies that for most East-European countries, which entered the EU already, migration and revenue have not been or are no more complement: Hungary, Poland, the Slovak republic, do not face and did not create migration pressures induced by their economic progress. Hence, if at that time EU members wanted to avoid migration pressures from the East there was a win-win situation: as long as income progressed in Eastern

⁵ This threshold is easy to compute as the half of the ratio of the parameter of GDP per capita to the parameter of the squared GDP per capita.

neighbours, this reduced the risk of emigration from these countries. By contrast, Bulgaria and Romania, which entered the EU only in 2007, all countries classified as potential candidate countries (Albania, Bosnia and Herzegovina, Montenegro and Serbia), and, amongst candidate countries, Macedonia, would experience higher emigration outflows in case of an increase in their GDP per capita. Hence, for this second group of countries, we may understand why their accession has been delayed: as long as such countries are on the left hand side of the hump shape, opening EU frontiers to such countries would lead to more migration pressures at least for a while and could create policy reversals and inconsistencies of EU transfers and labour market liberalization policies.

Distance is less of an impediment to migrating decision of Eastern European migrants than of other migrants. Speaking the same language does not significantly influence European migration, simply because there are few instances of common languages. Our result may be blurred by the fact that within Europe there are some similarities among different languages (e.g. Romanian is close to Italian). Also there are some minorities in Eastern Europe who spoke already the same language as a neighbour Western country (e.g. German). There are significant cultural and historical proximities within Europe, explaining perhaps easy migrations in spite of different languages.

The trade intensity coefficient is much higher, with a positive estimated parameter, implying that labour flows and external trade are more complements than in North-South relations. Referring to Markusen, such complementarity is associated with technological progress and increasing returns to scale, which are much more prevalent in European East-West trade than in North-South trade. Trade within Europe is intra-industry trade reasonably well described by the theoretical model introduced by Markusen, while North-South trade is more related to standard comparative advantages.

4 skilled/unskilled migration stocks and aid: complement or substitute?

We continue our analysis by addressing the question of the impact of aid on migration with respect to the level of education of migrants. The model upon which our gravity equation is based on Borjas (1989, 1994). This model assumes that the decision to migrate depends upon education and dispersion of earnings in both the source and

destination countries. As a consequence, educated persons migrate to the country where return to education is the highest (1); and migrants can be less educated and earn less in both home and source countries (negative selection) if the host country taxes high income workers relatively more than the source country in order to provide better insurance for low income workers against poor labour market outcomes (2).

In compressing the earning distribution, redistribution can be expected to produce a migration pattern consisting of negatively selected individuals with below average skill levels; conversely, positive selected individuals with above average skilled levels will prefer destinations where the earning is higher (and the wealth is not as readily redistributed).

This idea is tested with two variables: the replacement rates (over 60 months of unemployment) and the Gini index in the destination countries. We expect, therefore, that unskilled migrants will prefer destinations with high replacement rates and select destinations with low Gini index⁶. The replacement rates are a proxy for redistribution policies: the higher they are, the more compressed the earnings distribution is likely to be.

Tables 9-10-11 report the result for primary, secondary, and tertiary education migrants. Such results are based on stocks of migrants, available for one year only, due to data limitations. Nevertheless they have a lot of similarities with our previous results based on migration flows.

Distance has the same impact on the migration of all types of workers, while language is more of an impediment to migrating decision of unskilled people than of skilled people. Interestingly, coming from a former colony is not significant for unskilled migrants, and coming from a former British, French, Spanish and Portuguese colonies seem to be more significant for unskilled workers. Moreover, skilled migrants seem to be more attracted to the western offshoots. We do not find any evidence that migrants are primarily attracted by access to welfare payments or better public services, nor do we find any evidence of a negative (positive) self-selection of unskilled (skilled) migrants

⁶ Hatton and Williamson (2002) use also the Gini coefficient as a proxy for the return to skills.

more attracted towards high (low) redistributive countries. Our findings corroborate the empirical literature on this specific issue (see Kahanec, Zimmermann, 2009, page 11-12-13).

Table 9 : Migration equation, primary level, stocks

	Coefficient	Standard Error	Z-Stat	
Diff	0,786***	0,082	9,590	0,000
lgdppc_s	2,070***	0,314	6,590	0,000
lgdppc_s2	-0,077***	0,020	-3,860	0,000
tradeinten~n	2,376***	0,523	4,540	0,000
ldist	-1,075***	0,063	-16,960	0,000
colonizer1s	0,002	0,007	0,310	0,758
colbritish	3,801***	0,325	11,680	0,000
colfrance	4,653***	0,476	9,780	0,000
colportugal	5,425***	0,992	5,470	0,000
colspain	3,505***	0,578	6,070	0,000
comlang	0,336***	0,115	2,930	0,003
offchoot	2,649***	0,137	19,400	0,000
Trn1	-0,020***	0,003	-7,810	0,000
Intercept	0,626	1,470	0,430	0,670

R-squared : 0,2868

Number of obs : 2634

Note: ***(resp. **, *) significant at 1 percent (resp. 5 percent, 10 percent). Student-t between brackets.

Table 10 : Migration equation, secondary level, stocks

	Coefficient	Standard Error	Z-Stat	
Diff	1,225***	0,074	16,470	0,000
lgdppc_s	2,274***	0,287	7,930	0,000
lgdppc_s2	-0,060***	0,018	-3,300	0,001
tradeinten~n	1,771***	0,479	3,700	0,000
Ldist	-1,086***	0,058	-18,650	0,000
colonizer1s	0,010*	0,006	1,540	0,124
Colbritish	3,567***	0,298	11,970	0,000
colfrance	2,877***	0,436	6,600	0,000
colportugal	4,443***	0,909	4,890	0,000
Colspain	4,312***	0,529	8,150	0,000
comlang	0,129	0,105	1,230	0,218
offchoot	2,799***	0,124	22,600	0,000
trn1	-0,018***	0,002	-7,590	0,000
intercept	-2,619**	1,339	-1,960	0,051

R-squared : 0.3360

Number of obs : 2661

Note: ***(resp. **, *) significant at 1 percent (resp. 5 percent, 10 percent). Student-t between brackets.

Table 11 : Migration equation, tertiary level, stocks

	Coefficient	Standard Error	Z-Stat	
Diff	1,037***	0,072	14,460	0,000
lgdppc_s	1,831***	0,282	6,500	0,000
lgdppc_s2	-0,041**	0,018	-2,320	0,021
tradeinten~n	1,907***	0,473	4,030	0,000
Ldist	-1,006***	0,058	-17,470	0,000
colonizer1s	0,016***	0,006	2,530	0,011
colbritish	3,676***	0,296	12,430	0,000
colfrance	3,905***	0,432	9,030	0,000
colportugal	4,280***	0,987	4,330	0,000
Colspain	3,406***	0,525	6,490	0,000
comlang	0,187**	0,104	1,800	0,072
Offchoot	3,627***	0,120	30,230	0,000
trn1	-0,024***	0,002	-10,120	0,000
intercept	-0,604	1,314	-0,460	0,646

R-squared : 0.3868

Number of obs : 2705

Note: ***(resp. **, *) significant at 1 percent (resp. 5 percent, 10 percent). Student-t between brackets.

Following the approach of the previous section, we can compute the threshold for each level of education under which migration and revenue are complementary, and above which they become substitute. We find a hump-shape curve whatever the migration variable that we consider: stocks of skilled or unskilled migrants, or flows of migrants.

This similarity of results obtained with either flows or stocks deserve a particular comment. According to Lucas (2004), the hump-shaped pattern is suspected to be a statistical artefact, due to the use of OECD data, which are stocks. Indeed OECD data are likely to overestimate migrations to industrialized countries because they fail to take into account migration flows occurring across poor (African notably) countries. On the contrary, Lucas said, migration flows do not reveal any inversed U pattern, because they are not characterised by the same bias.

Having at our disposal both sources of data, we can check that they are consistent. They do deliver not only the same inversed U pattern between migration and revenue, but also more or less, on average, the same threshold. Tables 10-12 indicate indeed that migration and revenue are complementary up to US\$ 4384 for primary education, US\$ 6367 for secondary education, and US\$15085 for tertiary education, which on average are not far from the figures we obtained in the previous section using flows data.

Secondly it is important to notice that there is a range of revenues, over which skilled migrants may continue to enjoy better opportunities abroad, while unskilled individuals will have better to stay home, given the expected salary they can get on the local labour market. For any revenue in this range, an increase in GDP per capita will accentuate the brain drain phenomena by favouring the departures of skilled workers but not the departures of unskilled workers. This will happen for all East European countries and the potential or candidate countries, in as much as their GDP per capita exceeds in most cases US\$ 4384 but is lower than US\$ 15085⁷.

5 Conclusion

We have shown that foreign assistance and migration are substitute above a threshold of about 6084 \$US for the entire sample; for within European migration the threshold falls to 2837 \$US. This contrasting result echoes the specificities of the model of European integration process, which has emerged after the fall of the Berlin Wall, a model which embraces many dimensions: a trade and financial dimension - enforced by the European Agreements - a strong institutional and aid dimension - the implementation of the *Acquis Communautaire* - the adhesion to the EU at an unprecedented speed, and finally an aid dimension - huge financial transfers embodied in the successive Phare programmes and then Structural funds.

As a result the level under which migration and economic progress are substitute turns out to be much lower within Europe. Any improvement in the economic situation translate therefore into less migration pressures, and this outcome can be highly priced for many reasons, the most important being that governments have to take into account the unpopularity of too sudden migration pressures as well as the fear (justified or not) of being invaded by workers from abroad (Shiff (2006)). According to our findings, most East-European countries, which entered the EU already, do not face and did not create migration pressures induced by their economic progress. Hence, if the situation was and is still a win-win situation: as long as income

⁷ Those results corroborate the finding of Gudrun Biffl (2001, page 159) that EU citizens working in another EU country are increasingly highly skilled. The mobility of people with "high and specialized skills, in particular in the information-communication technology field, has increased. This does not mean, however, that unskilled labour migration has come to a halt in Western Europe. It is still the major group of migrants in Western Europe. The source countries of un- and semi-skilled migrants changed, however, as the supply of these skills dried up in less developed regions of the EU as a result of human resource and economic development."

progressed in Eastern neighbours, this reduced the risk of emigration from these countries. By contrast, Bulgaria and Romania, which entered the EU only in 2007, all countries classified as potential candidate countries (Albania, Bosnia and Herzegovina, Montenegro and Serbia), and, amongst candidate countries, Macedonia, would face higher emigration outflows in case of an increase in their GDP per capita. Hence, for this second group of countries, opening EU frontiers would lead to more migration pressures at least for a while and could create policy reversals and inconsistencies of EU transfers and labour market liberalization policies.

Our last investigation analyses the tradeoffs faced by skilled and unskilled individuals when they consider the option of migrating. A well-known stylised fact is that skilled individuals are more mobile than unskilled ones. First we provide a rationale for this higher mobility, which is that skilled individuals face lower costs, from the liquidity constraint to the linguistic and psychological components of the overall migration cost, and they anticipate higher benefits. Second we turn to the migration hump framework, and we compute three different thresholds, US\$ 4384 for primary education, US\$ 6367 for secondary education, and US\$15085 for tertiary education. We emphasise that for any revenue higher than US\$ 4384 but lower than US\$ 15085, an increase in GDP per capita accelerates the brain drain phenomena by favouring the departures of skilled workers but not the departures of unskilled workers. This negative outcome is expected to happen for most East European countries and potential or candidate countries.

Appendix 1: Data source and Definition

<u>Variable name</u>	<u>Data Type</u>	<u>Source</u>	<u>Definition</u>
GDP per capita -North	Constant prices 2000 US\$	World Development Indicators, World Bank	GDP Per capita of migrants home country
GDP per capita -South	Constant prices 2000 US\$	World Development Indicators, World Bank	GDP Per capita of migrants host country
Population - North	Unit	World Development Indicators, World Bank	Population of migrants home country
Population - South	Unit	World Development Indicators, World Bank	Population of migrants host country
Gini Index OCDE	%	OECD Social Indicators (2005)	Gini Coefficient in mid 1990s (1995) and the Gini coefficient in 2000
Gini Index WB	%	World Development Indicators, World Bank	Calculations from WBG on distribution of household income (Peiode 1995 -2005)
Language: langoff_i - North		CEPII database	Official or national languages and languages spoken by at least 20% of the population of the home country
Language: langoff_i - South		CEPII database	Official or national languages and languages spoken by at least 20% of the population of the host country
Colonizer i (North and South)		CEPII database	Colonizers of the country for a relatively long period of time and with a substantial participation in the governance of the colonized country
Replacement Rates With Social Assistance	%	OECD Social Indicators	Average net replacements rates over 60 months of unemployment, periode 2001- 2005
Replacement Rates Without Social Assistance	%	OECD Social Indicators	Average net replacements rates over 60 months of unemployment, periode 2001- 2005

Remplacement Rates (Average)	%	OECD Social Indicators	The average of the gross unemployment benefit replacement rates for two earning levels, three family situations and three durations of unemployment. (1995, 1997, 1999, 2001, 2003 and 2005)
Migration Policy	Index between 0 and 10	Center for Global Development	Migration component of Commitment to Development Index (period 2003 to 2005)
Aid			Foreign aid mind when people in rich countries think of helping poorer countries. (period 2003 to 2005)
Trade			The trade component of the CDI penalizes countries for erecting barriers to imports of crops, clothing, and other goods from poor nations (period 2003 to 2005)
Migration			The migration compares rich countries on how easy they make it for people from poor ones to immigrate, find work or get education, send home money (period 2003 to 2005)

Variable name	Data Type	Source	Definition
Aid Bilateral	Constant prices 2006 US\$	DAC database, OECD	Aid Flows from all bilateral donors period 1995 - 2005
Aid Total (Odatotaldisbursements)	Constant prices 2006 US\$	DAC database, OECD	The sum of grants, capital subscriptions and net loans from all donors to the recipient country
Migrations Flows	Unit	Database on Immigrants in OECD Countries (DIOC) Development Research Centre on Migration World Bank	Inflows of foreign population by nationality
Migration Stock WB:	Unit		Stock of migrants (year 2000)
Primary educat. level	Unit		ISCED 0/1/2 *
	Unit		ISCED 3/4 *

Secondary educat. level			
Tertiary education level	Unit		ISCED 5/6 *
Education no answer	Unit		The unknow Education category
Migration Stock Total	Unit		Group aggregated
Migration Stock OECD	Unit	Database on Immigrants in OECD Countries (DIOC)	Stock of foreign population by nationality period 1995-2005 (no classification of the education)
Trade Intensity Aid	Values of Exports and GDP are expressed in current USD	OECD's International Trade Statistics Databases	Export bilateral from the donor to the recipient, as a ratio of GDP of the donor. **
Trade Intensity Migration	Values of Imports and GDP are expressed in current USD	OECD's International Trade Statistics Databases	Import bilateral from the donor to the recipient, as a ratio of GDP of the recipient. **
Distance		CEPII database	Bilateral distance between two countries based on bilateral distances of the most important cities/agglomerations (population)
Distw		CEPII database	
Distwces		CEPII database	Inter-city distances being weighted by the share of the city in the overall country's population. ***

* The International Standard Classification of Education (ISCED; cf. UNESCO 1997)

** For exports, the trading partner is the country of destination (final) of the goods.

For imports, the trading partner is the country of origin or production or consignment.

*** See Notes on CEPII' s distances measures: Thierry Mayer and Soledad Zignago

<i>Cod</i>	<i>Name Country</i>	<i>Cod</i>	<i>Name Country</i>	<i>Cod</i>	<i>Name Country</i>	<i>Cod</i>	<i>Name Country</i>
1	France	100	Afghanistan	161	Georgia	222	Palau
2	Belgium	101	Albania	162	Ghana	223	Palestinian Administrations Areas
3	Canada	102	Algeria	163	Grenada	224	Panama
4	Denmark	103	Andorra	164	Guam	225	Papua New Guinea
5	Germany	104	Angola	165	Guatemala	226	Paraguay
6	Greece	105	Antigua and Barbuda	166	Guinea	227	Peru
7	Hungary	106	Argentina	167	Guinea-Bissau	228	Philippines
8	Italy	107	Armenia	168	Guyana	230	Qatar
9	Luxembourg	108	Azerbaijan	169	Haiti	231	Romania
10	Netherlands	109	Bahamas	170	Honduras	232	Russian Federation
11	Poland	110	Bahrain	171	Hong Kong (China)	233	Rwanda
12	Portugal	112	Bangladesh	173	India	234	Saint Lucia
13	Slovak Republic	113	Barbados	174	Indonesia	235	Saint Vincent and The Granadines
14	Spain	114	Belarus	175	Iran	236	Samoa
15	Sweden	115	Belize	176	Iraq	237	Saint Kitts and Nevis
16	Switzerland	116	Benin	177	Israel	238	Sao Tome and Principe
17	United Kingdom	117	Bermuda	178	Jamaica	239	San Marino
18	United States	118	Bhutan	179	Jordan	240	Saudi Arabia
19	Korea	119	Bolivia	180	Kazakhstan	241	Senegal
20	New Zealand	120	Bosnia and Herzegobina	181	Kenya	242	Serbia and Montenegro
21	Norway	121	Botswana	182	Kiribati	243	Seychelles
22	Australia	122	Brazil	183	Kuwait	244	Sierra Leone
23	Austria	123	Brunei Darussalan	184	Kyrgyzstan	245	Singapore
24	Czech Republic	124	Bulgaria	185	Laos	246	Slovenia
25	Finland	125	Burkina faso	186	Latvia	247	Salomon Islands
26	Turkey	126	Burundi	187	Lebanon	248	Somalia
27	Ireland	127	Cambodia	188	Lesotho	249	South Africa
28	Japan	128	Cameron	189	Liberia	250	Sri Lanka
172	Iceland	129	Cape Verde	190	Libyan Arab Jamahiriya	251	Sudan
205	Mexico	130	Central African Republic	191	Liechtenstein	252	Suriname
		131	Chad	192	Lithuania	253	Swaziland
		132	Chile	194	Macao	254	Syria
		133	China	195	Macedonia	255	Chinese Taipei
		134	Colombia	196	Madagascar	256	Tajikistan

135 Comoros	197 Malawi	257 Tanzania
136 Congo	198 Malaysia	258 Thailand
137 Cook Islands	199 Maldives	259 Timor -L'este
138 Costa Rica	200 Mali	260 Togo
139 Cote d'ivoire	201 Malta	261 Tokelau
140 Croatia	202 Marshall Islands	262 Tonga
141 Cuba	203 Mauritania	263 Trinidad and Tobago
142 Cyprus	204 Mauritius	264 Tunisia
143 Democratic People's Republic of Korea	206 Micronesia	265 Turkmenistan
144 Democratic Republic of the Congo	207 Moldova	266 Tuvalu
145 Djibouti	209 Mongolia	267 Uganda
146 Dominica	210 Morocco	268 Ukraine
147 Dominican Republic	211 Mozambique	269 United Arab Emirates
148 Ecuador	212 Myanmar	270 Uruguay
149 Egypte	213 Namibia	271 Uzbekistan
150 El Salvador	214 Nauru	272 Vanuatu
151 Equatorial Guinea	215 Nepal	273 Venezuela
152 Eritrea	216 Nicaragua	274 Viet Nam
153 Estonia	217 Niger	275 Yemen
154 Ethiopia	218 Nigueria	276 Zambia
155 Fiji	219 Niue	277 Zimbabwe
159 Gabon	220 Oman	
160 Gambia	221 Pakistan	

Appendix 2: Trade and FDI (net inflows)

Table 1a: Trade (% of GDP), WDI

		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
May 2004	Hungary	89	96	109	125	131	148	143	128	125	130	134	89	96
	Poland	44	46	51	57	54	61	58	61	69	77	75	44	46
	Slovak Republic	113	116	121	129	126	143	153	149	155	153	160	113	116
	Slovenia	103	103	106	106	101	113	113	111	110	119	127	103	103
	Czech Republic	106	104	109	110	112	130	133	123	126	140	141	106	104
	Lithuania	109	112	115	102	88	96	105	111	108	111	123	109	112
	Estonia	145	137	158	160	149	174	163	150	146	156	164	145	137
	Latvia	88	101	102	107	90	90	93	91	97	104	110	88	101
	Malta	201	188	179	181	187	195	168	166	163	163	161	201	188
	Cyprus	92	95	95	90	88	„	„	„	„	„	„	„	92	95
January 2007	Bulgaria	91	105	112	94	95	117	119	111	117	126	137	91	105
	Romania	61	65	65	53	61	71	74	77	77	81	76	61	65
Candidate Countries	Turkey	„	„	„	42	39	43	51	49	47	50	47	„	„
	Macedonia, FYR	76	67	88	97	94	112	99	96	93	101	107	76	67
	Croatia	88	90	98	89	90	99	103	102	105	104	103	88	90
Potential Candidate Countries	Albania	47	48	47	45	49	57	59	67	66	65	69	47	48
	Bosnia and Herzegovina	92	108	95	119	115	107	106	96	98	100	108	92	108
	Montenegro	„	„	„	„	„	88	100	95	78	100	105	„	„
	Serbia	„	„	41	52	44	62	59	57	62	69	72	„	„
Low & middle income	Lower middle income	48	46	47	48	49	54	52	55	57	62	64	48	46
	Lower middle income	47	46	47	48	49	53	52	55	57	62	64	47	46
Russian Federation	Moldova	107	129	129	124	120	125	123	131	141	133	143	107	129
	Ukraine	97	94	84	86	102	120	109	106	113	115	102	97	94

Table 1b: Foreign direct investment, net inflows (% of GDP), WDI

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
May 2004	Hungary	10,76	7,28	9,09	7,11	6,88	5,78	7,40	4,52	2,58	4,42	6,82	5,40	„
	Poland	2,63	2,87	3,12	3,70	4,33	5,45	3,00	2,08	2,12	5,17	3,41	5,62	„
	Slovak Republic	1,20	1,64	0,81	2,51	1,72	9,45	7,50	16,82	6,55	7,21	4,44	7,46	„
	Slovenia	0,73	0,84	1,67	1,01	0,49	0,69	2,50	7,31	1,05	2,50	1,54	1,70	„
	Czech Republic	4,65	2,31	2,25	5,98	10,49	8,79	9,12	11,29	2,21	4,54	9,30	4,21	„
	Lithuania	0,95	1,86	3,55	8,28	4,46	3,32	3,67	5,04	0,97	3,43	4,01	6,09	„
	Estonia	4,65	3,23	5,39	10,46	5,48	6,89	8,76	3,89	9,36	8,16	21,51	9,63	„
	Latvia	3,43	6,83	8,50	5,39	4,77	5,27	1,59	2,72	2,71	4,63	4,55	8,34	„
	Malta	3,98	8,80	2,46	8,07	23,52	15,44	6,24	10,14	20,14	7,08	11,16	28,07	„
	Cyprus	2,63	2,50	6,14	3,61	8,31	9,18	9,76	10,45	6,82	7,07	6,84	8,32	„
January 2007	Bulgaria	0,69	1,10	4,87	4,22	6,32	7,95	5,98	5,80	10,49	10,80	15,64	16,34	„
	Romania	1,18	0,74	3,44	4,82	2,92	2,80	2,88	2,50	3,10	8,53	6,56	9,37	„
Candidate Countries	Turkey	0,36	0,29	0,30	0,35	0,31	0,37	1,71	0,49	0,58	0,73	2,03	3,79	„
	Macedonia, FYR	0,21	0,25	0,42	3,58	0,89	4,87	12,85	2,05	2,08	2,92	1,72	5,50	„
	Croatia	0,61	2,57	2,65	4,31	7,33	5,88	6,77	4,90	6,94	3,03	4,60	7,87	„
Potential Candidate Countries	Albania	2,89	2,99	2,16	1,65	1,20	3,88	5,07	3,03	3,15	4,57	3,13	3,58	„
	Bosnia and Herzegovina	0,00	-0,07	0,03	1,53	3,57	2,74	2,10	4,05	4,56	6,67	4,84	3,45	„
	Montenegro	„	„	„	„	„	„	„	„	„	„	„	„	„
	Serbia	„	„	3,76	0,70	1,01	0,28	1,40	0,87	6,69	3,94	5,65	16,13	„
Low & middle income	1,94	2,22	2,78	2,93	3,18	2,72	2,78	2,49	2,24	2,63	2,83	3,09	„	
Lower middle income	1,94	2,23	2,81	2,98	3,25	2,78	2,84	2,52	2,26	2,66	2,87	3,09	„	
Russian Federation	0,52	0,66	1,20	1,02	1,69	1,05	0,90	1,00	1,84	2,61	1,69	3,11	„	
Moldova	1,48	1,40	4,08	4,61	3,24	9,90	3,68	5,06	3,72	3,37	6,61	7,10	„	
Ukraine	0,55	1,17	1,24	1,77	1,57	1,90	2,08	1,63	2,84	2,64	9,06	5,20	„	

References

Adams, R., & Page, Jr. J. (2003). International Migration, Remittances and Poverty in Developing Countries. World Bank Policy Research Working Paper 3179, Washington, D.C..

Beuran, M., Berthélémy, J.C., and M. Maurel, 2008, Aid and Migration: Substitutes or Complements?, submitted.

Biffi G., 2001, "Migration Policies in Western Europe and the EU-Enlargement", in Migration Policies and Eu enlargement, in The case of Central and Eastern Europe, OECD.

Borjas, G.J. (1989). Economic Theory and International Migration, *International Migration Review*, 23(3), 457-485.

Borjas, G.J. (1994), The economics of immigration, *Journal of Economic Literature* 32, 1667-1717.

Clark, X., Hatton, T., & Williamson J. (2002). Explaining US Immigration 1971-1998. *Review of Economics and Statistics*, 89(2), 335-342.

Cogneau, D. and F. Gubert (2005), Migrations du Sud, Pauvreté et Développement, in E.M. Mouhoud (éd.), *Les nouvelles migrations*, Editions Universalis.

Doucouliagos, H. & Paldam, M. (2008). Aid effectiveness on growth: A meta study. *European Journal of Political Economy*, 24(1), 1-24.

Duchêne, G., Maurel, M., Najman, B., 2004. Elargissement de l'UE: présentation générale, *Economie et Prévision* 163, 1-16.

Faini, R. and A. Venturini (1993), Trade, Aid and Migrations: Some Basic Policy Issues, *European Economic Review*, vol. 37, pp. 435-442.

Freudenberg, M., Lemoine, F., 1999. Central and Eastern European Countries in the International Division of Labour in Europe, CEPII, Working Paper 1999-05.

Hatton, T. & Williamson J.G (1994). Migration and the International Labor Market, 1850-1939. London, UK: Routledge.

Hatton, T. and J. Williamson (1998), *The Age of Mass Migration: Causes and Impact*, Oxford University Press, New York.

Hatton, T. and J. Williamson (2002), What Fundamentals Drive World Migration?, paper presented at the Conference on Poverty, International Migration and Asylum, Helsinki, September 27-28.

HÖNEKOPP, E. (1999), "Auswirkungen der EU – Osterweiterung auf die Arbeitsmärkte der Mitgliedsländer der Europäischen Union" (Schwerpunkt Arbeitsfreizügigkeit), Manuscript, IAB, Nürnberg.

Kahanec, M. and K. Zimmermann, 2008, Migration in an enlarged EU: A challenging solution?, paper presented for the workshop "Five years of an enlarged EU – a positive sum game", organised by the European Commission.

Karemera, D., Iwuagwu Oguledo, V., & Davis B. (2000). A Gravity Model Analysis of International Migration to North America. *Applied Economics*, 32, 1745-1755.

Lefilleur, J. and M. Maurel, 2008, The logics of East-European firms integration: location close to inputs suppliers and export markets, submitted.

Lucas, R.E.B. (2004), International Migration to the High Income Countries: Some Consequences for Economic Development in the Sending Countries, Paper prepared for the Annual World Bank Conference on Development Economics – Europe, Brussels.

Markusen, James R. (1983), Factor Movements and Commodity Trade as Complements, *Journal of International Economics*, 14(3-4): 341-356.

Massey, D.S., Arango, J., Hugo, G., Kouaouci, A., Pelligrino, A., & Taylor, J.E. (1998). *Worlds in Motion: Understanding International Migration at the End of the Millennium*. Oxford: Clarendon Press.

Mundell, Robert A. (1957), International Trade and Factor Mobility, *American Economic Review*, 47(3): 321-335.

Parsons, Christopher R., Ronald Skeldon, Terrie L. Walmsley, and L. Alan Winters (2007), Quantifying International Migration: A Database of Bilateral Migrant Stocks, World Bank, Working Paper n° 4165.

Roodman, David (2005), An Index of Donor Performance-Revised August 2005, Center for Global Development, Working Paper n°67.

Sjaastad, L.A. (1962). The costs and returns of human migration. *Journal of Political Economy*, 70(5), 80-93.

Schiff, Maurice (2006), Migration, Investment and Trade: Substitute or Complements? Paper presented at the AfD / EUDN Conference on "Migration and Development: Mutual Benefits?", Paris. <http://www.eudnet.net/download/Schiff.pdf>

Vogler, M. and R. Rotte (2000), The Effects of Development on Migration: Theoretical Issue and New Empirical Evidence, *Journal of Population Economics*, Vol.13, pp. 485- 508.