Are Trade and Migration Complements? Evidence from the EU Eastern Enlargement of Trade-creating Migration

Monika Mrázová, University of Oxford

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Abstract

Casual empiricism suggests that the new Eastern member states of the European Union (EU) trade more with the EU countries who did not impose restrictions on the mobility of labour than with countries who did impose transition periods on migration. This paper sets up a model where consumers have home-biased preferences. As a consequence, migration generates trade between the host country and the country of origin. This result is tested using data on European trade flows and migration before and after the EU enlargement. Before 2004, Eastern European countries had a customs union with the EU, but the mobility of labour was restricted. After 2004, Ireland, Sweden and the UK opened their labour markets whereas other EU countries applied transition periods. Some of these transition periods were removed in 2006. This “experiment” is used to test the hypothesis that migration creates trade.

Keywords. Trade; Migration; Networks; Border Effect; Gravity

JEL Classification Numbers: F12; F15
1 Introduction

It is one of the most widely accepted results in international economics that gravity models have great explanatory power. Basic gravity models of international trade state that trade flows between two entities are proportional to the size of these entities and inversely related to the distance between them. The impact of the distance is strong as testified by a large set of papers from this field.

More recently, a seminal contribution of McCallum (2001) shows that the role of geographical distance might be more complex than the simple log-linear relationship posited by the basic gravity models. Actually, the crossing of national borders also seems to sharply reduce trade. McCallum (2001) finds that U.S.-Canadian border provinces trade 22 times more among themselves than with similar U.S. states. This result has been qualified by Obstfeld and Rogoff (2000) as one of their six puzzles of open economy macroeconomics. Grossman (1998) says it is an unexpected result, even more surprising than Trefler (1995)’s "mystery of the missing trade".

A wide literature has since then emerged with the aim to understand and measure the border effect. Gravity equations similar to McCallum’s have been estimated to determine the impact of trade unions (Frankel et al. (1998)), monetary unions (Rose (2000)), different languages, adjacency, and a variety of other factors. Anderson and van Wincoop (2003) have greatly enlightened the puzzle of the border affect through an improved link with theory. Nevertheless, more work is still needed to understand fully why these various notions of proximity matter so much for international trade.

Another recent strand of literature has found growing evidence in support of the idea that migration has positive effects on trade between immigrants’ host and home countries. Pioneering studies by Gould (1994) and Head and Ries (1998) document empirically such immigrant-link effects for both imports and exports of the United States and Canada respectively. Dunlevy and Hutchinson (1999, 2001) also present empirical evidence of pro-trade impact of immigration on U.S. imports in the late nineteenth and early twentieth centuries. Rauch (1999) proposes network based explanations of these findings. More recently, Girma and Yu (2002) examine UK trade and immigration. Rauch and Trindade (2002) do not consider immigration directly, but they investigate instead whether the presence of large numbers of ethnic Chinese residents in partner countries is associated with more trade. Combes et al. (2005) examine trade and people flows between French departments (95 sub-national
units roughly equivalent to counties in the US or UK). Thus unlike the other studies, they examine intranational trade and migration. All these studies find a statistically significant relationship between trade flows and immigration (for excellent surveys of this literature see Wagner et al. (2002) and Rauch (2001)). The estimated magnitude of the immigration effect, however, differs across studies. As Wagner et al. (2002) point out, the discrepancies come from differences in specifications and samples (some of the studies are based on cross-sections and others on time-series). Combes et al. (2005) is the first paper to propose a theory based specification derived from a model characterized by monopolistic competition, home-biased preferences, information and transport costs.

The literature studying the links between migration and trade has proposed two main economic mechanisms through which migration can promote trade: the diffusion of preferences and the reduction of information costs. The first mechanism applies only to imports. Immigrants may have a home bias that translates in preferring goods from their home country either because of persistence in consumption habits based on tastes developed before migration or simply because of “chauvinism”. These preferences would generate more imports from the country of origin. Furthermore, nationals, in the presence of foreigners, may also partly acquire a taste for those new varieties and so this mechanism may generate even more imports from the country of origin.

The second mechanism applies to both imports and exports. It relies on the potential alleviation of costs incurred by economic agents when gathering information about distant markets. Immigrants may face lower barriers to trade because of their knowledge of both their country of origin and their new home country. They are more familiar with both countries’ market needs and are better positioned to seize trade opportunities. Gould (1994) and Rauch (2001) explain how the reciprocal knowledge of trade partners can help to reduce costly opportunism in business, networks being substitutes of contract enforcement laws. Language knowledge and knowledge of the home country local business law and culture are also frequently mentioned among the reasons why immigrants may be in a better position to trade with their countries of origin. Combes et al. (2005) however show in their intranational trade study that migrants have a significant trade enhancing effect even when there is no difference in language, culture or legal system. This supports the view that migrants carry with them information about specific opportunities rather than a mere institutional information.
Understanding and quantifying the relative role of these two channels is of crucial importance. First, how do social networks overcome informal barriers to trade is a question of interest in its own right. Second, as Rauch and Trindade (2002) point out, it would provide us with a lower bound on the trade-reducing impact of informal barriers. And finally, it has also important policy implications for government export promotion policies as suggested by Rauch (1996). Identifying the two mechanisms separately in a rigorous way is however a very difficult task that has not yet been completely investigated in the literature. Most of the studies estimate separately the impact of immigrants on exports and imports, but results are quite conflicting. Some studies (e.g. Head and Ries (1998), Dunlevy and Hutchinson (1999, 2001)) imply that the preference effect is more important than the information effect while other studies (e.g. Girma and Yu (2002)) find a smaller immigration effect on imports than on exports suggesting that the preference effect is insignificant. Combes et al. (2005) regress two migration variables on total trade flows between different departments and so they do not distinguish between the impact on exports or imports. On the other hand, they include an additional variable concerning plant networks in their regression. Finding this variable highly significant, they infer that the information effect dominates.

This paper aims to contribute to this discussion. It continues in the vein of Combes et al. (2005) in that it estimates a theory-based specification. The novelty of this paper consists in using the recent EU eastern enlargement experience. This paper presents the first study of the immigration-trade link on an intra-EU data set. This data set, because of the recent EU enlargement, is quite unique which will, I believe, enable me to answer some of the questions related to this issue. The purpose is to use a panel data set of intra-EU trade from 1996 to 2006. The eight new members of the EU were members of a Customs Union with the EU since 1992, but they did not benefit from labour mobility until their full EU membership in 2004. Furthermore, only a few from the former members of the EU opened their labour markets in 2004, most of the EU-15 decided to apply transition periods. Thus this data set presents large variability and the completeness of the trade data will enable me to assess separately the impacts of migration on imports and exports.

The rest of this paper is organised as follows. Section 2 presents the theoretical model and the corresponding specification to be estimated. The used data set is described in Section 3. The estimation results are presented analysed in Section 4. Section 5 concludes.
2 Theoretical model and estimated specification

This section describes the theoretical underpinnings of the empirical specification I use. The
whole model is based on a widely used trade model of monopolistic competition á la Dixit-
Stiglitz-Krugman. The modeling is directly inspired by Anderson and van Wincooop (2003)
that is slightly modified to include home bias in consumer preferences. Trade cost modeling
is inspired by Combes et al. (2005).

2.1 Preferences and Demand

There are \( N \) countries, each of which produces one good. The representative consumer in
country \( i \) has a CES utility function of the form

\[
u(q_i) = \left( \sum_{j=1}^{N} (a_{ij} q_{ij})^{\frac{\sigma - 1}{\sigma}} \right)^{\frac{\sigma}{\sigma - 1}}
\]  

(1)

where \( q_{ij} \) is country \( i \)'s consumption of country \( j \)'s product, \( q_i = (q_{i1}, q_{i2}, ..., q_{iN}) \) is
country \( i \)'s consumption profile, \( a_{ij} \) is a specific weight attached by country \( i \) to country \( j \)'s
product, describing country \( i \)'s consumer preferences. \( \sigma > 1 \) is the elasticity of substitution
between all goods.

Let \( p_{ij} \) denote the price of country \( j \)'s product in country \( i \) and \( y_i \) country \( i \)'s nominal
income. Consumers from country \( i \) maximise utility given by (1) subject to their budget
constraint

\[
\sum_{j=1}^{N} p_{ij} q_{ij} = y_i
\]  

(2)

Let \( p_j \) denote the exporter \( j \)'s supply price, net of trade costs, and let \( t_{ij} \) be the trade
cost factor between countries \( i \) and \( j \). Then \( p_{ij} = p_j t_{ij} \).

Country \( i \)'s nominal demand for country \( j \)'s product is obtained from the maximisation
problem

\[
x_{ij} = p_{ij} q_{ij} = \left( \frac{p_j t_{ij}}{a_{ij} P_i} \right)^{1-\sigma} y_i
\]  

(3)

with \( P_i \) being the consumer price index of country \( i \), given by
Anderson and van Wincoop (2003) further impose market clearance condition to derive a standard form gravity equation linking the nominal demand to the product of both countries’ income and the trade costs. As Combes et al. (2005) point out in their paper, there are two major problems with such a specification. The price index \( P_i \) introduces nonlinearity and thus complicates estimation. Furthermore, the exporter’s supply price \( p_j \) is usually not accurately measured. Therefore, I will adopt the fixed-effects approach to the estimation as used for example by Hummels (2001) and Redding and Venables (2004) in similar settings. This approach is explained in the following subsection.

2.2 Fixed-effects approach

We can note that (3) contains three different groups of variables: origin \( j \)-specific, destination \( i \)-specific and bilateral \( ij \)-specific. As we are interested in particular in the influence of bilateral variables, we can replace all origin- and destination-specific variables by origin and destination fixed effects. Such an approach has been recently used by Combes et al. (2005) in a very similar model of migration-trade linkages and by Hummels (2001) and Redding and Venables (2004) in other similar settings.

When we take the natural logarithm of (3) and apply the fixed-effects approach, we obtain

\[
\ln(x_{ij}) = (1 - \sigma) \ln t_{ij} + (\sigma - 1) \ln a_{ij} + f_i + f_j
\]  

(5)

2.3 Trade costs and preferences specification

The final step in deriving the estimation specification is to model the unobservable trade cost factor \( t_{ij} \) and the preference parameter \( a_{ij} \). I follow Combes et al. (2005) and other authors in hypothesizing that \( t_{ij} \) is a loglinear function of observables, bilateral distance \( d_{ij} \), whether there is a common border \( b_{ij} \) and the number of immigrants from country \( j \) in country \( i \) \( mig_{ij} \) and the number of emigrants from country \( i \) in country \( j \) \( mig_{ji} \)

\[
t_{ij} = d_{ij}^\alpha \exp(-\beta b_{ij})(1 + mig_{ij})^{-\gamma}(1 + mig_{ji})^{-\delta}
\]  

(6)
where $\alpha$, $\beta$, $\gamma$ and $\delta$ are parameters that are all expected to be positive.

Concerning the preferences, I also follow Combes et al. (2005) in postulating that they depend on the number of immigrants from country $j$ in country $i$, the fact whether there is an common border $b_{ij}$ (consumers are home biased and they tend to prefer products from their neighbours) and a random component $e_{ij}$

$$a_{ij} = (1 + mig_{ij})^{\gamma'} \exp(e_{ij} + \beta' b_{ij})$$

(7)

where $\beta'$ and $\gamma'$ are also parameters expected to be positive.

The combination of (5), (6) and (7) gives

$$\ln(x_{ij}) = -\tilde{\alpha}d_{ij} + \tilde{\beta}b_{ij} + \tilde{\gamma}\ln(1 + mig_{ij}) + \tilde{\delta}\ln(1 + mig_{ji}) + f_i + f_j + \epsilon_{ij}$$

(8)

with $\tilde{\alpha} = (\sigma - 1)\alpha$ and $\tilde{\beta} = (\sigma - 1)(\beta + \beta')$, both coefficients are supposed to be positive. $\tilde{\gamma} = (\sigma - 1)(\gamma + \gamma')$ is the coefficient on immigrants, supposed to be positive. Note that this coefficient incorporates the earlier mentioned preference effect through $(\sigma - 1)\gamma'$ and the information effect of the immigrants through $(\sigma - 1)\gamma$. Thus $\tilde{\gamma}$ is supposed to be higher for imports and lower for exports if there is a preference effect. $\tilde{\delta} = (\sigma - 1)\delta$ is the coefficient on emigrants representing their information effect.

Please note that this final specification is very similar to the fixed-effects specification of Combes et al. (2005), by which it was greatly inspired, except that it does not contain the plant variable. Another slight difference is that this specification was derived from a simpler and more concise initial assumptions. The main difference will come from the estimation approach as explained in the next two sections.

3 Data

To estimate the equation (8), I need data on bilateral trade flows, migration and country distances. I intend to cover the "old" 15 EU member countries and the 8 new Eastern European members.
3.1 Trade data

Trade data comes from the Eurostat online "External Trade" database\(^1\). This data set includes intra EU27 monthly trade flows since 1995. For my estimation, because of the limited availability of migration data, I use yearly trade flows (both imports and exports).

3.2 Migration data

Anyone who has done any work on migration knows that migration data is a very scarce resource. And this is true also in this case. Furthermore, international comparison is difficult because of differences in how immigrants are defined. Some countries focus on producing data on foreign residents whilst others refer to the foreign born. The foreign born population can be viewed as representing first-generation migrants, and may consist of both foreign and national citizens. The concept of foreign population consists of migrants who have retained the nationality of their country of origin including second and third generations born in the host country. It is disputable which of these measures is more appropriate for my estimation. I believe that foreign-born population is more relevant, because it actually consists of people who have lived, at least shortly, in the two different countries. Because of their more recent migration (as opposed to second and third generations included in the foreign residents), these people might have stronger links with their country of origin (playing a role in the information effect) and also because they have actually lived in their country of origin, they might have formed stronger preferences for the products of this country (preference effect).

On the other hand, one might argue, that the second and third generation migrants may inherit the preferences from their parents. The fact that they have retained their nationality may come from a difficulty of obtaining the new nationality or from a genuine attachment to their country of origin. Nevertheless, I assume that the links between the foreign population and their country of origin might be somewhat weaker and that the foreign-born population is a better measure of networks.

The problem is that some European countries tend to produce data on foreign-born population and others on foreign residents. Luckily, foreign-born population data is available for all EU countries from Eurostat based on the Census 2001 cohort. This enables me to obtain a 2001 cross section of foreign-born population in all EU countries (currently excluding Germany). My first estimation is based on this cross-section.

\(^1\)http://epp.eurostat.ec.europa.eu/
Further data on foreign-born population is available on Eurostat for countries who perform more frequent censuses or use labour force surveys and other methods to evaluate their population. From this data, I construct a 2001 and 2006 data set for a subset of EU countries. This data set is interesting in that it enables me to evaluate the pre and post-EU Enlargement variation.

Finally, I use the foreign-population data available for the whole time series since 1996 for a subset of countries to check the robustness of my previously established results.

3.3 Distance data
I use great circle distances between the capitals of the countries as a measure of the bilateral distance between countries. Most of the data comes from Jon Haveman’s website\(^2\). I have completed this data set for Eastern Europe.

4 Estimation results
Because of the above discussed limitations of the migration data, I perform the following three different experiments: 2001 cross-section estimation based on trade flows and foreign-born populations, 2001 and 2006 restricted cross-section estimation based on trade flows and foreign-born populations and 1996 to 2006 panel data estimation based on trade flows and foreign residents numbers.

4.1 2001 cross-section
The 2001 cross-section of trade flows and foreign born population is a quite unique data set for several reasons. First, the intra-EU data set gives me information on both immigrants and emigrants which I believe will enable me to quantify the preference and information effect. Second, as the EU Eastern enlargement took place in May 2004 (for the moment, I ignore Romania and Bulgaria), the data in 2001 can be divided into two distinct groups of countries: the then 15 EU members (further called EU15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom) who have been in a Customs Union for several decades\(^3\) and whose citizens

\(^2\)http://www.macalester.edu/research/economics/PAGE/HAVEMAN/Trade.Resources/Data/Gravity/dist.txt

\(^3\)In 1957, Belgium, France, Italy, Luxembourg, Netherlands and West Germany created the European Economic Community (EEC). In 1973, Britain, Ireland and Demark joined the EEC.
benefited from a complete labour mobility inside the Union in 2001. The second group of countries consists of the future 8 Eastern European members (further called EU8: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia) who joined a Customs Union with the EU in 1992 and whose citizens’ movement was restricted in the EU until May 2004 (and in most EU countries actually even afterwards). Thus I expect that for historic reasons (shorter time as members of the EU Customs Union, communist past etc.), the informal barriers to trade between the EU15 and EU8 will be larger than within the EU15 countries and so should be the impact of migrants. In particular, I expect the preference effect to be more important for trade between the EU15 and EU8 countries. Consumers in the EU15 countries certainly lacked confidence regarding products coming from Eastern Europe and I hypothesize that their home bias was stronger when comparing products from EU15 countries and EU8 countries. Furthermore, as I have just mentioned, citizens from the EU8 countries had benefited from limited labour mobility within the EU in 2001. And so they could exploit found business opportunities in a lesser way than their EU15 counterparts.

I estimate the equation (8) for the two groups of countries EU15 with EU15 and EU15 with EU8 separately and compare the obtained results. This approach seems similar to Girma and Yu (2002) who also distinguish two subgroups of countries within their dataset. They study the link between immigration and trade using recent U.K. data. Within their data set, they distinguish Commonwealth and non-Commonwealth countries. They find that non-Commonwealth countries have a significant export- and import-enhancing effect whereas Commonwealth countries seem to have no substantial impact on exports (and appear to be reducing imports). Girma and Yu (2002) conjecture that this could be because immigrants from the former U.K. colonies do not bring with them any new information that can help substantially reduce trade cost between their home country and the U.K.. (Furthermore, the reducing impact on imports might reflect trade-substituting activities by immigrants.) The non-Commonwealth immigrants bring with them extra language knowledge, legal system knowledge etc.. Nevertheless, the idea of non-Commonwealth immigrants bringing extra information as compared to Commonwealth immigrants seems contradicted by the recent finding of Combes et al. (2005) who study trade within a single country France and who find a a significant positive impact of migration on inter-regional trade flows.

My distinction between the two groups of countries has a slightly different motivation.
For historical reasons, countries from Central Europe have always been quite close culturally and legally to the rest of Europe and as most of EU countries speak different languages, the language barrier with Eastern Europe does not seem significantly more important. On the other hand, EU8 migrants definitely did have restricted mobility within the EU prior the EU enlargement and there was less trade experience between the EU15 and EU8 countries. Therefore I expect to obtain the effects as described above.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports to EU15 (Value in 1000 €)</td>
<td>485,901</td>
<td>695,239</td>
<td>513</td>
<td>4,307,414</td>
</tr>
<tr>
<td>Exports from EU15 (Value in 1000 €)</td>
<td>587,314</td>
<td>868,296</td>
<td>4,809</td>
<td>4,243,106</td>
</tr>
<tr>
<td>Immigrants to EU15 (no. of persons)</td>
<td>6,522</td>
<td>14,921</td>
<td>5</td>
<td>106,689</td>
</tr>
<tr>
<td>Emigrants from EU15 (no. of persons)</td>
<td>942</td>
<td>3,552</td>
<td>1</td>
<td>34,634</td>
</tr>
<tr>
<td>Distance (km)</td>
<td>1,363</td>
<td>658</td>
<td>57</td>
<td>3,119</td>
</tr>
</tbody>
</table>

Table 1: Summary statistics for trade flows and migration between EU15 (excluding Germany) and EU8 countries.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports (Value in 1000 €)</td>
<td>4,903,744</td>
<td>7,710,953</td>
<td>13,267</td>
<td>34,139,307</td>
</tr>
<tr>
<td>Exports (Value in 1000 €)</td>
<td>5,364,375</td>
<td>8,430,116</td>
<td>38,359</td>
<td>36,955,740</td>
</tr>
<tr>
<td>Immigrants (no. of persons)</td>
<td>31,472</td>
<td>84,116</td>
<td>32</td>
<td>581,062</td>
</tr>
<tr>
<td>Emigrants (no. of persons)</td>
<td>25,135</td>
<td>65,331</td>
<td>120</td>
<td>533,205</td>
</tr>
<tr>
<td>Distance (km)</td>
<td>1,402</td>
<td>733</td>
<td>174</td>
<td>3,365</td>
</tr>
</tbody>
</table>

Table 2: Summary statistics for trade flows and migration within EU15 (excluding Germany) countries.

Table 1 gives summary statistics for the exchanges between the EU15 and EU8 countries. Table 2 gives summary statistics for the exchanges within the EU15 countries. We can notice that both trade flows and the number of migrants within the EU15 countries are much larger than between the EU15 and EU8 countries.

Tables 3 and 4 present simple correlations between all variables in each data set.

The correlations between trade flows and migration variables are large. Both trade flows and numbers of migrants are also strongly negatively correlated with distance. Furthermore, we can note that immigrants from EU8 into EU15 countries seem to be more strongly correlated with imports than immigrants from EU15 into other EU15 countries which goes in
the direction of my hypothesis that the effect of migrants on trade flows between EU15 and EU8 countries should be stronger.

The strong correlation between the immigrants and emigrants explanatory variables is problematic for the estimation. Actually, when these variables are log-transformed, their correlation is even exacerbated (above 0.8). Hence, I will orthogonalise these two variables in a way adapted to the performed estimation.

The estimation is a linear regression with reporter and partner country dummies.

4.1.1 Imports estimation

I note that for imports, the number of immigrants enters the equation (8) through two channels: the preference channel and the information/network channel whereas the number of emigrants influences imports only through the information/network channel. Therefore, I orthogonalise the numbers of immigrants and emigrants in such a way so that I keep their common information in the emigrants variable and the new immigrants variable will contain only the additional information. In this way, the coefficient on emigrants will provide a lower bound on the information effect of the migrants and the coefficient on the orthogonalised immigrants will provide an upper bound on the preference effect of the immigrants.

Tables 5 and 6 summarise the results of the estimations of imports from EU8 countries.
in EU15 countries and within EU15 countries respectively. As conjectured, the global effect of migrants on trade is larger in the EU15-EU8 case. Furthermore, the coefficient of the orthogonalised immigrants variable is also slightly larger in the EU15-EU8 and much more significant.

<table>
<thead>
<tr>
<th>Imports</th>
<th>Coef.</th>
<th>Robust Std. Err.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immig</td>
<td>0.31</td>
<td>0.13</td>
<td>2.41</td>
</tr>
<tr>
<td>Emig</td>
<td>0.41</td>
<td>0.19</td>
<td>2.11</td>
</tr>
<tr>
<td>Dist</td>
<td>-0.94</td>
<td>0.21</td>
<td>-4.42</td>
</tr>
<tr>
<td>Contiguity</td>
<td>0.60</td>
<td>0.43</td>
<td>1.40</td>
</tr>
</tbody>
</table>

Table 5: Estimation result. All variables in logarithm except the contiguity dummy. $R^2 = 0.915$ and $RMSE = 0.595$.

<table>
<thead>
<tr>
<th>Imports</th>
<th>Coef.</th>
<th>Robust Std. Err.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immig</td>
<td>0.29</td>
<td>0.15</td>
<td>1.90</td>
</tr>
<tr>
<td>Emig</td>
<td>0.37</td>
<td>0.15</td>
<td>2.43</td>
</tr>
<tr>
<td>Dist</td>
<td>-0.80</td>
<td>0.14</td>
<td>-5.59</td>
</tr>
<tr>
<td>Contiguity</td>
<td>0.06</td>
<td>0.24</td>
<td>0.26</td>
</tr>
</tbody>
</table>

Table 6: Estimation result. All variables in logarithm except the contiguity dummy. $R^2 = 0.963$ and $RMSE = 0.409$.

**4.1.2 Exports estimation**

The situation is symmetrical for the export case. Exports from one country are imports in the other country and emigrants from one country are immigrants in the other country. I keep the same names of my variables and I orthogonalise the emigrants variable so that the common information is contained in the immigrants variable and the additional information is in the emigrants variable. In this way, the coefficient on immigrants will provide a lower bound on the information effect of the migrants and the coefficient on the orthogonalised emigrants will provide an upper bound on the preference effect of the migrants.

Tables 7 and 8 summarise the results of the estimations of imports from EU8 countries in EU15 countries and within EU15 countries respectively. As conjectured, the global effect of migrants on trade is again larger in the EU15-EU8 case. Furthermore, the coefficient of
the orthogonalised emigrants variable is in this case significantly larger in the EU15-EU8 and much more significant.

\begin{table}[h]
\centering
\begin{tabular}{lccc}
\hline
Imports & Coef. & Robust Std. Err. & t \\
\hline
Immig & 0.44 & 0.11 & 3.86 \\
Emig & 0.24 & 0.06 & 3.91 \\
Dist & -0.80 & 0.17 & -5.12 \\
Contiguity & 0.14 & 0.26 & 0.54 \\
\hline
\end{tabular}
\caption{Estimation result. All variables in logarithm except the contiguity dummy. $R^2 = 0.971$ and $RMSE = 0.330$.}
\end{table}

\begin{table}[h]
\centering
\begin{tabular}{lccc}
\hline
Imports & Coef. & Robust Std. Err. & t \\
\hline
Immig & 0.37 & 0.08 & 4.65 \\
Emig & -0.10 & 0.09 & -1.11 \\
Dist & -0.63 & 0.11 & -5.66 \\
Contiguity & 0.38 & 0.17 & 2.19 \\
\hline
\end{tabular}
\caption{Estimation result. All variables in logarithm except the contiguity dummy. $R^2 = 0.977$ and $RMSE = 0.297$.}
\end{table}

4.2 2001 and 2006 cross-section

The pre- and post-EU enlargement variation is exploited to validate and refine the previously obtained results.

(To be completed.)

4.3 1996 to 2006 panel data

A panel data set involving foreign residents data is used to check the robustness of the results.

(To be completed.)

5 Conclusion

This paper quantifies the trade-creating effects of migration. It uses current advances in gravity modeling and estimates a theory-based specification. This specification is very close to the one of Combes et al. (2005), but is based on a simpler and more concise model.
Furthermore, this is the first time such an analysis is being done on a EU data set. This recent and unique data set has several features that facilitate the analysis: difference between EU15 countries and the recently joined 8 Eastern countries; pre- and post-enlargement variation. Also, this is the first time in the literature when the simultaneous impact of immigrants and emigrants is estimated separately on imports and exports. This enables me to discriminate between the information and preference effect of migration.

The pre-enlargement analysis shows that informal trade barriers were larger between the EU15 and EU8 countries before 2004 than within the EU15 countries. The preference channel was also more important between the EU15 and EU8 countries.

Further work is needed. The theoretical specification can be improved to better account for different network effects and the very rich data set can be further exploited to refine the results.
References


