One Reason Countries Pay their Debts:

Renegotiation and International Trade

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Motivation: Why do countries pay their international debts?

1. Fear of overseas assets seizure
2. Fear of being cut off from future capital flows: "Pure reputation"
3. Fear of reduced international trade

This paper concerned with last reason

Results

- Develop two reasons why default may lead to reduced trade
  - Trade credit may naturally shrink after default
  - Creditors may wish to punish default to discourage future default, or default by third parties

- Estimate a gravity model linking trade to default
  - Use a large panel data set covering over 200 trading partners over fifty years of data
  - Use Paris Club deals to date debt renegotiation and control for IMF programs
  - Debt renegotiation is associated with an economically and statistically significant decline in bilateral trade
  - Adds up to a year's worth of trade spread over fifteen years

Restriction of Trade as Inducement for Repayment:

Example 1:

Trade Restrictions to Deter Default by Other Debtors

- N + 1 countries (one creditor, other identical borrowers)
- Trade between creditor and borrower n generates surplus of $2T(X_{nt})$ in period t if trade is unconstrained, (X_{nt} is economic state, randomly, independently determined each period from interval [0,1].).
- Surplus is evenly divided between the creditor and the debtor.

- Each period, the borrow must repay d to the creditor (i.e., service its debt).
    - If d is not repaid, then the creditor *can* restrict trade, reducing the surplus per country to $k_n T(X_{nt})$, where $0 < k_n < 1$.
- Timing: debtors simultaneously decide to repay or not, then the creditor decides whether to take actions.
- S(X) is survival function (one minus the distribution function).
- T is increasing function, $T(0) = 0$; let δ be the common discount factor.

Equilibrium Strategies:

- *Creditor*: Provided it has maintained its reputation to punish, then, in the interactions with each debtor, set $k_n = 1$ if repaid that period, otherwise set it to $k_n = k^* < 1$ (i.e., punish). If it has failed to maintain its reputation, then set $k_n = 1$ regardless of repayment.
- *Debtor*: If the creditor has always punished non-repayers or there has yet to be an instance of non-repayment, then repay if $T - d > k^*T$ and default otherwise. If the creditor has ever failed to punish non-repayers, then default regardless of T.

Example 2:

Restrictions to Deter Future Default by the Same Debtor

- Alternative reason for creditors to restrict trade: deter future default by the same debtor
- Repeated game of loan repayment with creditor and debtor.
- Simultaneous choices:
    - Debtor chooses to service debt ("Pay") or renegotiate ("Default")
    - Creditor chooses to engage in free trade ("Trade") or to restrict ("Restrict")
- Creditor prefers to be paid, the debtor prefers to default, and *both* prefer to trade freely.

Payoffs for (Debtor, Creditor):

	Trade	**Restrict**
Pay	1,2	-1,x
Default	2,0	0,-2

$-2 < x < 2$

- Imperfect observability. Two states, Good and Bad, (very costly for debtor to service debt in the bad state).
- Payoffs: debtor's payoffs when paying are reduced by some large M.
- Creditor cannot verify the state, which is independently drawn each period, Good has probability p in (p*,1).

Perfect Public Equilibrium

- Debtor pays except in bad states, defaults in bad states
- Default results in period of (Pay, Trade) followed by a punishment phase, periods of (Default, Restrict)
- Equilibrium path: intervals of (Pay, Trade), broken by a period of (Default, Trade), punished by interval of (Default, Restrict), then return to (Pay, Trade) with probability p

Default and Trade Credit

- Much (informal) evidence that short-term credit used for trade finance is disrupted after default
- Insurance rates for international trade (especially of official agencies) may rise as a result of default

Sovereign Debt Renegotiation in Practice

- Countries typically renegotiate debts through "Paris Club"
- Paris Club: an informal group of official creditors that renegotiate (PPG) external debts; adheres to principles
- Began with 1956 renegotiation of Argentina's external debt
- Has reached over 335 agreements with over 75 debtor countries, totaling >$375 billion

Key Principles of Paris Club

1. All decisions by taken by consensus

2. “Comparability of treatment” for all creditors (except IFIs)

3. Preference that countries have IMF-approved program

Only renegotiate medium- and long-term debt:

"Short term debt (debt with a maturity of one year or less) is excluded from the treatments, as their restructuring can create a significant disruption of the capacity of the debtor country to participate in international trade."

Participation

- Creditors with debts exceeding “de minimis” level negotiate
- Paris Club operates quickly; within six to eight months of IMF
- “Classic terms” include: 5 grace years; semi-annual principal repayment terms in next 5; a moratorium interest rate designed to keep the net present value of the debt intact
  - Here exclude Naples/Houston/Cologne terms with grant elements

Estimation Strategy

Augmented bilateral "gravity" model of trade:

$$\ln(X_{ijt}) = \beta_0 + \beta_1 \ln(Y_i Y_j)_t + \beta_2 \ln(Y_i Y_j / Pop_i Pop_j)_t + \beta_3 \ln D_{ij} + \beta_4 Lang_{ij} + \beta_5 Cont_{ij}$$
$$+ \beta_6 FTA_{ijt} + \beta_7 Landl_{ij} + \beta_8 Island_{ij} + \beta_9 \ln(Area_i Area_j) + \beta_{10} ComCol_{ij}$$
$$+ \beta_{11} CurCol_{ijt} + \beta_{12} Colony_{ij} + \beta_{13} ComNat_{ij} + \beta_{14} CU_{ijt}$$
$$+ \beta_{15,0} IMF_{ijt} + \Sigma_K \beta_{15,k} IMF_{ijt-k} + \phi RENEG_{ijt} + \Sigma_M \phi_m RENEG_{ijt-m} + \varepsilon_{ijt}$$

Coefficients of interest: $\{\phi\}$, effect of debt renegotiations on trade

Estimators

- Fixed and random effects panel data estimators

Data Set

- Trade data from “Direction of Trade”
- Covers bilateral trade between all 217 entities measured by the IMF, 1948 through 1997 (with gaps)
  - Not all of the trading partners are “countries.”
- FOB exports and CIF imports in American dollars, deflated by the American CPI.
  - Average all four trade flows available.

- Population and real GDP from “World Development Indicators”
- CIA’s “World Factbook” for country-specific variables
- WTO for regional trade agreements
- Currency union pairs from Glick and Rose (2002)
- Paris Club website for dates, creditors, debtors in deals
- IMF for initiation of IMF programs

Benchmark Results: Table 1

- Start with contemporaneous and 15 lags of RENEG, 5 lags of IMF
- Standard gravity effects work; coefficients mostly economically and statistically significant, fit OK
- IMF programs associated with a drop in bilateral trade about 10%, but transient

Renegotiation matters!

- Fixed effects: trade falls 7% annually; GLS 9%
- Effects highly persistent, lasting around 15 years
- Individual ϕ coefficients affected by multicollinearity
- Hypothesis that debt renegotiations have no effect on trade can be rejected at any reasonable significance level
- Cumulative effect also large negative and significant
- Results not sensitive to exact specification of the lag length

Lag Length: Table 2

- Uncertainty about lag length does not affect conclusions
- About 15 years matter, independent of IMF lag length
- But many debt renegotiations have taken place in last 15 years
    - (Parenthetically, *leads* of Paris Club renegotiation have no effect on the economic or statistical significance of debt renegotiation)

Censoring and Simultaneity: Table 3

- Random-effects panel Tobit estimator to handle censoring
  - Similar results
- Little reason from literature to expect simultaneity
  - Long unsuccessful research program to find leading indicators of default
- But can use potential causes of default as instrumental variables for RENEG and IMF

3 IVs:

1. government budget surplus/deficit (percentage GDP) for i and j
2. CPI inflation rate
3. current account surplus/deficit (percentage of GDP)

- Both fixed- and random-effects show simultaneity bias not responsible for negative effect of renegotiation on trade
  - But lose observations and precision

Sensitivity Analysis: Table 4

- Test $\Pi_m \phi_m = 0 \ \forall m$, estimate $\Sigma_m \phi_m$ fixed- and random-effects
- Four different samples:
  1. default entire sample
  2. sample without 1990s
  3. sample without African observations
  4. sample without Latin-American observations
- Using Arrears instead of Paris Club Deal => effect still there
- Debt renegotiation has significant negative effect on trade

Trade Diversion: Table 5

- DIVERT=1 if (at least) one of the countries rescheduled its debt but pair of countries not directly involved in renegotiation
  - Ex: Albania rescheduled debt with Austria in 1993, not with Australia
    - RENEG =1 for Albania-Austria 1993, =0 for Albania-Australia
    - DIVERT=0 for Albania-Austria 1993, =1 for Albania-Australia
- Positive coefficient indicates trade is diverted away from creditors towards non-creditors
- Find negative but short-lived effects; possible trade diversion

Differential Effects on Exports and Imports: Table 6

- Estimate bilateral export flows, differentiate default by exporter and importer
- Paris Club renegotiation have similar effects on both exporting and importing countries
- Export effect somewhat bigger than import effect

Other Effects

Little evidence of trade impact of:

1. Size of deal
2. Length of time since last renegotiation
3. Number of renegotiations

Table 1: Debt Renegotiation and Trade

	Fixed	Random/GLS	Fixed	Random/GLS
RENEG	-.06 (.04)	-.08 (.04)	-.05 (.04)	-.06 (.04)
RENEG: lag 1	-.07 (.04)	-.09 (.04)	-.07 (.04)	-.09 (.04)
RENEG: lag 2	-.06 (.04)	-.08 (.04)	-.07 (.04)	-.08 (.04)
RENEG: lag 3	-.06 (.04)	-.07 (.04)	-.06 (.04)	-.08 (.04)
RENEG: lag 4	-.03 (.04)	-.04 (.04)	-.03 (.04)	-.04 (.04)
RENEG: lag 5	-.04 (.04)	-.05 (.04)	-.02 (.04)	-.04 (.04)
RENEG: lag 6	.00 (.04)	-.02 (.04)	.00 (.04)	-.02 (.04)
RENEG: lag 7	-.04 (.04)	-.07 (.04)	-.04 (.04)	-.07 (.04)
RENEG: lag 8	-.06 (.04)	-.09 (.04)	-.07 (.04)	-.11 (.04)
RENEG: lag 9	-.06 (.04)	-.09 (.04)	-.09 (.04)	-.13 (.04)
RENEG: lag 10	-.07 (.04)	-.10 (.05)	-.11 (.04)	-.16 (.04)
RENEG: lag 11	-.12 (.05)	-.16 (.05)		
RENEG: lag 12	-.06 (.05)	-.09 (.05)		
RENEG: lag 13	-.10 (.06)	-.13 (.06)		
RENEG: lag 14	-.09 (.06)	-.13 (.06)		
RENEG: lag 15	-.09 (.07)	-.12 (.07)		
IMF	-.09 (.01)	-.10 (.01)	-.10 (.01)	-.11 (.01)
IMF: lag 1	-.02 (.01)	-.03 (.01)		
IMF: lag 2	-.01 (.01)	-.02 (.01)		
IMF: lag 3	-.01 (.01)	-.02 (.01)		
IMF: lag 4	-.00 (.01)	-.01 (.01)		
IMF: lag 5	.03 (.01)	.01 (.01)		
Log Distance		-1.35 (.03)		-1.35 (.03)
Log Real GDP	.07 (.01)	.30 (.01)	.06 (.01)	.28 (.01)
Log GDP p/c	.77 (.01)	.49 (.01)	.78 (.01)	.51 (.16)
Language		.19 (.06)		.18 (.06)
Border		.52 (.16)		.53 (.16)
Regional FTA	.68 (.04)	.65 (.04)	.68 (.04)	.65 (.04)
Landlocked		-.86 (.04)		-.86 (.04)
Island		-.05 (.05)		-.06 (.05)
Log Area		.24 (.01)		.25 (.01)
Com. Colonizer		-.26 (.08)		-.27 (.08)
Cur. Colony	.37 (.09)	.44 (.09)	.37 (.09)	.43 (.09)
Ex-Colonizer-Colony		3.18 (.20)		3.20 (.20)
Same Country		1.23 (.20)		1.25 (1.58)
Currency Union	.64 (.05)	.68 (.05)	.64 (.01)	.69 (.05)
P(All RENEG=0)	.0000	.0000	.0000	.0000
Σ RENEG	-.99 (.13)	-1.43 (.13)	-.60 (.09)	-.88 (.09)
R^2 within	.12	.12	.12	.12
R^2 between	.25	.53	.24	.53
R^2 overall	.25	.47	.24	.47

Intercepts not recorded. Standard errors in parentheses. 219,573 observations in 11,178 dyads.

Table 2: Varying the Lag Structure of Renegotiation

Including 5 lags of IMF program

	Fixed	**GLS**	**Fixed**	**GLS**	**Fixed**	**GLS**	**Fixed**	**GLS**
MA(5) of RENEG	-.11 (.02)	-.15 (.02)	.09 (.04)	.13 (.04)	.09 (.04)	.14 (.04)	.09 (.04)	.14 (.04)
MA(10) of RENEG			-.23 (.03)	-.32 (.03)	-.01 (.05)	-.00 (.06)	-.01 (.05)	-.00 (.06)
MA(15) of RENEG					-.24 (.05)	-.35 (.05)	-.22 (.11)	-.25 (.10)
MA(20) of RENEG							-.02 (.09)	-.10 (.09)

Without IMF lags

	Fixed	**GLS**	**Fixed**	**GLS**	**Fixed**	**GLS**	**Fixed**	**GLS**
MA(5) of RENEG	-.12 (.02)	-.17 (.02)	.08 (.04)	.11 (.04)	.08 (.04)	.12 (.04)	.08 (.04)	.12 (.04)
MA(10) of RENEG			-.23 (.04)	-.32 (.03)	-.01 (.05)	-.00 (.06)	-.22 (.10)	-.00 (.06)
MA(15) of RENEG					-.24 (.05)	-.34 (.05)	-.02 (.09)	-.25 (.10)
MA(20) of RENEG							-.02 (.09)	-.09 (.09)

Are 5 Extra Lags Required?

	With 5 IMF lags	**With 5 IMF lags**	**Without IMF lags**	**Without IMF lags**
	Fixed	**GLS**	**Fixed**	**GLS**
Conditional on 5 lags	.0001	.0000	.0002	.0000
Conditional on 10 lags	.0002	.0000	.0002	.0000
Conditional on 15 lags	.1542	.0177	.1783	.0329

Probability value for hypothesis $\Pi\phi_k=0$.
Regressors not recorded include: Contemporaneous values of RENEG and IMF; currency union; log distance; real GDP; real GDP per capita; common language; border; regional FTA; landlocked; island; log area; common colonizer; current colony; ex-colony; common country; and intercept.
Number of observations = 219,573 in 11,178 dyads.

Table 3: Estimator Sensitivity: Panel Tobit and Instrumental Variables Estimates

	Random Effect Tobit	Fixed Effects, IV	Random Effects, IV
RENEG	-.08 (.04)	-2.26 (1.52)	-9.35 (2.29)
RENEG: lag 1	-.09 (.04)	-.24 (.06)	-.29 (.07)
RENEG: lag 2	-.08 (.04)	.14 (.21)	1.33 (.34)
RENEG: lag 3	-.08 (.04)	-.16 (.06)	-.28 (.07)
RENEG: lag 4	-.05 (.04)	-.07 (.05)	.15 (.08)
RENEG: lag 5	-.05 (.04)	-.11 (.06)	-.15 (.07)
RENEG: lag 6	-.03 (.04)	-.11 (.06)	-.27 (.08)
RENEG: lag 7	-.07 (.04)	-.27 (.16)	-1.02 (.23)
RENEG: lag 8	-.10 (.04)	-.33 (.19)	-1.24 (.27)
RENEG: lag 9	-.09 (.04)	-.15 (.07)	-.25 (.09)
RENEG: lag 10	-.11 (.05)	-.19 (.12)	-.60 (.16)
RENEG: lag 11	-.18 (.05)	-.29 (.19)	-1.24 (.27)
RENEG: lag 12	-.09 (.05)	-.25 (.17)	-.97 (.23)
RENEG: lag 13	-.13 (.06)	-.12 (.11)	-.50 (.14)
RENEG: lag 14	-.15 (.06)	-.14 (.11)	-.51 (.15)
RENEG: lag 15	-.14 (.07)	-.07 (.09)	-.13 (.12)
IMF	-.11 (.01)	.14 (.17)	-.39 (.25)
IMF: lag 1	-.03 (.01)	.03 (.03)	-.01 (.03)
IMF: lag 2	-.02 (.01)	.01 (.01)	.04 (.02)
IMF: lag 3	-.02 (.01)	.00 (.01)	.05 (.02)
IMF: lag 4	-.01 (.01)	-.01 (.01)	-.01 (.016)
IMF: lag 5	.00 (.01)	-.01 (.01)	.01 (.02)
Log Distance	-1.47 (.02)		-1.46 (.04)
Log Real GDP	.39 (.005)	.27 (.04)	.80 (.02)
Log GDP p/c	.43 (.01)	.75 (.06)	.42 (.04)
Language	.10 (.03)		.42 (.08)
Border	-1.57 (.05)		.09 (.24)
Regional FTA	.48 (.04)	.21 (.07)	.07 (.09)
Landlocked	-.76 (.02)		-.50 (.07)
Island	.24 (.02)		.06 (.07)
Log Area	.24 (.01)		.04 (.02)
Com. Colonizer	-.18 (.07)		.01 (.12)
Cur. Colony	.53 (.08)	-1.39 (.47)	-.86 (.63)
Ex-Colonizer-Colony	2.33 (.04)		2.40 (.25)
Same Country	2.72 (.19)		
Currency Union	.68 (.06)	.00 (.30)	.83 (.28)
P(All RENEG=0)	.0000	.0000	.0000
Σ RENEG	-1.54 (.12)	-4.61 (2.49)	-15.3 (3.5)
R^2 within		.02	.01
R^2 between		.52	.64
R^2 overall		.52	.56
Observations	219,573	59,481	59,481

Standard errors in parentheses. Instrumental variables: domestic and foreign CPI inflation rates, current accounts and budget surplus/deficit (latter expressed as percentage of GDP).

Table 4: Sample Sensitivity Analysis

	Fixed Effects	Fixed Effects	Random Effects/GLS	Random Effects/GLS
	All RENEG=0	Σ RENEG	All RENEG=0	Σ RENEG
Default	.00	-.99 (.13)	.00	-1.43 (.13)
Without 1990s	.01	-.23 (.23)	.00	-.57 (.23)
Without Africa	.00	-.59 (.16)	.00	-.80 (.16)
Without Latins	.00	-1.00 (.14)	.00	-1.54 (.14)

Probability values for "All RENEG=0;" coefficient values and standard error for ΣRENEG.
Benchmark regression: Contemporaneous and 15 lags of RENEG; contemporaneous and 5 lags of IMF; currency union; log distance; real GDP; real GDP per capita; common language; border; regional FTA; landlocked; island; log area; common colonizer; current colony; ex-colony; common country; and intercept.
Number of observations = 219,573 in 11,178 dyads.

Table 4b: Using Arrears instead of Paris Club Deals

	Fixed Effects	Random Effects
Arrears	-.08 (.02)	-.25 (.02)
IMF	-.09 (.01)	-.08 (.01)
Log Distance		-1.52 (.05)
Log Real GDP	.23 (.02)	.55 (.02)
Log GDP p/c	.71 (.03)	.41 (.03)
Language		.23 (.10)
Border		.92 (.21)
Regional FTA	.43 (.19)	.75 (.17)
Landlocked		-.50 (.06)
Island		.09 (.09)
Log Area		.18 (.02)
Com. Colonizer		.39 (.11)
Ex-Colonizer-Colony		.12 (.85)
Currency Union	.31 (.13)	.33 (.12)
R^2 within	.04	.04
R^2 between	.22	.49
R^2 overall	.19	.44

Intercepts not recorded. Standard errors in parentheses.
Number of observations = 71,925 in 5,658 dyads.

Table 5: Estimating Trade Diversion

"DIVERT" is trade between non-rescheduler and rescheduler

	Fixed	GLS	Fixed	GLS	Fixed	GLS
DIVERT	-.16 (.01)	-.25 (.01)	-.16 (.01)	-.24 (.01)	-.16 (.01)	-.24 (.01)
DIVERT: lag 1			-.06 (.01)	-.13 (.01)	-.06 (.01)	-.14 (.01)
DIVERT: lag 2			.01 (.01)	-.05 (.01)	.00 (.01)	-.06 (.01)
DIVERT: lag 3			.03 (.01)	-.03 (.01)	.01 (.01)	-.03 (.01)
DIVERT: lag 4			.05 (.02)	-.01 (.02)	.02 (.02)	-.02 (.02)
DIVERT: lag 5			.08 (.02)	.02 (.02)	.05 (.02)	.01 (.02)
DIVERT: lag 6					.09 (.02)	.05 (.02)
DIVERT: lag 7					.08 (.02)	.03 (.02)
DIVERT: lag 8					.04 (.02)	-.01 (.02)
DIVERT: lag 9					.06 (.02)	.02 (.02)
DIVERT: lag 10					.07 (.02)	.01 (.02)
DIVERT Lags=0			.00	.00	.00	.00
Σ DIVERT			-.05 (.03)	-.43 (.03)	.21 (.04)	-.37 (.04)

Standard errors in parentheses.
Regressors not reported: contemporaneous and 15 lags of RENEG; contemporaneous and 5 lags of IMF; currency union; log distance; real GDP; real GDP per capita; common language; border; regional FTA; landlocked; island; log area; common colonizer; current colony; ex-colony; common country; and intercept.
Number of observations = 219,573 in 11,178 dyads.

Table 6: Exports and Imports

Hypothesis Tested	Fixed Effects	Random Effects/GLS
P(Exporters RENEG=0)	.0000	.0000
Σ (Exporters RENEG), se	-1.29 (.14)	-1.76 (.14)
P(Importers RENEG=0)	.0000	.0000
Σ (Importers RENEG), se	-.83 (.13)	-1.30 (.13)
P(Exporters RENEG=Importers RENEG)	.63	.65
Σ(Exporters RENEG)- Σ(Importers RENEG), se	-.46 (.19)	-.46 (.19)

Bilateral real exports. Regressors not reported: contemporaneous and 15 lags of RENEG for both exporting and importing countries; contemporaneous and 5 lags of IMF; currency union; log distance; real GDP; real GDP per capita; common language; border; regional FTA; landlocked; island; log area; common colonizer; current colony; ex-colony; common country; and intercept.
Number of observations = 375,364 in 20,643 dyads.

Appendix 1: Countries in Sample

Afghanistan
Albania
Algeria
American Samoa
Angola
Anguilla
Antigua and Barbuda
Argentina
Armenia
Aruba
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bermuda
Bhutan
Bolivia
Bosnia & Herzegovina
Botswana
Brazil
Brunei Darussalam
Bulgaria
Burkina Faso
Burma (Myanmar)
Burundi
Cambodia
Cameroon
Canada
Cape Verde
Cayman Islands
Central African Rep.
Chad
Chile
China
Colombia
Comoros
Congo, Dem. Rep. (Zaire)
Congo, Rep. of
Costa Rica
Cote D'Ivorie
Croatia
Cuba
Cyprus
Czech Republic
Czechoslovakia
Denmark
Djibouti
Dominica
Dominican Rep.
Eastern Germany
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia
Ethiopia
Faeroe Islands
Falkland Islands
Fiji
Finland
France
French Guiana
French Polynesia
Gabon
Gambia
Georgia
Germany
Ghana
Gibraltar
Greece
Greenland
Grenada
Guadeloupe
Guam
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Honduras
Hong Kong
Hungary
Iceland
India
Indonesia
Iran
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kiribati
Korea, North
Korea, South (R)
Kuwait
Kyrgyz Republic
Lao People's Dem. Rep.
Latvia
Lebanon
Lesotho
Liberia
Libya
Lithuania
Luxembourg
Macao
Macedonia
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Martinique
Mauritania
Mauritius
Mexico
Moldova
Mongolia
Montserrat
Morocco
Mozambique
Namibia
Nauru
Nepal
Netherlands
Netherlands Antilles
New Caledonia
New Zealand
Nicaragua
Niger
Nigeria
Norway
Oman
Pakistan
Panama
Papua N.Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Reunion
Romania
Russia
Rwanda
Samoa
Sao Tome & Principe
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Singapore
Slovak Republic
Slovenia
Solomon Islands
Somalia
Somaliland, British
South Africa
Spain
Spanish Sahara
Sri Lanka
St. Helena
St. Kitts & Nevis
St. Pierre & Miquelon
St.Lucia
St.Vincent & Gren.
Sudan
Suriname
Swaziland
Sweden
Switzerland
Syria
Tajikistan
Tanzania
Thailand
Timor
Togo
Tonga
Trinidad & Tobago
Tunisia
Turkey
Turkmenistan
Tuvalu
U.S.S.R.
Uganda
Ukraine
United Arab Emirates
United Kingdom
United States
Uruguay
Uzbekistan
Vanuatu
Venezuela
Vietnam
Wake Islands
Wallis & Futuna
West Bank/Gaza Strip
Yemen Arab Rep.
Yemen, P.D.R.
Yemen, Republic of
Yugoslavia, Fr (Serbia)
Yugoslavia, Soc. Fed. Rep.
Zambia
Zimbabwe

Appendix 2: Descriptive Statistics

	Mean	Std. Dev.	Min	Max	OLS (se)
Log Trade	14.6	3.35	-11.5	25.3	
RENEG	.01	.09	0	1	.56 (.05)
IMF	.29	.50	0	2	-.28 (.01)
Log Distance	8.17	.81	3.8	9.4	-1.14 (.01)
Log Real GDP	47.9	2.67	35.4	58.0	.86 (.003)
Log GDP p/c	16.0	1.45	10.1	20.9	.39 (.004)
Language	.23	.42	0	1	.37 (.01)
Border	.03	.17	0	1	.42 (.03)
Regional FTA	.01	.11	0	1	.70 (.04)
Landlocked	.24	.46	0	2	-.39 (.01)
Island	.34	.54	0	2	.05 (.01)
Log Area	24.2	3.29	9.6	32.2	-.04 (.002)
Com. Colonizer	.10	.30	0	1	.20 (.02)
Cur. Colony	.00	.05	0	1	1.68 (.12)
Ex-Colonizer-Colony	.02	.14	0	1	1.48 (.04)
Same Country	.00	.02	0	1	-.79 (.29)
Currency Union	.01	.12	0	1	1.34 (.04)

219,573 observations.

Appendix 3: Simple Correlations

	Trade	RENEG	IMF	CU	Dist.	GDP	GDP p/c	Lang.	Border	FTA	Land	Isl.	Area	Com. Col.	Cur. Col.	Ex-Col.
RENEG	.08															
IMF	-.09	.09														
Currency Union	.00	-.01	.00													
Log Distance	-.17	.01	-.00	-.18												
Log Real GDP	.67	.09	-.03	-.14	.18											
Log GDP p/c	.41	.05	-.19	-.13	.11	.38										
Language	-.01	-.01	.01	.19	-.13	-.18	-.05									
Border	.11	-.01	.02	.12	-.42	-.02	-.12	.12								
Regional FTA	.08	-.01	-.02	.08	-.25	-.06	.08	.10	.08							
Landlocked	-.15	-.01	-.01	.04	-.09	-.12	-.21	-.01	.08	-.05						
Island	-.17	-.03	-.08	.01	.15	-.30	.20	.10	-.11	.08	-.19					
Log Area	.27	.05	.07	-.01	.10	.57	-.22	-.11	.10	-.13	.04	-.51				
Com. Colonizer	-.16	-.03	-.00	.26	-.15	-.32	-.18	-.37	.06	.12	.02	.19	-.26			
Cur. Colony	.05	-.0	-.00	.15	.01	-.01	.01	.07	-.01	-.01	-.02	.01	-.03	-.02		
Ex-Colony	.15	.03	-.00	.08	-.02	.08	.06	.19	.03	.00	-.03	-.03	.01	-.05	.31	
Same Country	.02	-.00	-.01	.05	.00	-.00	.02	.03	-.00	-.00	-.01	.02	-.03	-.01	.39	.12

219,573 observations => standard error ≈ .002.