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Abstract

This paper analyses the effects of monetary agreements on trade flows using a sample of 24 OECD countries over the period 1950-2004. The results show that these agreements have boosted intra-block trade and that the same occurs, although to a lower extent, in trade with outsiders. The biggest impact on intra-block trade is found for the Economic and Monetary Union (EMU), but the effect is important even for the European Payments Union and the European Monetary Snake. Taking into account welfare considerations with respect to non-members, rather than diverting trade, Bretton Woods and EMU significantly increase trade with outsiders.

Key words: Monetary agreements, trade creation, trade diversion, welfare effects.

JEL Classification numbers: F13, F15.

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1. Introduction

After the disastrous consequences of the discriminatory trade practices of the 1930s, policy makers thought that international monetary stability was an essential factor in order to promote trade flows. With this aim, the Bretton Woods (BW) system was created in 1944 as a mechanism to ensure international payments and exchange rates among national currencies enabling trade to take place between countries. Since then, there has been a special concern in Europe about the potential negative impact of exchange rates on international trade. As a result, in addition to the BW system, Western European countries have been involved in a variety of monetary arrangements (henceforth MAs). In particular, after the World War II and before BW became operational, European countries were forced to create the European Payments Union (EPU) trying to remove monetary obstacles to international trade derived from the inconvertibility of European currencies. The EPU was dissolved at the end of 1958 when the European currencies were declared convertible with the dollar and BW became operational. The collapse of the BW era led European countries to create the European Monetary Snake (Snake), a regional version of the BW system designed to limit intra-European exchange rate fluctuations. In 1979, the European Monetary System (EMS) was created as a reaction to the disorders that had followed the end of the BW system and by the inability to sustain the Snake arrangement. In this context, large exchange rate movements were viewed as a threat to the Common Market. The EMS played an important role in maintaining exchange rate stability, even though it could not avoid multiple realignments. The successive monetary crisis convinced politics of the necessity of a deeper monetary agreement as a way to continue with the economic integration in Europe. Finally, in 1999 Economic and Monetary Union (EMU) entered into force.

The steady steps followed by European countries in the last decades towards their monetary integration provide us a unique opportunity to analyze the effects of successive and more institutionally complex MAs on international trade. At one end of the spectrum we find those countries that joined the EPU as a substitute for their currencies' convertibility in the 1950's. At the other end of the spectrum we find the EMU, a pure currency union. In between there are two intermediary regimes with different degrees of economic integration: the Snake and the EMS.

Most of these agreements had among their aims the consecution of exchange rate stability as a way to foster trade. The empirical literature on the effect of exchange rate volatility on trade has not yielded conclusive results casting doubts on the effectiveness of MAs in the promotion of international trade.[1] But, to our knowledge, with the exception of the EMU, no research has been conducted that directly addresses the impact of these MAs on international trade.[2] This paper empirically investigates the effects on trade of various MAs, trying to determine whether they have encouraged trade in general or they have pushed the geographic source/destination of trade in the wrong direction (trade diversion).

Our analysis covers the period 1950-2004 and focuses on 24 OECD countries with a high level of trade integration and institutional homogeneity. All the countries in our sample are members for a long time of the two main international institutions, IMF and GATT / WTO, who look out for the best national and international practices for

[1] Although some studies show that the volatility of exchange rates negatively affects bilateral trade flows this effect is generally small and not always statistically significant. An exception to this evidence is the recent paper by Klein and Shambaugh (2004) who conclude that fixed exchange rates regimes show a large and significant effect on bilateral trade. For a literature review in this field, see European Commission (1998) and De Grauwe and Skudelny (2000).

[2] Specifically, the effect of the euro on trade has been analysed in several papers (see, Rose and van Wincoop, 2001; Bun and Klaassen, 2002; Micco, Stein and Ordoñez, 2003; De Nardis and Vicarelli, 2003; Faruqee, 2004; Baldwin, Skudelny, and Taglioni 2005). They find a positive effect that ranges between 2.6% and 140% depending on the sample of countries, the periods analysed and the methodology used.

freeing trade. Moreover, some of them have also promoted regional agreements among a number of countries belonging to a particular region.[3] In order to control for other influences on trade, such as the existence of regional trade agreements or exchange rate volatility, we have estimated a conventional gravity model. It allows us to determine the effect of MAs on trade, conditional to the role of other factors.

To preview our results we find, first, that all MAs analysed lead to substantially higher international trade. Second, MAs also promote trade with outsiders, and therefore increase foreign trade in aggregate. Finally, the consideration of welfare effects reveals that, in contrast with that is observed with regional trade agreements, the MAs have non-discriminatory effects with non-members.

2. Methodology

We are interested in estimating the effect of MAs on trade flows. To this end, we estimate a conventional gravity model of international trade. The gravity model of trade is considered as one of the most successful empirical frameworks in international economics. As it is well known, in its simplest formulation, the gravity model states that bilateral trade flows depend positively on the economic size of both countries and negatively on the distance between them. Usually, gravity equations used in the international trade literature include dummies that try to control for other factors influencing transaction costs. For example, either, a common language, a common border, or sharing membership in a regional trade agreement (RTA) reduces transaction cost, whereas either the insularity or the landlocked status of countries increases them. In particular, in addition to these variables, we augment the gravity specification with a

[3] A great number of studies have tried to investigate whether the regional agreements are trade creating or diverting. The empirical evidence shows that regional trading agreements have usually been trade creating, especially in a world of "open regionalism", in which the trade blocks have simultaneously promoted external liberalisation (Frankel, 1998, Frankel and Wei, 1998, Ghosh and Yamarik, 2004, and Rose, 2000).

measure of exchange rate volatility, and dummies for MAs with the aim of capturing effects not accounted for the above mentioned bilateral trade determinants. The MAs considered are: Bretton Woods, the European Payments Union, the European Monetary Snake, the European Monetary System, and the Economic and Monetary Union.

We estimate the following general equation:

$$\begin{aligned} Ln(X_{ijt}) = {} & \beta_0 + \beta_1 Ln(GDP_{it}) + \beta_2 Ln(GDP_{jt}) + \beta_3 Ln(DIST_{ij}) + \\ & \beta_4 Landlocked_{ij} + \beta_5 Contiguity_{ij} + \beta_6 Language_{ij} + \\ & \beta_7 Island_{ij} + \beta_8 Ln(VolTC_{ijt}) + \beta_9 RTAboth_{ijt} + \beta_{10} RTAone_{ijt} + \\ & \beta_{11} MAboth_{ijt} + \beta_{12} MAone_{ijt} + u_{ijt} \end{aligned} \quad (1)$$

where *i* and *j* denotes trading partners, *t* is time, the suffix "*both*" denotes that *i* and *j* belong to the same agreement, the suffix "*one*" denotes that either *i* or *j* is a member of a particular agreement, and the variables are defined as:

X_{ij} are the bilateral trade flows from *i* to *j*[4],

GDP denotes the Gross Domestic Product,

Dist denotes the distance between *i* and *j*,

Landlocked is the number of landlocked areas in the country-pair (0, 1, or 2),

Contiguity is a dummy variable equal to one when *i* and *j* share a land border,

Language is a dummy variable which is unity if *i* and *j* have a common language,

Island is the number of islands nations in the pair (0, 1, or 2),

VolTC is the monthly exchange rate volatility between the currencies of countries *i* and *j* in year *t*, defined as 1 plus the variance of the first difference on the monthly natural logarithm of the bilateral nominal exchange rate,

RTA denotes dummy variables for Regional Trade Agreements,[5]

MA denotes dummy variables for Monetary Agreements,

[4] Some authors treat the sum of two-way bilateral trade as the dependent variable (see, for example, Rose, 2004). However, all theories that underlie a gravity-like specification yield predictions on unidirectional trade rather than total trade. Hence, our specification is more closely grounded in theory.

[5] The regional trade agreements considered are CEE/CE/EU (EU in tables), EFTA and NAFTA.

u_{ijt} is the standard classical error term.

The parameters of interest to us are β_{11} and β_{12}. On the one hand, β_{11} measures the effect on international trade if both countries belong to a MA. On the other hand, β_{12} measures the trade impact if one country is a member of the MA and the other is not. If trade is created when both countries are members of a MA the coefficient β_{11} should be positive; if trade is diverted from non members, then β_{12} should be negative.

3. Data

The trade data for the dependent variable (exports and imports) come from the "Direction of Trade" (DoT) data set developed by the International Monetary Found (IMF). The sample covers bilateral merchandise trade between 24 OECD countries (Belgium and Luxembourg considered jointly) during the period 1950-2004. In particular, the countries considered in this study are: Australia, Austria, Belgium-Luxembourg, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States. Despite the fact that our sample focuses on developed countries some values are missing and, therefore, we have estimated unbalanced panels. The DoT data set provides bilateral trade on FOB exports and CIF imports in American dollars. We deflate trade by the American GDP deflator taken from the Bureau of Economic Analysis (US Department of Commerce).

The independent variables come from different sources. The GDPs in constant US dollars are taken from the World Development Indicators (World Bank). When the data were unavailable from this source, the Penn World Table (University of Pennsylvania) and the International Financial Statistics (IMF) were used. The distances (great-circle distances) as well as the dummy variables for language, island and landlocked status, and physically contiguous neighbours are taken from the Andrew

Rose web site (www.haas.berkeleyedu/arose).[6] Data on monthly exchange rates are taken from International Financial Statistics (IMF). We use data from the World Trade Organization in order to create the indicators of regional trade agreements, and from Gros and Thygesen (1992), Baldwin and Wyplosz (2004) and IMF web site to elaborate the indicators of MAs.

4. Empirical results

In order to address the effect of integration agreements on trade flows the traditional approach extends the basic gravity model by including dummy variables that capture the impact of each particular arrangement on intra-block trade. Therefore, we begin by estimating a version of equation (1) that does not consider trade diversion effects. We use conventional OLS with a full set of year-specific intercepts added.[7] Since pairs of countries are likely to be highly dependent across years, the standard errors reported are robust to clustering. Results are presented in column 1 of Table 1. The gravity equation fits the data well, explaining 80 percent of the variation in bilateral trade flows. Moreover, the estimated coefficients are, in general, economically and statistically significant with sensible interpretations: economically larger countries trade more and more distant countries trade less. With the exception of the *Contiguity* variable, all the coefficients are statistically significant at least at the 10 percent level, and only the *Island* coefficient is not intuitively signed. It is worth noting that column 1 reports strong evidence that a reduction in exchange rate volatility is associated with an increase in trade.

In order to evaluate the impact of MAs on trade, RTAs provides us an appropriate benchmark. As it is observed, both RTAs and MAs agreements have a

[6] We gratefully acknowledge to Andrew Rose for making his data public.
[7] In all the estimations we have included a dummy variable that takes the value of one for trade flows between Mexico and the rest of the countries in the sample from 1986 onwards in order to capture the Mexico unilateral trade liberalization that began in that year.

positive and statistically significant impact on bilateral trade flows. In particular, our estimates indicate that a pair of RTAs and MAs members trades about 44% and 27% more, respectively, than otherwise-identical pair including non-members.[8] However, the Wald test indicates that the estimated coefficients for *RTAboth* and *MAboth* are not statistically different.[9] Therefore, these results indicate that MAs have a positive and significant impact on intra-block trade. This result holds despite the fact that we control for exchange rate volatility in addition to all standard gravity controls.

In columns 2 and 3 we use panel data techniques. It allows us to control for unobservable country-pair individual effects. We report both random-effect and fixed-effect estimations. The random-effect model has the advantage of allowing the estimation of time-invariant variables and is more efficient when individual effects are not correlated with the regresors. However, if individual effects are correlated with the explanatory variables the random-effect estimates are not consistent. We mainly focus our comments on the fixed effect estimator which, as pointed out by Glick and Rose (2002), is the most appropriate way to exploit the panel data nature of the data set in a study of this kind. Nonetheless, before discussing the fixed-effect estimates, it is worth noting that the results for the parameters of interest are in most cases very similar for fixed-effect and random-effect estimations. In fact, the Hausman test does not reject the null hypothesis of no correlation between the individual effects and the explanatory variables in the majority of cases.

The fixed effect estimates for the variable of interest reported in column 3 are in accordance with those found using OLS. However, in this case, the estimated coefficients for *RTAboth* and *MAboth* are statistically different. In particular, the estimated coefficient of *RTAboth* increases from 0.362 to 0.421 whereas the estimated

[8] We calculate the effect of a trade or monetary agreement on trade as $\exp(\beta_x)-1$.
[9] The Wald test indicates that the estimated coefficients for *RTAboth* and *MAboth* are not statistically different. The value of this statistic is 1.23 with a marginal significance level equal to 0.269.

coefficient of *MAboth* is slightly lower than the OLS estimate. But, this specification does not take into account the possible existence of trade diversion. In order to capture the MAs effects on trade of block members with non-members, in columns 4 and 5, we add the corresponding dummies. According to these results, two comments are in order. First, RTAs have very small impact on trade with outsiders (non significant in the fixed effect case) while MAs strongly increase trade with non-members and, therefore, at this level of aggregation, we do not find evidence of trade diversion. Second, in comparison with column 3, the estimated coefficient of *MAboth* increases from 0.234 to 0.406. This result is consistent with our estimates for *MAone*. When we exclude the possibility that MAs stimulate trade with non-members the comparison is between intra-block trade flows and the rest of trade flows, including those between members and non-members of the same MAs.

Sharing a common currency is not the same as other MAs. For instance, a currency union is indeed a more ambitious, serious and durable commitment than an agreement to maintain exchange rates at a fixed level. Currency unions eliminate the transaction costs derived from the need to operate with different currencies in the situation before the formation of the monetary union. These costs are independent of the exchange rate volatility and can discourage trade even when bilateral exchange rates are completely stable. Moreover, a single currency can increase the transparency of markets and, in this way, promote a more efficient allocation of resources. As a result of these benefits, one can foresee a particularly important increase in trade amongst EMU partners. With the aim of checking whether the impact of the EMU has been different from the rest of MAs altogether, we have excluded EMU pairs from the group of monetary arrangements. Table 2 shows the results. The estimated coefficient for MAs excluding EMU (*MAnoEMUboth*) is equal to 0.218, a value slightly smaller than the

MAboth coefficient shown in Table 1. The variable *EMUboth* presents an estimated coefficient of 0.376, which according to the Wald test is statistically different from the coefficient of the *MAnoEMUboth*.[10] In particular, the impact of the EMU on trade is 46% whereas the average effect of the remaining MAs is 24%.

Columns 3 and 4 admit effects on trade with outsiders. Specifically, we add again dummy variables for country pairs consisting of one member of a particular political association and one non-member. All variables of interest appear with positive and significant coefficients. Comparing column 2 with 4, we see, in a similar way than in Table 1, that allowing for the agreement's impact on third nations actually increases our estimate of the intra-monetary agreements effect from 0.218 to 0.381 in the group that excludes the EMU and from 0.376 to 0.637 in the EMU case. Moreover, RTAs and both kinds of MAs do not produce any trade diversion, and, in fact, they increase trade with outsiders. The last result specially applies for the monetary agreements and, in particular, for the EMU which boosts trade with non-members by 32%. This evidence is not surprising. If some countries form a currency union, there are fewer currencies and fewer units of account in the world and, therefore, lower trade barriers for everyone.[11]

In Table 3 we analyse the impact on trade of each one of the MAs in the sample. For comparison purposes we also disaggregate the RTAs. To economise on space, we directly present the estimations including both the dummies capturing the impact on intra-block trade and on trade with third nations. Columns 1 and 2 report the estimations for the whole sample. All the estimated coefficients for the intra-block dummies are positive and highly statistically significant. In line with the results reported in Table 2 the monetary arrangement with the largest impact on trade is the EMU (59%).[12] In an

[10] The Wald statistic is 20.44 with a marginal significance level equal to 0.00.
[11] This is consistent with Mélitz's (2004) arguments about the fact that currency unions may not represent a discriminatory reduction of trade barriers at all.
[12] The impact of EMU is comparable to that of EU membership itself.

intermediate position we find the cases of EMS and the BW system, with an impact slightly above 30%, whereas the EPU and the Snake show the smallest ones (around 15%).[13] These results are consistent with the different degree of compromise of the MAs considered, that is, in general, the higher the degree of monetary integration the greater the impact on trade. With respect to the effect on trade with non-members it is worth noting that, the MAs have a bigger positive effect on trade with third countries than RTAs, and that the NAFTA has provoked a significant trade diversion effect.

Soloaga and Winters (2001) introduce in their model separate dummies for member's imports from non-members and their exports to non-members. These dummies measure the extent of import diversion and export diversion, respectively. Acting in this manner, they account for the welfare effects of Preferential Trade Agreements (PTA). In particular, a negative coefficient on the dummy representing a given PTA's exports to non-members indicates that the PTA is likely to be harmful for third countries. Following this line of research we have split the whole sample in exports and imports flows. Columns 3 to 6 report the corresponding estimates. Focusing on the case of exports the picture that emerges differs from the previous one. The NAFTA's negative coefficient doubles its value in this case and the EFTA coefficient changes its sign remaining statistically significant. It indicates in both cases a strong negative welfare effect for non-members. For the case of EPU and EMS the estimated coefficients lose the statistical significance at conventional levels. Therefore, the positive impact outlined before comes exclusively from imports. Only the EMU and BW show positive coefficients which are similar to those found for the whole sample, suggesting, as noted before, that MAs have positive welfare effects with respect to non members.

[13] The estimated coefficient of the dummy Snake is statistically significant at the 10 percent level in the random effect specification.

5. Conclusion

In this paper, we have analysed the interactions between monetary regimes and trade integration in an explicit and economically meaningful fashion using a sample of 24 OECD countries over the period 1950-2004. We show that the effect of joining a monetary arrangement go beyond the reduction of exchange rate volatility. Moreover, we find strong evidence that participation in a monetary regime is correlated with higher trade in addition to evidence that the intensity of monetary integration is associated with larger increases in trade. In particular, the results suggest that all five agreements have increased trade among the parties of the relationship. Moreover, all of them, except the Snake, also promote trade with outsiders. The effect on intra-block trade ranges between 15% for the EPU and Snake and around 60% for the EMU. Taking into account welfare considerations with respect to non-members, rather than diverting trade away from other trading partners, BW and EMU significantly increase trade with outsiders.

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Table 1. Estimation results of the gravity equation (1). Dependent variable: log of bilateral trade. Sample period: 1950-2004.

	(1)	(2)	(3)	(4)	(5)
Ln GDP_{it}	0.886 (35.35)	1.000 (62.78)	1.076 (50.87)	0.985 (62.14)	1.053 (49.68)
Ln GDP_{jt}	0.840 (28.71)	0.953 (59.88)	1.029 (48.70)	0.938 (59.22)	1.006 (47.51)
Ln $Dist_{ij}$	-0.809 (-10.84)	-0.878 (-16.43)		-0.849 (-16.06)	
$Landlocked_{ij}$	-0.166 (-1.66)	-0.067 (-0.62)		-0.048 (-0.44)	
$Contiguity_{ij}$	0.186 (0.90)	-0.061 (-0.33)		0.000 (0.00)	
$Language_{ij}$	0.649 (4.35)	0.694 (5.28)		0.685 (5.28)	
$Island_{ij}$	0.331 (2.17)	0.372 (3.66)		0.377 (3.76)	
$Volatility_{ij}$	-7.236 (-2.25)	-3.863 (-3.46)	-3.916 (-3.51)	-3.651 (-3.27)	-3.724 (-3.34)
$RTAboth_{ijt}$	0.362 (4.56)	0.418 (26.86)	0.421 (27.07)	0.434 (17.74)	0.429 (17.51)
$MAboth_{ijt}$	0.242 (3.45)	0.242 (18.88)	0.234 (18.13)	0.420 (23.26)	0.406 (22.37)
$RTAone_{ijt}$				0.023 (1.92)	0.018 (1.45)
$MAone_{ijt}$				0.186 (13.83)	0.181 (13.40)
Year dummies	Yes	Yes	Yes	Yes	Yes
Country-pair dummies	No	Yes	Yes	Yes	Yes
Adj-R^2	0.80	0.82	0.70	0.82	0.70
No of obs.	27245	27245	27245	27245	27245
Estimation Method	OLS[a,b]	RE[b]	FE[b]	RE[b]	FE[b]
Hausman test		37.29 [0.99]		21.82 [1.00]	

Notes: a) t- statistics in parentheses. Standard errors clustered at country pair level.
b) t-statistics in parentheses are robust to heteroscedasticity and autocorrelation

Table 2. Estimation results of the gravity equation (2). Dependent variable: log of bilateral trade. Sample period: 1950-2004.

	(1)	(2)	(3)	(4)
Ln GDP_{it}	0.998 (63.46)	1.077 (50.89)	0.978 (63.85)	1.051 (49.58)
Ln GDP_{jt}	0.951 (60.53)	1.029 (48.72)	0.931 (60.84)	1.004 (47.41)
Ln $Dist_{ij}$	-0.880 (-16.95)		-0.848 (-17.25)	
$Landlocked_{ij}$	-0.070 (-0.66)		-0.055 (-0.55)	
$Contiguity_{ij}$	-0.060 (-0.33)		0.008 (0.05)	
$Language_{ij}$	0.697 (5.46)		0.691 (5.74)	
$Island_{ij}$	0.373 (3.77)		0.375 (4.02)	
$Volatility_{ij}$	-3.920 (-3.51)	-3.971 (-3.56)	-3.674 (-3.29)	-3.741 (-3.36)
$RTAboth_{ijt}$	0.403 (25.32)	0.406 (25.53)	0.422 (17.13)	0.415 (16.88)
$MAnoEMUboth_{ijt}$	0.227 (16.94)	0.218 (16.20)	0.395 (21.31)	0.381 (20.44)
$EMUboth_{ijt}$	0.384 (11.27)	0.376 (11.08)	0.653 (15.89)	0.637 (15.52)
$RTAone_{ijt}$			0.028 (2.26)	0.021 (1.74)
$MAnoEMUone_{ijt}$			0.178 (12.70)	0.172 (12.31)
$EMUone_{ijt}$			0.289 (9.18)	0.279 (8.91)
Year dummies	Yes	Yes	Yes	Yes
Country-pair dummies	Yes	Yes	Yes	Yes
Adj-R^2	0.80	0.70	0.82	0.70
No of obs.	27245	27245	27245	27245
Estimation Method	RE	FE	RE	FE
Hausman test	44.95 [0.94]		22.58 [1.00]	

Note: t-statistics in parentheses are robust to heteroscedasticity and autocorrelation

Table 3. Estimation results of the gravity equation (3). Dependent variable: log of bilateral trade. Sample period: 1950-2004.

	WHOLE SAMPLE		EXPORTS		IMPORTS	
	(1)	(2)	(3)	(4)	(5)	(6)
Ln GDP_{it}	1.040	1.172	1.156	1.369	1.082	1.370
	(68.93)	(55.09)	(46.49)	(35.20)	(46.73)	(41.43)
Ln GDP_{jt}	0.994	1.127	0.847	0.959	0.985	0.929
	(65.93)	(52.98)	(37.91)	(31.90)	(38.79)	(21.25)
Ln $Dist_{ij}$	-0.933		-0.992		-0.923	
	(-19.42)		(-17.60)		(-17.77)	
$Landlocked_{ij}$	-0.056		0.141		-0.216	
	(-0.57)		(1.30)		(-2.03)	
$Contiguity_{ij}$	-0.162		-0.129		-0.089	
	(-0.98)		(-0.71)		(-0.50)	
$Language_{ij}$	0.717		0.625		0.761	
	(6.13)		(4.87)		(6.06)	
$Island_{ij}$	0.477		0.238		0.698	
	(5.26)		(2.39)		(7.10)	
$Volatility_{ij}$	-4.443	-4.638	-5.616	-5.637	-3.360	-4.200
	(3.96)	(-4.16)	(-4.55)	(-4.63)	(-2.35)	(-2.97)
$EUone_{ijt}$	0.043	0.026	0.009	-0.009	0.100	0.080
	(2.35)	(1.41)	(1.44)	(-0.42)	(4.34)	(3.50)
$EUboth_{ijt}$	0.470	0.467	0.310	0.302	0.653	0.631
	(13.96)	(13.68)	(8.15)	(8.01)	(15.69)	(15.17)
$EFTAone_{ijt}$	0.072	0.059	-0.047	-0.064	0.218	0.205
	(3.82)	(3.11)	(-2.21)	(-3.03)	(9.30)	(8.75)
$EFTAboht_{ijt}$	0.295	0.246	0.171	0.119	0.477	0.416
	(7.98)	(6.64)	(4.11)	(2.87)	(10.42)	(9.10)
$NAFTAone_{ijt}$	-0.124	-0.129	-0.263	-0.266	-0.002	-0.010
	(-5.18)	(-5.40)	(-9.74)	(-9.98)	(-0.07)	(-0.34)
$NAFTAboth_{ijt}$	0.363	0.321	-0.036	-0.075	0.765	0.707
	(3.85)	(3.41)	(-0.34)	(-0.72)	(6.57)	(6.10)
$EPUone_{ijt}$	0.146	0.128	-0.018	-0.055	0.278	0.313
	(3.20)	(2.82)	(-0.35)	(-1.10)	(4.81)	(5.41)
$EPUboth_{ijt}$	0.167	0.133	0.132	0.077	0.170	0.187
	(3.08)	(2.46)	(2.18)	(1.28)	(2.46)	(2.70)
$SNAKEone_{ijt}$	0.014	0.004	0.023	0.007	0.010	0.006
	(0.49)	(0.12)	(0.68)	(0.21)	(0.29)	(0.17)
$SNAKEboth_{ijt}$	0.167	0.148	0.198	0.169	0.143	0.136
	(1.82)	(1.62)	(1.90)	(1.65)	(1.25)	(1.21)
$EMSone_{ijt}$	0.031	0.034	0.018	0.021	0.070	0.074
	(2.54)	(2.77)	(1.25)	(1.49)	(3.54)	(3.77)
$EMSboth_{ijt}$	0.284	0.276	0.287	0.275	0.272	0.271
	(10.06)	(9.83)	(9.03)	(8.75)	(7.77)	(7.81)
$EMUone_{ijt}$	0.194	0.180	0.167	0.150	0.207	0.197
	(6.14)	(5.72)	(4.75)	(4.37)	(5.26)	(5.06)
$EMUboth_{ijt}$	0.491	0.462	0.432	0.398	0.532	0.506
	(11.57)	(10.94)	(9.05)	(8.45)	(10.10)	(9.68)
$BWone_{ijt}$	0.186	0.199	0.230	0.241	0.125	0.153
	(5.69)	(6.11)	(6.27)	(6.66)	(3.06)	(3.79)
$BWboth_{ijt}$	0.260	0.303	0.309	0.341	0.182	0.292
	(4.36)	(5.10)	(4.60)	(5.12)	(2.45)	(3.94)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Country-pair dummies	No	Yes	Yes	Yes	Yes	Yes
Adj-R^2	0.81	0.70	0.80	0.79	0.81	0.76
No of obs.	27245	27245	13665	13665	13580	13580
Estimation Method	RE	FE	RE	FE	RE	FE
Hausman test	93.02		68.48		142.39	
	[0.07]		(0.66)		(0.00)	

Note: t-statistics in parentheses are robust to heteroscedasticity and autocorrelation.

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