THE CUSTOMS UNION OF BELARUS, RUSSIA AND KAZAKHSTAN: GRAVITY MODEL APPROACH TO ESTIMATION OF TRADE FLOWS CHANGES

by

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Abstract

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This study measures the anticipatory trade creation and trade diversion effects of Customs Union of Belarus, Russia and Kazakhstan (CUBRK) for chosen industries. Those effects are estimated using Gravity Model of Trade (GMT). Log-linerized and exponential specifications of GMT are estimated with the help of OLS and Poisson-Pseudo-Maximum-Likelihood (PPML) estimators. Models include time fixed effects and variables which deal with endogeneity issues. The research data contain large amount of zeros, so OLS is estimated mainly for comparison reasons, since it was proven to be biased in case of zero trade flows. The inference is made based on PPML estimation. In order to capture gradual changes in trade flows, dynamic models are estimated along with static models. The results show strong evidence of static and dynamic anticipation of trade creation.

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Chapter 1

INTRODUCTION

"The rapid spread of regionalism is surely the most important recent development in the global trade system." - was claimed by Baldwin (1997). This statement is supported by growing number of various types of Regional Trade Agreements (RTAs), which is also referred to as regionalism, – 313 of them are currently in force. Though at first sight RTAs are quite positive trade formations, and they always claimed to be so by initiators. Nevertheless, theory suggests that effects of RTAs should be in many respects controversial through different positive and negative impacts. Actually, while talking about RTAs we must distinguish between Free Trade Agreements and Customs Unions, further FTAs and CUs, since there are substantial differences in their rules and consequences. FTAs reduce or remove tariffs among partner countries, but allow for autonomous policies concerning external tariffs, whereas, CUs imply harsher restrictions and impose common external tariffs.

The current research considers the creation of Customs Union of Belarus, Russia and Kazakhstan (CUBRK) and its impact on trade flows of member countries. Those effects are analyzed by looking whether this CU is trade creating or trade diverting[1].The countries concerned have already ratified the agreement, while Ukraine and Kyrgyzstan consider the ways of joining.

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[1] Trade creation – increase in trade flows between member countries after RTA creation. Trade diversion – reduction in trade flows between member and non-member countries and increase in trade flows between member countries after RTA creation. (These definitions are not for classical Vinerian effects and are presented in such way for inference purposes)

Main goals of this Union are the following: creating the unified customs system under the control of the Customs Commission for trading with countries outside the Union and removing all customs inside the Union. This particular CU has some features which distinguish it from the rest of the RTAs and increase the importance of the current study:

- members were subjects of one country for a long period of time
- very close economic ties among members
- severe political underlying basis
- large disproportion in size of members
- tariffs of the largest member are basis for common tariffs.

The time span of the study is from 1996 to 2010. Though actual implementation of the tariffs took place in 2010, I specified CU membership from 2007 to 2010, since in on the 6th of October 2007 the second agreement among Russia, Belarus and Kazakhstan was signed and the CU regulating unit – the CU commission was created. I consider such step to the actual changes in tariffs in on the 6th of July 2010 as a highly important, since after signing it the integration rate among the member countries increased severely. Also, I suppose that it was a clear signal given to the trade agents. My assumption is supported by so called "anticipation" effect, which was emphasized by Frankel (1997) and proved by Magee (2008), so that actual changes in trade flows were observed before the changes in tariffs. This assumption directly influences the interpretation of my results, so that I rather look into the anticipation and behavior of trade agents before the actual implementation of tariffs. So further, while speaking of date of CU creation/CUBRK introduction I will mean 6th of October 2007.

So the main goal of my research is to understand whether there was anticipation in 2007-2010 of the subsequent changes in trade flows after the actual

implementation of tariffs, whether this anticipation of trade creation or trade diversion, estimate the size of those effects through different industries, and whether there was dynamic in anticipation.

To formulate my initial hypothesis I would like to cite Russian economists. "The creation of the Customs Union will allow to increase GDP for member countries by 19% by 2015 year" – academician of RAS and executive secretary of the CU commission Sergey Glaziev. "According to the calculations of the Institute of Economic Forecasting of the Academy of Sciences of Russia, in 2015 the effect of the Customs Union for three participating countries will total 400 billion U.S. dollars" – member of the board of Eurasian Development Bank Vladimir Jasinski. Though, based on these optimistic claims, this trade formation seems to have severe positive influence on welfare of member countries and it can be supposed that anticipation of trade creation effects will outweigh trade diversion, one cannot but mention some facts which may impact the final outcome. First, partial gains from trade creation have already taken place because of gradual integration of Belarus and Russia. Second, a new unified customs system is mainly based on the Russian customs system and the duties are in general higher than in Kazakhstan or Belarus, and, moreover, since the degree of lobbying is quite high in Russia, tariffs are presumably based on the protection of internal Russian producers. Finally, the number of member states is quite small and overlapping of countries' economies is quite low, and even for those overlaps production costs are not significantly different, which means that there is not enough space for flourishing of trade creation effects. So, the hypothesis is that trade agents will anticipate the CU to be trade creating and this anticipation will be dynamic, but the size of it will be limited according to the mentioned facts.

It can be concluded that this research is expected to extend the understanding of customs unions and their impact on trade flows among member and non-member countries.

The structure of the thesis is the following: second chapter is devoted to literature review, where the first part observes papers related to RTAs in general and CUBRK in particular, while the second part discusses Gravity Model of Trade econometric estimation. Third chapter is devoted to the methodology of the research, which includes econometric models, issues connected with different types of estimation and description of variables. Fourth chapter includes data description and choice of industries. Fifth and sixth chapters will provide results and conclusions.

Chapter 2

LITERATURE REVIEW

This chapter consists of the survey of different types of RTAs, discusses possible impacts on trade flows and how the results of papers in this field can be interpreted for CUBRK. So, Viner (1950) and Lipsey (1960) discuss both positive and negative outcomes of RTAs. In general, it can be concluded from their papers that CUs can lead to a considerable reduction of trade flows, if the level of final general tariffs is higher than the initial one in the member countries. On the other hand, the creation of FTAs are mostly associated with effects of trade creation, since, in general, they increase trade flows among member countries, but, actually, they may also reduce the size of external trade due to substitution effects. Also, as was discussed by Grossman and Helpman (1995), the possibility of significant trade diversion effects may also stem from the fact that governments in the modern world are often not "benevolent dictators" who seek only for maximizing the total country welfare, but groups, which also evince their own interests. For instance, if the influence of "special interests" groups of domestic producers is quite high (e.g. supporting the election campaign of politicians), their lobbying activities can drastically extend the degree of protectionists policy through increased external trade tariffs. I consider these results to be particularly relevant for the CUBRK, because of the significant level of protectionism and lobbying in these countries.

As was shown by Shepotylo (2009), particular distortions exist in trade flows of CIS countries, so that they tend to overtrade with each other. This research will probably show the intensification of this pattern for Russia, Belarus and Kazakhstan, because of the high external tariffs. Also it should be mentioned that

according to Baldwin (1997) the creation of RTA leads to so-called "domino" effect, when trading partners of the member countries seek to join RTA to reduce the costs of trade. So the distortions in trade patterns may increase the degree of the "domino" effect. The next important feature of Belarus, Russia and Kazakhstan is that they have strong historical and economic ties, which may increase the size of trade creation effects. This issue is supported by Krugman (1991), who observed prevailing trade creation effects in RTAs formed by natural trade partners. We also shouldn't forget that creation of CU is not a final goal of members, it is rather an intermediate step to the creation of the confederative state Eurasian Union after 2015. According to Limao (2007), non-economic goals of CU may increase the level of external tariffs.

Although RTAs can be considered as an intermediate step to the future improvement of global trade relations and subsequent increase in welfare, we could also think about possible separating outcomes, when those trade formations can build up a sort of "trade barriers" from the rest of the world and this observation is relevant to the case of CUBRK. I would like to remind the fact that none of the member countries is WTO member, that's why the question arises, whether the creation of the CU might influence the outcome of possible future WTO accession. Though, the question was answered by McLaren (2002), who came to a conclusion that RTA could reduce the benefits of Multilateral Trade Agreement (MTA), Baldwin (2006) described the effect through which RTA and MTA created incentives for each other. One cannot but mention the paper which directly relates to CUBRK and discuss its results. So, Michalopoulos and Tarr (1999) considered possible effects of the Customs Union of Belarus, Russia, Kazakhstan and came to a conclusion that it would be mainly trade-diverting RTA, because of the following reasons:

- previous membership in CIS FTA, which captured all trade-creating effects,

- high level of protectionism in these countries and
- high common external tariffs.

As we can see the results of Michalopoulos and Tarr (1999) do not support the claims of Russian economists and the initial hypothesis of this study. Though these differences can be explained by the fact of large time gap and different initial conditions, this paper will attempt to give the answer.

What concerns econometric part of the literature review - since this research use Gravity Model of Trade (GMT) only as a practical tool and doesn't add to the theoretical background or econometric approaches, I would like to switch to the methodology part, where I will be using the results of particular papers for specific estimation issues.

Chapter 3

METHODOLOGY

As was mentioned, this research uses Gravity model of trade as a practical tool in order to estimate trade creation and trade diversion effects of the Customs Union of Belarus, Russia and Kazakhstan, so theoretical derivation and background of GMT won't be shown here, but the interested reader can find them in the works of e.g. Deardoff (1995) and Anderson (1979).

I'm going to consider two groups of countries: COMECON[2] countries as a group of the reporter countries and all the world countries as a group of the partner countries. Both groups represent exporter and importer countries, so that if a trade flow is specified as import, then Country_reporter is importing and Country_partner is exporting, if a trade flow specified as export, then Country_reporter is exporting and Country_partner is importing. Both groups include members of the given CU. A group of COMECON countries was chosen in order to create variability in data and because of the fact that those countries have strong economic ties with CU countries.

So, I would like to start with OLS estimation of the following logarithmic model, which is consistent with modern empirical studies, e.g. Carrere (2006), Magee (2008), Sun and Reed (2010):

[2] The COMECON or The **Council for Mutual Economic Assistance** (1949–1991) was an economic organization which unites USSR, countries of the Warsaw Pact and a number of communist states elsewhere in the world. The COMECON was the Eastern Bloc's reply to the formation of the Organization for European Economic Co-operation in western Europe

$$\ln(Trade\_value) = c + \beta_1 \ln(GDP\_reporter) + \beta_2 \ln(GDP\_Partner) + \beta_3 \ln(Population\_reporter) + \beta_4 \ln(Population\_partner) + \beta_5 \ln(Distance) + \beta_6 CU\_both + \beta_7 CU\_reporter + \beta_8 Year + X + u \quad (1)$$

Santos Silva and Tenreyo (2006) stated that in case of zero trade flows OLS estimator along with log-linearized form of the GMT provided bias results. They proposed to use exponential form and Poisson pseudo-maximum-likelihood (further PPML) estimator to deal with this issue. Also they claimed that PPML estimator provided more relevant results than OLS if there were heteroscedasticity and zero trade flows problems. So the following model will also be estimated and the results obtained will be compared to OLS results:

$$Trade\_value = \exp(c + \beta_1 \ln(GDP\_reporter) + \beta_2 \ln(GDP\_Partner) + \beta_3 \ln(Population\_reporter) + \beta_4 \ln(Population\_partner) + \beta_5 \ln(Distance) + \beta_6 CU\_both + \beta_7 CU\_reporter + \beta_8 Year + X) * e \quad (2)$$

The detailed description of the variables is presented in Table 1.

Variables **GDP**, **Population** and **Distance** are standard GMT variables. Coefficients for GDP are expected to be positive, for Distance – negative, for Population can be both positive and negative.

X - group of control dummies, which includes: **WTO_reporter**, **WTO_partner**, **RTA**, **Comlang**, **Contiguity** and **Colony**. Control variables **RTA** and **WTO** were included to separate the effects of the WTO membership and membership in other RTAs from the membership in the CU under study. Control variables **Comlang**, **Contiguity** and **Colony** were included in order to solve endogeneity

problems, that is to separate the effects which may increase the probability of Customs Union creation.

As was mentioned by Carrere (2006), Magee (2008), Sun and Reed (2010) the existence of various shocks that depend on time and have impact on all countries, e.g. the recent world financial crisis can influence estimated effects of RTAs. In order to control for such issues we need to add fixed effect time variable **Year.**

U represents an error term and **e** represents Poisson-distributed error term.

In order to determine total changes in imports or exports of member countries I would also estimate the following models:

$$\begin{aligned}\ln(Trade\_value) &= c + \beta_1 \ln(GDP\_reporter) + \beta_2 \ln(GDP\_Partner) \\ &+ \beta_3 \ln(Population\_reporter) + \beta_4 \ln(Population\_partner) \\ &+ \beta_5 \ln(Distance) + \beta_8 Year + \beta_9 CU\_total + X + u\end{aligned} \quad (3)$$

$$\begin{aligned}Trade\_value &= \exp(c + \beta_1 \ln(GDP\_reporter) + \beta_2 \ln(GDP\_Partner) \\ &+ \beta_3 \ln(Population\_reporter) + \beta_4 \ln(Population\_partner) \\ &+ \beta_5 \ln(Distance) + \beta_8 Year + \beta_9 CU\_total + X)e\end{aligned} \quad (4)$$

Beta9 coefficient is the weighted sum of beta7 and beta8 coefficients, where weights are shares of trade with member and non-member countries. Now I would like to specify how I will measure trade effects. The basis for this approach was taken from the paper of Sun and Reed (2010) and then modified for my case. Coefficients of interest are beta6, beta7 and beta9. All the changes are average changes among member countries. In my case coefficient beta6 measures the

extent to which members' imports are higher/lower than normal levels from member countries, if a country-reporter is importing, or measures the extent to which members' exports are higher/lower than normal levels to member countries, if a country-reporter is exporting. Coefficient beta7 measures the extent to which members' imports are higher/lower than normal levels from non-member countries, if a country-reporter is importing, or measures the extent to which members' exports are higher/lower than normal levels to non-member countries, if a country-reporter is exporting. Coefficient beta9 measures the extent to which members' imports are higher/lower than normal levels from all countries, if a country-reporter is importing, or measures the extent to which members' exports are higher/lower than normal levels to all countries, if a country-reporter is exporting. Since with the help of this model I cannot estimate the efficiency of producers in order to measure classical Vinerian trade creation and trade diversion effects, I will measure trade creation and trade diversion based on the above-mentioned definitions.

Trade diversion effects took place:

- when beta6>0 and beta7<0 so that import to member countries (export from member countries) increased after CU creation and import to non-member countries (export from non-member countries) reduced after CU creation, that is trade diversion in terms of imports(exports)
- when beta6>0, beta7<0 and beta9<0, so total imports(exports) reduced after CU creation, that is trade diversion offsets trade creation effect in terms of imports(exports), which we can call total trade diversion in terms of imports(exports).

Trade creation effects took place:

- when beta6>0 and beta7>0 so that import to member countries (export from member countries) increased after CU creation and import to non-member countries (export from non-member countries) increased after CU creation, that is trade creation in terms of imports(exports)
- when beta6>0, beta7<0 and beta9>0, so total imports(exports) increased after CU creation, that is trade creation offsets trade diversion in terms of imports(exports), which we can call total trade creation in terms of imports(exports).

Special cases:

- when beta6<0 and beta7>0, so that that import to member countries (export from member countries) decreased after CU creation and import to non-member countries (export from non-member countries) increased after CU creation. Decrease in trade among member countries and increase in trade with non-member countries cannot be explained by anticipation effect, so that it occurs due to some exogenous reasons.

- when beta6<0 and beta7<0, so that import to member countries (export from member countries) decreased after CU creation and import to non-member countries (export from non-member countries) increased after CU creation, that is trade diversion in terms of imports(exports). Decrease in trade among member countries and decrease in trade with non-member countries cannot be explained by anticipation effect, so that it occurs due to some exogenous reasons.

It can be interpreted for the first special case, there is no anticipation effect and there is partial anticipation effect for the second case.

Based on the research of Magee (2008) and Sun and Reed (2010), who claimed that CU didn't provide instantaneous effects, we need to consider the gradual changes, I would like estimate modified logarithmic and exponential models, which include the following dummies: CU_reporter*YearT and CU_both*YearT, where T=(2007, 2008, 2009, 2010). These models will capture the dynamics of anticipation effects. The dynamic model for CU_total variable will also be estimated. Dummies CU_reporter, CU_both are excluded from these models. Although this research doesn't propose any new methods of GMT estimation, it comprehensively unites the recent ideas in this field and uses them to research one of the nowadays most important economic issues among CIS countries.

Chapter 4

DATA DESCRIPTION

The description and source of the variables are provided in Table 1. Since the total number of industries is quite large and only several of them are a significant part of trade of given CU members, I decided to choose three largest exporting and importing industries for each member of CUBRK in 2011 year, according to the two-digit Harmonized System Codes. The number of industries is not equal eighteen since few largest industries coincide among member countries. The list of industries is presented in Table 2. So while speaking further of exports or imports, I'll mean these particular industries. As we can see imports are mainly consists of complete products industries and exports of raw materials industries. Descriptive statistics for imports is presented in Table 3 and for exports in Table 4. The number of observations of GDP_partner countries is lower than number of observations of other variables, since there is no data available for recent years GDP of several small African and Asian countries. Trade_value variable for exports is twice as volatile as for imports. This can be explained by the fact countries specialization, so that export is mainly consolidated in several large industries. Taking into account standard deviation and maximum, the mean clearly indicates large number of small trade flows. That can be explained by the large amount of zeros in data.

Chapter 5

RESULTS

As was mentioned in chapter 4, two models were estimated by using OLS and PPML. As can be seen there is a large difference between the number of observations for OLS and PPML models, which is exactly the number of zero trade flows in the data. So even if heteroscedasticity problem can be solved with the help of robust standard errors, OLS still provide bias results. This is especially important in this case since the number of zero trade flows account for 65%-85% of the total data. So OLS results can only be used for the comparison reason and further only PPML results will be interpreted. Since only pseudo-R-squared is available for PPML estimation and it has a meaning only while compared to another pseudo-R-squared for different model estimated for the same data, it is not provided in the results. Coefficients for control variables are presented only for static models in order to check for the adequacy of signs.

5.1 Results of static models

The static results for imports and exports are presented in tables A1, A2, A3 and A4. 2-digit numbers represent the industries and OLS, poisson represents the different models for the same industry. The control variables have expected signs in PPML specification for all industries. In order not to overload the results with repeating a full interpretation of the coefficients, I'll provide it for one importing industry and then sum up the analysis in separate tables for imports and exports. The results for the analysis will be approximated to decimals. So the interpretation for 17-sugar and sugars confectionary is the following. CU_reporter coefficient is highly significant, so that members' imports of sugars

are 37,9% lower introduction of CUBRK than the normal level from non-member countries. CU_both coefficient is highly significant, so that members' imports of sugars are 46,9% lower with introduction of CUBRK than the normal level from member countries. CU_total coefficient is highly significant, so that members' imports of sugars are 38,3% lower with introduction of CUBRK than the normal level from all countries.

Table 5 presents the detailed analysis for imports. It can be concluded form the analysis, that there is anticipation effect for four industries and no anticipation effect for three industries, so, in general, there is strong evidence of anticipation for importing industries. Though there is trade diversion for one industry and trade creation for four industries and it can be concluded that trade creation effects are prevailing, we shouldn't forget that according to these results, the share of imports from non-member countries is much larger than imports from member countries for those industries, that is even large percentage trade creation can be offset by small percentage in trade diversion in real terms. This is particularly important for the case of anticipation, since there can be expectation of trade diversion, which cannot be measured by this model, that is increase in imports from non-members could be larger without CUBRK creation. Implicit trade creation can also took place, that is decrease in imports from non-members could be larger without CUBRK creation.

Table 6 presents the detailed analysis for exports. So there is anticipation effect for one industries and no anticipation for five industries. It can be concluded that there is weak evidence for anticipation effect. As we can see the anticipation is much weaker for exports than for imports, and this is quite expectable, since decrease or increase in exports to non-member countries can be expected only through reciprocal effect, that is non-member countries may increase or decrease their tariffs after observing the increase or decrease in tariffs for imports in

member countries. The fact, that major exporting industries are raw materials, which are exported mainly to non-member countries, is also supporting weak anticipation for exporting industries, since there is not much place for trade creation or trade diversion effects. The case of implicit anticipation is also relevant for exporting industries.

5.2 Results of dynamic models

The results for dynamic models are presented in tables A5, A6, A7 and A8. The interpretation of the dynamic model is similar to the static model, since we look on one year changes in trade flows rather than 4 year period average changes. So for the reason of clearness of dynamic changes, the results will be presented in graphic form. Figures 1-7 are for importing industries and figures 8-13 are for exporting industries.

After summing up the industry specific analysis for imports and exports, presented in Table 7 and Table 8, respectively, it can be concluded that dynamic model in general supports the results of static model and shows strong evidence of anticipation of trade creation for importing industries and weak evidence of anticipation of trade creation for exporting industries. The dynamic model also adds to the results of the static model, that is it can show anticipation only for particular years even if there is strong evidence of anticipation for the whole period for static model. Also, few industries don't show anticipation for the static model at all, but show weak anticipation effects for particular years.

Chapter 6

CONCLUSIONS

It can be concluded that results for OLS and PPML regressions are consistent with the study of Santos Silva and Tenreyro (2006), that is OLS do not take into account zero trade flows and therefore provide bias results. A large amount of coefficients for OLS specification are not significant, differ severely from PPML coefficients and even coefficients for standard GMT variables have unexpected and illogical signs.

So both exporting and importing industries show evidence anticipation of trade creation effects, which is consistent with the initial hypothesis. Mentioned in introduction facts, which could limit the effects of trade creation didn't have severe effects on anticipation.

The results of static model are consistent with the work of Magee (2008). There is strong evidence of anticipation of trade creation effects for major importing industries. Though trade creation effects seem to be prevailing in percent terms, this result should be interpreted with caution in real terms, since the share of imports from non-member countries for major industries is much larger than from member countries. Taking into account the possibility of implicit trade diversion, small trade diversion may outweigh large trade creation in real terms. There is weak evidence of anticipation of trade creation for exporting industries, which is quite predictable, because exports are influenced by trade creation or trade diversion through reciprocal effects. The fact that major exporting industries are mainly raw materials industries, which are mainly exported to non-member countries may also reduce the anticipation, since there is no enough

space for trade creation or trade diversion effects. In general, it can be concluded that the phenomenon of anticipation holds for the given industries.

The results of the dynamic model are consistent with the results of Magee (2008), Sun and Reed (2010) papers. The dynamic model in general supports the results of static model, but also adds important details to the evolution of anticipation along the period.

So it can be concluded, if anticipated effects will hold, that CUBRK will be trade creating and will positively influence the welfare of the member countries.

The obtained results should be relied on with awareness of the fact that the used model has certain limits, e.g. model can not reveal implicit trade diversion and trade creation, and that anticipated effects don't necessarily hold after the actual implementation of tariffs. In order to check whether anticipated effects hold, it is necessary to have several years of post-tariff implementation data. Moreover, increase in duration of this data will increase the reliability of results, since, according to Magee (2008), CU provided more severe impact in the long-term.

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Table 1: Description of variables

Variable	Description	Source
Trade_value	represents the value of import/export between a country reporter and a country partner at time t	World Bank database
GDP_reporter	represents the GDP for reporter country at time t	CEPII and WTO databases
GDP_partner	represents the GDP for partner country at time t	CEPII and WTO databases
Population_reporter	represents the population for reporter at time t	CEPII and WTO databases
Population_partner	represents the population for partner at time t	CEPII and WTO databases
Distance	denotes the distance between the two countries	CEPII database
CU_both	dummy variable, which equals 1 if both countries are members of the Customs Union, equals 0 otherwise	Constructed by the author
CU_reporter	dummy variable, which equals 1 if a country reporter is a member of the Customs Union, 0 otherwise	Constructed by the author
CU_total	dummy variable, which equals 1 if a reporter country or both countries are members of the CUBRK, 0 otherwise	Constructed by the author
WTO_reporter	dummy variable, which equals 1 if country reporter is member of the World Trade Organization, 0 otherwise.	CEPII and WTO databases

Table 1: Description of variables - Continued

Variable	Description	Source
WTO_partner	dummy variable, which equals 1 if country partner is member of the World Trade Organization, 0 otherwise.	CEPII and WTO databases
RTA	dummy variable, which equals 1 if both countries reporter and partner are members of the regional trade agreements other than given Customs Union, equals 0 otherwise	CEPII and WTO databases
Comlang	dummy variable, which equals 1 if countries official language is the same, 0 otherwise	CEPII database
Contiguity	dummy variable, which equals 1 if countries have common border, 0 otherwise	CEPII database
Colony	dummy variable, which equals 1 if countries have colonial ties between each other, 0 otherwise	CEPII database

Table 2: Chosen industries

Imports	Exports
17-sugars & sugar confectionery	10-cereals
30-pharmaceutical products	27-mineral fuels, oils, waxes & bituminous sub
61-articles of apparel & clothing accessories-knitted or crocheted	31-fertilizers
73-articles of iron or steel	72-iron & steel
84-nuclear reactors, boilers, machinery & mechanical appliances, computers	74-copper & articles thereof
85-electrical machinery & equip. & parts, telecommunications equip., sound recorders, television recorders	76-aluminum and articles thereof
87-vehicles other than railway or tramway rolling stock	

Table 3: Descriptive statistics for imports

Variable	Obs	Mean	Std. Dev.	Min	Max
Trade_value(in thnd of $)	567360	5791	87796	0	12600000
GDP_partner(in mln of $)	533952	224000	984000	12,3	14600000
Population_partner(in mln of ppl)	567360	31,7	122	0,009	1340
GDP_reporter(in mln of $)	567360	70500	178000	861	1660000
Population_reporter(in mln of ppl)	567360	15,2	29,2	1,34	148
Distance (km-pop wght)	567360	6427	3997	168	18193

Table 4: Descriptive statistics for exports

Variable	Obs	Mean	Std, Dev,	Min	Max
Trade_value(in thnd of $)	496440	6063	185220	0	47400000
GDP_partner(in mln of $)	467208	224000	984000	12,3	14600000
Population_partner(in mln of ppl)	496440	31,7	122	0,009	1340
GDP_reporter(in mln of $)	496440	70500	178000	861	1660000
Population_reporter(in mln of ppl)	496440	15,2	29,2	1,34	148
Distance (km-pop wght)	496440	6427	3997	168	18193

Table 5: Static results for imports

Industry	Imports from non-members	Imports from members	Total effect
17	37,9% reduction in imports from non-members	46,9% reduction in imports from members	No anticipation effect observed. Total reduction in imports is 38,3%
30	19,1% increase in imports from non-members	47,9% increase in imports from members	Anticipation effect. There is 47,9% trade creation in terms of imports. Total increase in imports is 19,3%
61	80,5% increase in imports from non-members	72,8% increase in imports from members	Anticipation effect. There is 72,8% trade creation in terms of imports. There is total 80,5% increase in imports
73	45,9% increase in imports from non-members	3,8% reduction in imports from members	No anticipation effect. There is total 38,2% increase in imports
84	23,1% increase in imports from non-members	44,8% increase in imports from members	Anticipation effect. There is 45% trade creation in terms of imports. There is total 23,8% increase in imports

Table 5: Static results for imports - Continued

Industry	Imports from non-members	Imports from members	Total effect
85	7,6% reduction in imports from non-members	120,8% increase in imports from members	Anticipation effect. 7,6% trade diversion in terms of imports. There is total trade diversion.
87	46,3% increase in imports from non-members	67,2% reduction in imports from members	No anticipation effect. Total 42,8% increase in imports.

Table 6: Static results for exports

Industry	Exports to non-members	Exports to members	Total effect
10	29,1% increase in exports to non-members	102,6% reduction in exports to members	No anticipation effect. Total increase in exports is 25,1%
27	18,4% reduction in exports to non-members	165,4% reduction in exports to members	No anticipation effect. Total reduction in imports is 22,9%
31	55,4% increase in exports to non-members	119,7% reduction in exports to members	No anticipation effect. There is total 52,9% increase in exports
72	19,5% reduction in exports to non-members	21,2% reduction in exports to members	No anticipation effect. There is total 19,6% reduction in imports
74	28,5% increase in exports to non-members	12,3% increase in exports to members	Anticipation effect. There is 12,3% trade creation in terms of exports. There is total 28,2% increase in exports
76	56,4% reduction in exports to non-members	63,7% reduction in exports to members	No anticipation effect. There is 56,6% total reduction in exports.

Table 7: Dynamic results for imports

Industry	Results
17-sugars & sugar confectionery	Weak evidence of anticipation of trade diversion in 2007. Accelerating reduction in imports for 2008-2009.
30-pharmaceutical products	Volatility in anticipation of trade creation effects over the whole period. Gradual increase in total imports in 2009-2010
61-articles of apparel & clothing accessories-knitted or crocheted	Reduction in anticipation of trade creation in 2008 and gradual increase in 2009-2010. Gradual increase in imports over the whole period.
73-articles of iron & steel	Evidence of anticipation of trade creation in 2008-2009 years. Increase in exports over the whole period
84-nuclear reactors, boilers, machinery & mechanical appliances, computers	Anticipation of trade creation in 2007-2009. Increase in total imports over the whole period.
85-electrical machinery & equip. & parts, telecommunications equip., sound recorders, television recorders	Evidence of anticipation trade diversion in 2008-2010.
87-vehicles other than railway or tramway rolling stock	No evidence of anticipation. Increase in total imports over the whole period

Table 8: Dynamic results for exports

Industry	Results
10-cereals	No anticipation over the whole period. Decrease in exports in 2009-2010
27-mineral fuels, oils, waxes & bituminous sub	No evidence of anticipation. Decrease in total exports in 2008-2010
31-fertilizers	No anticipation. Gradual increase in total exports over the whole period.
72-iron & steel	Small evidence of anticipation of trade diversion in 2007. Reduction in exports over the whole period
74-copper & articles thereof	Accelerating anticipation of trade creation in 2008-2009. Increase in exports over the whole period.
76-aluminum and articles thereof	No evidence of anticipation. Decrease in exports over the whole period

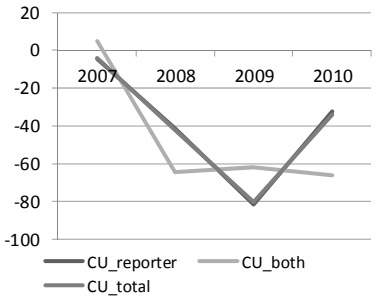

Figure 1
I17-sugars & sugar confectionery

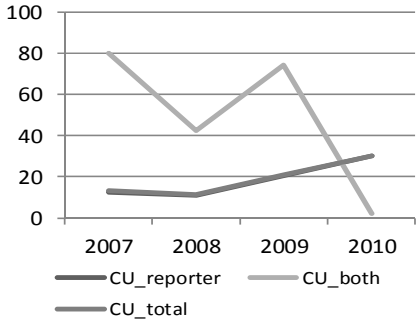

Figure 2
I30-pharmaceutical products

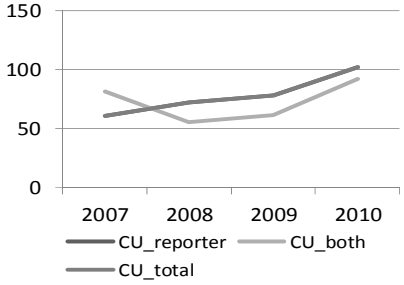

Figure 3
I61-articles of apparel & clothing accessories-knitted or crocheted

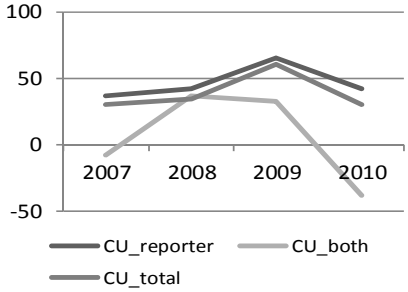

Figure 4
I73- articles of iron & steel

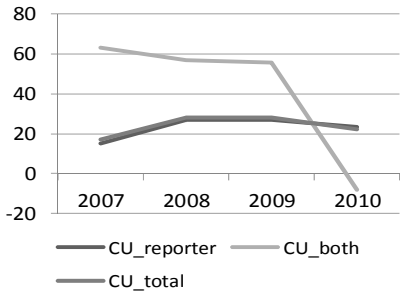

Figure 5
I84-nuclear reactors, boilers, machinery & mechanical appliances, computers

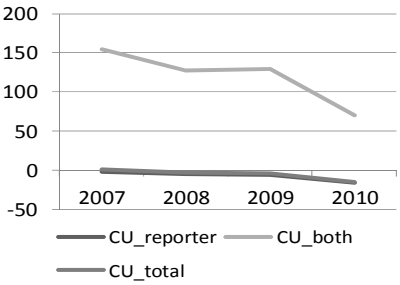

Figure 6
I85-electrical machinery & equip. & parts, telecommunications equip., sound recorders, television recorders

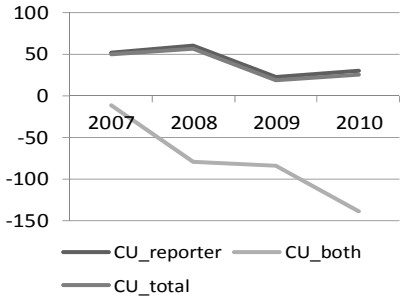

Figure 7
I87-vehicles other than railway or tramway rolling stock

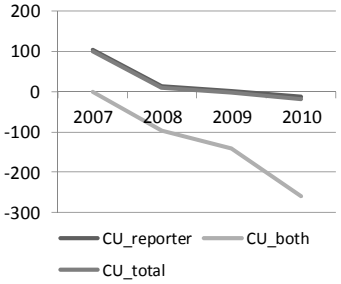

Figure 8
E10-cereals

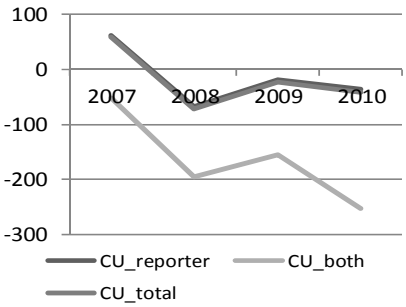

Figure 9
E27-mineral fuels, oils, waxes & bituminous sub

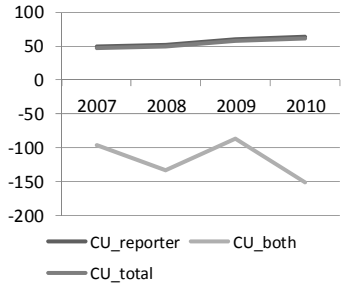

Figure 10
E31-fertilizers

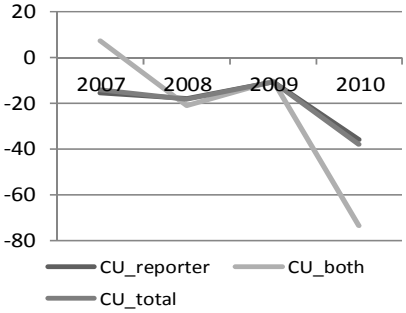

Figure 11
E72-iron & steel

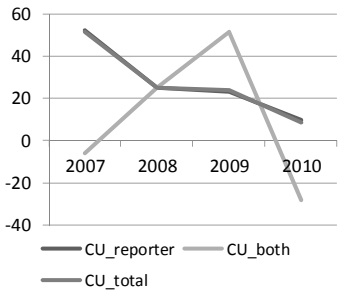

Figure 12
E74-copper & articles thereof

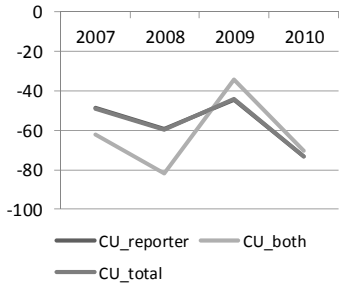

Figure 13
E76-aluminum and articles thereof

APPENDIX

The following tables represent the estimation results of the models in STATA.

Table A1: Static effects for importing industries (separate changes)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	poisson	OLS	poisson	OLS	poisson	OLS	poisson
VARIABLES	17	17	30	30	61	61	73	73
LNGDP_reporter	0.197***	0.388***	0.171***	0.665***	1.105***	0.781***	0.783***	0.643***
	(0.0350)	(0.000311)	(0.0239)	(0.000153)	(0.0241)	(0.000283)	(0.0246)	(0.000152)
LNGDP_partner	0.115***	0.319***	1.042***	0.976***	0.377***	0.233***	1.307***	0.701***
	(0.0251)	(0.000121)	(0.0176)	(8.73e-05)	(0.0141)	(0.000123)	(0.0153)	(7.68e-05)
LNPopulation_reporter	0.351***	0.392***	0.694***	0.319***	-0.385***	-0.000816***	-0.0227	0.0822***
	(0.0421)	(0.000379)	(0.0298)	(0.000164)	(0.0281)	(0.000305)	(0.0290)	(0.000168)
LNPopulation_partner	0.420***	0.283***	-0.271***	-0.198***	0.526***	0.864***	-0.150***	0.386***
	(0.0305)	(0.000155)	(0.0205)	(9.70e-05)	(0.0167)	(0.000151)	(0.0182)	(9.28e-05)
LNDistance	-0.673***	0.324***	-1.602***	-1.391***	-1.098***	-1.068***	-1.681***	-1.337***
	(0.0370)	(0.000280)	(0.0260)	(0.000138)	(0.0240)	(0.000288)	(0.0255)	(0.000158)
RTA	1.333***	1.953***	0.700***	0.122***	0.632***	0.328***	0.613***	1.010***
	(0.0695)	(0.000603)	(0.0523)	(0.000279)	(0.0515)	(0.000553)	(0.0522)	(0.000256)
WTO_reporter	-0.481***	-0.987***	-0.300***	-0.0954***	0.668***	1.136***	-0.320***	-0.785***
	(0.0766)	(0.000577)	(0.0502)	(0.000290)	(0.0520)	(0.000651)	(0.0522)	(0.000288)
WTO_partner	1.091***	1.199***	0.600***	1.072***	0.613***	1.252***	-0.162**	-0.213***
	(0.0906)	(0.000743)	(0.0755)	(0.000587)	(0.0603)	(0.000757)	(0.0671)	(0.000292)
Contiguity	1.253***	1.494***	-0.270***	-0.405***	0.998***	0.578***	1.710***	0.567***
	(0.0947)	(0.000551)	(0.0776)	(0.000253)	(0.0797)	(0.000431)	(0.0587)	(0.000216)
Colony	0.798***	-0.517***	0.192*	-0.407***	0.639***	-0.774***	0.761***	0.124***
	(0.117)	(0.000818)	(0.107)	(0.000348)	(0.105)	(0.000750)	(0.0879)	(0.000235)
Comlang	0.909***	0.485***	-0.0839	0.969***	-0.126	0.351***	1.552***	0.770***
	(0.202)	(0.00138)	(0.230)	(0.00161)	(0.209)	(0.00282)	(0.133)	(0.000526)

Table A1: Static effects for importing industries (separate changes)-Continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	poisson	OLS	poisson	OLS	poisson	OLS	poisson
VARIABLES	17	17	30	30	61	61	73	73
CU_reporter	-0.0754	-0.379***	0.386***	0.191***	0.641***	0.805***	0.0277	0.459***
	(0.153)	(0.000679)	(0.109)	(0.000291)	(0.0972)	(0.000731)	(0.110)	(0.000313)
CU_both	1.458***	-0.469***	-0.175	0.479***	0.410	0.728***	0.782	-0.0381***
	(0.564)	(0.00213)	(0.791)	(0.00206)	(0.641)	(0.00477)	(0.483)	(0.000614)
Observations	11,619	66,744	15,624	66,744	20,529	66,744	19,336	66,744
R-squared	0.249		0.502		0.446		0.593	

Table A1: Static effects for importing industries (separate changes)-Continued

VARIABLES	(1) OLS 17	(2) poisson 17	(3) OLS 30	(4) poisson 30	(5) OLS 61	(6) poisson 61
LNGDP_reporter	0.511***	0.922***	0.693***	1.274***	0.664***	0.815***
	(0.0197)	(7.18e-05)	(0.0212)	(8.19e-05)	(0.0256)	(9.23e-05)
LNGDP_partner	1.460***	0.890***	1.447***	0.686***	1.283***	1.058***
	(0.0123)	(3.38e-05)	(0.0126)	(3.09e-05)	(0.0164)	(4.94e-05)
LNPopulation_reporter	0.231***	-0.0543***	0.0152	-0.436***	0.0806**	0.0433***
	(0.0248)	(7.60e-05)	(0.0262)	(8.15e-05)	(0.0313)	(9.85e-05)
LNPopulation_partner	-0.362***	0.230***	-0.378***	0.267***	0.00276	0.0697***
	(0.0149)	(3.89e-05)	(0.0158)	(3.68e-05)	(0.0191)	(5.55e-05)
LNDistance	-1.126***	-1.120***	-1.039***	-0.754***	-1.336***	-1.186***
	(0.0216)	(6.53e-05)	(0.0233)	(6.77e-05)	(0.0277)	(8.37e-05)
RTA	1.053***	0.127***	1.264***	-0.157***	1.126***	0.666***
	(0.0440)	(0.000122)	(0.0482)	(0.000133)	(0.0555)	(0.000160)
WTO_reporter	-0.168***	-0.00908***	0.184***	0.650***	-0.220***	-0.365***
	(0.0439)	(0.000128)	(0.0477)	(0.000149)	(0.0557)	(0.000171)
WTO_partner	0.150***	0.337***	0.632***	1.425***	-0.398***	-0.00631***
	(0.0539)	(0.000171)	(0.0573)	(0.000233)	(0.0700)	(0.000228)
Contiguity	1.548***	0.242***	1.749***	0.723***	1.194***	0.121***
	(0.0530)	(0.000105)	(0.0634)	(0.000114)	(0.0723)	(0.000134)
Colony	0.880***	0.126***	0.874***	-0.238***	0.998***	-0.00981***
	(0.0778)	(0.000126)	(0.104)	(0.000153)	(0.104)	(0.000159)
Comlang	0.808***	0.781***	1.170***	0.884***	0.386**	0.912***
	(0.123)	(0.000516)	(0.160)	(0.000792)	(0.188)	(0.000611)

Table A1: Static effects for importing industries (separate changes)-Continued

VARIABLES	(9) OLS 84	(10) poisson 84	(11) OLS 85	(12) poisson 85	(13) OLS 87	(14) poisson 87
CU_reporter	0.312***	0.231***	0.168	-0.0766***	-0.217*	0.463***
	(0.101)	(0.000138)	(0.108)	(0.000169)	(0.125)	(0.000170)
CU_both	0.918**	0.448***	0.746*	1.208***	-0.167	-0.672***
	(0.453)	(0.000550)	(0.452)	(0.000859)	(0.658)	(0.000757)
Observations	24,932	66,744	25,550	66,744	18,541	66,744
R-squared	0.617		0.589		0.563	

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table A2: Static effects for importing industries (total changes)

	(1) OLS	(2) poisson	(3) OLS	(4) poisson	(5) OLS	(6) poisson	(7) OLS	(8) poisson
VARIABLES	17	17	30	30	61	61	73	73
CU_total	-0.0292	-0.383***	0.371***	0.193***	0.637***	0.805***	0.0420	0.382***
	(0.151)	(0.000672)	(0.109)	(0.000291)	(0.0967)	(0.000730)	(0.109)	(0.000299)
Observations	11,619	66,744	15,624	66,744	20,529	66,744	19,336	66,744
R-squared	0.249		0.502		0.446		0.593	

Table A2: Static effects for importing industries (total changes)-Continued

	(9) OLS	(10) poisson	(11) OLS	(12) poisson	(13) OLS	(14) poisson
VARIABLES	84	84	85	85	87	87
CU_total	0.322***	0.238***	0.178*	-0.0556***	-0.216*	0.428***
	(0.1000)	(0.000137)	(0.107)	(0.000168)	(0.124)	(0.000168)
Observations	24,932	66,744	25,550	66,744	18,541	66,744
R-squared	0.617		0.589		0.563	

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table A3: Static effects for exporting industries (separate changes)

VARIABLES	(1) OLS 10	(2) poisson 10	(3) OLS 27	(4) poisson 27	(5) OLS 31	(6) poisson 31
LNGDP_reporter	0.0526	0.0177***	0.279***	1.272***	-0.603***	0.331***
	(0.0647)	(0.000206)	(0.0418)	(7.22e-05)	(0.0638)	(0.000216)
LNGDP_partner	-0.140***	0.136***	0.524***	0.798***	0.224***	0.334***
	(0.0334)	(9.56e-05)	(0.0211)	(2.32e-05)	(0.0264)	(7.39e-05)
LNPopulation_reporter	0.911***	1.050***	0.577***	-0.374***	1.066***	0.510***
	(0.0720)	(0.000264)	(0.0428)	(8.28e-05)	(0.0677)	(0.000268)
LNPopulation_partner	0.662***	0.474***	-0.215***	-0.149***	0.381***	0.489***
	(0.0421)	(0.000123)	(0.0245)	(2.55e-05)	(0.0384)	(8.88e-05)
LNDistance	-1.277***	-1.427***	-1.033***	-1.322***	-0.252***	-0.502***
	(0.0576)	(0.000224)	(0.0344)	(4.64e-05)	(0.0457)	(0.000182)
RTA	0.434***	0.273***	0.191***	-0.0983***	0.0860	0.632***
	(0.102)	(0.000364)	(0.0673)	(0.000114)	(0.0940)	(0.000408)
WTO_reporter	-0.979***	-0.106***	-1.494***	-3.461***	-1.096***	-1.000***
	(0.121)	(0.000417)	(0.0779)	(0.000146)	(0.0969)	(0.000398)
WTO_partner	-0.132	-0.340***	0.292***	0.283***	1.296***	0.956***
	(0.108)	(0.000323)	(0.0683)	(0.000109)	(0.105)	(0.000441)
Contiguity	0.0524	-0.246***	2.768***	0.593***	1.452***	0.683***
	(0.131)	(0.000380)	(0.0870)	(7.03e-05)	(0.109)	(0.000301)
Colony	-0.879***	-0.265***	0.905***	0.0656***	0.378**	0.268***
	(0.163)	(0.000527)	(0.124)	(9.55e-05)	(0.165)	(0.000472)
Comlang	-0.365	1.050***	1.559***	1.334***	-0.981**	-0.0309***
	(0.296)	(0.000808)	(0.208)	(0.000207)	(0.387)	(0.00135)

Table A3: Static effects for exporting industries (separate changes)-Continued

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	poisson	OLS	poisson	OLS	poisson
VARIABLES	10	10	27	27	31	31
CU_reporter	0.591***	0.291***	0.785***	-0.184***	1.189***	0.554***
	(0.202)	(0.000479)	(0.175)	(0.000108)	(0.139)	(0.000411)
CU_both	0.809	-1.026***	-0.538	-1.654***	0.594	-1.197***
	(0.574)	(0.00185)	(0.332)	(0.000309)	(0.629)	(0.00243)
Observations	6,630	66,744	15,611	66,744	7,546	66,744
R-squared	0.262		0.357		0.269	

Table A3: Static effects for exporting industries (separate changes)-Continued

VARIABLES	(7) OLS 72	(8) poisson 72	(9) OLS 74	(10) poisson 74	(11) OLS 76	(12) poisson 76
LNGDP_reporter	0.151***	0.0951***	-0.101**	0.319***	0.960***	1.311***
	(0.0323)	(8.72e-05)	(0.0505)	(0.000211)	(0.0379)	(0.000239)
LNGDP_partner	0.511***	0.444***	0.716***	0.836***	0.844***	1.137***
	(0.0156)	(3.96e-05)	(0.0255)	(0.000105)	(0.0188)	(0.000110)
LNPopulation_reporter	0.908***	1.057***	1.077***	0.669***	0.0542	-0.176***
	(0.0349)	(0.000112)	(0.0543)	(0.000250)	(0.0396)	(0.000251)
LNPopulation_partner	0.169***	0.412***	0.0660**	0.0837***	-0.0843***	-0.204***
	(0.0192)	(4.79e-05)	(0.0317)	(0.000118)	(0.0228)	(0.000120)
LNDistance	-1.031***	-1.502***	-1.560***	-1.224***	-1.542***	-1.125***
	(0.0286)	(9.21e-05)	(0.0437)	(0.000202)	(0.0320)	(0.000179)
RTA	0.450***	0.0256***	-0.220***	0.145***	0.437***	0.628***
	(0.0571)	(0.000153)	(0.0794)	(0.000399)	(0.0592)	(0.000382)
WTO_reporter	-0.771***	-0.536***	0.908***	-0.525***	0.0411	-1.631***
	(0.0613)	(0.000163)	(0.101)	(0.000395)	(0.0767)	(0.000396)
WTO_partner	0.383***	-0.211***	0.484***	1.060***	0.0880	-0.188***
	(0.0604)	(0.000146)	(0.0909)	(0.000615)	(0.0676)	(0.000479)
Contiguity	1.310***	0.151***	1.325***	0.774***	1.348***	0.678***
	(0.0747)	(0.000138)	(0.105)	(0.000306)	(0.0745)	(0.000273)
Colony	0.322***	0.135***	1.348***	0.122***	0.624***	-0.615***
	(0.107)	(0.000179)	(0.144)	(0.000362)	(0.108)	(0.000367)
Comlang	-0.460**	0.465***	0.637**	0.542***	0.566***	0.300***
	(0.193)	(0.000401)	(0.303)	(0.00143)	(0.190)	(0.00130)

Table A3: Static effects for exporting industries (separate changes)-Continued

	(7)	(8)	(9)	(10)	(11)	(12)
	OLS	poisson	OLS	poisson	OLS	poisson
VARIABLES	72	72	74	74	76	76
CU_reporter	0.000338	-0.195***	-0.520***	0.285***	-0.335**	-0.564***
	(0.118)	(0.000185)	(0.189)	(0.000392)	(0.161)	(0.000352)
CU_both	0.987*	-0.212***	1.889***	0.123***	1.792***	-0.637***
	(0.520)	(0.000508)	(0.332)	(0.00172)	(0.355)	(0.00143)
Observations	16,360	66,744	9,923	66,744	13,340	66,744
R-squared	0.412		0.390		0.480	

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table A4: Static effects for exporting industries (total changes)

	(1) OLS	(2) poisson	(3) OLS	(4) poisson	(5) OLS	(6) poisson
VARIABLES	10	10	27	27	31	31
CU_total	0.600***	0.251***	0.755***	-0.229***	1.179***	0.529***
	(0.199)	(0.000479)	(0.172)	(0.000107)	(0.139)	(0.000411)
Observations	6,630	66,744	15,611	66,744	7,546	66,744
R-squared	0.262		0.357		0.269	

Table A4: Static effects for exporting industries (total changes)-Continued

	(7) OLS	(8) poisson	(9) OLS	(10) poisson	(11) OLS	(12) poisson
VARIABLES	72	72	74	74	76	76
CU_total	0.0219	-0.196***	-0.446**	0.282***	-0.271*	-0.566***
	(0.117)	(0.000183)	(0.186)	(0.000391)	(0.158)	(0.000350)
Observations	16,360	66,744	9,923	66,744	13,340	66,744
R-squared	0.412		0.389		0.479	

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table A5: Dynamic effects for importing industries (separate changes)

VARIABLES	(1) OLS 17	(2) poisson 17	(3) OLS 30	(4) poisson 30	(5) OLS 61	(6) poisson 61	(7) OLS 73	(8) poisson 73
CU_reporter2007	-0.0311	-0.0451***	0.276	0.126***	0.578***	0.606***	0.116	0.369***
	(0.278)	(0.00115)	(0.211)	(0.000479)	(0.174)	(0.00118)	(0.201)	(0.000483)
CU_reporter2008	-0.164	-0.413***	0.349*	0.110***	0.708***	0.720***	-0.190	0.419***
	(0.269)	(0.00112)	(0.197)	(0.000437)	(0.175)	(0.00103)	(0.208)	(0.000446)
CU_reporter2009	-0.0919	-0.815***	0.442**	0.204***	0.716***	0.782***	0.238	0.655***
	(0.268)	(0.00127)	(0.196)	(0.000442)	(0.170)	(0.00106)	(0.204)	(0.000501)
CU_reporter2010	-0.0128	-0.325***	0.477**	0.303***	0.560***	1.022***	-0.0520	0.421***
	(0.295)	(0.00105)	(0.206)	(0.000418)	(0.181)	(0.000958)	(0.203)	(0.000500)
CU_both2007	1.485*	0.0502***	-0.0266	0.798***	0.342	0.811***	0.806	-0.0802***
	(0.821)	(0.00348)	(1.347)	(0.00346)	(1.430)	(0.00945)	(1.021)	(0.00103)
CU_both2008	1.209	-0.646***	-0.332	0.425***	0.582	0.557***	0.711	-0.0370***
	(1.109)	(0.00400)	(1.397)	(0.00333)	(1.129)	(0.00913)	(0.991)	(0.000886)
CU_both2009	1.413	-0.620***	-0.623	0.740***	0.744	0.614***	1.171	0.326***
	(1.105)	(0.00414)	(1.958)	(0.00322)	(1.119)	(0.00975)	(0.901)	(0.000981)
CU_both2010	1.793	-0.662***	0.399	0.0223***	-0.0288	0.922***	0.437	-0.384***
	(1.298)	(0.00378)	(1.242)	(0.00377)	(1.298)	(0.00756)	(0.856)	(0.00113)
Observations	11,619	66,744	15,624	66,744	20,529	66,744	19,336	66,744
R-squared	0.249		0.502		0.446		0.593	

Table A5: Dynamic effects for importing industries (separate changes)-Continued

	(9)	(10)	(11)	(12)	(13)	(14)
	OLS	poisson	OLS	poisson	OLS	poisson
VARIABLES	84	84	85	85	87	87
CU_reporter2007	0.363**	0.152***	0.352*	-0.0210***	0.149	0.517***
	(0.183)	(0.000212)	(0.195)	(0.000260)	(0.232)	(0.000235)
CU_reporter2008	0.182	0.270***	0.121	-0.0521***	-0.181	0.602***
	(0.193)	(0.000195)	(0.200)	(0.000244)	(0.232)	(0.000220)
CU_reporter2009	0.437**	0.269***	-0.0892	-0.0610***	-0.321	0.222***
	(0.188)	(0.000229)	(0.202)	(0.000275)	(0.230)	(0.000317)
CU_reporter2010	0.268	0.233***	0.300	-0.163***	-0.513**	0.295***
	(0.187)	(0.000215)	(0.203)	(0.000248)	(0.231)	(0.000282)
CU_both2007	1.159	0.632***	1.317	1.541***	0.657	-0.115***
	(0.839)	(0.000805)	(0.886)	(0.00119)	(1.304)	(0.00101)
CU_both2008	0.988	0.568***	0.903	1.275***	0.0623	-0.797***
	(0.800)	(0.000733)	(0.793)	(0.00117)	(1.184)	(0.00114)
CU_both2009	1.087	0.557***	0.572	1.295***	-0.408	-0.838***
	(0.889)	(0.000915)	(0.887)	(0.00135)	(1.251)	(0.00173)
CU_both2010	0.435	-0.0802***	0.192	0.705***	-0.991	-1.385***
	(0.997)	(0.00101)	(0.912)	(0.00138)	(1.327)	(0.00177)
Observations	24,932	66,744	25,550	66,744	18,541	66,744
R-squared	0.617		0.589		0.563	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A6: Dynamic effects for importing industries (total changes)

VARIABLES	(1) OLS 17	(2) poisson 17	(3) OLS 30	(4) poisson 30	(5) OLS 61	(6) poisson 61	(7) OLS 73	(8) poisson 73
CU_total2007	0.0171	-0.0395***	0.268	0.132***	0.575***	0.608***	0.130	0.304***
	(0.273)	(0.00114)	(0.209)	(0.000477)	(0.174)	(0.00117)	(0.199)	(0.000459)
CU_total2008	-0.121	-0.424***	0.331*	0.112***	0.706***	0.719***	-0.174	0.346***
	(0.266)	(0.00111)	(0.196)	(0.000436)	(0.174)	(0.00103)	(0.206)	(0.000423)
CU_total2009	-0.0438	-0.804***	0.414**	0.208***	0.716***	0.781***	0.255	0.604***
	(0.265)	(0.00125)	(0.199)	(0.000440)	(0.169)	(0.00106)	(0.201)	(0.000476)
CU_total2010	0.0328	-0.339***	0.475**	0.301***	0.551***	1.021***	-0.0426	0.303***
	(0.291)	(0.00104)	(0.204)	(0.000417)	(0.180)	(0.000956)	(0.200)	(0.000480)
Observations	11,619	66,744	15,624	66,744	20,529	66,744	19,336	66,744
R-squared	0.249		0.502		0.446		0.593	

Table A6: Dynamic effects for importing industries (total changes)-Continued.

	(9)	(10)	(11)	(12)	(13)	(14)
	OLS	poisson	OLS	poisson	OLS	poisson
VARIABLES	84	84	85	85	87	87
CU_total2007	0.376**	0.171***	0.368*	0.0105***	0.160	0.496***
	(0.181)	(0.000209)	(0.193)	(0.000257)	(0.230)	(0.000233)
CU_total2008	0.195	0.281***	0.134	-0.0293***	-0.176	0.559***
	(0.191)	(0.000193)	(0.197)	(0.000241)	(0.229)	(0.000219)
CU_total2009	0.448**	0.279***	-0.0787	-0.0383***	-0.323	0.190***
	(0.186)	(0.000227)	(0.200)	(0.000272)	(0.227)	(0.000315)
CU_total2010	0.271	0.222***	0.298	-0.154***	-0.523**	0.248***
	(0.185)	(0.000214)	(0.200)	(0.000246)	(0.228)	(0.000280)
Observations	24,932	66,744	25,550	66,744	18,541	66,744
R-squared	0.617		0.589		0.563	

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table A7: Dynamic effects for exporting industries (separate changes)

VARIABLES	(1) OLS 10	(2) poisson 10	(3) OLS 27	(4) poisson 27	(5) OLS 31	(6) poisson 31
CU_reporter2007	1.811***	1.033***	0.694**	0.616***	1.615***	0.500***
	(0.326)	(0.000735)	(0.333)	(0.000203)	(0.242)	(0.000671)
CU_reporter2008	0.577	0.143***	0.697**	-0.676***	1.397***	0.517***
	(0.351)	(0.000688)	(0.316)	(0.000148)	(0.245)	(0.000553)
CU_reporter2009	0.165	0.0264***	0.699**	-0.188***	0.806***	0.602***
	(0.357)	(0.000714)	(0.334)	(0.000192)	(0.246)	(0.000754)
CU_reporter2010	-0.411	-0.131***	1.053***	-0.363***	0.975***	0.641***
	(0.374)	(0.000792)	(0.309)	(0.000170)	(0.234)	(0.000682)
CU_both2007	2.420*	0.000323	-0.0173	-0.519***	0.228	-0.963***
	(1.246)	(0.00281)	(0.513)	(0.000534)	(1.425)	(0.00467)
CU_both2008	1.337	-0.965***	-0.336	-1.954***	1.347**	-1.326***
	(0.977)	(0.00299)	(0.636)	(0.000455)	(0.659)	(0.00389)
CU_both2009	0.662	-1.415***	-0.921**	-1.549***	0.667	-0.869***
	(0.814)	(0.00381)	(0.393)	(0.000595)	(1.656)	(0.00487)
CU_both2010	-0.876	-2.596***	-0.719	-2.528***	0.155	-1.508***
	(0.746)	(0.00697)	(0.746)	(0.000670)	(0.925)	(0.00562)
Observations	6,630	66,744	15,611	66,744	7,546	66,744
R-squared	0.265		0.357		0.270	

Table A7: Dynamic effects for exporting industries (separate changes)-Continued

VARIABLES	(7) OLS 72	(8) poisson 72	(9) OLS 74	(10) poisson 74	(11) OLS 76	(12) poisson 76
CU_reporter2007	0.148	-0.156***	-0.777**	0.523***	-0.241	-0.487***
	(0.196)	(0.000282)	(0.343)	(0.000585)	(0.276)	(0.000535)
CU_reporter2008	-0.0943	-0.180***	-0.330	0.251***	-0.428	-0.591***
	(0.237)	(0.000262)	(0.358)	(0.000604)	(0.297)	(0.000532)
CU_reporter2009	-0.0696	-0.107***	-0.616*	0.232***	-0.105	-0.446***
	(0.225)	(0.000346)	(0.338)	(0.000675)	(0.286)	(0.000620)
CU_reporter2010	0.0111	-0.358***	-0.327	0.0951***	-0.574*	-0.733***
	(0.212)	(0.000320)	(0.358)	(0.000591)	(0.321)	(0.000577)
CU_both2007	1.359	0.0736***	1.760***	-0.0598***	1.300*	-0.621***
	(0.989)	(0.000801)	(0.266)	(0.00335)	(0.744)	(0.00249)
CU_both2008	1.111	-0.212***	1.413**	0.249***	1.693***	-0.818***
	(1.025)	(0.000753)	(0.636)	(0.00261)	(0.597)	(0.00231)
CU_both2009	0.984	-0.104***	2.395***	0.515***	2.160***	-0.342***
	(1.013)	(0.00103)	(0.624)	(0.00277)	(0.636)	(0.00249)
CU_both2010	0.486	-0.735***	1.878***	-0.282***	2.079***	-0.704***
	(0.935)	(0.00111)	(0.572)	(0.00300)	(0.647)	(0.00221)
Observations	16,360	66,744	9,923	66,744	13,340	66,744
R-squared	0.412		0.390		0.480	

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

Table A8: Dynamic effects for exporting industries (total changes)

	(1)	(2)	(3)	(4)	(7)	(8)
	OLS	poisson	OLS	poisson	OLS	poisson
VARIABLES	10	10	27	27	31	31
CU_total2007	1.831***	1.000***	0.679**	0.583***	1.588***	0.477***
	(0.322)	(0.000732)	(0.327)	(0.000203)	(0.242)	(0.000670)
CU_total2008	0.606*	0.106***	0.676**	-0.720***	1.396***	0.492***
	(0.344)	(0.000684)	(0.311)	(0.000148)	(0.243)	(0.000552)
CU_total2009	0.185	-0.0164***	0.660**	-0.231***	0.805***	0.579***
	(0.349)	(0.000712)	(0.327)	(0.000192)	(0.244)	(0.000753)
CU_total2010	-0.434	-0.189***	1.008***	-0.422***	0.962***	0.615***
	(0.363)	(0.000791)	(0.304)	(0.000170)	(0.232)	(0.000682)
Observations	6,630	66,744	15,611	66,744	7,546	66,744
R-squared	0.265		0.357		0.270	

Table A8: Dynamic effects for exporting industries (total changes)-Continued

	(9)	(10)	(11)	(12)	(13)	(14)
	OLS	poisson	OLS	poisson	OLS	poisson
VARIABLES	72	72	74	74	76	76
CU_total2007	0.174	-0.141***	-0.709**	0.513***	-0.193	-0.490***
	(0.194)	(0.000277)	(0.337)	(0.000583)	(0.271)	(0.000532)
CU_total2008	-0.0685	-0.182***	-0.283	0.251***	-0.362	-0.597***
	(0.234)	(0.000258)	(0.350)	(0.000600)	(0.291)	(0.000529)
CU_total2009	-0.0470	-0.107***	-0.516	0.240***	-0.0466	-0.442***
	(0.222)	(0.000340)	(0.332)	(0.000670)	(0.282)	(0.000615)
CU_total2010	0.0219	-0.379***	-0.248	0.0871***	-0.488	-0.732***
	(0.209)	(0.000316)	(0.349)	(0.000589)	(0.315)	(0.000572)
Observations	16,360	66,744	9,923	66,744	13,340	66,744
R-squared	0.412		0.389		0.479	

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1