Title: A note on the effect of common currencies on trade

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Abstract:
Rose (2000) estimates an empirical model of bilateral trade, finding a significant coefficient for a currency union variable of 1.2, i.e. an effect of currency unions on trade of over a 200%. Rose (2000)'s finding did not receive full acceptance and further research was consequently devoted to find reasons of such high effect. The main objective of this research is to revisit the estimation of the effect of a common currency on international trade in two ways: (i) by applying a recent well-founded methodology which addresses the zero-trade data problem and (ii) by incorporating tourism to the theoretical and empirical framework. Two main results are reached. First, tourism affects positively both, the probability of exporting and the volume of exports between two countries. Second, the effect of a common currency is positive and after controlling by tourism, a noticeable reduction in its impact is found.

Keywords: Common currency, international trade, tourism, gravity equation

1. Introduction

In the last decade a growing literature in international trade focuses on the effect of the creation of a common currency on the volume of international trade. The issue is simple since sharing a common currency eliminates exchange rate uncertainty and reduces transaction costs, and as a consequence, it fosters trade. What is more controversial is the magnitude of this influence and it still remains as a *puzzle* in the International Economics.

In a seminal paper, Rose (2000) estimates a surprising large effect of a currency union on trade. His results suggest that members of currency unions seemed to trade over three time as much as otherwise pair of countries. However, although economists widely believe that monetary unions could reduce transaction costs and promote trade, still many are surprised that the magnitude of the estimated effects of common currencies is so large. See for instance, Thom and Walsh (2002), Glick and Rose (2002) or Persson (2001).

As an attempt to summarize the results reached in the literature, Rose and Stanley (2005) implement a meta-analysis to thirty-four studies that investigate the effect of currency union on trade. Combining these estimates, the authors found that a currency union increases bilateral trade by 30 to 90%. This magnitude is lower than the early estimations but still it means a sizeable trade effect.

Another important cause of the non full-acceptance of Rose's results is the traditional critique about the lack of theoretical underpinnings of the estimated gravity equations. Nevertheless, nowadays international economists recognize that the gravity specification can be supported by Heckscher-Ohlin models, models based in differences in technology across countries, and the new models that introduce increasing returns and product differentiation (Deardorff, 1998). Anderson and Van Wincoop (2003) developed a method that consistently and efficiently estimates a theoretical gravity equation by considering both multilateral and bilateral trade resistances. Rose and Van Wincoop (2001) proposed the inclusion of country fixed effects as a way to approximate the multilateral resistances.

However, as proposed by Helpman, Melitz and Rubistein (2008) thereafter HMR, the omission of zero-trade data leads to biased estimates. HMR generalises Anderson and Van Wincoop's framework by describing the probability conditions enabling a firm to be an exporter. As a consequence, their approach provides support for zero-trade data, avoiding biased estimates from gravity equations.

In the present paper, Rose's debate about the effect of currency unions on trade is revisited in two ways. First, the impact of common currencies on trade is estimated following the new methodology proposed by Helpman, Melitz and Rubistein (2008). This approach presents a theoretical framework to study bilateral trade flows across countries. According to these authors, not all firms in the country have a productivity level high enough to generate profits sufficient to cover fixed costs of exporting. In that sense, if fixed costs are high enough, no firms in a country may find it profitable to export and hence "zeros" naturally arise in trade data. This is known as country selection bias. The HMR approach holds that by disregarding countries that do not trade with each other, important information is not being considered and hence estimates could be biased.

Second, the potential omission of a relevant variable in trade gravity equations is addressed. Indeed, Frankel (2008) recognizes this fact as one of the main reasons behind the surprising estimated effect of a common currency on trade. In particular, we deal with the challenge from Rose and Van Wincoop (2001), i.e. *to find some omitted factor that drives countries to both participate in currency unions and trade more*. In the present research the omission of international tourism is proposed as a suitable candidate to explain the possible overvalued estimate of the impact of a common currency on trade. Moreover, tourism is introduced in the well-founded HMR model by recognizing that tourism could reduce fixed and variable costs of exporting. If so, tourism arrivals arise as an explanatory variable in the probit equation for firm selection and in the gravity equation.

The paper is organized as follows. In Section 2 the HMR approach is presented in detail. Section 3 introduces and discusses tourism in the estimated equations. In section 4 the model is estimated avoiding estimation bias when tourism is omitted. Finally, Section 5 draws some conclusions.

2. The HMR approach

HMR presents a theoretical framework to study bilateral trade flows across countries. The model presents three features that make it suitable to describe empirical patterns of bilateral trade flows. First, the model can yield asymmetric trade flows between country pairs depending on the direction of export flows (from *i* to *j* versus from *j* to *i*). Second, it can generate zero trade flows in both directions between some countries, as well as zero exports from one country, say *j*, to a second country *i*, together with positive exports from country *i* to country *j*. Third, a well-founded empirical framework for estimating the gravity equation for positive trade flows is developed. Therefore, the HMR model has the potential to explain prevalent regularities in trade data reflected in the sample: the asymmetry in bilateral trade flows between country pairs and the high presence of zeroes.

The HMR approach generalizes the Anderson and VanWincoop (2003) model in two ways. First, it accounts for firm heterogeneity and fixed trade costs and second, deals with asymmetries in the volume of exports between two countries. HMR use their theoretical model to develop a two-stage estimation procedure. In the first stage, a probit equation is estimated for the probability that country *j* exports to country *i* while in the second stage predicted components of probit are used to estimate the gravity equation for positive exports flows.

HMR may be easily extended to incorporate tourism flows in order to revisit Rose's empirical findings. In their model, a utility function *à la* Dixit-Stiglitz is assumed to allow for product differentiation. Producers face both variable and fixed costs of exporting to each destination country by recognizing that profitability of exports to a particular destination depends on both a genuine transport cost and a fixed cost of serving that particular country. The monopolistic competition equilibrium yields a gravity equation as well as a firm selection equation[1].

[1] A detailed presentation of HMR theoretical framework may be found in Santana et al. (2010).

HMR approach consists in the estimation of the probit equation in a first stage and the gravity equation in a second stage. The gravity equation to be estimated can be expressed as

$$m_{ij} = \beta_0 + \lambda_j + \chi_i - \gamma d_{ij} + w_{ij} + u_{ij} \qquad [1]$$

where m_{ij} denotes the log of country i's imports from j and d_{ij} is the log of the distance between the countries. β_0 is the constant term, γ is a parameter, and λ_j and χ_i are idiosyncratic effects of exporting country and importing country, respectively. w_{ij} is an additional variable depending on the profitability of serving country i from country j, i.e. the selection of firms into export markets. u_{ij} is an error term.

Also the probability that country j exports to country i can be expressed using the following probit equation

$$\rho_{ij} = \Pr(T_{ij} = 1 | \text{observed variables}) = \Phi(\gamma_0 + \xi_j + \zeta_i - \gamma d_{ij} - \kappa\phi_{ij}) \qquad [2]$$

where $\Phi(.)$ is the accumulative standard normal distribution function. γ_0 is a constant term, κ is a parameter, ξ_j is an exporter fixed effect and ζ_i is an importer fixed effect. ϕ_{ij} measures trade fixed costs for the pair of countries. Furthermore, the error term associated to the latent variable used for the probit is assumed to be correlated with the error term u_{ij} in the gravity equation [1].

3. Adding tourism to the HMR approach

As indicated in the introduction, this paper also addresses the omission of relevant variables as a potential explanation for the surprising magnitude of the estimated effect of a common currency on trade. Frankel (2008) discusses this possible omission mainly from time-invariant variables, i.e., the *so*-called multilateral resistance or more concretely the “remoteness”. We test the omission of a potential relevant timevariant variable. In particular, we focus on tourism flows as a candidate of an omitted factor in the gravity equation[2].

A simple way to introduce tourism in HMR framework is by recognizing that bilateral tourism can reduce both trade variable costs and trade fixed costs associated with exports. For instance, tourism may improve the knowledge about foreign culture and, as a consequence, about business habits and practices in other countries. Furthermore, tourism facilitates and stimulates to learn other languages, making bilateral trade easier. In addition, international tourism needs good basic facilities, services, and infrastructure such as transportation and communication systems that are also necessary for trade activity.

Therefore, the promotional effect of trade through tourism in the HMR framework may be interpreted as a consequence of the reduction of both trade fixed costs, as measured by f_{ij}, and trade variable costs, as measured by τ_{ij}. In this research the HMR equations for variable and fixed trade costs of serving a market are rewritten respectively as

$$\tau_{ij} = \left[D_{ij}^{\gamma} Tou_{ij}^{-\psi} e^{-u_{ij}} \right]^{1/\varepsilon - 1}$$

and

$$f_{ij} = Tou_{ij}^{-\beta} \exp(\phi_{ex,j} + \phi_{im,i} + \kappa\phi_{ij} - v_{ij})$$

where Tou_{ij} represents tourist arrivals to country j from country i and parameters β and ψ are positive.

By substituting these two expressions in [1] and [2], the gravity equation and the probit equation can be expressed respectively as

$$m_{ij} = \beta_0 + \lambda_j + \chi_i - \gamma d_{ij} + \psi Tou_{ij} + w_{ij} + u_{ij} \qquad [3]$$

2 A recent literature tests the link between trade and tourism, by using cointegration and causality techniques. A main conclusion is that this empirical nexus seems to exists, and tourism may promote trade both in the short-run and in the long-run. See, for instance, Santana et al (2011) and Kulendran and Wilson (2000).

and

$$\rho_{ij} = \Pr(T_{ij} = 1 \mid \text{observed variables}) = \Phi(\gamma_0 + \xi_j + \zeta_i + (\beta + \psi)\ln Tou_{ij} - \gamma dij - \kappa\phi_{ij}) \quad [4]$$

Now, in equations [3] and [4] tourism appears to potentially promote both, the probability that *j* exports to *i* and the magnitude of this export, *via* a reduction of variable and fixed trade costs.

4. Empirical results

The empirical analysis of this section is supported by the HMR theoretical framework. As mentioned above, this methodology accounts for zero trade flows between pair of countries. The first stage of the model involves the estimate of a probit model for the probability that country *j* exports to country *i*. To that end, a dataset containing enough zero trade flows between country pairs is necessary.

Therefore, a panel dataset which considers 200 countries for the period 1995 to 2006 is used[3]. For a total of 303,541 observations, 167,077 present positive exports which suppose a 55% of the sample. Figure 1 presents the percentage of country pairs with positive exports flows in our dataset.

[Figure 1, here]

Data of export flows from country *j* to country *i* come from the *Direction of Trade* dataset published by the *International Monetary Fund*. These data comprises bilateral merchandise trade and requires to be converted into real terms by using US GDP deflator, obtained from the *World Development Indicators* (2006) and the *UNCTAD Handbook of Statistics* (2008).

[3] Sample is conditioned to data availability and some country pair presents missing values. The list of countries used in the analysis is presented in Table A.1 in the appendix.

Tourism data, tourist arrivals to country *j* from country *i*, is obtained from the *United Nations World Tourism Organisation (UNWTO)* and includes annual international arrivals by country of origin. The distance variable and dummy variables for common language (*Lang)*, common border (*Border)*, colonial ties (*Colony)* and number of landlocked countries in the pair (*Landl)* are collected from the *Centre d'Etudes Prospectives et d'Informations Internationales (CEPII)* dataset while number of islands in the pair (*Island),* Free Trade Agreements *(FTA)* and common currency (*CC)* were obtained from Andrew K. Rose's website and the *CIA Factbook*[4].

As mentioned above, HMR approach follows a two-stage estimation procedure. In the first stage a Probit, equation [4], is estimated by maximum likelihood and two controls are generated. In the second stage, the gravity equation [3] is consistently estimated by adding the two control variables saved from the first stage. Therefore, equation [3] can be estimated using the transformation[5]:

$$m_{ij} = \beta_0 + \lambda_j + \chi_i - \gamma d_{ij} + \psi Tou_{ij} + \vartheta \hat{\bar{\eta}}_{ij} + \ln(\exp[\delta(\hat{z}_{ij} + \hat{\bar{\eta}}_{ij})] - 1) + u_{ij} \qquad [3']$$

where $\hat{z}_{ij}$ and defined by $\hat{\bar{\eta}}_{ij}$ are the two controls from the first stage.

As previously mentioned, the main objective of our research is to analyse whether tourism, which could have been a traditionally omitted factor in gravity equations for trade, reduces the estimated impact of common currency on trade. Hence, all the equations are estimated twice, without tourism and adding tourism. The results of the HMR approach appear in Table 1.

[Table 1, here]

The estimates for the Probit regression without including and including tourism are presented in column 1a and 1b of Table 1, respectively. These results suggest that variables commonly considered in gravity equation also affect the probability that two

[4] The common currency cases considered in the analysis are presented in Table A.2 in the Appendix.
[5] The details of the two-stage estimation of the trade equation may be found in Section VI of Helpman et al (2008).

countries trade which each others. Particularly, countries that are closer are more likely to trade. Moreover, sharing a common border, a common language, a common currency (CC) and belonging to the same regional free trade agreement (FTA) increase the probability to trade while the existence of islands or landlocked countries in the pair as well as the existence of colonial ties between the countries reduce this probability[6]. Tourism also seems to increase the probability of non-zero trade. As presented in section 3, tourist arrivals may increase the probability of trading between countries since tourism flows reduce trade fixed-costs.

Estimates from the first stage are used to construct $\hat{\bar{\eta}}_{ij}$ and $\hat{\bar{w}}_{ij}$.[7] In the second stage, both the non-linear coefficient δ and the linear coefficient ϑ for $\hat{\bar{\eta}}_{ij}$ are estimated. Columns 2a and 2b of Table 1 present the results for the benchmark gravity equation estimated by ordinary least squares (OLS) without these controls while columns 3a and 3b present the estimate of the maximum likelihood (ML) by not including and including tourism, respectively. As found in Helpman et al (2008), the heterogeneity bias in the estimated effects of trade barriers is important. Consequently, the estimates of the effects of trade frictions in the benchmark gravity equation are biased upward.

Focusing on the estimates of the ML presented in columns 3a and 3b, the significance and sign of the variables are as expected. Results suggest that exports decrease in distance and increase in tourist arrivals to country *j* from country *i.* According to the extended theoretical model that incorporates tourism, both distance and tourist arrivals could be affecting transport costs, the former increasing them while the latter decreasing costs. Sharing a common border, common language and belonging to the same FTA affects positively the volume of exports while landlocked countries and islands in the pair reduce trade.

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[6] For identification reasons, one variable from the first stage requires to be excluded in the second stage. According to Gil-Pareja (2009) this could be a variable that affects the probability of exporting to a country but not the volume. Alternatively, a variable which affects both decisions in opposite directions would also work. Colony is excluded in the second stage since it affects negatively in the probit but is expected to affect positively the volume of exports as traditionally obtained in gravity equations for trade.

[7] Following HMR (2008), there are country pairs whose characteristics are such that their probability of trade is indistinguishable from 1. Therefore, the same $\hat{z}_{ij}$ is assigned to country pairs with an estimated $\rho_{ij} > 0.9999999$.

Regarding the variable of interest, the coefficient of common currency is positive and significant. Without including tourism in the regression, the coefficient of CC is 0.6777 which suppose an increase of exports of around 97% while the coefficient after including tourism drops to 0.6177, implying an effect on trade of 85%. Thus, tourist arrivals appears to be a relevant factor in the explanation of trade flows and the impact of CC on trade is reduced around a 10% after controlling for tourism in the model.

Finally, following HMR (2008), the parameterization assumptions that determine the functional forms are progressively relaxed. In this sense, the Pareto distribution assumption for the inverse of productivity assumed in their approach is relaxed. Hence, the control function $\hat{\bar{w}}_{ij}$ is approximated by a polynomial in $\hat{\bar{z}}_{ij}, \nu(\hat{\bar{z}}_{ij})$. As the nonlinearity is eliminated, this second stage can be easily estimated by OLS.

As in HMR work, the $\nu(\hat{\bar{z}}_{ij})$ is expanded until a cubic polynomial[8] and the results suggests that the inclusion of tourism in the model reduces the magnitude of the common currency coefficient in around 22%. This reduction of the coefficient of interest differs from the one obtained from NLS estimation and must be taken with caution. Although polynomial approximation allows for more statistical flexibility, ML estimation deals with the well-founded HMR model presented in sections 2 and 3.

5. Synthesis and conclusions

The magnitude of the impact of currency unions on trade has become one of the most controversial research areas in the last decade. One of the reasons behind the big impact of common currencies estimated in this literature could be that there is some omitted factor that drives countries to both participate in currency unions and trade more. This paper tries to shed light on this debate in two ways. First, the recent method proposed by Helpman, Melitz and Rubinstein (2008) is used, and second, tourism is introduced as an explanatory variable in the trade equation.

[8] In practice, the polynomial is expanded until a tenth power although not noticeable changes for expanding $\nu(\hat{\bar{z}}_{ij})$ beyond a cubic polynomial are found.

Helpman, Melitz and Rubinstein (2008)’ procedure presents two main advantages: (i) it is a well-founded approach, and (ii) it allows to deal with positive and zero trade flows avoiding missing data when two countries do not trade between them. In this research the model is slightly modified to incorporate tourism, recognizing that tourism may reduce both, variable costs and fixed costs of trade.

Two main results are reached. First, tourism affects positively both, the probability of exporting and the volume of exports between two countries. Thus, the results suggest that tourist arrivals could be a relevant factor explaining trade flows. Second, after controlling by tourism, the effect of a common currency on trade suffers a moderate reduction. As a consequence, the omission of this relevant variable may contribute to explain the presence of an upward bias in the estimation of the effect of a common currency on international trade.

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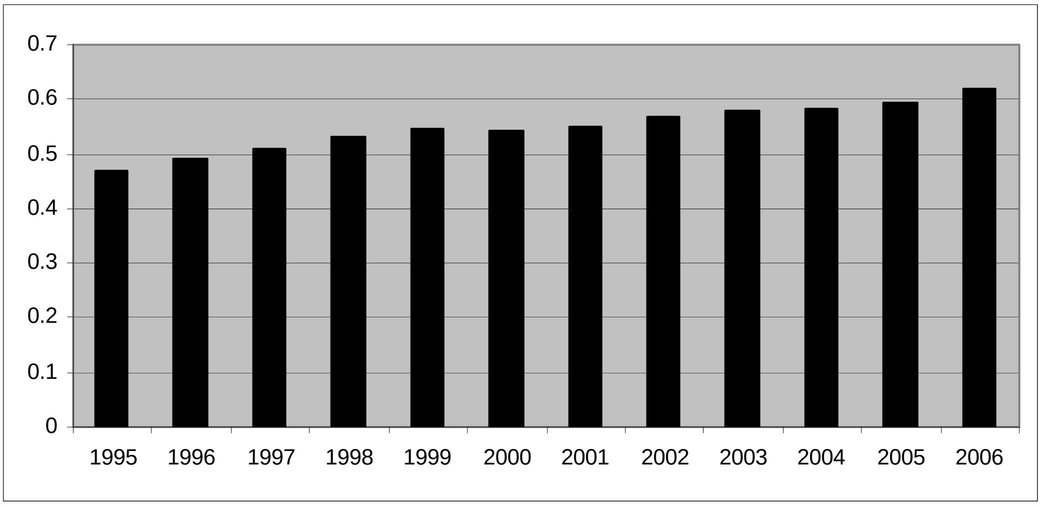
Table 1. HMR two-stage estimation of the effect of common currency on trade

	1st Stage		2nd Stage					
	Probit		Benchmark		Non Linear Model		Polynomial Model	
Variables	**(1a) Without tourism**	**(1b) With tourism**	**(2a) Without tourism**	**(2b) With tourism**	**(3a) Without tourism**	**(3b) With tourism**	**(4a) Without tourism**	**(4b) With tourism**
Tourism		0.1048		0.0902		0.0536		0.0487
		(43.89)		(36.42)		(7.39)		(2.04)
Distance	-0.2322	-0.1594	-1.1198	-0.9599	-1.0524	-0.9070	-1.0745	-0.8903
	(-33.91)	(-22.49)	(-124.07	(-95.94)	(-35.51)	(-28.53)	(-30.64)	(-18.72)
Border	0.4699	0.1531	0.8077	0.5968	0.7005	0.5774	0.8616	0.6053
	(11.57)	(3.56)	(20.60	(15.12)	(5.36)	(4.57)	(11.75)	(4.83)
Language	0.4884	0.3750	0.7067	0.6014	0.6242	0.5208	0.6669	0.4839
	(47.61)	(36.29)	(37.37)	(31.56)	(11.75)	(10.15)	(9.73)	(5.36)
Colony	-0.1722	-0.4067						
	(-3.11)	(-7.20)						
CC	0.5056	0.5552	0.7747	0.7309	0.6777	0.6177	1.0560	0.8242
	(11.25)	(12.97)	(15.51)	(14.69)	(5.03)	(4.60)	(12.33)	(4.97)
FTA	0.2061	0.1633	0.7789	0.6975	0.6610	0.6184	0.8596	0.7403
	(7.03)	(5.54)	(29.85)	(26.74)	(10.07)	(9.52)	(21.22)	(9.90)
Island	-0.3078	-0.3055	-0.9085	-0.8986	-0.8285	-0.8055	-0.8007	-0.7370
	(-19.27)	(-19.02)	(-27.56)	(-27.36)	(-9.00)	(-8.79)	(-14.86)	(-6.80)
Landlocked	-0.1523	-0.1697	-0.6950	-0.6883	-0.6448	-0.6259	-0.6432	-0.6062
	(-8.15)	(-9.13)	(-17.41)	(-17.31)	(-6.30)	(-6.17)	(-13.56)	(-5.57)
σ					0.0618	0.0898		
					(1.87)	(2.83)		
$\hat{\bar{\eta}}_{ij}$					0.5426	0.4052	1.4716	1.2907
					(8.31)	(6.87)	(13.54)	(6.81)
$\hat{\bar{Z}}_{ij}$							2.7917	3.2332
							(14.49)	(8.76)
$\hat{\bar{Z}}_{ij}^2$							-0.4541	-0.5639
							(-12.92)	(-7.20)
$\hat{\bar{Z}}_{ij}^3$							0.0171	0.0306
							(5.87)	(4.80)
Constant	0.9446	1.0154	13.3584	12.4239	16.4085	14.7624	12.9866	10.9746
	(4.41)	(3.94)	(34.68)	(32.31)	(22.68)	(25.54)	(21.94)	(12.08)
Obs	303,541	303,541	167,077	167,077	167,077	167,077	167,077	167,077
F	65904	76258	839	847	23240	21873	201	201
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
% Reduction			6%		9%		22%	

Note: Results from columns 1a and 1b correspond to the first stage of the approach where a probit is estimated. The rest of the columns correspond to the second stage of the model where a gravity equation is estimated. Columns 2a and 2b refers to the benchmark equation estimated by OLS. Results from columns 3a and 3b are obtained by ML while results from column 4a and 4b are obtained by OLS. Imported, exporter and year fixed effect are included in both stages. t-statistics appear between parenthesis and p-values appear between brackets.

Figure 1. Percentage of country pairs with positive exports



Appendix

Table A.1 Countries considered in the sample

Afghanistan, I.S. of	Dominica	Kuwait	Réunion
Albania	Dominican Rep.	Kyrgyz Rep.	Saint Helena
Algeria	Ecuador	Lao, P. D. Rep.	Saint Kitts and Nevis
Angola	Egypt	Latvia	Saint Lucia
Antigua & Barbuda	El Salvador	Lebanon	Saint Pierre & Miquelon
Argentina	Equatorial Guinea	Lesotho	Saint Vincent
Armenia	Eritrea	Liberia	Samoa
Aruba	Estonia	Libya	Saudi Arabia
Australia	Ethiopia	Lithuania	Senegal
Austria	Falkland Islands	Luembourg	Serbia and Montenegro
Azerbaijan	Feroe Islands	Macao	Seychelles
Bahamas, The	Fiji	Madagascar	Sierra Leone
Bahrain	Finland	Malawi	Singapore
Bangladesh	France,	Malaysia	Slovak Rep.
Barbados	French Guiana	Maldives	Slovenia
Belarus	French Polynesia	Mali	Solomon Islands
Belgium	Gabon	Malta	Somalia
Belize	Gambia, The	Martinique	South Africa
Benin	Georgia	Mauritania	Spain
Bermuda	Germany	Mauritius	Sri Lanka
Bhutan	Ghana	Mexico	Sudan
Bolivia	Gibraltar	Mongolia	Suriname
Bosnia and Herzegovina	Greece	Morocco	Swaziland
Botswana	Greenland	Mozambique	Sweden
Brazil	Grenada	Namibia	Switzerland
Brunei Darussalam	Guadeloupe	Nauru	Syrian Arab Rep.
Bulgaria	Guatemala	Nepal	São Tomé & Príncipe
Burkina Faso	Guinea	Netherlands	TFYR of Macedonia
Burundi	Guinea-Bissau	Netherlands Antilles	Tajikistan
Cambodia	Guyana	New Caledonia	Thailand
Cameroon	Haiti	New Zealand	Togo
Canada	Honduras	Nicaragua	Tonga
Cape Verde	Hong Kong	Niger	Trinidad and Tobago
Central African Rep.	Hungary	Nigeria	Tunisia
Chad	Iceland	Norway	Turkey
Chile	India	Oman	Turkmenistan
China	Indonesia	Pakistan	Uganda
Colombia	Iran, Islamic Rep. of	Palau	Ukraine
Comoros	Iraq	Panama	United Arab Emirates
Congo	Ireland	Papua New Guinea	United Kingdom
Costa Rica	Israel	Paraguay	Tanzania
Cote d'Ivoire	Italy	Peru	United States
Croatia	Jamaica	Philippines	Uruguay
Cuba	Japan	Poland	Uzbekistan
Cyprus	Jordan	Portugal	Vanuatu
Czech Rep.	Kazakhstan	Qatar	Venezuela
Czechoslovakia	Kenya	Rep. of Moldova	Vietnam
Dem. Rep. of Congo	Kiribati	Romania	Yemen, Rep. of
Denmark	Korea, dem	Russia	Zambia
Djibouti	Korea, rep of	Rwanda	Zimbabwe

Table A.2 Currency Unions in the sample

(Australian Dollar)	**(New Zealand Dollar)**
Australia	Cook Islands
Kiribati	New Zealand
Nauru	
	(Danish Kroner)
(Euro-since 2002)	Denmark
Austria	Feroe Islands
Belgium	Greenland
Finland	
France,	**(East Caribbean Dollar)**
Germany	Antigua & Barbuda
Greece	Dominica
Ireland	Grenada
Italy	Monserrat
Luxembourg	Saint Kitts and Nevis
Netherlands	Saint Lucia
Portugal	Saint Vincent and the Grenadines
Spain	
	(French Franc)
(US Dollar)	France
United States	French Guiana
Bahamas	Guadeloupe
Bermuda	Martinique
El Salvador	Monaco
Panama	Réunion
Puerto Rico	Saint Pierre & Miquelon
Turks and Caicos	
	(Swiss Franc)
(West African Franc)	Liechtenstein
Benin	Switzerland
Burkina Faso	
Central African Republic	**(Indian Rupee)**
Chad	Nepal
Congo	India
Cote d'Ivoire	
Equatorial Guinea	**(Comptoirs Francais du Pacifique francs)**
Gabon	New Caledonia
Guinea-Bissau	French Polynesia
Mali	
Niger	**(British Pound)**
Senegal	United Kingdom
Togo	Falkland Islands
	Gibraltar
(Brunei-Singapore Dollar)	Saint Helena
Brunei Darussalam	
Singapore	