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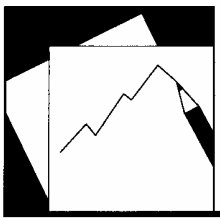

IMF Working Paper

Will You Buy My Peg? The Credibility of a Fixed Exchange Rate Regime As a Determinant of Bilateral Trade

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Will You Buy My Peg? The Credibility of a Fixed Exchange Rate Regime As a Determinant of Bilateral Trade

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Authorized for distribution by Robert Rennhack

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Abstract

This paper examines the relationship between fixed exchange rate arrangements and trade using a gravity model of international trade together with bilateral trade data from 24 countries from the Caribbean and Latin America for the period 1960–2001. The analysis indicates that a credible fixed peg has a positive impact on the value of bilateral trade. Moreover, the positive impact on trade is more pronounced with a stricter definition of the fixed peg or a longer duration of the peg. This supports the argument that the credibility of an exchange rate peg is an important element to determine bilateral trade. There is, however, no evidence to suggest that a currency union provides additional benefits.

JEL Classification Numbers: F15, F33

Keywords: Exchange rate regime, trade, gravity model, exchange rate peg

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I. INTRODUCTION

This paper provides an empirical answer to the question: can a fixed exchange rate regime have a positive impact on bilateral trade relative to other, more flexible exchange rate regimes? The study focuses on 24 small, open economies in Latin America and the Caribbean, chosen to provide a broad spectrum of countries in terms of location, economic size, and per capita income.[2] The period under review covers 1960–2001, when these countries used different exchange rate regimes, ranging from currency unions to independent floats, with some countries switching between regimes during this period.

This paper centers more specifically on the effect that the credibility of a fixed peg has on bilateral trade. Fixed pegs can lose credibility when exogenous shocks or poor macropolicies lead to a real exchange rate misalignment, increasing the possibility of an abandonment of the peg and undermining any incentive they might constitute for increased bilateral trade. Using various definitions of fixed exchange rate pegs, the paper thus attempts to distinguish the impact of the longevity and the credibility of an exchange rate peg on bilateral trade. In this context, the paper also examines the effect on bilateral trade of currency unions as a particularly strong and credible fixed exchange rate regime.

The empirical estimation is based on a gravity model of international trade, which is augmented with variables denoting the influence of fixed pegs or currency unions on trade and using a database that covers trade between the 24 countries and their bilateral trading partners between 1960 and 2001. The calculations were carried out for nine cross-sectional points (single years) and for eight five-year-period averages, allowing not only to analyze the factors determining trade in the examined countries, but also to verify if the effect on trade depended systematically on the duration of the fixed regime.

II. EXCHANGE RATE REGIMES AND TRADE

The choice of an exchange rate arrangement can affect the trade performance of small and open economies. Countries that depend on exports of one or a few commodities might benefit from a flexible regime to accommodate exogenous terms of trade shocks.[3] Conversely, countries that depend on exports to one particular trading partner country might benefit from a fixed exchange rate arrangement of some kind linking its currency to that of the major trading partner, since it would imply an increase in economic efficiency through a

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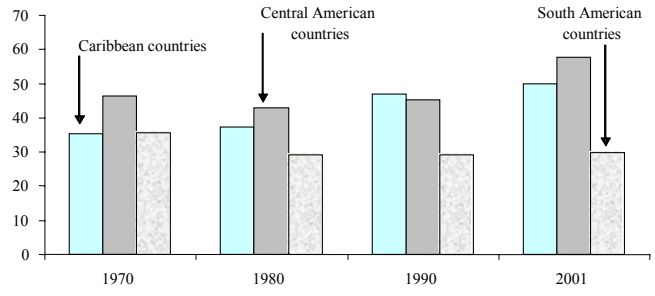
[2]Our sample consists of Antigua and Barbuda, Bahamas, Barbados, Belize, Bolivia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, St. Kitts and Nevis, St. Lucia, St. Vincent, Suriname, and Trinidad and Tobago.

[3] Such countries might also consider pegging their currencies to the international price of their main export commodity as a means to minimize the effect of exogenous, commodity-price related shocks.

reduction in uncertainty and transaction costs. Countries analyzed in this paper lack a diversified export base, depending mainly on the sales of specific primary products or tourism services. However, their trade is highly concentrated, with the United States being the major trading partner (Figure 1). There is thus not an a priori bias in the sample for either a fixed or a flexible regime based on the above arguments.

Figure 1: Trade with the United States. (in percent of total trade)



Countries included in the sample employed two types of fixed regimes during the period under review, namely fixed pegs and currency unions. We distinguish between these arrangements to denote a measure of commitment by the authorities to a fixed exchange rate regime. Sharing one currency, besides eliminating exchange rate volatility, represents a more credible and permanent commitment towards integration, making abandonment of the arrangement extremely costly in political and economic terms. A fixed peg is less stringent in terms of adoption and abandonment of the regime and would only have an impact on trade if economic agents perceived it as a stable and credible arrangement.

Confidence in a fixed peg and the possible trade-creating effect can be undermined by a real exchange rate misalignment and the threat and relative ease of changing or abandoning the peg. It follows that only credible regimes, i.e. those supported by appropriate macroeconomic policies and not threatened by the prospect of an upcoming devaluation or regime change might have a positive impact on trade. Furthermore, the longer a fixed regime has been maintained, the higher should be the trade between countries linked by this regime, as the credibility of the regime is strengthened or—equivalently—the credibility of the authorities to carry out macroeconomic policies that are in line with the maintenance of a peg. Therefore, we also analyzed if the influence of a fixed exchange rate arrangement on trade increased with the duration of the regime.

For the empirical analysis, we expanded a standard gravity model of international trade by variables denoting the influence of fixed pegs and currency unions. The estimation was carried out using a database covering trade between the above-mentioned 24 Latin America and Caribbean countries and their bilateral trading partners for the years 1960–2001. The analysis was carried out first for nine cross-sectional points at 5-year

intervals (single-year analysis) and then for eight five-year-period averages to minimize the impact of outliers in the data.

A. The Gravity Model and the Exchange Rate Arrangements

The gravity model is one of the most widely used empirical tools to study bilateral trade. It relates the value of trade between two countries positively to the economic size, e.g., GDP, GDP per capita, population, or a combination of variables, and negatively to the distance between them. Controlling for the size of the economies and the distance between them allows to measure the influence of other factors on the trade performance.

The first theoretical justification of the gravity model was developed by Anderson (1979), who derived the trade equation by rearranging the Cobb-Douglas expenditure function. Bergstrand (1985) later defined the gravity model by applying the theory of trade based on product differentiation, while Deardorff (1995) proved the gravity model to be consistent with the Hecksher-Ohlin theorem in the presence of transportation costs. Anderson and van Wincoop (2001) further developed the Anderson (1979) model by introducing a factor called multilateral trade resistance, which measures a country's relative trade barriers towards its trading partners.

Controlling for certain variables like economic size or distance allows different theoretical specifications of the gravity equation to model and measure the impact of different factors on bilateral trade. Some authors concentrated on the influence of preferential trading arrangements on trade, e.g., Bayoumi and Eichengreen (1995) examined the impact of the EEC and EFTA; Egoume-Bossogo and Mendis (2002) examined CARICOM; and Rose (2002) examined the WTO. Others applied the gravity model to test for existence of various trading blocks Frankel and Wei (1993); Coe and Hoffmaister (1999); Subramanian and Tamirisa (2001), while others examined the link between exchange rates and trade, either scrutinizing the influence of exchange rate volatility Frankel and Wei (1993), or introducing variables controlling for different types of exchange rate arrangements Nilsson and Nilsson, (2000); Rose (2000). The latter papers are most relevant to the present study.

Nilsson and Nilsson (2000) measured the impact of various types of exchange rate regimes on trade. Studying exports of 100 developing countries to the EU, Japan, and the U.S., they found a positive correlation between the volume of trade and the flexibility of an exchange rate arrangement. In interpreting the results, they noted that developing countries' exports to the EU, Japan, and the U.S. were hampered by real exchange rate misalignments and that the effects of such misalignments exceeded the trade-reducing effects generated by volatility of nominal exchange rates.

Rose (2000) analyzed the impact of currency unions on trade. Using a database covering the trade of 186 countries between 1970 and 1990, he found that countries in a currency union trade over three times as much with each other as countries without a common currency. The results of the analysis point to the importance of the long-term stability and credibility of an exchange rate regime, notwithstanding criticism regarding the

possibility of a self-selection bias Persson (2001) or the exclusion of zero-value observations in his econometric analysis Tenreyro (2001).

Eugoume-Bossogo and Mendis (2002) used a gravity model to analyze trade patterns within CARICOM countries and between CARICOM and the rest of the world. Although the objective of their paper was to determine the impact that the CARICOM arrangement had on trade, they also included explicitly a common currency variable in the model, as some of the CARICOM countries are also members of the Eastern Caribbean Currency Union (ECCU). They found that sharing a currency did not have a significant impact on the trade level. However, their result has to be interpreted with caution in the context of our study, as it compares the trade impact of a common currency with that of a set of countries that include some that are using fixed peg arrangements. Furthermore, it may not be possible to generalize the study's results, as they refer to a set of countries that share not only a currency, but also very similar comparative advantages, which might bias their trade against intra-ECCU trade towards trade with countries outside of the common currency area.

B. Specification of the Model

We augmented the standard gravity model of international trade with dummy variables to capture the impact of fixed exchange rate agreements (currency unions and fixed pegs). Following Rose (2000), we also added control variables to separate the impact of historical, cultural and economic factors that influence trade in the examined countries. The model was specified as follows:

$$\ln T_{ij} = \alpha_0 + \alpha_1 \ln(GDP_i\, GDP_j) + \alpha_2 \ln(GDPpc_i GDPpc_j) + \alpha_3 D_{ij}$$

$$+ \alpha_4 Currency\_union_{ij} + \alpha_5 Fixed\_peg_{ij} + \alpha_6 English_{ij} + \alpha_7 Spanish_{ij}$$

$$+ \alpha_8 Common\_border_{ij} + \alpha_9 Common\_colonizer_{ij} + \alpha_{10} Colonial\_relationship_{ij}$$

$$+ \alpha_{11} FTA_{ij} + \varepsilon_{ij}$$

The variables denote the following:

Table 1: Definition of Variables	
Term	Variable
ln T_{ij}	Logarithm of bilateral trade between countries *i* and *j*
ln($GDP_i GDP_j$)	Logarithm of product of GDP of countries *i* and *j*
ln($GDPpc_i GDPpc_j$)	Logarithm of product of per capita GDP of countries *i* and *j*
D_{ij}	Logarithm of distance between *i* and *j*
$Currency\_union_{ij}$	Currency dummy (=1 if countries *i* and *j* share the same currency)
$Fixed\_peg_{ij}$	Peg dummy (=1 if the currency of *i* is fixed towards the currency of *j* or vice versa)
$English_{ij}$	English dummy (=1 if English is the common language)
$Spanish_{ij}$	Spanish dummy (=1 if Spanish is the common language)
$Common\_border_{ij}$	Border dummy (=1 if the two countries share a border)
$Common\_colonizer_{ij}$	Common colonizer dummy (=1 if the two countries were colonized by the same third country)
$Colonial\_relationship_{ij}$	Colonial dummy (=1 if country *j* colonized *i*)
FTA_{ij}	FTA dummy (=1 if countries *i* and *j* belong to the same regional free trade arrangement)

For all variables, *i* refers to one of the 24 countries from the sample and *j* to its bilateral trading partner (one of 169 countries). As an example, the first observation in our dataset was the value of trade between Antigua and Barbuda and Algeria in 1960.

The variables of primary concern for us were the exchange rate regime dummies. A positive value for the *Fixed_peg* or *Currency_union* coefficients would imply that two countries—due to the exchange rate regime—trade more than predicted by their income, the distance between them, and their cultural and historical ties.

The model was estimated for 9 time points in 5-year intervals (1960, 1965, … , 1990, 1995, 2001) and in contiguous 5-year period averages (1961–65, 1966–70, … , 1991–95, 1996–2001). While the point-in-time estimation described the situation in particular years,

averages allowed us to draw better conclusions about the dynamics of trade relations and reduced the impact of outliers that coincidentally could have occurred at the points in time used in the first method of estimation, yet without losing the fundamental trend in trade dynamics. Furthermore, using averaged data allowed us to check for the possibility of an upward bias of our estimates related to patchy trade statistics (Tenreyro, 2001), while the estimates for individual years can be compared to the results obtained by other authors.[4] Finally, comparing the estimates across two specifications (individual years and averaged data) made it possible to draw some conclusions about the impact of the duration of fixed exchange rate arrangements on trade. In the estimation using individual years, we only identify the existence of the peg in single years (Rose, 2000 or Egoume-Bossogo and Mendis, 2002), while the estimation using average data only assigns a dummy variable a value of one when the peg was in existence during the entire 5-year period.

C. Data Sources and Definition of Variables

Trade data was derived from the IMF direction of trade database (DoT) and the UN COMTRADE database. We used aggregated export and import trade data since we wanted to examine the impact of the currency regime on total trade and not focus on only exports or imports. We also averaged trade data when a discrepancy existed between country-specific trade statistics or between the two databases that were used.[5] The values were recorded in current US dollars and deflated by the US price index to achieve comparability of data across countries and across years. Overall, the database covered 22,215 observations for 3,317 pairs of countries.

We corrected some values in our database to address the problem of zero value or missing data and to be able to carry out log-linear estimations. Incomplete trade statistics and different methods of recording the absence of trade between two countries are treated differently in the IMF and UN databases.[6] While a deletion of all zero-value DoT observations would bring them in line with COMTRADE data, this would also mean biasing the results, since only positive values of trade would be used. We therefore kept zero

[4] The possible upward bias is related to missing trade variables in the database. An estimation using only recorded data (even with the assumption that the recorded zero-value observations are kept in the database by imposing a value of one) can produce such an upward bias. Tenreyro proposes averaging data over various years to reduce this problem.

[5] When the value of trade for a given year differed among recording countries (e.g., the value of trade between Belize and Grenada according to Belize statistics differed from the one recorded by Grenada) the averaged value was used.

[6] While DoT records lack of trade between two countries as a zero value, COMTRADE excludes such observation from the sample. Conversely, a missing value in the DoT database is recorded as an absence of trade, rather than a missing data-point.

observations and treated the non-recorded observations in the COMTRADE database as randomly distributed missing data[7]. To allow for a log-linear estimation we used the approach of Eichengreen and Irvin (1995) and Egoume-Bossogo and Mendis (2002) and modified the data by adding 1 to all trade values (for large values of the dependent variable $ln(1+T_{ij}) \approx lnT_{ij}$ and for small ones $ln(1+T_{ij}) \approx T_{ij}$). This enabled us to keep zero trade values with only a minimal distortion of the results.

The dummy-variable *Fixed_peg* was defined on the basis of the IMF's Exchange Arrangement and Exchange Restrictions. For this purpose, we defined an exchange rate arrangement as a fixed peg when (a) the formal exchange rate arrangement was described as fixed towards one currency; (b) there was no report of a legal or significant illegal parallel market, a multiple currency practice, and different rates for export or imports; and (c) the peg remained unchanged in terms of the parity and the currency.

In addition to the *Fixed_peg* variable defined above, we also used a more stringent definition of the variable. The variable *Fixed_RR* was based on the assessment of exchange rate regimes by Reinhart and Rogoff (2002), who considered a regime fixed after examining both the declaration of the authorities and the actual behavior of the exchange rate.[8]

Data on GDP and population were derived from the World Bank's *World Development Indicators 2002*. Distance between countries was calculated with the Great Circle algorithm and the geographical coordinates required for the calculation were taken from the CIA World Factbook 2002, which also provided information for the dummy variables capturing historical and cultural ties between trading partners. Information about the regional trade arrangements was taken from the WTO web site.

D. Multicollinearity Tests

We found no multicollinearity after examining the magnitude of the correlation coefficients and regressing the explanatory variables against each other. In the former case, all values of the correlation coefficients were below the standard threshold of 0.8 (Table 2). In the latter case, the presence of multicollinearity could also be rejected as we found no case in which the R^2 value of a regression among explanatory variables exceeded the standard threshold of 0.5.

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[7] To check for the robustness of the model, we applied a zero-value to all missing trade data in the COMTRADE database and repeated all estimations. There were no significant changes in the results.

[8] Since they did not include Trinidad and Tobago into their sample, the estimation with *Fixed RR* variable was performed on a sample excluding this country.

Table 2: Correlation Coefficients Between Variables

	Trade	Distance	GDP	GDP p.c.	Fixed peg	Fixed RR	Currency union	English	Spanish	Common border	Colonial relationship	Common colonizer
Distance	-0.240											
GDP	0.633	0.142										
GDP p.c.	0.438	-0.098	0.435									
Fixed	0.161	-0.090	0.087	0.085								
Fixed RR	0.115	-0.081	0.055	0.079	0.813							
Currency union	0.068	-0.283	-0.113	0.037	-0.004	-0.002						
English	0.005	-0.099	-0.265	0.062	0.073	0.082	0.145					
Spanish	0.262	-0.242	0.117	-0.012	0.066	0.034	-0.013	-0.096				
Common border	0.159	0.190	0.045	-0.029	0.009	0.004	-0.006	-0.038	0.261			
Colonial relationship	0.109	-0.014	0.065	0.084	0.113	0.053	-0.004	0.152	-0.015	-0.006		
Common colonizer	-0.034	-0.183	-0.277	0.018	-0.029	-0.024	0.207	0.592	-0.068	-0.027	-0.017	
FTA	0.136	-0.465	-0.187	0.049	-0.016	-0.013	0.388	0.279	0.032	0.077	-0.009	0.403

III. EMPIRICAL RESULTS

Estimations were performed using ordinary least square (OLS), Tobit, and fixed effects specifications. The Tobit specification was used to deal with the problem of zero-value and missing observations present in the data.

A. Single-Year Data Estimation with OLS

Results obtained from the estimation of the gravity model on individual years are in line with our expectations—coefficients have the expected sign in most cases, their magnitudes are plausible, and the standard errors small (Table 3). The R^2 values range from 0.42 to 0.68.

Table 3. OLS Regression Results Using Single-Year Data 1960-2001

	1960	1965	1970	1975	1980	1985	1990	1995	2001
Distance	-0.71	-1.07	-1.39	-1.26	-1.31	-1.30	-1.22	-1.12	-0.95
	0.125 /1	*0.120 /1*	*0.108 /1*	*0.099 /1*	*0.098 /1*	*0.090 /1*	*0.083 /1*	*0.081 /1*	*0.089 /1*
GDP	0.90	1.04	0.97	1.01	0.91	0.89	0.88	0.97	1.04
	0.040 /1	*0.037 /1*	*0.032 /1*	*0.026 /1*	*0.024 /1*	*0.021 /1*	*0.020 /1*	*0.019 /1*	*0.020 /1*
GDP per capita	0.08	0.21	0.35	0.20	0.20	0.31	0.35	0.29	0.39
	0.057	*0.050 /1*	*0.044 /1*	*0.039 /1*	*0.036 /1*	*0.032 /1*	*0.028 /1*	*0.026 /1*	*0.030 /1*
Fixed peg	3.51	2.09	2.36	2.54	1.27	-0.09	1.15	1.51	0.28
	0.854 /1	*0.828 /2*	*0.750 /1*	*0.623 /1*	*0.570 /2*	*0.648*	*0.601 /2*	*0.597 /2*	*0.554*
Currency Union	5.97	4.02	3.92	-1.01	0.80	-0.04	1.03	1.52	1.73
	2.905 /2	*2.816*	*2.653*	*0.924*	*0.808*	*0.753*	*0.714*	*0.684 /2*	*0.571 /1*
English	0.47	1.65	1.98	1.58	1.64	1.36	1.77	1.37	1.05
	0.312	*0.301 /1*	*0.274 /1*	*0.214 /1*	*0.202 /1*	*0.181 /1*	*0.171 /1*	*0.165 /1*	*0.180 /1*
Spanish	1.63	1.92	1.84	2.31	2.48	2.53	3.03	2.79	2.46
	0.279 /1	*0.270 /1*	*0.251 /1*	*0.262 /1*	*0.266 /1*	*0.248 /1*	*0.235 /1*	*0.228 /1*	*0.232 /1*
Common Border	2.92	2.68	2.26	2.32	2.52	2.61	2.81	2.52	1.85
	0.656 /1	*0.636 /1*	*0.575 /1*	*0.606 /1*	*0.619 /1*	*0.577 /1*	*0.548 /1*	*0.531 /1*	*0.529 /1*
Colonial Relationship	-2.90	1.29	0.84	-0.09	1.02	3.50	3.01	2.60	1.65
	1.486 /3	*1.441*	*1.345*	*1.007*	*0.893*	*0.833 /1*	*0.790 /1*	*0.765 /1*	*0.807 /2*
Common Colonizer	1.25	0.71	0.90	0.69	-0.17	-0.31	-0.70	-0.42	-0.55
	0.425 /1	*0.412 /3*	*0.370 /2*	*0.280 /2*	*0.268*	*0.246*	*0.230 /1*	*0.220 /3*	*0.255 /2*
FTA				2.49	2.82	2.90	3.06	3.57	4.23
				0.455 /1	*0.448 /1*	*0.415 /1*	*0.391 /1*	*0.342 /1*	*0.356 /1*
No. of observations	1480	1577	1767	2460	2743	2965	3295	3317	2611
Adjusted R^2	0.42	0.53	0.58	0.56	0.52	0.57	0.58	0.62	0.68

1/ Significant at 1 percent level.
2/ Significant at 5 percent level.
3/ Significant at 10 percent level.

Fixed peg variable

Our main and most important finding is that a credible fixed peg increases the value of trade between countries. The *Fixed_peg* coefficients are in almost all cases positive and statistically significant.[9] Even if we take the smallest positive value of the coefficient, 0.28, this would imply that countries connected by a fixed peg trade around 34 percent more than what would be predicted by the size of their economies, distance, and cultural or historical relationships.[10] Furthermore, this increased trade seems to take place independently of the constraint implied by a stronger commitment to a fixed peg, such as a currency board.

The positive impact that a fixed exchange rate arrangement appears to have on trade might be explained by two factors. The first one is the aforementioned trade concentration. During the forty years studied here, countries included in the sample pegged their currencies to either the British pound or the US dollar, with their choice depending, at least partially, on the existing trade relations. A positive value of the *Fixed_peg* coefficient indicates that benefits of fixing the exchange rate to the currency of the main trading partner obviously prevailed over costs stemming from the low diversity of production and exports and the terms of trade fluctuations.

Another reason explaining this positive impact might be poor development of the financial markets in the countries included in the sample. One of the important arguments in favor of exchange rate flexibility with respect to trade is that hedging operations for trade earnings and foreign liabilities are inexpensive. This is probably not the case for most of the countries in the sample, as their financial markets mostly lack depth and volume and the banking system comprises only a few banks. Is it unlikely that these financial institutions would offer inexpensive hedging instruments or that sufficient number of domestic entrepreneurs would have access to foreign financial markets for this purpose. The stability of the exchange rate in such circumstances would have a trade-creating effect.

The results seem to indicate that the positive impact of a fixed exchange rate arrangement on trade has been decreasing over time, as can be read from the almost constant decline in the coefficients over the years.[11] This fact might be related to an increase in the frequency of regime-switches in the region – during the last three decades some of the countries from our sample changed their exchange rate arrangements more than once, moving between fixed pegs, intermediate regimes, and free floats. Our estimation only

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[9] The coefficient turns negative for the year 1985, but is not statistically different from zero for that year.

[10] The calculation: $e^{0.28} = 1.34$, implying an increase of 34 percent.

[11] The decline in the coefficients seems statistically significant, as a Chow test indicates that the coefficients are not stable (i.e., the same) across years.

captures the existence of a fixed peg in one particular year out of every five years. Therefore, it is possible that a fixed peg remained in place for one year or only a few years and that regime changes or the expectation of such changes undermined any positive trade effects that the maintenance of a peg could have generated. We will address the issue of correlation between the duration of the fixed regime and trade when analyzing the regressions on 5-year-period averages.

Currency union variable

While a fixed peg seems to have a significant influence on the value of trade, sharing one currency does not appear to lead to more trade. The coefficient of the *Currency_union* variable, although positive in most cases, is significant only for three out of nine years (Table 3). This result appears to contradict the results obtained by Rose (2000). The explanation might lie in the characteristics of the examined countries. Countries with currency unions studied in our sample are those in the Eastern Caribbean Currency Union (ECCU),[12] Panama, and for 2001 also the currency unions of Ecuador and El Salvador with the United States. Among them, only Panama has maintained the currency of its main trading partner for a long period of time. Within the ECCU, internal trade constitutes only a small fraction of the members' total trade, amounting to about 4 percent of total trade in 1970 and falling to 2 percent by 2001, with the fall probably related to the lowering of external trade barriers under CARICOM.[13] El Salvador and Ecuador dollarized only recently, which might explain why there was little statistical impact of the dollarization on trade. Overall, the choice of countries in our sample might explain why currency unions had little influence on trade relations of their member countries. Furthermore, our results fall in line with the study conducted by Egoume-Bossogo and Mendis (2002), which analyzed a subgroup of the countries included here and did not find any significant influence of the common currency on trade.

However, it is noteworthy that the *Currency union* variable became significant in the 1990's. This could be because rapid exchange rate changes and the associated growing uncertainty in international foreign currency markets, combined with the above-mentioned lack of availability of appropriate hedging instruments could have encouraged entrepreneurs in countries sharing one currency to engage in more trade**.** Furthermore, it may be the

[12] Eastern Caribbean Currency Union (since 1976): Anguilla (since 1987), Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines.

[13] ECCU countries are members of CARICOM. To check for the separate effect of CARICOM, we constructed a dummy variable for each free trade area and performed our analysis again. The results remained basically unchanged: CARICOM dummies were positive and significant, while common currency dummies remained positive, but were in most cases not statistically different from zero.

consequence of trade liberalization; as countries lowered trade barriers in the 1990's, the existence of a common currency might have become more of an incentive for trade.

Other explanatory variables

Belonging to the same regional trade arrangement seems to be an important factor influencing trade relations. The coefficients for the *FTA* variables are positive, statistically significant and, on average, the highest among all variables included in the model.[14] It would however be incorrect to ascertain from the econometric study that the establishment of a free trade agreement would tend to increase trade, as the study does not distinguish between the trade-creating and the trade-diverting effects of the establishment of a free trade agreement.

The elasticities of *GDP, GDP per capita,* and *distance* have the expected signs, are statistically significant, economically reasonable, and of plausible magnitudes. Both higher GDP and higher GDP per capita increase trade, although less than proportionally. Distance has a negative effect on trade, and the effect has been constantly decreasing over time. This probably reflects improvements in logistics and transportation technology over time.

Common languages have a positive impact on bilateral trade, although different for the *Spanish* and *English* variables. The significance of *Spanish* as a common language increased for the first three decades, reflecting the growing importance of trade within Spanish-speaking countries. While trade within Spanish-speaking countries amounted to 9 percent of total trade in 1970, this percentage increased to around 11 percent in 1980 and 1990. Conversely, the significance of English as a common language for bilateral trade weakened over the years.

Sharing one border has a positive impact on international trade, although this declined during the last decade. This decline might be consistent with the declining importance of transportation costs due to improved transportation technology and logistics over the years. The *Colonial Relationship* dummy became significant only in 1985, as more countries in the sample gained independence and the cooperation between them and the United Kingdom

[14] Regional Free Trade Arrangements included in the study are: (a) CARICOM (1973): Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname (since 1995), Trinidad and Tobago; (b) Andean Community (1997): Bolivia, Colombia, Ecuador, Peru, Venezuela; (c) MERCOSUR (1991): Argentina, Brazil, Paraguay, Uruguay; (d) Central American Common Market, CACM, 1963: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua; (e) Bolivia – Mexico (1995): Bolivia, Mexico.

tightened. Links among former colonies did not seem to influence trade relations, as results for this variable were not conclusive.[15]

B. Averaged Data Estimation Using OLS

In this section, we present the results of the OLS estimation using data that averaged over continuous 5-year periods. To make sure that we properly captured the long-term influence of the fixed exchange rate regime on trade, we assigned the value of 1 to the *Fixed_peg* and *Currency_union* variables only when the arrangement remained unchanged for the entire 5-year period.

The estimation results support the hypothesis that a credible, long-standing peg has a more pronounced positive effect on bilateral trade. The coefficients of this estimation are clearly higher than in the case using data for individual years (Table 4). The coefficients for the *Fixed_peg* variable are positive, always statistically significant and, especially worth noting, virtually constant across years. The smallest value for the coefficient is 1.97, which means that a long-standing and credible fixed peg arrangement consistently increased the value of trade between two countries by about 620 percent compared to a much lower and declining effect indicated by the coefficients from the single-year estimation method. This result, even if interpreted with care, points to the overriding importance of the credibility and longevity of a fixed peg regime. Small open economies with underdeveloped financial and foreign exchange markets can benefit from the fixed peg much more when economic agents perceive the peg as a long-term commitment. Such a perception must be anchored in macroeconomic policies that are seen as compatible with the maintenance of a fixed exchange rate peg. In the absence of such policies, economic agents will loose confidence in the sustainability of the peg, undermining it through increased trading in a parallel, flexible exchange rate market, and ultimately leading to the collapse of the peg. The *Currency_union* dummy, although always positive, is again statistically significant in only three cases, which corroborates the single-point data analysis. The higher values of the averaged-data coefficients also counter the possible issue of an upward bias in the single-year regression estimation (Tenreyro, 2001).

[15] Excluding this variable does not alter the results of the study. On average, the *English* coefficient increases a bit, but other coefficients remain about unchanged in terms of magnitude and significance.

Table 4. OLS Regression Using Averaged Data 1965-2001

	1965	1970	1975	1980	1985	1990	1995	2001
Distance	-1.06	-1.29	-1.24	-1.29	-1.20	-1.27	-1.07	-1.00
	0.120 /1	*0.113 /1*	*0.122 /1*	*0.094 /1*	*0.092 /1*	*0.089 /1*	*0.086 /1*	*0.079 /1*
GDP	0.92	0.85	0.96	0.89	0.83	0.77	0.83	0.93
	0.037 /1	*0.033 /1*	*0.033 /1*	*0.023 /1*	*0.022 /1*	*0.02 /1*	*0.020 /1*	*0.017 /1*
GDP per capita	-0.01	0.08	0.01	0.05	0.12	0.12	0.05	0.05
	0.049	*0.045 /3*	*0.045*	*0.035*	*0.032 /1*	*0.029 /1*	*0.027 /3*	*0.024 /2*
Fixed peg	2.20	2.42	2.56	2.84	2.14	1.96	2.05	1.94
	0.827 /1	*0.785 /1*	*0.849 /1*	*0.663 /1*	*0.667 /1*	*0.654 /1*	*0.631 /1*	*0.564 /1*
Currency union	5.40	5.33	4.47	0.79	0.73	0.84	1.46	1.60
	2.808 /3	*2.775 /3*	*2.937*	*0.776*	*0.776*	*0.759*	*0.724 /2*	*0.645 /2*
English	1.88	2.23	2.01	1.72	1.45	1.78	1.40	1.00
	0.300 /1	*0.286 /1*	*0.302 /1*	*0.193 /1*	*0.187 /1*	*0.181 /1*	*0.175 /1*	*0.157 /1*
Spanish	1.66	1.70	1.67	1.99	2.23	2.57	2.55	2.22
	0.269 /1	*0.263 /1*	*0.278 /1*	*0.256 /1*	*0.256 /1*	*0.250 /1*	*0.241 /1*	*0.216 /1*
Common border	2.64	2.75	2.26	2.16	2.60	2.65	2.44	2.15
	0.635 /1	*0.602 /1*	*0.638 /1*	*0.595 /1*	*0.595 /1*	*0.582 /1*	*0.562 /1*	*0.503 /1*
Colonial Relationship	2.26	1.51	2.34	3.41	3.80	3.91	3.65	2.82
	1.437	*1.407*	*1.385 /3*	*0.857 /1*	*0.857 /1*	*0.838 /1*	*0.809 /1*	*0.723 /1*
Common colonizer	0.43	0.57	0.23	-0.18	-0.39	-0.57	-0.32	-0.48
	0.41	*0.387*	*0.412*	*0.257*	*0.254*	*0.244 /2*	*0.233*	*0.207 /2*
FTA			3.03	2.80	3.33	2.94	3.17	3.60
			0.665 /1	*0.43 /1*	*0.428 /1*	*0.415 /1*	*0.362 /1*	*0.313 /1*
No. of observations	1560	1749	1873	2743	2965	3317	3317	3297
Adjusted R^2	0.47	0.49	0.49	0.53	0.53	0.51	0.53	0.63

1/ Significant at 1percent level.
2/ Significant at 5 percent level.
3/ Significant at 10 percent level.

Both income and distance variables are correctly signed, statistically significant, and of similar magnitudes as in the single-years analysis. The same is true for the *GDP* variable, while *GDP per capita*, although of similar magnitude as in the separate years' regression, is statistically less significant.

The trade creating effect of regional trade arrangements is also more significant than for individual years. The *FTA* coefficients are higher on average and their magnitude, although rising across years, does not differ much from those obtained in the previous specification. This result is not surprising, as free-trade agreements were modified much less than exchange regimes during the last three decades, and one would thus expect a similarity in the result from both estimation methods.

C. Robustness of the Results

Alternative specification of the fixed peg variable

A proper definition of the *Fixed_peg* variable was critical for our study. The classification scheme used in the previous section, albeit quite restrictive, was based solely on the data derived from the IMF *Exchange Arrangements and Exchange Restrictions* reports. To corroborate our conclusions, we made use of an alternative exchange rate

arrangement specification system developed by Reinhart and Rogoff (2002), constructing a new variable, *Fixed RR*, and repeating our estimations.

Reinhart and Rogoff classified countries' exchange rate regimes applying an algorithm that incorporated official statements of the authorities, main macroeconomic indicators, and actual behavior of the exchange rate. The variable *Fixed_RR* denotes therefore a stricter definition of a fixed exchange rate regime than the *Fixed_peg* variable. Overall, in the data for separate years we have 215 cases when we treat the exchange rate regime as a *Fixed_peg* and 205 when we treat it as a fixed peg in accordance with the Reinhart and Rogoff specification (*Fixed_RR*). For the averaged data, the numbers are 167 and 141, respectively.

First, we performed an OLS estimation using the single-year data (Table 5). The coefficients of the *Fixed_RR* variable are higher on average than those of the *Fixed_peg* ones, positive, and almost always statistically significant. Since the *Fixed_RR* variable represents a more stringent commitment towards the stability of the exchange rate than in the case of the *Fixed_peg* variable, the results confirm the main hypothesis that the credibility of a fixed peg regime has a significant bearing on bilateral trade.

Table 5. Results from the OLS Regression on Separate Years Using the Fixed_RR Variable 1960-2001

	1960	1965	1970	1975	1980	1985	1990	1995	2001
Distance	-0.63	-1.01	-1.30	-1.23	-1.29	-1.27	-1.19	-1.06	-0.90
	0.129 /1	*0.123 /1*	*0.111 /1*	*0.101 /1*	*0.099 /3*	*0.091 /1*	*0.084 /1*	*0.083 /1*	*0.091 /1*
GDP	0.90	1.05	0.98	1.01	0.91	0.89	0.88	0.97	1.03
	0.039 /1	*0.037 /1*	*0.032 /1*	*0.026 /1*	*0.024 /1*	*0.021 /1*	*0.012 /1*	*0.019 /1*	*0.020 /1*
GDP per capita	0.08	0.21	0.35	0.20	0.20	0.31	0.35	0.29	0.39
	0.056	*0.049 /1*	*0.044 /1*	*0.039 /1*	*0.036 /1*	*0.032 /1*	*0.028 /1*	*0.026 /1*	*0.030 /1*
Fixed RR	3.58	1.93	2.76	2.83	1.49	-0.17	1.34	1.77	0.38
	0.853 /1	*0.901 /2*	*0.810 /1*	*0.631 /1*	*0.546 /1*	*0.665*	*0.583 /2*	*0.564 /1*	*0.527*
Currency Union	5.94	3.97	3.89	-0.51	1.04	0.48	1.52	1.95	2.04
	2.892 /2	*2.801*	*2.642*	*0.940*	*0.823*	*0.770*	*0.731 /2*	*0.695 /1*	*0.583 /1*
English	0.45	1.64	1.98	1.59	1.65	1.37	1.77	1.36	1.05
	0.311	*0.300 /1*	*0.273 /1*	*0.213 /1*	*0.201 /1*	*0.181 /1*	*0.170 /1*	*0.165 /1*	*0.180 /1*
Spanish	1.70	1.99	1.93	2.36	2.51	2.58	3.06	2.84	2.51
	0.279 /1	*0.270 /1*	*0.251 /1*	*0.262 /1*	*0.265 /1*	*0.248 /1*	*0.235 /1*	*0.228 /1*	*0.232 /1*
Common Border	2.81	2.72	2.36	2.41	2.52	2.70	2.91	2.65	1.98
	0.654 /1	*0.633 /1*	*0.573 /1*	*0.605 /1*	*0.614 /1*	*0.577 /1*	*0.547 /1*	*0.530 /1*	*0.529 /1*
Colonial Relationship	-0.78	2.60	2.21	0.01	1.05	3.52	3.04	2.65	1.69
	1.337	*1.296 /2*	*1.220 /3*	*0.983*	*0.887*	*0.830 /1*	*0.789 /1*	*0.762 /1*	*0.805 /2*
Common Colonizer	1.17	0.53	0.81	0.71	-0.13	-0.30	-0.68	-0.42	-0.57
	0.430 /1	*0.416*	*0.373 /2*	*0.279 /2*	*0.266*	*0.246*	*0.229 /1*	*0.220 /3*	*0.257 /2*
FTA				2.05	2.57	2.45	2.62	3.31	3.97
				0.487 /1	*0.477 /1*	*0.444 /1*	*0.419 /1*	*0.359 /1*	*0.379 /1*
No. of observations	1464	1561	1750	2438	2720	2942	3272	3294	2591
Adjusted R^2	0.42	0.53	0.59	0.56	0.52	0.56	0.58	0.62	0.68

1/ Significant at 1percent level.

2/ Significant at 5 percent level.

3/ Significant at 10 percent level.

Next, we proceeded with the estimation on averaged data using also the variable *Fixed_RR* (Table 6). Similar to the results of the single-year estimation, the *Fixed_RR* coefficients were always positive, significant, and higher than in the estimation on the averaged data incorporating the *Fixed_peg* variable, again corroborating our hypothesis about the positive impact of the duration of the fixed peg regime on bilateral trade.

Table 6. Results from the OLS Regression on Average Years Using the Fixed_RR Variable 1965-2000

	1965	1970	1975	1980	1985	1990	1995	2000
Distance	-0.97	-1.19	-1.20	-1.26	-1.18	-1.24	-1.02	-0.94
	0.124 /1	*0.116 /1*	*0.123 /1*	*0.095 /1*	*0.094 /1*	*0.090 /1*	*0.088 /1*	*0.080 /1*
GDP	0.93	0.86	0.97	0.88	0.83	0.77	0.83	0.93
	0.036 /1	*0.033 /1*	*0.033 /1*	*0.023 /1*	*0.022 /1*	*0.020 /1*	*0.02 /2*	*0.017 /1*
GDP per capita	-0.01	0.08	0.01	0.05	0.12	0.12	0.05	0.05
	0.049	*0.045 /1*	*0.044*	*0.034*	*0.032 /1*	*0.029 /1*	*0.027 /3*	*0.024 /2*
Fixed RR	2.40	3.27	3.62	3.62	2.10	1.99	2.30	2.15
	1.007 /2	*0.846 /1*	*0.990 /1*	*0.657 /1*	*0.685 /1*	*0.653 /1*	*0.597 /1*	*0.533 /1*
Currency Union	5.34	5.29	4.44	1.22	1.17	1.25	1.89	2.03
	2.795 /3	*2.762 /3*	*2.926*	*0.793*	*0.794*	*0.778*	*0.736 /2*	*0.653 /1*
English	1.86	2.22	2.03	1.73	1.46	1.79	1.39	0.99
	0.299 /1	*0.285 /1*	*0.301 /1*	*0.192 /1*	*0.186 /1*	*0.181 /1*	*0.174 /1*	*0.156 /1*
Spanish	1.75	1.79	1.74	2.04	2.25	2.61	2.59	2.26
	0.269 /1	*0.262 /1*	*0.278 /1*	*0.256 /1*	*0.256 /1*	*0.25 /1*	*0.241 /1*	*0.216 /1*
Common Border	2.69	2.86	2.36	2.09	2.68	2.72	2.56	2.27
	0.633 /1	*0.600 /1*	*0.637 /1*	*0.592 /1*	*0.595 /1*	*0.582 /1*	*0.562 /1*	*0.502 /1*
Colonial Relationship	3.58	2.83	2.64	3.43	3.81	3.93	3.70	2.87
	1.296 /1	*1.275 /2*	*1.355 /2*	*0.853 /1*	*0.855 /1*	*0.838 /1*	*0.807 /1*	*0.720 /1*
Common Colonizer	0.21	0.46	0.26	-0.17	-0.38	-0.55	-0.33	-0.50
	0.415 /1	*0.39*	*0.412*	*0.256*	*0.254*	*0.244 /2*	*0.233*	*0.207 /2*
FTA			2.52	2.42	2.91	2.57	2.88	3.35
			0.762 /1	*0.459 /1*	*0.458 /1*	*0.445 /1*	*0.380 /1*	*0.325 /1*
No. of observations	1544	1732	1856	2720	2942	3294	3294	3274
Adjusted R^2	0.48	0.50	0.51	0.54	0.53	0.51	0.54	0.63

1/ Significant at 1percent level.
2/ Significant at 5 percent level.
3/ Significant at 10 percent level.

The results of both regressions also confirm that sharing a currency did not lead to more trade in the examined countries. In both specifications, the *Currency_union* coefficient, although always positive, turned significant only in the 1990's.

Estimation using a Tobit model

To account for the missing and zero-value observations in the database, we also estimated a Tobit model. This specification takes into account the possibility of the censoring of the trade data due to zero-value observations and corrects the possible resulting bias by differentiating between the zero and positive observations while calculating the parameter estimates. It is particularly appropriate in our case as a robustness check, since trade within small countries is often not recorded or inexistent.

The results confirm our previous findings. *GDP*, *GDP per capita*, and *Distance* are all of expected signs and are statistically significant (Table 7). As expected, they are also higher than their OLS equivalents.

Table 7. Tobit Regression, 1960-2001

	1960	1965	1970	1975	1980	1985	1990	1995	2001
Distance	-2.52	-1.82	-2.08	-2.58	-2.96	-2.76	-2.47	-2.27	-1.94
	0.378 /1	*0.198 /1*	*0.160 /1*	*0.153 /1*	*0.172 /1*	*0.140 /1*	*0.130 /1*	*0.113 /1*	*0.113 /1*
GDP	3.02	1.77	1.55	1.81	1.82	1.68	1.53	1.46	1.37
	0.174 /1	*0.071 /1*	*0.055 /1*	*0.052 /1*	*0.057 /1*	*0.046 /1*	*0.040 /1*	*0.033 /1*	*0.305 /1*
GDP per capita	0.14	0.32	0.46	0.25	0.32	0.46	0.65	0.40	0.47
	0.198	*0.087 /1*	*0.070 /1*	*0.069 /1*	*0.075 /1*	*0.059 /1*	*0.053 /1*	*0.043 /1*	*0.042 /1*
Fixed peg	4.12	2.02	1.89	2.22	1.45	0.44	2.25	1.32	-0.44
	1.602 /1	*0.979 /2*	*0.821 /2*	*0.833 /1*	*0.863 /3*	*0.842*	*0.821 /1*	*0.848*	*0.722*
Currency union	2.82	2.17	2.11	0.54	3.58	1.62	2.81	3.07	3.12
	6.965	*4.358*	*3.751*	*1.481*	*1.357 /1*	*1.158*	*1.081 /1*	*0.964 /1*	*0.744 /1*
English	0.84	2.76	3.23	2.84	3.63	2.78	3.58	2.13	1.19
	1.229	*0.544 /1*	*0.432 /1*	*0.404 /1*	*0.432 /1*	*0.349 /1*	*0.314 /1*	*0.274 /1*	*0.276 /1*
Spanish	5.28	3.33	2.73	2.94	3.10	3.18	3.26	2.84	2.24
	0.784 /1	*0.444 /1*	*0.361 /1*	*0.409 /1*	*0.467 /1*	*0.393 /1*	*0.374 /1*	*0.328 /1*	*0.309 /1*
Common border	4.70	2.62	2.18	1.94	2.08	2.39	2.44	2.45	2.07
	1.630 /1	*0.991 /1*	*0.814 /1*	*0.930 /2*	*1.057 /2*	*0.899 /1*	*0.851 /2*	*0.761 /2*	*0.697 /1*
Colonial Relationship	-5.35	0.09	-0.45	-1.31	-1.04	1.86	0.88	1.36	1.14
	3.906	*2.153*	*1.840*	*1.543*	*1.571*	*1.307*	*1.235 /1*	*1.103*	*1.073*
Common colonizer	5.25	1.60	1.79	2.45	1.11	1.46	0.64	0.95	0.77
	1.644 /1	*0.736 /2*	*0.570 /1*	*0.502 /1*	*0.042 /1*	*0.441 /1*	*0.397 /1*	*0.343 /1*	*0.366 /2*
FTA				4.11	5.33	4.06	3.83	4.62	5.53
				0.737 /1	*0.810 /1*	*0.677 /1*	*0.632 /1*	*0.497 /1*	*0.473 /1*

1/ Significant at 1percent level.
2/ Significant at 5 percent level.
3/ Significant at 10 percent level.

The *Fixed_peg* variable remains significant in all years except two.[16] It is worth mentioning that the coefficients are higher on average than the ones obtained from the OLS estimation, pointing to the fact that the OLS estimation method using data on separate years biased downwards the effect of the fixed peg on trade. As experienced with the OLS methodology, the *Currency_union* variable was insignificant in all years except the last one.

The results of the Tobit model also underline the positive influence of free trade arrangements on the level of bilateral trade, as the coefficients of the FTA dummy variable are higher on average than in preceding estimations. However, former colonial ties, namely the colonial relationship and the bilateral trade with a country that was colonized by the same 3rd country, became insignificant in almost all years. That may be an indication that the

[16] The coefficient of the *Fixed_peg* variable is not statistically significant for the years 1985 and in 2001, which falls in line with the results obtained from the OLS estimation using the *Fixed_RR* variable.

countries analyzed here developed trade relations with other countries than with Great Britain, which is also confirmed by the descriptive statistics at the beginning of this paper.

Panel data results

One of the caveats of cross-sectional regression analysis is the possibility of the overestimation of the impact that a fixed exchange rate regime can have on trade. It can arise from the omission of variables - two countries might trade more due to some exogenous factors, which might at the same time increase the probability that one of these countries could decide to peg its currency to that of the trading partner. A cross-sectional regression would not distinguish between these effects, ascribing all the impact to the exchange rate regime. To consider this possibility and try to establish if such omitted factors can exist, we decided to perform a regression analysis using a panel dataset.[17]

In order to carry out a panel estimation, we first ascertained whether a simple OLS estimator could be used.[18] According to Mátyás (1997, 1998), a proper specification of a gravity model requires incorporating three error components: two for country-specific features and one for time effects. In our case, however, each cross section in the panel data represents a different bilateral flow. Therefore, it seems appropriate to assume that the error term consists of country-pair and time-specific effects. The results of a Breusch-Pagan test confirm that the individual effects are indeed present in the data. Moreover, the results of an F-test indicate the existence of both country-pair and time-specific effects. Therefore, we can reject the null hypothesis that a simple OLS regression with just one intercept is an appropriate specification; as there are both country-pair effects and time effects it means that we have heteroscedastic error terms and the use of OLS estimators is not appropriate (Table 8).

The next step is to determine whether the individual effects are correlated with the explanatory variables. We performed a Hausman test to choose between a fixed and random effects specification for the correlation of the time and country-pair effects with the explanatory variables. Based on the test results, we chose a two-way fixed component model rather than a random effects model.

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[17] We present these results as a robustness check only because the Chow test indicate that some of the regression coefficients are not stable across years, so we should be careful in interpreting the results of the pooled regression.

18 This is done to analyze the structure of the error component and establish if there are specific country and time effects. If they are present, the use of an OLS estimation (which assumes the same error term for all countries or all time points) would yield biased and inconsistent results.

Table 8. Panel Data (Two-Way Fixed Effects)

	Fixed	Fixed RR
GDP	0.15	0.17
	0.0862 1/	*0.0863 1/*
GDP per capita	0.870	0.860
	0.0850 2/	*0.0851 2/*
Fixed regime dummy	0.710	0.690
	0.2488 2/	*0.2511 2/*
Currency union	0.620	0.34
	0.9203	*0.9184*
FTA	0.030	-0.390
	0.247	*0.2754*
No. of observations	22215	22032
R^2	0.43	0.44
Breusch-Pagan test	15,855.86	16,309.39
F test - time effects	42.05	40.92
F test - country-pair effects	6.97	6.88
F test - country-pair and time effects	9.59	9.44

1/ Significant at 10 percent level.
2/ Significant at 1percent level.

Estimation of the model with fixed effects has both advantages and drawbacks. On the one hand, fixed effects take into account the possible overestimation of the impact of fixed regimes on trade mentioned above. On the other hand, we cannot obtain estimates for time-invariant variables. As our analysis is centered around the impact of fixed exchange rate arrangements on trade and we are able to obtain consistent estimates of these variables, we believe that the lack of time-invariant estimates for some other variables does not pose a major problem.

The results of the estimation indicate that the conclusion of the cross sectional analysis remains valid, i.e., that a credible fixed exchange rate regime has an important impact on trade, but also revealed an overestimation of its impact on trade. The fixed peg coefficient, although smaller in magnitude than in the previous regression analysis, remains statistically significant at the 1 percent level, indicating that a credible fixed peg can double the trade between two countries. Currency union coefficient, although positive, remains statistically not significant.

IV. CONCLUSIONS

In this paper, we analyzed the relationship between a fixed exchange rate and bilateral trade in 24 Latin American and Caribbean economies. Our findings can be summarized as follows:

- The existence of a credible fixed peg regime had a positive impact on bilateral trade.
- The more credible the peg, the higher its impact on bilateral trade.
- The longer a fixed peg remained in place, the more it benefited trade.
- Sharing a currency did not lead to more trade in the examined countries. This result, albeit counterintuitive, can be explained by the unique characteristics of the countries in the sample that shared a common currency, as they display mostly similar comparative advantages that create little incentive to trade among themselves.

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