Does « deep integration » foster trade? Empirical evidence and simulations for the EU democratic and anti-corruption criteria

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Abstract:

In order to join a trade agreement with the European Union, future members must respect institutional criteria as democratic and anti-corrupt practices. The paper's aim is to determine the consequences of such clauses on trade. It is based on a gravity model "à la Anderson and van Wincoop", which allows to estimate the influence of democracy and corruption on bilateral trade flows between the EU and Mediterranean or East-European "peripheral" countries. The estimated model is also used to calculate trade potentials with different scenarios depending on institutional reforms. We show that corrupt and no-democratic countries have huge negative effects on bilateral trade even if peripheral countries trade above their potential trade with the EU. A decrease in "multilateral resistance", due to institutional reforms, which are strongly recommended by the EU, would exert a trade creation effect in favor of all democratic and non-corrupt countries. It would also limit the incidence of preferential trade agreements on bilateral trade between the EU and peripheral countries.

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In order to join the European Union, a future member must respect three criteria. First, it has to be a stable democracy, respecting human rights, the rule of law and the protection of minorities. Secondly, it needs to have a workable market economy. Third, it must implement the common rules, standards and policies that make up the body of EU law. Less binding clauses are also included in other kinds of agreements between the EU and other countries.

The impact of corruption on trade has been explored relatively little. Anderson and Marcouiller (2002) show that corruption leads to more insecurity in international trade and raises trade costs. Babetskii et alii (2003) explain that South-Eastern Europe (SEE) and the Commonwealth of Independent States trade less than industrialized countries mainly because of the low quality of their economic institutions. Using a gravity model, Lavallée (2004) concludes that corruption can act both as an obstacle and as a pro-trade facilitator in North-South relations.

More empirical literature is devoted to the impact of democracy on trade, but the sign of the effect remains ambiguous. Various papers deal with the influence of democracy on trade openness and trade policy (Granger and Siroën, 2001; Mayer, 1984; Milner et Kubota, 2003). Few studies tackle the incidence of political regimes on bilateral trade flows (Bliss and Busset, 1998; Duc and alii, 2004; Mansfield et alii, 2000).

The aim of this paper is to estimate the influence of democracy and corruption on bilateral trade relations between the EU and Mediterranean or East-European “peripheral” countries. To do thus, we use a gravity model, and introduce indicators of democracy and corruption. The model’s specification rests on the hypothesis that non-democratic and corrupt countries incur higher trade costs. The ambiguity of this approach is that institutional reforms may foster bilateral trade, but also, multilateral trade. Indeed, a country cannot be democratic with the EU and non-democratic with Japan! It can be assumed that the same goes for corrupt

practices. Thus, institutional clauses introduced in EU bilateral agreements potentially have a trade creation effect, which is frequently left out in literature concerning regional integration issues. To manage this ambiguity, we use a gravity model “a la Anderson and van Wincoop”, which introduces an estimated “multilateral resistance” indicator and allows to distinguish multilateral and bilateral effects of the institutional constraints.

Section I describes the democratic and anti-corruption constraints inside the EU’s preferential trade agreements. Section II presents the specification of the econometric model and discusses the results of our estimations. In section III, we calculate the bilateral trade potential between each EU member and “peripheral” countries and run a simulation to evaluate the impact of democratic and no-corruption practices on bilateral trade.

I. Democracy and corruption: Key issues for the EU preferential trade agreements.

The main objective of a regional organization or a free trade area is to promote trade liberalization by lowering all direct and indirect barriers. At the same time, these kinds of trade areas imply a deep integration not only on an economic level, but also on political and social levels. Most regional organizations have a social constraint for its members. For example, NAFTA states that Mexico, Canada and the United States must respect worker rights; CEFTA (Central European Free Trade Agreement) and the Black Sea Economic Cooperation require their members to respect the rule of law and human rights; others like the Andean Pact or the ECOWAS (Economic Community Of West African States) require their members to forbid sex discrimination and to respect children's rights.

Among the various political and social clauses existing in trade agreements, we focus here on democratic and anti-corruption criteria. We illustrate the importance of these clauses using the example of the EU’s preferential trade agreements.

Democratic constraints

As regards democracy, four regional organizations can be noted as having a democratic clause requirement for membership: SADC (Southern African Development Community), Mercosur, EFTA and the European Union. SADC is a sectoral agreement; EFTA is a free trade area, whereas Mercosur and the European Union are custom unions. The European Union is the only regional organization that includes a democratic clause in each kind of its bilateral trade agreements since the 90's: partnership and cooperation agreements, cooperation agreements, Euro-Med Association Agreements and association agreements. The application to join the EU can also be added to this list, because candidates should respect democratic constraints to become EU members.

Each agreement between the EU and its partners has its own treaty. We can classify them relatively to their particular democratic constraints.

1) For partnership and cooperation agreements, and cooperation agreements, the EU requires its partners to strengthen "*the political and economic freedoms which constitute the very basis of the partnership*" and both party are "*CONVINCED of the paramount importance of the rule of law and respect for human rights, particularly those of minorities, the establishment of a multiparty system with free and democratic elections and economic liberalization aimed at setting up a market economy*". These agreements have been concluded with countries such as Kazakhstan or Russia for the partnership agreements and Algeria or Syria for the cooperation agreements before the Euro-Med agreements. In these cases, the democratic constraint is just a trend that countries should follow.

2) For Euro-Med countries, the democratic clause is quite binding because it is considered as "basic". Euro-Med treaties state that: "*CONSIDERING the importance which the Parties attach to the principles of the United Nations Charter, particularly the observance of human*

rights, democratic principles and political and economic freedoms which form the very basis of the Association". Nevertheless, this recommendation is an essential element of Euro-Med Agreements, that is, sanctions can be taken if one of the parties violates this constraint.

3) In regard to the EU enlargement criteria, countries expressing the wish to join the EU have to comply with several conditions. First and foremost, these countries should be "*a stable democracy, respecting human rights, the rule of law, and the protection of minorities*". The EU can stop negotiations or the integration process if countries incur a political shock or a political reversal.

Generally, the EU insists on the respect of human rights and wants its trade partners to democratize their institutions. For example, the GPS or Lome agreements embody certain references to these principles. Also, the EU refuses to have agreements with countries, like Myanmar, which have a totalitarian political regime.

Corruption constraints

Hard constraints on corruption have been peculiar to the EU's enlargement process. Indeed, in most other EU's preferential trade agreements, the improvement of public governance, and thus the fight against corruption, appears only as one of the purposes of the cooperation agreements.

During the accession process, the level of corruption in Central and Eastern Europe candidate countries has been a major concern for the European Union. Substantial progress in the fight against corruption has become an essential prerequisite for EU membership. The European Commission's Regular Reports have repeatedly tackled the issue of corruption in candidate countries. For instance, in its Composite Paper on the Commission Reports 1998, the European Commission noted that: "*The fight against corruption needs to be strengthened further. The efforts undertaken by the candidate countries are not always commensurate with*

the gravity of the problem. Although a number of countries are putting in place new programs on control and prevention, it is too early to assess the effectiveness of such measures. There is a certain lack of determination to confront the issue and to root out corruption in most of the candidate countries." In 2000, in its Strategy Report, the European Commission observed that: "*Corruption, fraud and economic crime are widespread in most candidate countries, leading to a lack of confidence by the citizens and discrediting the reforms. Anti-corruption programs have been undertaken and some progress made, including accession to international instruments in this area, but corruption remains a matter of serious concern.*" In 2001, the Commission pointed out that corruption was a serious concern in five among the ten Central and Eastern Europe candidate countries (Bulgaria, Czech Republic, Poland, Romania, and Slovakia), and a continuing problem in three countries (Hungary, Latvia and Lithuania).

A concrete implication of the EU Commission's Regular Reports is that countries must demonstrate success in the fight against corruption to be eligible for accession. Nevertheless, at first sight, the Copenhagen criteria do not deal with the issue of corruption. The Copenhagen criteria are only suggestive as far as corruption is concerned. Indeed, in each of these criteria, corruption is clearly relevant. It is indeed recognized that extensive corruption undermines democracy (Elliot, 2002, p. 925) and the proper functioning of markets (Gray & Kaufman, 1998, p. 18). Moreover, widespread corruption jeopardizes the observance, implementation and enforcement of rules or makes their adoption merely formal (World Bank, 2000).

Under the Copenhagen mandate, the European Commission required candidate countries to adopt various anti-corruption measures. Indeed, candidate countries have to pass the EU 's legislation in the area of corruption and in areas of major importance in the fight against corruption such as public procurement, civil service reform or state financial control and

audit. The EU legislation as regards corruption in the public sector, consisted of two instruments: the 1995 Convention on the Protection of the European Community's financial Interests, and the 1997 Convention on the Fight against Corruption involving officials of the European Community or officials of the member States of the European Union. Moreover, the Commission has evaluated candidate States on the basis of their signature and ratification of three international instruments: The Council of Europe Criminal Law Convention on Corruption, The Council of Europe Civil Law Convention on Corruption, the OECD Convention on Combating Bribery of Foreign Public Officials. Nowadays, every new member of the EU has ratified the Council of Europe Criminal Law Convention, whereas Austria, France, Germany, Greece, Italy, Luxembourg and United Kingdom have not done so yet.

In the next section we estimate empirically the impact of these clauses on bilateral trade flows.

II. Democracy, corruption and trade: An econometric estimation.

In this section, we estimate econometrically the incidence of democracy and corruption on bilateral trade flows. We use an Anderson & van Wincoop (2003) specification of the gravity model, which allows for a distinction between the effects of democracy and corruption on "multilateral resistance", on one hand, and on "bilateral resistance", on the other hand.

The econometric model

Anderson & van Wincoop introduce, in their analysis, the concept of multilateral resistance. The bilateral trade flows correspond to the equilibrium between the import demand from *j* addressed to *i* and the export supply from *i* towards *j*. They show that the tariff, as well as other trade costs, applied by the importer must be appreciated relatively to the tariff applied to all countries. If country *j* increases its tariffs against all countries except *i*, the imports from *i*

will increase, although the tariff is held constant. Similarly, an exporting country *i* increases its supply towards *j* if all the other partners increase their tariffs. Therefore, a given bilateral tariff is all the more restrictive as the "multilateral resistance" is weaker. The equation to test is:

$$X_{ij} = \frac{Y_i Y_j}{Y_W} \left(\frac{P_i P_j}{t_{ji}} \right)^{\sigma-1} \quad (1)$$

in which X_{ij} represents exports of country *i* to country *j*; Y_i and Y_j are the *i* and *j* national incomes (GDP); Y_w is the world income and does not have to be estimated as it is constant.

P_i and P_j are the national price indexes, which account for the "multilateral resistance": prices are all the higher as multilateral resistance is strong. $\sigma(> 1)$ is the elasticity of substitution between the good produced by *i* and the one produced by *j*. Anderson & van Wincoop propose an iterative method to estimate P_i and P_j,. Because this process is complex, and following the alternative method presented by the authors, empirical studies prefer to replace the computed price index by fixed effects, i.e. dummy variables that locate the exporting country and the importing country (see for example, Rose & van Wincoop, 2001; Subramanian & Wei, 2003). These fixed effects take into account all the "unilateral" characteristics of countries (including the level of democracy and corruption). Thus, with this specification, we do not test directly the incidence of democracy and corruption on trade openness, but whether two democracies or two honest countries trade more with each other. This methodological choice circumvents the endogeneity problem.[1]

[1] Here, we are not in the case of bilateral variables such as “common currency” which are exposed to the endogeneity problem. It is plausible that if country A and country B trade intensively, they might adopt a common currency with a relatively high probability (see Anderson & van Wincoop, 2004). On the contrary, democracy is a variable concerning all bilateral relations. It is not because country A trades more with country B and less with country C, that it can be democratic with B and autocratic with C! The same can be assumed for the level of corruption.

In equation [1], t_{ji} represents all trade costs occurring between exporter *i* and importer *j*. It includes transportation costs and the cultural community, such as a common language. Proxy variables take into account some components of these costs (distance; the existence of a common border or a common language…). Trade regimes are included in fixed effects except if they have specific effects on bilateral trade relations, what is the case if a pair of countries is bound by a trade agreement

We use traditional proxies for "natural" trade costs (distance, adjacency, common language).We test the hypothesis that the respect of democracy or the absence of corruption in a pair of countries reduces bilateral trade costs, which may foster bilateral trade flows. Our model can thus be written as follows:

$$\text{Log(Xij/YiYj)} = \alpha_1 \text{Log(D}_{ij}) + \alpha_2 \text{Inst}_{ij} + \sum_k \alpha_k Z_{ijk} + \sum_i \alpha_i DE_i + \sum_j \alpha_j DI_j + \varepsilon_{ij} \quad (2)$$

X_{ij} = exports (F.O.B.) of country *i* to *j*, in current U.S. dollars = imports of country *j* from country *i*.

Y_i (Y_j) = GDP of country *i* (*j*), in U.S. current dollars. In equation [1], the exponent of the GDPs is equal to 1, so that it is strictly equivalent to having this product appear on the dependent variable side.

D_{ij} = great arc circle kilometric distance between the two countries' capitals.

$Inst_{ij}$ = a bilateral variable, which accounts for the quality of institutions, i.e. the respect of democracy and the level of corruption, in country *i* compared to country *j*.

Z_{ijk} = k variables indicating a common element: a common language, a common border, a trade agreement.

DE_i (DI_j) = exporter (importer) country-fixed effect. This dummy variable is equal to 1 if country *i* (country *j*) is the exporting (importing) country.

ε_{ij} = an error term.

All these variables and their sources are presented in Annex 1. Equation [2] is estimated by the OLS (Ordinary Least Square) or by the GLS (Generalized Least Square) method when the model is heteroscedastic.[2].

The bilateral indicator of democracy in countries *i* and *j* is based on the *Freedom House*'s index[3]. From this index, we create a new bilateral indicator. First, we compute a variable linearly ranking[4] between 0 and 1 with the higher score indicating a democratic country. Then a country is rated as 1, i.e. democratic, if the value of its *Freedom House's* index is greater than or equal to the median of our sample; and 0, i. e. autocratic, if it is not. The variable so created is unilateral. But, in our model, only bilateral variables (*i* and *j*) should be considered, because the impact of unilateral variables (*i* or *j*) is already captured by the country-fixed effects, which account for "multilateral resistance". Thus, our second step is to create a bilateral indicator accounting for the situation in country *i* (exporter) and in country *j* (importer). The corresponding dummy variables are defined as follows:

- $FH0_{ij}$ = 1, if exporting country *i* and importing country *j* are not democratic (autocratic); and 0, otherwise.

[2] A White test has been made to check the heteroscedasticy of the model, since it deals with cross-section data. When the model is heteroscedastic, the OLS estimator has been weighted by the term that creates most heteroscedasticity.

[3] This index is usually used in the literature (see for example, Granger and Siroën, 2001; Tavares and Wacziarg, 2001). It includes two components, which both correspond to a note ranging from 1 to 7 with lower score indicating a democratic country: the first note accounts for the respect of political freedom; the second for the respect of civil freedom. In this study, we only retain the first component because it is most relevant to our issue.

[4] To compute this variable we use this formula : $\frac{7-FHscore}{6}$

- $FH1_{ij}$ = 1, if exporting country *i* and importing country *j* are democratic; and 0, otherwise.

The benchmark situation is a mixed case where only one partner is democratic. If it is assumed that two democracies bear lower transaction costs, they should trade more with each other (Duc et alii, 2004). According to this assumption, the expected sign is positive for $FH1_{ij}$ and negative for $FH0_{ij}$.

The bilateral indicator of corruption is computed following the same method. We use the Kaufmann, Kraay & Mastruzzi's (2003) aggregate index of corruption for the year 2000[5]. Per this index, a country is rated as 1, i.e. honest, if its score is greater than or equal to the median of our sample; and 0, i.e. corrupt, if otherwise. The bilateral indicator of corruption is thereby defined as follows:

- COR_{ij} = 1 if exporting country *i* and importing country *j* are both corrupt; and 0 otherwise.

- $HONEST_{ij}$ = 1 if exporting country *i* and importing country *j* are both honest; and 0 otherwise.

The benchmark situation is a mixed case where only one partner is honest. As in the case of democracy, if it is assumed that two honest countries bear lower transaction costs, two honest countries should trade more with each other (Anderson and Marcouiller, 2002). According to this assumption, the expected sign for $HONEST_{ij}$ is positive and negative for $COR_{i,j}$.

[5] More precisely, it estimates the perception of corruption which is conventionally defined as the exercise of public power for private gain. This indicator ranks from –2.5 to 2.5, with higher scores corresponding to better outcomes (absence of corruption).

Econometric estimations

The estimations of equation [2] should make it possible to validate these hypotheses and to identify the incidence of democracy and corruption on bilateral trade flows. The model is estimated on a sample of 146 developed and developing countries, i.e. 145 x 146 bilateral relations (the equations with missing values are excluded), for the year 2000. Table 1 - column 1 shows the results for the core gravity model. The explanatory power of this model is high, since the R^2 is close to 70%. All the variables have the expected signs: the coefficient of distance is negative, whereas the two variables representing "familiarity" in trade have a positive and significant influence.

Table 1: The influence of democracy and corruption on bilateral trade flows

Dependent variable: Log(X_{ij}/Y_iY_j)				
	(1)	(2)	(3)	(4)
Distance (*LogDij*)	-0.87***	-0.86***	-0.86***	-0.85***
Adjacency	1.03***	1.02***	0.98***	0.98***
Common language	0.46***	0.45***	0.46***	0.46***
Autocracy in *i* and *j* (*FH0ij*)		-2.47***		-1.58***
Democracy in *i* and *j* (*FH1ij*)		2.66***		1.71***
Corruption in *i* and j (*CORij*)			-2.34***	-2.03***
Honesty in *i* and *j* (*HONESTij*)			2.84***	2.52***
Exporter fixed effect (DE_i)	Yes	Yes	Yes	Yes
Importer fixed effect (DI_j)	Yes	Yes	Yes	Yes
Number of observations	19290	19290	19006	19006
Fisher's statistic	143.39	143.69	143.14	143.17
Constant	-35.20	-37.12	-37.22	-37.18
Adjusted R^2	0.691	0.692	0.694	0.693

Note: ***, ** and * mean the coefficient is significant, respectively, at levels of 1, 5 and 10%.
Sources: *Xij:* FMI, Direction of Trade Statistics; *Yi(Yj)*: World Bank, *World Development indicators*; *Dij*, *Adjacency*: CEPII database; *FH0ij and FH1ij*: author's computations from Freedom House database; *CORij* and *HONESTij* : author's computations from World Bank database.

The two bilateral indicators of democracy and corruption discussed above are then integrated into the core model (Table 1, columns 2 and 3). The estimations show that two countries with high quality institutions trade more with each other. The coefficients of the dummies $FH0_{ij}$ and $FH1_{ij}$ are both significant at the 1% level. The former is negative and the last is positive. Likewise, the COR_{ij} and $HONEST_{ij}$ coefficients are highly significant and, as expected, the first is negative while the second is positive. These results tend to confirm that trade costs are lower when two partners have "good institutions", which favors their bilateral trade.

In the next step, the indicators of democracy and corruption are simultaneously tested (table 1, column 4). Their estimated coefficients keep their sign and remain highly significant. This result may be evidence that, even if democracy and corruption are correlated, they have different specific effects on bilateral trade flows. Nevertheless, it can be noticed that the coefficients associated with the indicator of democracy are significantly lower when corruption variables are added.

Table 2 presents a variant of the core model to test the robustness. This model has been augmented with dummy variables accounting for membership in trade agreements. Indeed, the existence of a trade agreement between two countries influences their trade policy and the volume of their bilateral trade flows. Moreover, if these agreements have democratic or anti-corruption constraints, they might capture some of the impact of democracy and corruption on bilateral trade flows.

Each dummy equals 1 if countries *i* and *j* are parties to a trade agreement. In section I, which focuses on EU agreements, it has been emphasized that democratic and anti-corruption constraints are more or less binding in European agreements. Hence, we choose to introduce dummies corresponding to different levels of institutional constraints between the EU and its partners. The dummies are defined as follows:

- EU15 represents a common membership to the EU;
- EU_CEFTA, a relationship between an EU member and a CEFTA country;
- EU_CAND, a relationship between an EU member and an EU candidate in 2000.
- EU_TA, a trade agreement between an EU member and another country.
- Others, all the other trade agreements, i. e. involving non-EU countries.

Table 2: The influence of democracy and corruption on bilateral trade flows

Dependent variable: Log(X_{ij}/Y_iY_j)				
	(5)	(6)	(7)	(8)
Distance (*LogDij*)	-0.72***	-0.71***	-0.73***	-0.72***
Adjacency	0.96***	0.96***	0.92***	0.92***
Common language	0.43***	0.42***	0.43***	0.43***
EU15	1.68***	1.65***	1.46***	1.45***
EU_CEFTA	1.26***	1.23***	1.07***	1.06***
EU_CAND	0.87***	0.85***	0.74***	0.72***
EU_TA	1.02***	1.02***	1.01***	1.00***
Others	1.01***	1.02***	0.92***	0.93***
Autocracy in *i* and *j* (*FH0ij*)		-2.39***		-1.51***
Democracy in *i* and *j* (*FH1ij*)		2.51***		1.61***
Corruption in *i* and j (*CORij*)			-2.32***	-2.05***
Honesty in *i* and *j* (*HONESTij*)			2.64***	2.37***
Exporter fixed effect (DE_i)	Yes	Yes	Yes	Yes
Importer fixed effect (DI_j)	Yes	Yes	Yes	Yes
Number of observations	19290	19290	19006	19006
Fisher's statistic	145.47	145.51	144.26	144.15
Constant	-36.44	-38.25	-38.20	-38.14
Adjusted R^2	0.705	0.705	0.705	0.705

Note: ***, ** and * mean the coefficient is significant respectively at levels of 1, 5 and 10%.
Sources: Idem table 1. *Trade Agreements*: WTO, authors search on websites of the organizations.

The benchmark situation corresponds to the absence of trade agreements between two countries. The expected signs of all these variables are then positive.

Table 2 shows the results of the new estimates. Model (5) allows a comparison of the incidence of different agreements between the EU and its partners. There does not appear to be any clear relation between the degree of democratic and anti-corruption constraints and the extent of the positive impact of the agreement on trade. In particular, the dummy EU-TA has a significantly higher coefficient than the EU_CAND variable. The fact that democratic and anti-corruption criteria impact all bilateral trade flows, not only the relation between the EU and its partners, might explain these results.

As regards the direct incidence of democracy and corruption on bilateral trade, the introduction of these different variables in the gravity equation doesn't change our conclusions (Table 2 – models 6 to 8) and does not affect significantly the coefficient of the institutional dummies. The positive influence of democratic and anti-corruption rules on bilateral trade is thus confirmed.

III. The peripheral countries trade potential with the EU.

The coefficients estimated by a gravity equation are often used to calculate potential bilateral trade flows. They may be above or below the observed flows. In the first case, a country exports more than the standard. In the second case, a country exports less than predicted values and might export more.

The export potential for 22 Mediterranean and East-European countries to every EU15 country is calculated in Tables 4 and 5. We first use the basic model (Table 2, column 5) ignoring democracy and corruption. In a second step, we use the coefficients obtained from the complete gravity equation (Table 2, model 8) to simulate the value of potential exports

and to introduce different scenarios concerning democracy, corruption and the EU membership for the four candidate countries (Bulgaria, Croatia, Romania, Turkey).

Both democracy and non-corruption have bilateral and unilateral effects. The first effect refers to a Viner's trade diversion, which is moderated by the second trade-creating effect. Then, the evaluation of potential trade must take into account both effects.

From the equation (1), unilateral effects are included in the fixed effects. More generally, we can presume that preferential relations between the EU and peripheral countries drive mechanically to a weaker “multilateral resistance” and, consequently, lower positive effects on bilateral trade.

Table 3 verify the homogeneity of "multilateral resistances" proxied by fixed effects. It shows that the lower the average value of fixed effects, the weaker the multilateral resistance (0 has been chosen in the rare cases where the fixed effect is not significantly different from 0, at the 10% threshold)).

Table 3 - Average and standard deviation of fixed effects (multilateral resistance)

	EU 15	10 new members	4 candidates	11 European countries	7 Mediterranean countries
average	- 3,25	- 2,43	-0,79	1,65	-0,41
standard deviation	0,35	0,59	1,62	0,49	0,90

In the EU15, the fixed effects are low and homogeneous, which means a low multilateral resistance. This is also the case for the 10 new members, but to a lesser extent. The 4 candidates present heterogeneous performances: Croatia is near of the EU15’s average (-3.11); Turkey has a relatively strong multilateral resistance (+0,56); the coefficient for Bulgaria is not significant; Romania’s is –0.60. The peripheral European countries are

homogeneous with a strong multilateral resistance, whereas Mediterranean peripheral countries contrast markedly.

Because of the homogeneity of the EU (15 or 25) in terms of multilateral resistance, trade potential can be simulated, considering that making progress in democracy, in the fight against corruption and, generally, in governance, might drive peripheral countries to converge toward the EU standards. Thus, we substitute the estimated fixed effects by the average fixed effects estimated for the EU15 countries and for its 10 new members to compute trade potentials.

However, fixed effects take into account all unilateral determinants of trade such as income, size, and trade policies. We can then regress fixed effects with such variables. As see above, political regime and corruption affect not only bilateral trade but also trade with all partners. They are components of fixed effects. We here assume that institutional evolutions only affect peripheral countries fixed effects. To estimate potential exports, we only have to test the following model to estimate the exporter fixed effect. It includes country variables usually use to explain trade openness or trade flows:

$$DE_i = \beta_1 y_i + \beta_2 Size_i + \beta_3 FH_i + \beta_4 COR_i + \beta_5 Land_j + \beta_6 TP_i + \varepsilon_i \qquad [3]$$

With (see annex for details)

i = index for export country

DE_i = exporter country-fixed effect (see above).

y_i = PIB_i per capita, PPP constant (1995) in dollars.

$Size_i$ = population or area in the country i (j).

FH_i = Freedom House democracy index

COR_i = Corruption index

$Land_i$ = 0 if the country is landlocked (no any access to sea) and 1 elsewhere.

TP_i: Trade policy index

ε_i: an error term.

For colinearity reasons, we drop some fixed effects. We also drop fixed effects that are not significant at the 10% threshold.

Finally, we retain the following equation to estimate fixed effect [6]. Standard deviations are in brackets.

$$DE_i = \underset{}{2{,}067} - \underset{(0{,}000025)}{0{,}0000783}y_i - \underset{(0{,}000699)}{0{,}00118}Size_i - \underset{(0{,}4379)}{2{,}088}FH_i - \underset{(0{,}2178)}{0{,}651}COR_i - \underset{(0{,}2466)}{0{,}5719}Land_i$$

Indeed, From many tests, we conclude that country area is not a significant variable. Population is significant with a negative sign what is conform to the theoretical foundation of the Anderson and van Wincoop's gravity model. Actually, large countries are usually less opened to trade than small one. Price indexes, which are proxied by fixed effects, are less sensitive to trade costs and multilateral resistance is expected to be lower in large countries (see Anderson & van Wincoop, 2003).

High income per capita, democracy and the absence of corruption lower fixed effects. This result means that good governance potentially fosters unilateral trade as well as bilateral trade. It also implies a counter-intuitive result: the deeper is the integration process, the lower is the positive effect on trade inside the area. The reason is trivial: democracy and anti-corruption are not specific to preferential bilateral relations, even they are constrained by bilateral economic relations, as EU membership. Various trade policy variables have been tested such as WTO membership, average MFN tariff (MacMap data), Sachs & Warner's openness indicators (Sachs & Warner, 1995) updated by Wacziarg and Welch (2003) and particularly average tariffs, black market premium, export marketing board. However, our results show that these variables do not affect exporter and importer fixed effects.

Two variants are estimated from the above equations. In all cases, population and the dummy for landlocked countries are held constant. We give to all countries the value 0,92 to democracy, which is the lowest score in EU25. The corruption variable takes the EU25 average value of 1,25. The first estimated fixed effects let the income per capita unchanged (table 4 and 5, column 6). The average value of the peripheral countries fixed effect is –1,76. The second variant assumes a convergence process driving optimistically the income per capita of peripheral countries at the EU25 average (table 4 and 5, column 7). Then average value of exporter fixed effects is –2,87 because the strong influence of income. In this last case, population is the only variable differentiating the countries and coefficients are necessarily very close.

We verify in table 4 and 5 (column 6 and 7) that higher the fixed effect is, the lower is the positive effect on bilateral trade. Precisely, the EU loses a part of its relative advantage. Democracy and non-corruption not only fosters bilateral trade, but also trade with all partners. In Vinerian terminology, good institutions exert a trade diversion effect as well as a trade creation effect. It is exactly what we now show with the following simulations.

Export potential for candidate countries

Croatia is already democratic and less corrupt than the median country. Thus, for this country, only the EU membership might change the export potential. Bulgaria and Romania are ranked as democratic but corrupt. In 2000, Turkey was ranked as non-democratic and corrupt.

The first surprising result is that observed exports of these four countries are always above their predicted values (table 4). For Bulgaria and Croatia, the basic model is less pessimistic than the complete one. Likewise, the ratio of observed exports to the exports estimated by the complete model is 4 to 1 for Turkey. The gap is also important for Croatia, which has very

[6] 132 observations, F = 71,57 and R^2= 0,729

similar characteristics to those of EU15's members as regards democracy, corruption and multilateral resistance.

Table 4 – Trade Potential : candidate countries.

	Observed exports (1)	Estimated exports (basic model) (2)	Estimated exports (complete model) (3)	EU15 's fixed effects average (4)	10 new members' fixed effects average (5)	Estimated fixed effects; actual GDP per capita (6)	Estimated fixed effects; UE25's GDP per capita average (7)
Bulgaria	2863	1618	2086	3673	8339	17356	5479
Croatia	4114	1367	2369	8798	19976	34040	13125
Romania	7963	5708	2940	9453	21464	45575	13823
Turkey	27056	14742	7261	36273	82357	159615	50454

Results are very sensitive to the value of fixed effects. More the peripheral countries income converge to the European average and institutions are reformed, less the bilateral pro-trade effect is important.

Export potential for other peripheral countries

Export potential has also been calculated for 9 Eastern European countries and 7 Mediterranean countries. Only the democratic and corruption criteria have been considered, excluding the EU membership, which cannot be anticipated in a reasonable timeframe. Only one country –Moldova- is quoted as democratic and three –Jordan, Morocco, Tunisia- are considered as less corrupt than the median country in the sample used for the econometric regressions.

Table 5 – Trade potential- Other peripheral countries

	Observed exports	Estimated exports (basic model)	Estimated exports (complete model)	EU15 's fixed effect average	10 new members' fixed effect average	Estimated fixed effects; actual GDP per capita	Estimated fixed effects; UE25's GDP per capita average
Albania	728	401	223	569	1293	3162 85293 25325,187	849 25325
Algeria	5493	3608	1986	17493	39718		
Azerbaijan	270	360	242	362	821	3937	954
Belarus	1044	1595	1033	1613	3662	14928	4255
Egypt	7271	2987	1552	19052	43258	102195	26500
Georgie	221	230	172	232	526	1501	346
Jordan	1438	1215	759	1633	3708	9145	2437
Kazakhstan	1096	1117	509	1120	2542	10454	2924
Kyrgyz Republic	63	216	121	73	166	861	193
Lebanon	2516	1331	685	3339	7582	18319	4982
Macedonia	1216	736	411	509	1156	4192	1357
Moldova	300	442	258	155	352	1858	409
Morocco	7117	4156	2621	9493	21555	53330	13744
Syria	1631	1577	821	3502	7951	20166	5172
Tunisie	6613	3325	2093	6918	15708	32536	10321
Ukraine	3283	3893	2890	3930	8924	17295	5467

For all these countries, the basic model gives a higher export potential than the one obtained from the complete model (table 5). Currently, no countries are democratic and non-corrupt and the econometric evidence implies that such countries should have a lower export potential. Few countries (Belarus, Georgia, Kyrgyz Republic, Moldova, Ukraine) have an export potential close to their observed exports. For the other, the observed exports are higher than potential exports, in the same proportion as for candidate countries.

Potential trade significantly increases when countries are considered as democratic and no corrupt and with standard multilateral resistances. The gap with the observed exports to EU15 is narrow.

Even if Albania, Macedonia, Moldova were democratic and not corrupt with the same level of multilateral resistance as the EU, they should export less than they already do.

Conclusion

This paper aims to evaluate the impact of institutional criteria on bilateral trade. The estimates of a gravity model clearly show that a pair of democratic and non-corrupt countries trades more with each other.

All these results should be taken with caution. Taking dummy variables rather than democracy and corruption scores reduce the available information. Nevertheless, our gravity model specification has the advantage of considering the bilateral resistance relatively to the "multilateral resistance", which is more pertinent in a regional integration perspective.

The econometric model also allows quantifying the direct effect of democratization and anti-corruption policies on trade potential. However, since these institutional changes should also modify the multilateral resistance of countries, their indirect effect, acting through the "multilateral resistance", is more difficult to evaluate. Indeed, the fixed effects accounting for "multilateral resistance" include the level of democracy and corruption in countries, but also many other national characteristics (i.e. trade policy, GNP per capita, etc.). In future developments, we will need to quantify the impact of institutions on multilateral resistance.

At first glance, the estimated coefficients of fixed effects cannot be considered as sufficiently stable enough to allow plausible estimations of the export potential. Thus, we must make assumptions about their evolution with institutional changes and EU membership. Our regressions stress the fact that "deep integration" may be approximated by country fixed effects close to those of the EU15 countries and to those of the ten probable (in 2000) new members.

This last intuition is very paradoxical because, in the literature, a "deep integration" is frequently considered as diverting trade in favor of the concerned regional area. On the

contrary, our study shows that, in 2000, many peripheral countries, while having a high multilateral resistance, have abnormally high exports to the EU15. It might be the sign of a diversion effect, prior to a deep integration. Simulations with democracy, no corruption ~~and~~ European standards, i.e. with European fixed effects, and estimated fixed effects allow us to conclude that there is a moderate impact of institutional changes on exports to the EU15 and a creation effect, at least for the "club" of democratic and non-corrupt countries.

Considering that the analyzed countries export disproportionately to the EU15 countries, the inclusion of institutional criteria in EU treaties might be more favorable to bilateral trade with third countries rather than to exports towards the EU, to the extent that such criteria contribute to lowering the exporter's multilateral resistance.

References:

Anderson, James E., Marcouiller, Douglas, 2002. Insecurity and the Pattern of Trade: An Empirical Investigation. Review of Economics and Statistics 84, 342-52

Anderson, James E., van Wincoop, Eric, 2003. Gravity with Gravitas: A Solution to the Border Puzzle. The American Economic Review 93, 170-192.

Anderson, James E., van Wincoop, Eric, 2004. Trade Costs. Journal of Economic Literature, forthcoming.

Babetskii, Ian., Babetskaia-Kukharchuk, Oxana., Raiser, Martin, 2003. How deep is your trade? Transition and international integration in Eastern Europe and the former Soviet Union. Working paper No. 83. European Bank for Reconstruction and Development**,** London**.**

Bliss, Harry, Russet, Bruce, 1998. Democratic trading partners: The liberal connection, 1962-1989. The Journal of Politics 60, 1126-47.

Commission of the European Union, 1998. Composite Paper: Reports on Progress towards Accession by Each of the Candidate Countries. Available at http://europa.eu.int/comm/enlargement/report_10_99/

Commission of the European Union, 2000. Enlargement Strategy Paper: Report on Progress towards Accession by Each of the Candidate Countries. Available at http://europa.eu.int/comm/enlargement/ report_11_00/pdf/strat_en.pdf

Commission of the European Union, 2001. Making a Success of Enlargement: Strategy Paper and Report of the European Commission on the Progress towards Accession by Each of the Candidate Countries. Available at http://europa.eu.int/comm/enlargement/report2001/strategy_en.pdf

Duc, Cindy, Granger Clotilde, Siroën, Jean-Marc, 2004. Trade costs and democracy. Cahiers de recherché N°12. EURIsCO, Université Paris Dauphine. Available at www.dauphine.fr/ceresa/WebSiroen/tradecosts.pdf

Elliott, Kimberly A.,1997. Corruption as an International Policy Problem: Overview and recommendations. In: Elliott, Kimberly A. (Ed.), Corruption and the Global Economy. Institute For International Economics, Washington D.C., pp. 175-233

Granger, Clotilde., Siroën Jean-Marc, 2001. Les démocraties sont-elles plus ouvertes à l'échange ? Économie Internationale 88, 59-76.

Gray, Cheryl W, Kaufmann, Daniel, 1998. Corruption and Development. Finance and Development 35, 7-10.

Kaufmann, Daniel, Kraay, Aart, Mastruzzi, Massimo, 2003. Governance Matters III: Governance Indicators for 1996-2002. The World Bank Development Research Group. Available at http://www.worldbank.org/wbi/governance/pubs/govmatters3.html. Washington, D.C.

Lavallée, Emmanuelle, 2004. Governance, Corruption and Trade : A North South Approach. Unpublished paper.

Mansfield, Edward D.., Milner, Helen V., Rosendorff, B. Peter, 2000. Free to Trade: Democracies, Autocracies, and International Trade. American Political Science Review, 94, 305-321.

Mayer; Wolfgang, 1984. Endogenous Tariff Formation. The American Economic Review 74, 970-85.

Milner, Helen V., Kubota, Keiko, 2005. Why the Move to Free Trade? Democracy and Trade Policy in the Developing Countries. International Organization. Forthcoming.

Rose, Andrew K., van Wincoop, Eric, 2001. National Money as a Barrier to International Trade: The Real Case for Currency Union. The American Economic Review 91, 386-390.

Sachs Jeffrey, Warner Andrew, 1995. " Economic reform and the process of global integration ", *Brooking Papers on Economic Activity*, 1, pp 1-118.

Subramanian Arvind, Wei, Shang-Jin, 2003. The WTO Promotes Trade, Strongly but Unevenly. Working Paper N°03/185. IMF, Washington D.C.

Tavares, José, Wacziarg, Romain, 2001. How Democracy Affects Growth. European Economic Review 45, 1341-1379.

Wacziarg, Romain, Welch Karen Horn, 2003, *Trade Liberalization and Growth: New Evidence*, NBER Working Paper N° 10152, December

World Bank, 2000. Anti-corruption in Transition: A Contribution to the Policy Debate. World Bank, Washington, D.C.

Annex 1 : Data Sources and Description

Variable Name : Bilateral exports (X_{ij})
Description: Bilateral exports of country i to country j, in F.O.B terms and in U.S. current $, year 2000.
Source: *IMF, Direction of Trade Statistics.*

Variable Name : GDP
Description: Gross Domestic Product in U.S. current $. Average for 1999-2001.
Source: *World Bank, World Development Indicators 2004*

Variable Name : Bilateral Distance (D_{ij})
Description: Great arc circle kilometric distance between the two capitals of countries i and j.
Source: *CEPII database*, http://www.cepii.fr/francgraph/bdd/bdd.htm

Variable Name : Common Language
Description: Dummy variable equals 1 if countries i and j share the same language.
Source: *CIA World Factbook*, http://www.cia.gov/cia/publications/factbook/index.html

Variable Name : Adjacency
Description: Dummy variable equals 1 if countries i and j share a common border.
Source: *CEPII database*, , http://www.cepii.fr/francgraph/bdd/bdd.htm

Variable Name : Freedom House indicator of political rights enforcement (FH)
Description: Index ranking from 0 (no respect) to 1 (total respect) of political rights
Source: *Freedom House Data*, http://www.freedomhouse.org/ratings/index.htm

Variable Name : Unilateral autocracy indicator (FH0)
Description: Index equal to 1 if the political rights index (FH) is lower than the median of FH for the whole sample
Source: Authors' computations from Freedom House Data..

Variable Name : Unilateral democracy indicator (FH1)
Description: Index equal to 1 if the political rights index (FH) is equal or greater than the median of FH for the whole sample
Source: Authors' computations from Freedom House Data..

Variable Name : Bilateral autocracy indicator (FH0ij)
Description: Dummy variable equals 1 if FH0 equal 1 for countries i and j.
Source: Authors' computations from Freedom House Data..

Variable Name : Bilateral democracy indicator (FH1ij)
Description: Dummy variable equals 1 if FH1 equals 1 for countries i and j.
Source: Authors' computations from Freedom House Data.

Variable Name : Kaufmann, Kraay & Mastruzzi indicator of Control of Corruption (CC) for the year 2000
Description: Index ranking from –2.5 (widespread corruption) to 2.5 (Absence of corruption) measuring the level of corruption
Source: World Bank, http://www.worldbank.org/wbi/governance.gouv-data.htm

Variable Name : Unilateral indicator of a corrupt country (COR)
Description: Index equal to 1 if the Control of Corruption index (CC) is lower than the median of CC for the whole sample
Source: Authors' computations from Kaufmann, Kraay and Mastruzzi Data.

Variable Name : Unilateral indicator of an honest country (HONEST)
Description: Index equal to 1 if the control of corruption index (CC) is equal or greater than the median of CC for the whole sample
Source: Authors' computations from Kaufmann, Kraay and MastruzziData.

Variable Name : Bilateral indicator of corruption (CORij)
Description: Dummy variable equals 1 if COR equals 1 for countries i and j.
Source: Authors' computations from Kaufmann, Kraay and Mastruzzi Data.

Variable Name : Bilateral indicator of honesty (HONESTij)
Description: Dummy variable equals 1 if HONEST equals 1 for countries i and j.
Source: Authors' computations from Kaufmann, Kraay and Mastruzzi Data.

Variable Name : European Agreements (EU15, EU_CEFTA, EU_CAND, EU_TA)
Description : Dummy variable equals 1 if one country i or j belongs to the EU and the other is respectively a EU's member (EU15), a CEFTA's member (EU_CEFTA), a candidate country (EU_CAND) a country that has a trade agreement with a UE partner
Source: *EU treaties, http://europa.eu.int/comm/external_relations/euromed/med_ass_agreemnts.htm, http://europa.eu.int/comm/external_relations/search/policies.htm,and http://europa.eu.int/comm/external_relations/search/countries.htm*

Variable Name : Common Free Trade Agreement other than including a European country (OTHER)
Description: Dummy variable equals 1 if countries i and j are members of a same trade agreement
Source: *WTO*, Frankel, J.A., 1997. *Regional Trading Blocs in the World Trading System. Washington DC*: Institute for International Economics.