

The Effect of Trade Agreements and Institutions on Exports of Eastern Europe

by

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Abstract

Following popular protests at home and the fall of the government, Ukraine reversed course and joined Georgia and Moldova in signing Association Agreements in June 2014. This paper has two main aims. First, using a gravity model of trade it estimates the effects of deep and shallow free trade agreements for the EaP states with Russia and the EU respectively. Second, by relating the outcomes of the first estimation to the quality of institutions, proxied with the level of democracy and the level of corruption in the selected countries, the paper estimates the effect of changes in the quality of institutions on exports. The main results show that the EaP countries gain significantly from free trade agreements with the EU, but little if anything from free trade agreements with Russia and that improvements in the quality of institutions in EaP countries have played an important role in fostering exports.

Keywords: Free trade agreements; Eastern Partnership; European Union; Gravity

Model; Panel Data; Democracy; Corruption

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Free Trade Agreements, Institutions and the Exports of Eastern Partnership Countries

1. Introduction

In July 2013 the European Union (EU) announced that it had completed negotiations, started early in 2012, on Association Agreements, including deep and comprehensive free trade agreements (DCFTA), with Armenia, Georgia and Moldova. These agreements were to be initialed at the Eastern Partnership (EaP) Summit in Vilnius on 28-29 November 2013. The successful negotiation of DCFTAs with these three States in the short period of 1½ years surprised many observers.¹ The DCFTA agreement with Ukraine, already initialed, was to be signed at the same time, subject to prior fulfillment by Ukraine of certain conditions concerning *inter alia* its application of ‘selective justice’.²

What was to follow was even more surprising. In September 2013, Armenia announced that it would not initial its Association Agreement in Vilnius but instead join the Eurasian Customs Union (ECU) proposed by Russia. Armenia’s decision could have been influenced by Russia’s threat otherwise to withdraw its troops from Azerbaijan, which protected the region of Nagorno Karabakh, largely populated by Armenians. A few days before the Summit President Yanukovich of Ukraine announced that he would postpone signing the Association Agreement with the EU after Russia had offered significant loans.

¹ Negotiating the DCFTA had taken Ukraine five years and to start negotiations had taken Georgia almost four years. Armenia was a latecomer and had worse initial conditions than Georgia. The decision to start negotiations in 2012 and their rapid conclusion were surprising. Compared with these countries, Moldova had a head-start through its negotiation of a regional free trade agreement with the Western Balkans (CEFTA 2006) in close cooperation with the EU.

² This refers most notably to the trial and imprisonment of former Prime Minister Yulia Timoshenko after Viktor Yanukovich assumed the Presidency in January 2010.

President Yanukovich's decision had fateful consequences. Prolonged demonstrations in Maidan Square in Kiev ended in violence and President Yanukovich fled the country on 21 February 2014. The next day Parliament elected a provisional President and installed a new government. Within a week, armed 'self-defense groups' appeared in Crimea and on 21 March, President Putin signed documents admitting Crimea and Sevastopol into the Russian Federation. Since then, war has raged in the Donetsk and Luhansk region.

Georgia, Moldova and Ukraine signed the Association Agreements and DCFTAs with the EU on 27 June 2014. The agreements require ratification by each EU member state and the European Parliament.

This paper assesses the benefits of various integration regimes on exports. More specifically, it evaluates and compares the effects of free trade agreements (FTA) signed by EaP countries with the EU and with Russia and the role played by the quality of institutions (democracy and corruption) in fostering trade. We focus on the effects of both deep and shallow FTAs on exports. While recognizing that FTAs may lead not only to trade creation, but also to trade diversion, we assume that the most likely result is an improvement in welfare.

The estimation strategy employed follows the most recent literature (Baier and Bergstrand, 2007; Eicher *et al.*, 2012; Head and Mayer, 2015) suggesting the use of country-pair fixed effects to control for the endogeneity of the FTA effects and the use of exporter-and-time and importer-and-time dummy variables to control for the so-called multilateral resistance factors.

The results suggest that the EaP countries, with Ukraine by far the largest in the group, gain significantly from free trade agreements with the EU, but gain little if

anything from free trade agreements with Russia. The quality of institutions in EaP countries plays an important role in fostering trade.

The paper is organized as follows. Section 2 presents the main theoretical framework, describes the data and variables and specifies the econometric models. Section 3 presents the main results in terms of trade gains from recently signed DCFTAs and section 4 relates trade flows with improvements in institutional quality. Section 5 discusses the main trade policy alternatives for EaP countries and proposes strengthening the EaP framework and involving Russia. Section 6 concludes.

2. The scope of potential trade

To quantify the trade effects of the different FTAs on bilateral exports we use the gravity model of trade, a theoretical apparatus often used to estimate the effects of trade agreements. Specifically, we assess how the trade flows of the EaP States will be affected by:

- Entering into the EU, full membership (EU)
- A DCFTA with:
 - EU (EUdeep)
 - Russia (RUSdeep)
- A shallow FTA with:
 - EU (EUshallow)
 - Russia³ (RUSshallow)
 - Each of the EaP states (FTA-East)

³ We assume that the announcement of the formation of the Common Economic Space by Russia could be close to a shallow FTA, so that the RUSshallow dummy variable used in the empirical analysis takes the value of one for trade between Russia, Belarus, Kazakhstan and Ukraine starting in 2004. An alternative definition of RUSshallow was used (Eurasian Economic Community) and the results remain the same. See online Appendix for a discussion of the whole set of Post-Soviet integration agreements.

We also say something about the intermediate case, which is likely to be the outcome for the next few years if Georgia, Moldova and perhaps Ukraine as well turn west while Azerbaijan, Armenia and Belarus turn east.

We first present the data we use (Section 2.1), the empirical models and methods (2.2), the results of alternative regional integration scenarios (3) and further results relating trade to the quality of institutions (4).

2.1 Data and variables

We obtain bilateral exports for 60 exporters and 150 importers⁴ from the UN-COMTRADE database for the period 1995 to 2012 and data on income variables from the World Bank (World Development Indicators, 2014). We computed distances between capitals and other gravity dummies (common border, common language, colonial relationship and having been part of the same country) using data from the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII). The FTA variable was constructed based on data from the World Trade Organization and from De Sousa (2012) as well from the European Commission (see Table A.1). Table 1 presents the summary statistics of the above variables. The FTA variables considered are listed in the lower part of Table 1. In Section 4 we add democracy (i.e., the Polity2 variable from Polity IV project) as well as corruption data from The International Country Risk Guide (ICRG).⁵

Table 1. Summary statistics

⁴ The countries included in the sample are listed in Appendix Table A.2. The exporters considered are EU countries plus all European, North African and Middle East countries that are EU neighbors.

⁵ ICRG offers an index of corruption, coding corruption in different countries on a scale from zero to six, with high scores indicating low levels of corruption. The ICRG measure has an extensive coverage and uses a single survey methodology for all countries, which permits comparisons across countries and over time. This index is highly correlated with alternative corruption measures, including corruption perceptions scores compiled by Transparency International.

2.2 Method of estimation

In the last two decades the main ex-post method used to estimate the effects on trade of FTAs has been based on the gravity model of trade, a “workhorse” model of bilateral trade (Feenstra, 2004). This model has evolved into a sophisticated tool to analyze the broad determinants of bilateral trade flows, among them a number of policy factors such as FTAs, trade facilitation factors, tariffs, regulations, etc.

As regards the techniques used to estimate the model, the main novelties are reviewed by Head and Mayer (2015) and Baltagi *et al.* (2014). Head and Mayer (2015) review the main trade theories supporting the model and the estimation challenges involved to be able to identify accurately the effects on trade of specific economic and political factors. Baltagi *et al.* (2014) focus instead on presenting the econometric techniques proposed most recently to estimate these effects consistently and efficiently. We follow these papers in our choice of model specifications and estimation techniques.

According to the underlying theory that has been reformulated and extended by Anderson and van Wincoop (2003), our model assumes a constant elasticity of substitution and product differentiation by place of origin. In addition, prices differ among locations due to symmetric bilateral trade costs. The reduced form of the model is specified as

$$X_{ijt} = \frac{Y_{it}Y_{jt}}{Y_t^W} \left(\frac{t_{ijt}}{P_{it}P_{jt}} \right)^{1-\sigma} \quad (1)$$

The empirical specification in log-linear form is given by

$$\ln X_{ijt} = \ln Y_{it} + \ln Y_{jt} - \ln Y_t^W + (1 - \sigma)\ln t_{ijt} - (1 - \sigma)\ln P_{it} - (1 - \sigma)\ln P_{jt} \quad (2)$$

where X_{ijt} is bilateral exports from country i to country j in year t , and Y_{it} , Y_{jt} and Y_t^W are the gross domestic products in the exporting country, the importing country and the world in year t . t_{ijt} denotes trade costs between the exporter and the importer in year t and P_{it} and P_{jt} are the so-called multilateral resistance terms⁶. σ is the elasticity of substitution between all goods.

The estimation of equation (2) is not straightforward due to the presence of trade costs and multilateral resistance terms. The trade cost function is assumed to be a linear function of a number of trade barriers, namely, the time-invariant determinants of trade flows, including distance, common border, common colonial past and common language dummies and the time-varying FTA variable. In line with the recent gravity literature the multilateral resistance terms are modeled as time-varying or time-invariant country specific dummies, depending on the estimation procedure. Substitution of the trade cost function into equation (2) with an idiosyncratic error term suggests estimating

$$\ln(X_{ijt}) = \alpha_0 + \alpha_1 \ln Y_{it} + \alpha_2 \ln Y_{jt} + \alpha_3 \ln D_{ij} + \alpha_4 \text{Lang}_{ij} + \alpha_5 \text{Colony}_{ij} + \alpha_6 \text{Border}_{ij} + \alpha_7 \text{Smctry}_{ij} + \alpha_8 \text{FTA}_{ijt} + \gamma_t + u_{ijt} \quad (3)$$

where D_{ij} denotes geographical distance from country i to country j , Lang_{ij} and Colony_{ij} take the value of one when countries i and j share official language or have ever had a colonial relationship, zero otherwise, Border_{ij} takes the value of one when the trading countries share a border, zero otherwise, Smctry_{ij} takes the value of one

⁶ Multilateral resistance terms reflect relative trade costs with respect to the rest of the world. This concept was introduced by Anderson and van Wincoop (2003) into the gravity model. Bilateral trade is not only affected by bilateral interactions, but also by interactions with the rest of the world.

when countries i and j were part of the same country in the past and FTA_{ijt} takes the value of one when the trading countries are members of an FTA, zero otherwise. γ_t denotes a set of year dummies that proxy for business cycle and other time-variant common factors (globalization) that affect all trade flows in the same manner.

In equation (4) we introduce a set of dummies, d_{it} and d_{jt} , to control for the multilateral resistance terms. We are still able to estimate the coefficients of the income variables because we construct country-and-time dummies that vary every five years (y) instead of yearly (t). In addition, rather than adding the usual time-invariant gravity variables to control for differences in trade costs (distance, etc.), we use country-pair fixed effects (γ_{ij}) to control for bilateral unobserved characteristics. The equation is given by

$$\ln(X_{ijt}) = \gamma_{ij} + \beta_1 \ln Y_{it} + \beta_2 \ln Y_{jt} + \beta_3 RTA_{ijt} + \sum d_{i,y} I_{iy} + \sum d_{j,y} I_{jy} + u_{ijt} \quad (4)$$

Our initial estimation strategy follows Baier and Bergstrand (2007), Eicher *et al.* (2012) and Head and Mayer (2015) suggesting the use of country-pair fixed effects to control for endogeneity of the FTA effects and the use of exporter-and-time and importer-and-time dummy variables to control for so-called multilateral resistance factors (for comparison, we present the usual fixed-effects estimation with only bilateral fixed effects and time fixed effects). Additional problems that arise in the estimation are caused by the presence of zero trade flows and heteroscedasticity in the error term (non-constant variance in the unexplained part of the model). To tackle these two issues we estimate the model as suggested in Head and Mayer (2015) using a multinomial Pseudo Maximum Likelihood (MPML) estimation following Eaton *et al.* (2012) and an EK-Tobit as in Eaton and Kortum (2001). The MPML consists of

estimating a Poisson model using the market share (X_{ij}/X_j) as the dependent variable and adding country-specific fixed effects as regressors. The model specification is given by

$$\frac{X_{ijt}}{X_{jt}} = \gamma_t + \beta_1 \ln Y_{it} + \beta_2 \ln Y_{jt} + \beta_3 \ln D_{ij} + \beta_4 \text{Lang}_{ij} + \beta_5 \text{Colony}_{ij} + \beta_6 \text{Border}_{ij} + \alpha_7 \text{Smctry}_{ij} + \beta_8 \text{FTA}_{ijt} + \sum d_i I_i + \sum d_j I_j + \epsilon_{ijt} \quad (5)$$

The EK-Tobit consists of replacing the zero trade flows (X_{ij}) with the minimum value of the dependent variable for a given origin (X_{ij} , min for all j) and the natural log of the new variable is used as the dependent variable in a Tobit-type regression (intreg in Stata).

The selection of the appropriate estimator depends on the process generating the error term. Under the assumption of a Poisson-type error term it would be better to use MPML or the Poisson Pseudo Maximum Likelihood (PPML) but, under log-normality, EK-Tobit is preferred. The solution proposed here is to assume that all missing values are zeros and then use a MaMu (Manning and Mullah, 2001) test to check for the process generating the error term.⁷ Since we could not reject the assumption of a Poisson-type error term in our data, we estimated the gravity model using the MPML as suggested by Head and Mayer (2015).

Alternative approaches to estimating the gravity model of trade, including zero trade flows, have been proposed. Helpman *et al.* (2008) suggest a two-step approach in which first the probability to export to a given destination is estimated and in the second step some elements of the first step are incorporated in the estimation of the

⁷ See Martínez-Zarzoso (2013, p. 321, eq. 13). The results from the test are available upon request. In some cases, the test results were inconclusive. Hence, we also present the results obtained from the EK-Tobit model.

positive trade values, namely, a control for sample selection and a control for firm heterogeneity. Davies and Kristjánssdóttir (2010) use a Heckman two-step approach (Heckman, 1978), controlling for selection bias in the second step where the dependent variable is the magnitude of exports given that exports are positive. We also use these procedures as a robustness check on our results.

3. Main results of various regional integration agreements

The DCFTA recently signed by the EU include not only trade issues, but also an increasing number of provisions concerning foreign investment, competition policy, sanitary and phytosanitary standards, technical regulations, intellectual property rights, rules of origin, etc. The EU's DCFTAs are significantly more extensive than those previously applied or currently proposed by Russia. We try to identify the trade effect of specific agreements by focusing specifically on their scope. For instance, the EU has signed DCFTAs with several countries since 2000, the effects of which can already be identified and could be comparable in scope to the DCFTAs negotiated with Armenia, Georgia, Moldova and also Ukraine.⁸ But these countries could instead decide to reverse course, as Armenia did already, and join the ECU, thus remaining under Russia's influence. The main aim of this section is to evaluate the trade effects of agreements with Russia compared with trade agreements with the EU and thereby to add some economic reasoning to the political debate. To this end, we will distinguish between FTAs proposed by Russia, including the Common Economic Space⁹ (RUSshallow) and ECU (RUSdeep)¹⁰, and FTAs or DCFTAs proposed by the

⁸ The DCFTAs considered are with Albania (2006), Croatia (2002) and Macedonia (2001).

⁹ The Common Economic Space was announced in 2003 and involved Belarus, Kazakhstan, the Kyrgyz Republic, Russia and Ukraine. The RUSshallow dummy variable will take the value of 1 after 2004 for these countries.

¹⁰ We assume that the ECU became operational in 2010, as suggested by a reviewer.

EU and estimate their trade effects. Appendix Table A.1 lists the agreements we considered that were in place during the period under study.¹¹

We estimate equations (4) and (5) for a panel of 60 exporters and 150 importers in the period 1995 to 2012 (see Appendix Table A.2 for a list of countries).

The baseline results are presented in Table 2. The first column presents the result of estimating a variation of equation (3) with bilateral fixed effects (γ_{ij}) and time fixed effects¹² (γ_{it}) and the second column presents the result of estimating equation (4) with the multilateral resistance proxies (exporter-and-time and importer-and-time dummies) and with bilateral fixed effects. Column (3) shows the result of applying the MPML method with zero trade flows and with export shares as dependent variable (equation 5).

Table 2. Gravity model: Baseline results

Our results suggest that entering into trade agreements with the EU provides a greater stimulus to trade than joining the agreements promoted by Russia. Consider first column (3) where row 3 shows that full accession to the EU (2004 and 2007 enlargements) increased export shares by 311 percent ($e^{1.413} - 1 = 3.11$); however, as stated above, this is not an explicit option for EaP countries.

Consider next the effect of trade agreements with the EU and with Russia. A DCFTA with the EU (EUdeep, row 5) will increase export shares less than full membership, or by 78 percent ($e^{0.578} - 1 = 0.86$), whereas a DCFTA with Russia (RUSdeep, row 6) will not result in any significant increase in export shares for the EaP countries considered. We surmise that this result reflects the fact that FTAs with

¹¹ We consider FTAs as shallow agreements and FTA&EIA or CU&EIA as DCFTAs (Table A.1).

¹² The coefficients of the time-invariant bilateral variables (distance, common language, common colony and same country) cannot be directly estimated and are subsumed in the bilateral fixed effects.

Russia are less deep and less strictly implemented than comparable FTAs with the EU.

As regards the shallow FTAs, the results are less stable and vary widely across specifications making them less robust. By including zero trade in column (3) the estimate for a shallow FTA with the EU is quite high – export shares will be 9 times larger – and probably biased upwards, whereas according to column (2) there is no effect on trade.¹³ On the other hand, our results suggest that the announcement of forming a Common Economic Space with Russia (shallow FTA) has not had positive effects on trade; in fact, the results in column (3) suggest that trade will even be reduced (RUSshallow). Finally, a shallow FTA among EaP States will result in nearly a trebling of export shares ($e^{1.287} - 1 = 2.62$) by column (3). Again, the effects are probably exaggerated because we only have data since 1995/1996 for some countries among which trade has expanded rapidly in recent years as well as due to possible measurement errors in the trade data in the early years of the sample. Even so, our results accord with those of Fidrmuc and Fidrmuc (2003) who report evidence of strong home bias in trade within East and Central Europe (see also Djankov and Freund, 2002).

Many have observed that agreements with the EU are likely to eliminate a wider range of trade barriers on a wider range of commodities and services than agreements with Russia. In addition, they are implemented more effectively than those between Eurasian countries. Thus, we are not comparing “like with like agreements” but a typical agreement with Russia with a typical similar agreement with EU. Our results confirm econometrically the findings of previous case studies that agreements with

¹³ Missing and zero export flows are excluded from the estimation in column 2, but we are able to control for time-variant multilateral resistance factors (MRT1), whereas we are only able to control for time-invariant multilateral resistance factors (MRT2) in column 3, because the estimation of the model does not converge with MRT1.

Russia produce inferior results.¹⁴ The former Soviet Republics have had great difficulty in creating the institutions necessary to implement rules and procedures required by well-functioning market economies.

Table 3 presents the results from using alternative estimation techniques to tackle zero trade. Here we also present estimates for the other bilateral time-invariant variables, since the fixed effects included in Table 3 are exporter and importer fixed effects rather than bilateral (country-pair) fixed effects. The first column uses the same method as in column 3 of Table 2, but shows different effects for specific EaP countries, namely, Armenia, Georgia and Ukraine. Columns 2 and 3 present estimates obtained by using alternative estimation techniques that also consider the existence of zero trade flows in the data, an EK-Tobit model in column 2 and a PPML model in column 3.

Table 3. Gravity model: Sensitivity analysis

The results in Columns 2 and 3 accord with those reported in Column 1 concerning the sign and significance of the effects. FTAs with the EU, deep or shallow,¹⁵ boost trade whereas FTAs with Russia do not (they may even reduce trade). The effects vary slightly, which is not surprising in view of the different underlying assumptions of the estimated models. Further, FTAs with Turkey as well as Armenia and Georgia are good for trade, whereas the results for Ukraine are mixed. The largest trade effect is found for Georgia, suggesting that trade with other EaPs is eleven times larger (six times for Armenia and three times for Ukraine) after the agreements entered into force. The gravity dummies (common language, common border, colonial links, same country) by and large exert significant influence on trade.

¹⁴ Kubicek, 2009; Libman, 2007; Olcott, Aslund and Garnett, 1999; Wirminghaus, 2012.

¹⁵ The results for EU shallow bilateral agreements shown in columns 2 and 3 of Table 3 suggest that trade increases by 6.2% and 25%, respectively, in keeping with the view that more trade gains should be expected from signing deep agreements rather than shallow ones. This is not the case in the results obtained for the model estimated with export shares.

As a first robustness check we estimated the model using the two-step approach of Helpman *et al.* (2008). The results, available upon request, suggest the same general pattern as the alternative approaches. We find no positive effect for FTAs with Russia¹⁶ and positive and significant effects for FTAs with the EU.

As a second robustness check, given the striking variability of the EUshallow dummy across specifications, we tried to disentangle the more heterogeneous effects included in EUshallow agreements. To this end, we differentiated between the EU agreements that are classified as Economic Integration Agreements (EIAs) in Appendix Table A.1 and those that are only FTAs, with non-EaP countries outside Europe. Among the former are the agreements with Mexico in 2000, Korea in 2001, Chile in 2003 and CARIFORUM in 2008. Trade with those countries is not significantly larger after the agreements. The results appear to be driven by other agreements. We conclude that due to the high correlation between the dummies representing shallow bilateral agreements it is hard to identify separate effects using aggregate trade data. A more fruitful approach would be to use sectoral trade in combination with tariff data, a task left for further research.

At last, we place our results in the existing literature by comparing them with those reported by Kohl (2014). Also using the gravity model of trade and panel data techniques,¹⁷ Kohl estimates the effect of 166 single EIAs with data from 1950 to 2010 for 150 countries. His sample of countries differs from ours and covers a longer period (his ends in 2010, ours in 2012). Nevertheless, we make some tentative comparisons of the results obtained for agreements in which Russia is (or has been) a member with our findings. As shown by Kohl (2014, Table 5), none of the estimates

¹⁶ The estimated coefficient for RUSshallow is -0.15 (-3.16) and for RUSdeep 0.05 (1.02); robust t-values are within brackets.

¹⁷ Kohl (2014) estimates a fixed-effects version of the gravity model with importer-year and exporter-year effects that is similar to our results in column 2 of Table 2 and also a similar model in first differences. However, he does not tackle the zero-trade flows issue.

for Russia's agreements with Armenia, the Kyrgyz Republic and Ukraine is statistically significant. The same applies to the ECU and the Commonwealth of Independent States (CIS) estimates; the latter is even negative (-1.55*) and significant at the ten percent level. In contrast, Kohl finds a number of positive effects on trade for EU single agreements with some Baltic states (Latvia: 0.74*) and among pairs of former Soviet Republics (e.g., Georgia-Kazakhstan: 0.88**; Georgia-Turkmenistan: 0.01*).

In sum, the evidence shows that FTAs with Russia produce negligible positive or even negative effects – because, we surmise again, they stay on paper without being implemented. A tentative explanation of why trade potential with Russia remains unexploited is the poor quality of the institutional setting in the trade agreements proposed by Russia as well as the high levels of corruption perceived in some EaP countries.

4. Quality of institutions and trade

Our next task is to use the estimates from the preceding section to assess whether the quality of institutions has affected trade in EaP states. Georgia and Moldova surpass other EaP States in terms of democracy and have relatively low levels of corruption. Armenia and Ukraine are borderline cases as concerns the transition to both democracy and market economy. Mansfield *et al.* (2002, 2007) suggest that a democratic society is more prone to liberalize foreign trade than an autocratic one since trade barriers create rents which benefit a small minority and encourage emergence of oligarchs that veto tariff reductions.

To evaluate the direct effect of democracy and corruption on EaP exports we extend to panel data the two-step approach suggested for cross-sectional data by

Eaton and Kortum (2002).¹⁸ In the first step, we estimate the gravity model with country-and-year fixed effects and bilateral fixed effects and save the coefficients obtained for the exporter-and-year dummy variables ($\sum d_{i,t} I_{it}$). The specification is similar to equation (4) but with exporter dummies varying yearly instead of every five years.¹⁹

In the second step, we use the estimated exporter-and-time fixed effects as a dependent variable and regress it on the Polity2 variable representing democracy (see Section 2.1) and on corruption as reported in the International Country Risk Guide (Section 2.5, footnote 9). This way, we aim to isolate the variation of trade that is not explained by bilateral time-invariant unobserved heterogeneity and by trade integration. Since we would like to interpret our second-step estimates as causal effects, we estimate the model with methods intended to control for endogeneity.

Table 4. From institutional quality to trade

The first column in Table 4 shows estimates obtained from a panel data model with country fixed effects and where the regressors are the first lag (at time t-1) and the first lead (at time t+1) of the Polity2 variable. We add the lead to test for endogeneity as suggested by Baier and Bergstrand (2007). The second and third columns add time effects and allow for first-order autocorrelation AR(1) in the residuals.²⁰ The results suggest that a one-point increase in the Polity2 score will increase exports by about twelve percent (column 3). For example, in Azerbaijan and Belarus, with democracy scores of minus seven from the late 1990s onward, the potential for increasing trade is

¹⁸ This approach is also recommended by Head and Mayer (2015) for cross-sectional estimation.

¹⁹ Alternatively, we can take the time-variant part of the residual from the gravity model estimated in Table 2, column 1, and aggregate the exponents of the residuals across exporters for use in a second-step equation as described in the text. The results, available upon request, remain virtually unchanged.

²⁰ As a robustness check we estimated the model using dynamic OLS and dynamic AR(1) models to control for endogeneity and autocorrelation by adding to the list of independent variables in levels their leads and lags in first differences. The results, which reflect long-run effects and are available upon request, remain similar. Positive and significant long-run effects are obtained for Polity2 and positive but not significant effects for corruption.

huge if they move toward more democratic institutions. Most of the EaP states could benefit from additional exports by improving their democracy scores. Mansfield *et al.* (2002) show that an effective democracy provides an incentive for politicians to enter FTAs with other countries. Such agreements provide a ‘surveillance mechanism’ that assures voters that politicians prevent special interests from enjoying rents provided by protection.²¹

We then used our proxy for corruption as a regressor. The results in column (4) of Table 4 suggest a weak negative correlation between corruption and exports. At first, the causality between corruption and exports seems to be bidirectional since the lead (t+1) is also negative and significant, but only at the 10 percent level. However, the coefficient turns out to be positive and not statistically significant once time dummies (or an AR(1) term) are added to the model (also the lead term became insignificant). Indeed, a positive effect of corruption on exports could be expected in the short run if trade barriers are evaded through bribes (see Dutt and Traca, 2009, and De Jong and Bogmans, 2011). For the same reason, trade could encourage corruption (reverse causality is suggested by the coefficient of the lead value). However, equally valid is the expectation of a negative long-run effect of trade on corruption and *vice versa*. Our results cannot disentangle these effects, possibly due to the short time span for which data are available. Moreover, in our sample of exporters,²² most of which have trade agreements with the EU, we could expect to see the effects of corruption vary across sectors as protection is higher for agricultural products than for

²¹ Mansfield *et al.* conclude that over the post-war period pairs of democracies are twice as likely to enter a preferential trade agreement as are a democracy and an autocracy and that the latter pair is twice as likely to enter a preferential trade agreement as a pair of autocratic countries. Furthermore, the likelihood of a given country entering into a PTA increases with both the size and the proximity of its partner country.

²² Data on Polity2 are available for only 25 of the countries in our sample and, on corruption, for 20 countries; see Appendix Tables A.3 and A.4.

manufactured products. However, estimating the effect of corruption on sectoral trade is beyond the scope of this paper.

In sum, our econometric results suggest that trade agreements with the EU stimulate the EaP countries' trade significantly more than trade agreements promoted by Russia. Furthermore, DCFTAs between Georgia and the other EaPs,²³ and similarly for Moldova, will also procure more trade gains than shallow FTAs. We conclude that a more democratic government will boost trade by reducing trade barriers and thereby also corruption and rent-seeking.

5. Creating a common neighbourhood and saving the EaP

Our results suggest that the optimal policy for EaP countries is to negotiate DCFTAs with both major trade partners, but especially with the EU. Russia urges the EaP countries to join the ECU, but this precludes them from having deep FTAs with the EU.²⁴ In order to maintain control of its “near abroad”, Russia has initiated violent conflicts with Ukraine as well as with Georgia.

To resolve these conflicts it is necessary to consider the EaP countries as a common neighborhood rather than as an exclusive “near abroad” of one or the other bloc. Each EaP nation has the sovereign right to conduct its own trade policy.

The Eastern Partnership is a key option for the EaP countries. Therefore, the EU must ensure full implementation of the DCFTAs that it has signed with Georgia,

²³ The EaP countries have many common standards, - a legacy of their common Soviet past. This is not what we mean by "DCFTA scenario" among the EaP countries. Instead, we mean an agreement as defined by the EU containing approximation of legislation concerning sanitary and phytosanitary standards, technical regulations, international property rights, rules of origin and customs regulations and procedures as well as liberalisation of certain services. We assume a deep and comprehensive free trade agreement between EaP countries to be equivalent to the DCFTA agreements they have adopted with the EU.

²⁴ True, they could have DCFTAs with the EU but only if the Eurasian Customs Union negotiates one with the EU. This, however, would make DCFTAs with the EU for the EaP countries hostage to developments in Russia and significantly delay and dilute them compared with the DCFTAs they have already negotiated with the EU.

Moldova and Ukraine. It must, furthermore, realize the objective shared with Russia of a “common economic space from Lisbon to Vladivostok”,²⁵ by extending an offer to negotiate a DCFTA with Russia, conditional upon Russia’s cessation of hostilities with Ukraine and international supervision of elections in the disputed areas.

Such a proposal may appear unrealistic in the current situation. Russia is far from possessing the necessary economic and political characteristics required for a DCFTA. It is not a democracy, it produces few goods and services that other nations want to buy except unrefined oil, arms, chemicals and ferrous metals, it lacks a free press and its market economy functions poorly (Gylfason *et al.*, 2014). Moreover, Russia’s international status after the annexation of Crimea its military support of separatist forces in Donetsk and Luhansk approaches that of an international pariah. However, in times of conflict it is essential to prepare for a post-conflict era. The EU must attempt to convince President Putin that Russia stands to gain more from viewing its “near abroad” as a common neighborhood rather than as a lost territory to be regained through military means.

Hindsight provides benefits to which foresight is not privy. After the event, it seems clear that misjudgments by both sides created a serious international conflict. We conclude by identifying some reasons for why the EaP went wrong and indicating what can be done to salvage it.

The EU overestimated the economic and political readiness of the EaP States for DCFTAs. Campos (2013) stresses the “institutional vacuum” that has characterized the EaP States since their independence. This paper has shown the importance of democracy and free press both as instruments for institutional change and for providing a solid political base for international agreements. The problems that

²⁵ Statement by President of the European Commission Barosso following the EU-Russia Summit, 28 January, 2014.

Ukraine encountered prior to initialing and signing its DCFTA reflect its weak initial conditions as concerns democracy, free press and market economy. Events have shown that the Commission's focus on institution-building to qualify for a DCFTA, criticized by EaP States at the time, was correct.

Russia, too, seriously misjudged the situation. Like others, it failed to foresee that the EU would conclude DCFTAs so rapidly with Armenia, Georgia and Moldova. Consequently, it hastily imposed ill-conceived countermeasures. Russia also underestimated the strong popular support that existed in parts of Ukraine for the democratic values that the EU represents. Misjudgments by both sides thus created a serious conflict centered on Ukraine with ramifications for Georgia and Moldova.

6. Conclusion

This paper suggests that the EaP States stand to gain significantly from trade agreements with the EU, whether deep or shallow, while the customs union proposed by Russia is likely to provide negligible benefits. It also shows that the EaP States stand to gain significantly from free trade agreements with each other. While further research is necessary to ascertain more precisely the size of these benefits, their rough relative magnitude is supported by other studies (e.g., Kohl, 2014). These benefits suggest that the EU should ensure that the EaP survives its current difficulties. True, the EU's soft power is ineffective as a response to Russia's hard power. But the EU cannot leave Ukraine to deal with Russia on its own as best it can. This would soon put Georgia and Moldova in the same situation as Ukraine is in now. It would also have serious consequences for the credibility of the EU.

An option available to the EU is to internationalize the conflict, involving the United Nations and the Organization for Security and Co-operation in Europe (OSCE)

to a significantly larger extent than at present. It will need to complement its own soft power with the hard power of the international organizations to separate the warring factions, maintain law and order and arrange referenda so that the populations in disputed regions can express their views concerning national borders in a democratic manner. The EU can also negotiate a DCFTA with Russia, thereby creating a “single economic space from Lisbon to Vladivostok” as that country has requested. This economic space would include as a “common neighborhood” those EaP States willing and able to participate.

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Tables

Table 1. Summary statistics

<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Exports	164700	4.79e+08	3.42e+09	0	1.43e+11
Lnexports	121249	15.93	3.590	0	25.68
Lngdpi	163350	24.82	1.884	20.57	28.92
Lngdpj	161650	24.07	2.190	18.72	30.42
Lndist	164700	8.36	.864	1.90	9.88
Contig	164700	.024	.152	0	1
Comcol	164700	.058	.233	0	1
Smctry	164700	.007	.083	0	1
Comlang	164700	.086	.281	0	1
EU	164700	.066	.248	0	1
Eushallow	164700	.056	.230	0	1
Eudeep	164700	.005	.071	0	1
RUSdeep	164700	.058	.234	0	1
RUSshallow	164700	.045	.208	0	1
Turkey	164700	.0002	.016	0	1
FTA-East	164700	.003	.056	0	1

Note: Ln denotes natural logarithms, exports are in thousands of US\$. *gdpi* and *gdpj* denote Gross Domestic Product of exporter and importer country, respectively. *Dist* is distance between capital cities of origin and destination countries. *Contig*, *comcol*, *smctry* and *comlang* are dummy variables that take the value of 1 when the trading countries share a border, have ever had a colonial relationship, were part of the same country in the past, or have a common language, respectively.

Table 2. Gravity model: Baseline results NEW

	(1)	(2)	(3)
	Fixed effects	Fixed effects with MRT1	MPML with MRT2
Dependent variable:	Ln exports	Ln exports	Export share
Lngdpi	0.704*** [0.0408]	0.480*** [0.0342]	0.533*** [0.0788]
Lngdpj	0.648*** [0.0265]	0.699*** [0.0293]	0.716*** [0.0628]
EU (full membership)	0.215*** [0.0359]	0.152*** [0.0466]	1.413*** [0.0769]
EUshallow	0.101*** [0.0301]	-0.0376 [0.0325]	2.301*** [0.0705]
EUdeep	0.285*** [0.0835]	0.356*** [0.0931]	0.578*** [0.103]
RUSdeep	-0.161*** [0.0571]	0.301* [0.157]	0.0546 [0.123]
RUSshallow	-0.0783 [0.0485]	-0.00533 [0.0549]	-0.158* [0.0810]
Turkey	0.150 [0.164]	-0.317 [0.256]	2.307*** [0.632]
FTA-East	-0.267 [0.233]	-0.126 [0.214]	1.287*** [0.145]
Constant	-17.73*** [1.200]	-13.05*** [0.648]	-44.90*** [2.261]
Time Fixed Effects	Yes	Country-specific	Yes
Observations	116,293	116,293	157,721
R-squared (within)	0.246	0.291	0.393 ^a
Number of bilateral pairs	8,268	8,268	-

Note: Robust standard errors within brackets. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. FE denotes bilateral fixed effects and MRT1 denotes multilateral resistance terms (exporter-and-time and importer-and-time dummy variables). MTR2 denotes exporter and importer dummy variables. Coefficients for bilateral variables are omitted in column (3). MPML denotes Multinomial Pseudo Maximum Likelihood. The variables are defined in the note below Table 1. ^aPseudo R^2 .

Table 3. Gravity model: Sensitivity analysis NEW

	(1) MPML with MRT2	(2) EK-Tobit with MRT2	(3) PPML with MRT2
Dependent variable:	Export Share	Ln Exports	Exports
Lngdpi	0.533*** [0.0788]	0.446*** [0.0329]	0.678*** [0.0535]
Lngdpj	0.716*** [0.0628]	0.558*** [0.0230]	0.609*** [0.0482]
Lndist	0.0578** [0.0277]	-1.561*** [0.0151]	-0.0621** [0.0254]
Contig	1.030*** [0.0423]	0.150*** [0.0392]	0.989*** [0.0397]
Comcol	0.167 [0.117]	1.317*** [0.0318]	1.067*** [0.0908]
Smctry	0.727*** [0.0634]	0.604*** [0.0659]	0.505*** [0.0460]
Comlang	0.142*** [0.0522]	0.917*** [0.0221]	0.369*** [0.0296]
EU	1.414*** [0.0769]	0.0881*** [0.0222]	0.483*** [0.0458]
EUshallow	2.302*** [0.0705]	0.0670*** [0.0195]	0.187*** [0.0349]
EUdeep	0.578*** [0.103]	0.269*** [0.0599]	0.330*** [0.0788]
RUSdeep	0.0562 [0.123]	-0.107 [0.0683]	-0.0301 [0.0824]
RUSshallow	-0.160** [0.0809]	-0.0374 [0.0419]	-0.125** [0.0584]
Turkey	2.312*** [0.634]	0.615*** [0.0996]	1.278*** [0.117]
Armenia	1.841*** [0.375]	0.839*** [0.258]	1.118** [0.443]
Georgia	2.452*** [0.122]	3.166*** [0.112]	2.512*** [0.131]
Ukraine	1.111*** [0.152]	1.159*** [0.0910]	0.367*** [0.122]
FTA East	1.287*** [0.145]	1.573*** [0.0812]	0.555*** [0.119]
Country Fixed Effects	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes
Observations	157721	157721	157721
Pseudo R ²	0.390	--	0.906

Log pseudolikelihood -160.248 -233398,610 -2.204e+13

Note: Robust standard errors within brackets. *** p < 0.01, ** p < 0.05, * p < 0.1. MRT2 denotes multilateral resistance terms (exporter and importer dummy variables). M(P)PML denotes Multinomial (Poisson) Pseudo Maximum Likelihood. The variables are defined in the note below Table 1. The effects shown in line FTA East were calculated in a separate regression that excluded FTAs with Armenia, Georgia and Ukraine.

Table 4. From institutional quality to trade

VARIABLES	(1) Panel_ CFE	(2) Panel_ CFE	(3) Panel_ CFE_AR(1)	(4) Panel_ CFE	(5) Panel _CFE	(6) Panel_ CFE_AR(1)
Polity2 (t-1, i)	0.124* [0.066]	0.110** [0.052]	0.123* [0.065]			
Polity2 (t+1, i)	0.059 [0.081]					
Corrupt (t-1, i)				-0.158* [0.082]	0.057 [0.064]	0.080 [0.079]
Corrupt (t+1, i)				-0.172* [0.099]		
Constant	-0.150 [0.237]	-0.779*** [0.203]	0.196* [0.106]	1.718*** [0.318]	-0.608* [0.317]	0.409*** [0.149]
Time Fixed Effects	No	Yes	No	No	Yes	No
Observations	397	424	372	246	266	246
R-squared	0.031	0.634		0.110	0.748	
Number of countries	25	25	25	20	20	20

Note: *** p < 0.01, ** p < 0.05, * p < 0.1. Robust standard errors are shown within brackets. CFE denotes country fixed effects.

Appendix

Table A.1. List of agreements

Members	Type	Date of entry into force
Armenia – Kazakhstan	FTA	25-Dec-2001
Armenia – Moldova	FTA	21-Dec-1995
Armenia - Russian Federation	FTA	25-mar-93
Armenia – Turkmenistan	FTA	07-jul-96
Armenia – Ukraine	FTA	18-Dec-1996
EC (25) Enlargement	CU & EIA	01-may-04
EC (27) Enlargement	CU & EIA	01-ene-07
EU - Turkey	CU	01-ene-96
Eurasian Economic Community (EAEC)	CU	08-oct-97
Central European Free Trade Agreement (CEFTA)	FTA	01-may-07
EFTA - Albania	FTA	01-nov-10
EFTA - Canada	FTA	01-jul-09
EFTA - Chile	FTA & EIA	01-dic-04
EFTA - Colombia	FTA & EIA	01-jul-11
EFTA - Egypt	FTA	01-ago-07
EFTA - Former Yugoslav Republic of Macedonia	FTA	01-may-02
EFTA - Hong Kong, China	FTA & EIA	01-oct-12
EFTA - Israel	FTA	01-ene-93
EFTA - Jordan	FTA	01-sep-02
EFTA - Korea, Republic of	FTA & EIA	01-sep-06
EFTA - Lebanon	FTA	01-ene-07
EFTA - Mexico	FTA & EIA	01-jul-01
EFTA - Montenegro	FTA	01-sep-12
EFTA - Morocco	FTA	01-dic-99
EFTA - Palestinian Authority	FTA	01-jul-99
EFTA - Peru	FTA	01-jul-11
EFTA - SACU	FTA	01-may-08
EFTA - Serbia	FTA	01-oct-10
EFTA - Singapore	FTA & EIA	01-ene-03
EFTA - Tunisia	FTA	01-jun-05
EFTA - Ukraine	FTA & EIA	01-jun-12
Egypt - Turkey	FTA	01-mar-07
EU - Albania	FTA & EIA	01-Dec-2006(G) 01-Apr-2009(S)
EU - Algeria	FTA	01-sep-05
EU - Bosnia and Herzegovina	FTA	01-jul-08
EU - Cameroon	FTA	01-oct-09
EU - CARIFORUM States EPA	FTA & EIA	01-nov-08

EU - Chile	FTA & EIA	01-Feb-2003(G)
		01-Mar-2005(S)
EU - Côte d'Ivoire	FTA	01-ene-09
EU - Eastern and Southern Africa States Interim EPA	FTA	14-may-12
EU - Egypt	FTA	01-jun-04
EU - Faroe Islands	FTA	01-ene-97
EU - Former Yugoslav Republic of Macedonia	FTA & EIA	01-Jun-2001(G)
		01-Apr-2004(S)
EU - Iceland	FTA	01-abr-73
EU - Israel	FTA	01-jun-00
EU - Jordan	FTA	01-may-02
EU - Korea, Republic of	FTA & EIA	01-jul-11
EU - Lebanon	FTA	01-mar-03
EU - Mexico	FTA & EIA	01-Jul-2000(G)
		01-Oct-2000(S)
EU - Montenegro	FTA & EIA	01-Jan-2008(G)
		01-May-2010(S)
EU - Morocco	FTA	01-mar-00
EU - Palestinian Authority	FTA	01-jul-97
EU - Papua New Guinea / Fiji	FTA	20-dic-09
EU - Serbia	FTA & EIA	01-Feb-2010(G)
		01-Sep-2013(S)
EU - South Africa	FTA	01-ene-00
EU - Tunisia	FTA	01-mar-98
European Free Trade Association (EFTA)	FTA & EIA	03-May-1960(G)
		01-Jun-2002(S)
Georgia - Armenia	FTA	11-nov-98
Georgia - Azerbaijan	FTA	10-jul-96
Georgia - Kazakhstan	FTA	16-jul-99
Georgia - Russian Federation	FTA	10-may-94
Georgia - Turkmenistan	FTA	01-Jan-2000
Georgia - Ukraine	FTA	04-jun-96
Iceland - Faroe Islands	FTA & EIA	01-nov-06
Kyrgyz Republic - Armenia	FTA	27-oct-95
Kyrgyz Republic - Kazakhstan	FTA	11-nov-95
Kyrgyz Republic - Moldova	FTA	21-nov-96
Kyrgyz Republic - Russian Federation	FTA	24-Apr-1993
Kyrgyz Republic - Ukraine	FTA	19-Jan-1998
Kyrgyz Republic - Uzbekistan	FTA	20-mar-98
Russian Federation - Azerbaijan	FTA	17-feb-93
Russian Federation - Belarus	FTA	20-Apr-1993
Russian Federation - Belarus - Kazakhstan	CU	03-Dec-1997
Russian Federation - Kazakhstan	FTA	07-jun-93
Russian Federation - Republic of Moldova	FTA	30-mar-93
Russian Federation - Serbia	FTA	03-jun-06
Russian Federation - Tajikistan	FTA	08-Apr-1993
Russian Federation - Turkmenistan	FTA	06-Apr-1993
Russian Federation - Uzbekistan	FTA	25-mar-93
Turkey - Albania	FTA	01-may-08
Turkey - Bosnia and Herzegovina	FTA	01-jul-03
Turkey - Chile	FTA	01-mar-11

Turkey - Former Yugoslav Republic of Macedonia	FTA	01-sep-00
Turkey - Georgia	FTA	01-nov-08
Turkey - Israel	FTA	01-may-97
Turkey - Jordan	FTA	01-mar-11
Turkey - Montenegro	FTA	01-mar-10
Turkey - Morocco	FTA	01-ene-06
Turkey - Palestinian Authority	FTA	01-jun-05
Turkey - Serbia	FTA	01-sep-10
Turkey - Syria	FTA	01-ene-07
Turkey - Tunisia	FTA	01-jul-05
Ukraine - Azerbaijan	FTA	02-sep-96
Ukraine - Belarus	FTA	11-nov-06
Ukraine - Former Yugoslav Republic of Macedonia	FTA	05-jul-01
Ukraine - Kazakhstan	FTA	19-oct-98
Ukraine - Moldova	FTA	19-may-05
Ukraine - Montenegro	FTA & EIA	25-Apr-2013
Ukraine - Russian Federation	FTA	18-Aug-2008
Ukraine - Tajikistan	FTA	18-Aug-2008
Ukraine - Uzbekistan	FTA	18-Aug-2008
Ukraine - Turkmenistan	FTA	18-Aug-2008

Source: WTO. Some of the agreements listed in which Russia is involved might be inoperative. It is a consensus in the literature that the 1997 CU agreement between Russia, Belarus and Kazakhstan was not implemented partly due to the economic crisis in 1998. The same applies to the Eurasian Economic Community, which failed to create a customs union (it maintained a limited FTA).

Table A.2. List of countries

Exporter countries			
Albania	Hungary	Oman	
Algeria	Iceland	Poland	
Austria	Ireland	Portugal	
Azerbaijan	Israel	Qatar	
Belarus	Italy	Russian Federation	
Belgium	Jordan	Saudi Arabia	
Bosnia and Herzegovina	Kazakhstan	Slovak Republic	
Bulgaria	Kuwait	Slovenia	
Croatia	Kyrgyz Republic	Spain	
Cyprus	Latvia	Sweden	
Czech Republic	Lebanon	Switzerland	
		Syrian Arab Republic	
Denmark	Libya	Tajikistan	
Egypt, Arab Rep.	Lithuania	Tunisia	
Estonia	Luxembourg	Turkey	
Ethiopia	Malta	Turkmenistan	
Finland	Mauritania	Ukraine	
France	Moldova	United Arab Emirates	
Georgia	Morocco	United Kingdom	
Germany	Netherlands	Yemen, Rep.	
Greece	Norway		
Importer countries			
Albania	Eritrea	Malawi	Swaziland

Algeria	Estonia	Malaysia	Sweden
Angola	Ethiopia	Mali	Switzerland
Argentina	Finland	Malta	Syrian Arab Republic
Armenia	France	Mauritania	Tajikistan
Australia	Gabon	Mauritius	Tanzania
Austria	Gambia, The	Mexico	Thailand
Azerbaijan	Georgia	Moldova	Togo
Bangladesh	Germany	Morocco	Trinidad and Tobago
Belarus	Ghana	Mozambique	Tunisia
Belgium	Greece	Namibia	Turkey
Benin	Guatemala	Nepal	Turkmenistan
Bolivia	Guinea	Netherlands	Uganda
Bosnia and Herzegovina	Guinea-Bissau	New Zealand	Ukraine
Botswana	Haiti	Nicaragua	United Arab Emirates
Brazil	Honduras	Niger	United Kingdom
Bulgaria	Hungary	Nigeria	United States
Burkina Faso	Iceland	Norway	Uruguay
Burundi	India	Oman	Uzbekistan
Cabo Verde	Indonesia	Pakistan	Venezuela, RB
Cambodia	Iran, Islamic Rep.	Panama	Vietnam
Cameroon	Iraq	Paraguay	Yemen, Rep.
Canada	Ireland	Peru	Zambia
Central African Republic	Israel	Philippines	Zimbabwe
Chad	Italy	Poland	
Chile	Japan	Portugal	
China	Jordan	Qatar	
Colombia	Kazakhstan	Russian Federation	
Congo, Rep.	Kenya	Rwanda	
Costa Rica	Korea, Dem. Rep.	Samoa	
Cote d'Ivoire	Korea, Rep.	Saudi Arabia	
Croatia	Kuwait	Senegal	
Cuba	Kyrgyz Republic	Sierra Leone	
Cyprus	Lao PDR	Singapore	
Czech Republic	Latvia	Slovak Republic	
Denmark	Lebanon	Slovenia	
Dominica	Lesotho	Somalia	
Dominican Republic	Liberia	South Africa	
Ecuador	Libya	Spain	
Egypt, Arab Rep.	Lithuania	Sri Lanka	
El Salvador	Luxembourg	Sudan	
Equatorial Guinea	Madagascar	Suriname	

Table A.3. Polity2 scores for exporters

Country	mean	min	max
Albania	6.833	0	9
Azerbaijan	-6.833	-7	-6
Belarus	-6.611	-7	0

Belgium	9.333	8	10
Cyprus	10	10	10
Egypt, Arab Rep.	-4.705	-6	-2
Estonia	8.222	6	9
Finland	10	10	10
Greece	10	10	10
Hungary	10	10	10
Israel	9.777	9	10
Italy	10	10	10
Jordan	-2.333	-3	-2
Luxembourg	10	10	10
Norway	10	10	10
Poland	9.6111	9	10
Qatar	-10	-10	-10
Russian Federation	4.5	3	6
Saudi Arabia	-10	-10	-10
Syrian Arab Republic	-7.555	-9	-7
Tunisia	-3.562	-4	-3
Turkey	7.333	7	9
Turkmenistan	-9	-9	-9
Ukraine	6.5	6	7
Yemen, Rep.	-1.722	-2	3
Total	3.075	-10	10

Source: Polity IV project, Center for Systemic Peace website.

Table A.4. Transparency scores for exporters

Country	mean	min	max
Albania	3.833	3.833	3.833
Azerbaijan	1.788	1.5	2
Belarus	2.514	2	4
Belgium	3.825	3	5
Cyprus	4.256	4	5
Estonia	3.492	3	5
Finland	6.000	6	6
Greece	3.517	2	5
Hungary	3.806	3	5
Israel	3.383	3	5
Italy	2.875	2.458	4
Jordan	3.278	3	4
Luxembourg	5.144	5	6
Norway	5.100	5	6
Poland	3.169	2	5
Qatar	2.167	2	2.5
Saudi Arabia	2.000	2	2
Tunisia	2.461	2	3

Turkey	2.428	2	3.667
Ukraine	1.906	1	3
Total	3.324	1	6

Source: The International Country Risk Guide (ICRG) survey.