

Is it Punishment? Sovereign Defaults and the Decline in Trade*

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Abstract

The ability of creditors to impose trade sanctions has been one of the workhorse arguments to explain why governments repay foreign creditors. Although sovereign defaults are associated with declines in the defaulting country trade, the absence of explicit trade sanctions following defaults in recent decades is troublesome. One way in which the trade sanctions argument is reconciled with this evidence is to argue that creditor countries are punishing defaulting countries through sub rosa actions that disrupt their trade. Is this the case? Are trade sanctions (understood in a broad sense) causing the declines in trade? Using a gravity model framework we devise an empirical strategy to evaluate this issue. It is based on the idea that if trade sanctions are causing the declines, bilateral trade with creditor countries should fall more than trade with other countries. We find that sovereign defaults are associated with a decline in overall trade for the defaulting country. However, in the aftermath of defaults, there seems to be no evidence of a larger decline in bilateral trade with creditor countries affected by the default. This would imply that the declines are not due to punishments imposed by these creditor countries. The analysis does not yield evidence of broader punishment strategies including a league of major creditors (not just those affected by the default) either. These results would contradict the predictions of the trade sanctions theory of sovereign borrowing.

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1 INTRODUCTION

One of the essential questions in the sovereign borrowing literature is why sovereign governments repay their debts with foreign creditors. This question arises as sovereign debt contracts are usually not collateralized and their legal enforceability is very limited. There is no bankruptcy for sovereign borrowers and lenders cannot take control of a country, nor seize a significant amount of its assets in the event of a default. Given this legal framework, it seems that sovereign borrowers would not have many incentives to repay, and therefore lenders would have few incentives to lend. However, sovereign borrowing exists. So, a crucial task of the sovereign borrowing literature was to find conditions under which governments would have incentives to repay. In other words, the central issue is not why governments default, but quite the opposite -why they usually choose not to do it- given the weak legal framework.

The vast majority of explanation in the literature can be grouped in two categories: reputation and sanctions. The former emphasizes the role played by the borrower's reputation. The idea, first modelled by Eaton and Gersowitz (1981), is that repayment may hold the carrot of a good reputation for the borrower (implying usually the ability to borrow again). That is, the reputation literature emphasizes the costs of being excluded from credit markets in the event of a default. However, Bulow and Rogoff (1989), in a seminal paper, cast doubts on this reputation argument. They show that if governments still had access to a sufficiently rich set of assets after defaulting, then reputation for repayment alone could not explain why governments repay. Based on this result, they suggest that, instead of reputation for repayment, it is the threat of direct sanctions (usually trade related) the reason why governments repay.¹

The empirical research on the costs of sovereign defaults is relatively limited. The main reason is that estimating the costs of sovereign defaults has been troublesome, as defaults are not isolated events, but usually just one component of a more general economic crisis. As a result, it has been almost impossible to isolate those costs generated exclusively by defaults. Most of the literature has focused on analyzing the effects of defaults on sovereign spreads or credit ratings.² A notable exception is Rose (2003) that finds a relationship between sovereign defaults and declines in trade between the defaulting country and the creditor countries affected by the default. In this way he makes some progress towards understanding the costs of defaults. In order to assess whether these declines represented a true "cost" of defaulting, Rose also looks for evidence of "trade diversion" -whether the decline in trade bilaterally was offset by increased trade with all other countries not

¹More recently, Cole and Kehoe (1997) and Sandleris (2003) suggested that there are other costs of defaulting beyond those of potential sanctions or exclusion from credit markets related to "reputation spillovers" or "informational costs".

²See for example Ozler (1993) who finds that previous defaults affect the conditions on banks loans, Cantor and Packer (1996) for a similar result regarding credit ratings. Eichengreen and Portes (1986) reach an opposite conclusion regarding bonds spreads in the 1920s.

directly affected by the default- finding that this is not the case.

Rose’s empirical findings leave open the question of which mechanisms link sovereign defaults with the declines in trade.³ Our paper focuses precisely on this issue, on the cause of these declines in trade in the aftermath of defaults. In particular, we analyze the empirical plausibility of the main mechanism suggested in the sovereign debt literature for this to happen, namely: trade sanctions. In effect, since Bulow and Rogoff’s influential paper, trade sanctions have been one of the workhorse arguments in the sovereign borrowing literature.⁴ The standard trade sanctions argument suggests that, for example, if the government of Argentina defaulted with US private or official creditors, the US would impose sanctions on Argentina and bilateral trade between both countries would be negatively affected.

An obvious problem with the trade sanctions argument is that in the aftermath of the 116 sovereign defaults with private creditors and 269 with official creditors we have observed in the last 30 years, it is hard to point to a single case in which substantial, overt bilateral creditor-debtor trade sanctions have actually been imposed. It is possible, however, that creditor countries have found a *sub rosa* approach to impose trade sanctions (through covert actions that disrupt or harass the defaulting country’s trade).⁵ So, even if trade sanctions are not observed one might be able to observe their effect on the defaulting country trade.

The main contribution of our paper is to devise an empirical strategy to explicitly deal with the plausibility of *sub rosa* sanctions being the cause for the declines in trade. That is, we devise an empirical test of the trade sanctions argument.⁶ In order to discuss what is novel about our approach, it is important to distinguish between three types of trade declines that a defaulting country can suffer: (1) A decline in trade that is stronger with respect to the affected creditor countries than all other countries. This we think of as a “bilateral” decline (or “bilateral” effect). (2) A decline that is stronger with respect to all creditor countries (not just those affected by the default) relative to non-creditor or debtor countries. This we think of as a “multilateral” decline (or “multilateral” effect). (3) Finally, we consider the case of a general decline in trade volumes with all countries.⁷

³Rose (2003) remains agnostic on this regard.

⁴See Bulow and Rogoff (1989b), Fernandez and Rosenthal (1990), Lane (1999), Chang and Sundaresan (2002), Gibson and Sundaresan (2002) or Rose and Spiegel (2002) for models in which bilateral trade sanctions play a crucial role.

⁵Note that another explanation that could be advanced is that no sanctions were observed because all default events were “non-strategic”. That is, if sovereign debt contracts are interpreted as implicit contracts in which defaults under some circumstances are “allowed”, then sanctions should only be imposed in the event of a default outside of these circumstances. However, it is usually not easy to determine whether a sovereign default is “strategic” or not. In what follows we will assume that sovereign defaults usually have at least some “strategic” component.

⁶We look for evidence of trade sanctions understood in a broad sense as any overt or covert actions undertaken by creditor countries that disrupt the defaulting country’s trade.

⁷Note that the fact that we contemplate the possibility of “general” effects of defaults is neither casual nor arbitrary. It is the direct result of seeing the effects of sovereign defaults on defaulting countries economic variables (including trade) as pure market phenomena not related to any kind of punishment, and, therefore, “general” (as

Having done this we are ready to tackle an important question: Are the trade declines associated with sovereign defaults the result of trade sanctions (whether overt or covert)? We look for evidence of two types of sanctions, which may be termed bilateral or multilateral sanctions. First consider bilateral sanctions. We take as a maintained assumption of our paper that if in the aftermath of default, the specific creditor countries that suffered the default impose trade sanctions, then the “bilateral” effect should prevail (i.e.: bilateral trade with the affected creditor countries will suffer a significantly larger decline than trade with other countries). In the case of multilateral sanctions, we consider the possibility of punishment by a collection of all major creditor countries (not just those affected by the default). In this case, our maintained assumption is that if in the aftermath of defaults all creditors coordinate to impose trade sanctions, then the “multilateral” effect should prevail. If we find the first effect (the “bilateral” one), then we will view this as evidence consistent with bilateral sanctions. In order to conclude that the evidence is consistent with multilateral sanctions there are two things that we would like to see: the “multilateral” effect should prevail and the decline should be at least as severe with the affected creditors as with the non-affected ones. Finally, if we cannot find that, in the aftermath of default, the defaulting country’s trade declines either “bilaterally” or “multilaterally” (plus the “relative severity condition”) relative to trade with other countries, then we will view this as evidence that sanctions are playing no substantive role in the evolution of that country’s trade. Several stories could then explain the broad decline in trade after a default.⁸

The regressions we run in our paper are systematically trying to disentangle the “general”, the “bilateral” and the “multilateral” effects to assess the relevance of the sanctions argument under our maintained assumptions. In order to disentangle the “general” from the “bilateral” effect we impose on a gravity equation of trade flows a default dummy that captures the “bilateral” effect and another one that captures the effects on overall trade. So, this would be equivalent to looking for the existence of a “bilateral” effect once we control for a potential “general” effect. We proceed likewise to disentangle the “general” from the “multilateral” one.

The results we obtain show that sovereign defaults are often associated with a broad decline in trade for the defaulting country with all its trade partners. This decline lasts between two and five years depending on the exact specification and it is statistically and economically significant. Trade declines approximately 4.3% on average per year during the first three years following a default. Furthermore, once this general negative relation between defaults and overall trade is accounted for, there seems to be no significant effect of defaults on bilateral trade with the affected creditors. There is no “multilateral” effect either in the aftermath of defaults. These results are particularly

opposed to “bilateral”) in their nature.

⁸Within the sovereign borrowing literature reputation or information contents of defaults stories could potentially do it, alternatively it could be argued that the decline in trade is not the result of the default but of macroeconomic distress in the tradable sector that may be causing both the default and the decline in trade.

important as, under our maintained assumptions, they imply that trade sanctions can be ruled out as the enforcement mechanism for sovereign debt repayment.

The paper is organized as follows. In Section 2 we present the methodology and data. In Section 3 we discuss the main empirical results. Finally, Section 4 concludes.

2 Methodology and Data

2.1 Estimation Strategy

The objective of our paper is to analyze empirically whether trade sanctions can explain the declines in trade associated with sovereign defaults. A natural starting point for this enquiry is to analyze the existence of explicitly overt trade sanctions following sovereign default. However, in the aftermath of the 116 sovereign defaults with private creditors and 269 with official creditors we have observed in the last 30 years, it is hard to point to a single case in which substantial, overt bilateral creditor-debtor trade sanctions have actually been imposed.

This evidence does not rule out the existence of trade sanctions. In effect, it is possible that creditor countries have found a *sub rosa* approach to impose trade sanctions. Disgruntled creditor countries may be punishing defaulting governments through the covert use of relatively standard trade policy instruments such as tariff and non-tariff barriers (most likely the latter as the former would be too easily observed). Testing whether tariffs, para-tariff and non-tariff measures change following defaults would be then a natural second step in our strategy. The lack of enough data prevents us from doing so. Although the TRAINS data base provides detailed information about tariff, para-tariff and non-tariff measures for a large number of countries (140), the time dimension coverage is fairly limited for our purposes as it usually has non-consecutive years of data (particularly regarding para-tariff and non-tariff measures) and exclusively for the last decade.⁹

As a result, we take a more indirect route. We will evaluate whether sovereign defaults affect trade between the defaulting country and different groups of countries. In order to do so, we make the implicit assumption that if disgruntled creditors are punishing a defaulting country through trade sanctions we should observe a larger decline in trade with the creditors' country. That is, consistently with the standard "trade sanctions argument" in the sovereign debt literature, we assume that if the Argentine government were to default on its debt with US creditors, trade between Argentina and the US would decline (due to US-imposed sanctions), but trade between

⁹If the TRAINS data base were to provide a more extensive temporal coverage, finding that defaults affect these instruments would support the trade sanctions argument. However, finding that they do not affect tariffs and non-tariffs barriers would not be enough to reject the trade sanctions theory. The reason is that the sovereign debt literature is fairly vague regarding the exact nature of the trade sanctions they invoke as the mechanism that could enforce debt repayments. As a result, it could always be argued that the trade sanctions imposed in a covert way may not be limited to those that could be typified.

Argentina and Brazil would not be significantly affected (or that it would be significantly less affected).

The strategy of analyzing directly bilateral trade flows instead of focusing on the trade policy instruments allows us also to bypass the vagueness of the sovereign debt literature regarding the exact nature of the trade sanctions that creditors would impose. In other words, our strategy allows us to check for the existence of trade sanctions understood as any actions undertaken by creditors to disrupt or harass the defaulting country's trade, not just those limited to standard trade policy instruments. This implies that if we were to reject the sanctions argument, our rejection would not be subject to the critique that we are not considering all the possible instruments that creditor countries could be using to impose the trade sanctions. That is, by analyzing directly trade flows, we bypass the discussion regarding which trade policy instruments could creditors be using when imposing the trade sanctions.

Central to our strategy is the distinction between three types of trade declines that a defaulting country can suffer: (1) A decline in trade that is stronger with respect to the affected creditor countries than all other countries ("bilateral" decline or "bilateral" effect). (2) A decline that is stronger with respect to all creditor countries relative to non-creditor or debtor countries ("multilateral" decline or "multilateral" effect). (3) Finally, we consider the case of a general decline in trade volumes with all countries. This classification will allow us to address whether the trade declines are the result of trade sanctions (whether overt or covert) or not.

We look for evidence of two types of sanctions: bilateral and multilateral. In the case of bilateral sanctions, we take as a maintained assumption that if in the aftermath of default, the specific creditor countries that suffered the default impose trade sanctions, then the "bilateral" effect should prevail (i.e.: bilateral trade with the affected creditor countries will suffer a significantly larger decline than trade with other countries). In the case of multilateral sanctions, we consider the possibility of punishment by a collection of all major creditor countries. In this case, our maintained assumption is that if in the aftermath of defaults all creditors coordinate to impose trade sanctions, then the "multilateral" effect should prevail. If we find the first effect (the "bilateral" one), then we would interpret the declines in trade as consistent with bilateral sanctions. In order to conclude that trade declines are consistent with multilateral sanctions we would want to observe two things: the "multilateral" effect should prevail and the decline should be at least as severe with the affected creditors as with the non-affected ones. Finally, if we cannot find that, in the aftermath of default, the defaulting country's trade declines either "bilaterally" or "multilaterally" (plus the "relative severity condition") relative to trade with other countries, then we will view this as evidence that trade sanctions are playing no substantive role in the evolution of that country's trade.

As at the core of our strategy is the analysis of the impact of defaults on bilateral trade between the defaulting country and different trade partners (i.e.: creditor countries affected by the default,

all creditor countries, non-creditor countries), the determination of what the "normal" amount of bilateral trade should be with each of these countries is extremely important. We use a gravity model of bilateral trade augmented with some additional controls for this purpose. Although the model is not ideal, its choice is based on the fact that it constitutes the dominant paradigm for understanding bilateral trade patterns. In effect, the gravity equation has been extremely successful at fitting the bilateral trade data, so it is the "benchmark" against which we evaluate the impacts of defaults. The "bare-bone" gravity model explains bilateral trade patterns with the distance between the two countries and their joint income. A number of additional variables are then added to account for other factors that may affect bilateral trade such as history and culture (for example whether they were colonies of the same country or whether they share a common language) or geography (whether they are landlocked).¹⁰¹¹

Based on this model, Rose (2003) devised a strategy to estimate the negative effect of defaults on bilateral trade between the defaulting country and the creditor countries affected by the default. Rose's benchmark equation is:

$$(1) \quad \ln(T_{ijt}) = \beta Z_t + \sum_{m=0}^M \phi_m RC_{ijt-m} + \varepsilon_{ijt}$$

where i and j denote countries and t denotes time, and the variables are defined as:

T_{ijt} : average value of real bilateral trade between i and j at time t

Z_t : set of "gravity variables" plus IMF program dummy¹²

RC_{ijt} : binary variable that takes the value 1 if i and j were involved in a bilateral renegotiation of international public debt at t ("defaulted creditor" default variable)

ε_{ijt} : error term

This specification makes it possible to find the effects of default on bilateral trade between the defaulting country and the affected creditors (and he indeed finds a negative and significant effect). However, it does not allow us to check whether this negative effect is just "bilateral" (i.e.: specific to the creditors affected by the default) or of a more general kind. That is, whether the defaulting country's trade declines just with the affected creditors or with a broad cross-section of trade partners. This distinction becomes crucial if we want to understand whether the decline in trade is the result of trade sanctions (whether overt or covert) or not. Our paper devises an empirical strategy to explicitly deal with this issue.

¹⁰See details of the controls included in the Appendix.

¹¹We are of course aware that the choice of this framework is not free of problems. For example, defaults -being the decision of a sovereign- are not completely exogenous variables. We try to address this problem by using some macro variables as instruments for defaults. Also, as it is usually the case, the inclusion of all the standard gravity variables plus some additional controls does not guarantee that there are not omitted variables correlated with both defaults and trade.

¹²The gravity variables included are standard such as size, distance, common language or colonizer, members of same trade agreement, etc. See Appendix for details.

The regressions we run, will try to systematically disentangle the “general”, the “bilateral” and the “multilateral” effects defined above, to assess the relevance of the sanctions argument under our maintained assumptions. In order to disentangle the “general” from the “bilateral” effect we impose on a gravity equation of trade flows a default dummy that captures the “bilateral” effect and another one that captures the effects on overall trade (not just the creditors affected by the default). The benchmark equation we estimate is:

$$(2) \quad \ln(T_{ijt}) = \beta Z_t + \sum_{m=0}^M \phi_m RC_{ijt-m} + \sum_{m=0}^M \gamma_m RG_{ijt-m} + \varepsilon_{ijt}$$

where all variables are as in equation (1), but we add:

RG_{ijt} : binary variable that takes the value 1 if either i or j were involved as debtors in a renegotiation of international public debt at t (“general” default variable)

The relevant coefficients for the study of the impact of defaults on trade are the ϕ s that accompanies the “defaulted creditors” default variable and the γ s that accompanies the “general” default variable. The former gives us the effect of a default on bilateral trade between a defaulting country and the creditors affected by the default (“bilateral” effect), while the latter gives us the effect of a default on trade between a defaulting country and all its trade partners (“general” effect). So, this regression will allow us to clearly disentangle the negative effect of defaults on overall trade (“general” effect) from the effect on bilateral trade with the creditors affected by the default (“bilateral” effect). In other words, the simultaneous inclusion of the “defaulted creditor” and the “general” default variables allows us to looking for the existence of a “bilateral” effect once we control for a potential “general” effect. We also include a set of time dummies that allows us to capture year fixed effects offering a more robust vision of the phenomenon.¹³

As explained, we take as a maintained assumption that if in the aftermath of default, the specific creditor countries that suffered the default impose trade sanctions, then the “bilateral” effect should prevail (i.e.: bilateral trade with the affected creditor countries will suffer a significantly larger decline than trade with other countries). So, in our equation, if the bilateral sanctions argument were true, the “defaulted creditors” variable should have a negative and significant coefficient. On the other hand, if the effects of default on trade were not specific to the affected creditors as the bilateral trade sanctions argument predicts, but of a more general form, we should find that once we control for the association between overall trade and defaults, there should not be an additional negative effect on bilateral trade between a debtor and its creditors. That is, the coefficient of the “defaulted creditors” variable should not be negative and significant in the aftermath of the default

¹³Rose (2003) runs a similar regression to test for trade diversion. He includes the set of gravity variables, the IMF dummy variable, the “defaulted creditor” default variable, and another default dummy variable, “other countries”, that captures the effects of default on trade with those countries not affected by the default (he does not include time dummies though). Our “general” default variable could be thought of as the summation of the two dummy variables included by Rose.

events. So, if this coefficient is negative and significant in the aftermath of defaults, we cannot rule out the existence of covert bilateral trade sanctions. If it is insignificant, we will see this as evidence against the bilateral trade sanctions argument.

The above specification allows us to focus on the presence of bilateral trade sanctions, but remains silent regarding whether there is a broader set of creditors (not just those affected by the default) that jointly punish defaulting countries. So, in order to evaluate the empirical relevance of “multilateral” sanctions, we need to disentangle the “multilateral” from the “general” effect. We do so by estimating a modified version of Equation (2) where we replace the “defaulted creditors” variable with another indicator variable, *CRED*, that takes on the value of 1 whenever one of the two countries involved in bilateral commerce has defaulted and is renegotiating its debts with Paris Club members and the other belongs to a specific creditor group, and 0 otherwise. We carry out this strategy for two specific group of creditors, Paris Club member countries and OECD countries. The equation we estimate is:

$$(3) \quad \ln(T_{ijt}) = \beta Z_t + \sum_{m=0}^M \phi_m CRED_{ijt-m} + \sum_{m=0}^M \gamma_m RG_{ijt-m} + \varepsilon_{ijt}$$

and the interpretation of the coefficients is similar to that of the previous equation. As explained above, in order to conclude that trade declines are consistent with multilateral sanctions we would want to observe that the “multilateral” effect prevails and that the decline is at least as severe with the affected creditors as with the non-affected ones. We test this last condition running the following equation:

$$(4) \quad \ln(T_{ij})_t = \beta Z_t + \sum_{m=0}^M \phi_m RC_{ijt-m} + \sum_{m=0}^M \gamma_m OC_{ijt-m} + \sum_{m=0}^M \theta_m NC_{ijt-m} + \varepsilon_{ijt}$$

In this equation all variables are as in Equation (2), but we exclude the “general” default variable and include instead:

OC_{ij}: binary variable that takes on the value of 1 if i or j were involved in a renegotiation of international public debt at time t as the defaulting country, and the other one is a creditor country not involved in the renegotiations (“other creditors” default variable)

NC_{ij}: binary variable that takes the value 1 if i or j were involved in a renegotiation of international public debt at time t as the defaulting country, and the other one is not a creditor country (“not creditors” default variable).

So, in Equation (4) we are including in the gravity model three default variables that identify whether the other country in the pair (the first one is the defaulting one) is a creditor affected by the default (negotiating Paris Club member), a creditor not affected by the default (Paris Club member not participating in the negotiations) or a non-creditor country (not a Paris Club member). The relevant coefficients in this equation are the ϕ s, the γ s and the θ s that correspond to each of the three default variables respectively. If there were some coordinated punishment imposed by all

creditors, not just those involved in the default, we should find that both the “defaulted creditors” and the “other creditors” default variables have negative and significant coefficients. And, under our maintained assumptions for the empirical evidence to be consistent with “multilateral” trade sanctions, we should find that the coefficient of the “defaulted” creditor variable is at least as negative as the one of the “other creditors” variable. Otherwise, we would conclude that “multilateral” trade sanctions do not play a role as deterrents of defaults.

2.2 Data

The dataset used includes trade data from the “Direction of Trade” data set from the IMF, which covers bilateral trade measured in US dollars between 217 countries from 1948 to 1997.¹⁴ This data is then deflated using the US CPI, and the average value of bilateral trade between a pair of countries is finally taken to build the bilateral trade series used for the estimation of the model. The dataset also includes population and real GDP series taken from World Bank’s “World Development Indicators” and missing observations were filled in with data from the Penn World Table Mark 5.6 and the IMF’s “International Financial Statistics”. Finally, the CIA’s “World Factbook” was the source for a number of country-specific variables such as distance, area, landlocked, island status, borders, language, colonizers, etc.; and WTO data is used for trade agreements.¹⁵

We use Paris Club renegotiation data as a proxy for default data. The Paris Club, an informal group of official creditors that began in 1956 provides data on sovereign debt renegotiations with official creditors undertaken under the umbrella of the institution.¹⁶ The data includes the date of the negotiations and all participants (the debtor and all creditor countries involved in the negotiations).¹⁷ That it is possible to identify the creditor countries involved in the renegotiation is the big advantage of using Paris Club data for our purposes. The main disadvantage of this dataset is that we may lose some precision in the dating of the default event, as sovereign default years may differ from those of the debt renegotiation.

Alternative sources of default data are Standard & Poors (S&P) sovereign defaults database and World Bank’s Global Development Finance (GDF) database.¹⁸ The S&P database includes all sovereign defaults on loans or bonds with private agents. While for private loans it would potentially be feasible to identify the country of origin of the creditors, this would be almost impossible when

¹⁴In reality not all of the trading partners included are countries in the conventional sense of the word, as territories and overseas departments are also included.

¹⁵We made extensive use of the compilation of these data series done by Rose (which is available on his website) in building our database.

¹⁶See Sevigny (1990), Eichengreen and Portes (1995) or the Paris Club website for more information on the Paris Club.

¹⁷Paris club negotiations usually last for six to eight months (see Eichengreen 1995).

¹⁸Another potential source of information on sovereign defaults is the London Club institution under which private banks renegotiate with debtor governments. However, data from this institution was not available.

bonds are the borrowing instruments. Consistently, the S&P database includes only the name of the country that defaulted, the default date and the period during which the debtor government remained in default, but the information on who the creditors or bond holders are is not available. Finally, an alternative source of data would be to look at the GDF series of debt arrears, and extract from there the onset of arrears on international payments, but again it would be impossible to identify the country of origin of creditors. So, the main disadvantage of these two datasets for our purposes is that they do not identify the creditor countries. However, we use them to check the robustness of our results related to the association between defaults and overall trade.¹⁹

3 Main Empirical Results

3.1 Bilateral Punishment

We estimate Equation (2) using panel data techniques:

$$(2) \quad \ln(T_{ijt}) = \beta Z_t + \sum_{m=0}^M \phi_m RC_{ijt-m} + \sum_{m=0}^M \gamma_m RG_{ijt-m} + \varepsilon_{ijt}$$

The panel is constructed by taking every bilateral relationship along the cross-sectional dimension of the panel and collecting the observed logs of bilateral trade along time. That is we impose on the gravity equation two default dummy variables together with the corresponding lags. The “general” default variable, that adopts the value 1 whenever one of the two countries involved in bilateral commerce is renegotiating its debts with Paris Club members and 0 otherwise; and the defaulted creditor variable that takes the value 1 if *i* and *j* were involved in a bilateral renegotiation of international public debt at *t*.²⁰

The estimation of the different specifications shows that the results tend to differ substantially whether we employ fixed or random effects; not surprisingly, then, the Hausman test rejects the appropriateness of the random effects estimator. The random effects estimator, while more efficient than the fixed effects estimator when appropriate conditions are satisfied, may be inconsistent whenever the so called “random effects ” are correlated with the regressors as seems to be the case here. Fixed effect estimators are therefore more reliable under the current circumstances. Note that fixed effects estimators, however, do not allow for the inclusion of time-invariant country-pair characteristics that are absorbed by the country-pair fixed effects (i.e. country-pair specific dummies).

¹⁹Note that the information in these defaults databases does not allow us to check for creditor specific effects.

²⁰The inclusion of the general default variable and year dummies constitute the main difference of this equation with the baseline equation estimated in Rose (2003). Note that the exclusion of these year dummies does not affect our results qualitatively (see the Appendix for the results of our benchmark bilateral regression without year dummies).

In the different specifications of our model the standard gravity effects are present; bilateral trade is increasing in the combined real GDP and real GDP per capita, and is higher for countries belonging to the same regional trade agreement and sharing the same currency. In addition, we observe that the onset of an IMF program negatively impacts trade beyond what is explained by all other variables already included in the regression, an effect previously found by Rose (2003).

Our coefficients of interest are, however, the ones corresponding to the “defaulted creditors” variable and the “general” default variable.²¹ The first two columns of Table 1 report the results of the estimation employing no lags in these variables. The “general” default variable has a negative and significant coefficient of -0.079 in the fixed effects regression, suggesting that defaulting countries experience on average a contemporaneous decline of their international trade of around 7.9%; moreover, this effect is beyond what can be explained by the particular macroeconomic difficulties that they might be experiencing (captured by the log of real GDP and IMF regressors). On the other hand, the “defaulted creditors” variable exhibits a positive and significant coefficient of 0.127. These results imply that defaults are associated with a contemporaneous decline in trade between a debtor and *all* its trade partners, but there seems to be no additional negative effect on bilateral trade between a defaulting debtor and the affected creditors on top of the general effect.²² Furthermore, if anything, trade with the affected creditors seems to decline significantly less than total trade.

Columns 3 to 8 of Table 1 offer estimations of the same model but employing 5, 10 and 15 lags of the “defaulted creditors” variable and the “general” default variable. Here again the Hausman test suggests that random effects estimates may be biased and therefore we pay more attention to fixed effects estimates. Using 5 lags the average impact on overall trade during the first three years following the renegotiations is -5.6% per year and again there is no negative additional impact on bilateral trade with the affected creditors on top of this (with the peculiarity that the impact during the first three years is, if anything, positive).²³ The average impact on total trade during the first five years is also -5.6%, while again there is no negative additional impact on bilateral trade with the affected creditors on top of the general effect. When we test the individual significance of each of the “general” default variable lags, we find that the contemporaneous effect and the first four lags are negative and significant. On the other hand, the contemporaneous effect and the first four lags of the “defaulted creditors” default variable are positive.²⁴

²¹Both the “defaulted creditors” default variable and the “general” default variable are noisy proxies of default as we explained above. Therefore, there is a potential error-in-variables problem and interpretations should be cautious.

²²The random effects estimates yield qualitatively similar (the coefficient of the “general” default variable is negative and significant while that of the “defaulted creditor” default variable is positive and significant) but even stronger results. However, we do not comment on the random effects coefficients since Hausman tests suggest that they may be biased

²³The random effects estimates cast even more doubts on the relevance of the bilateral effect.

²⁴Even when results do not differ too much among different lag length specifications a question may arise as to which one should we emphasize more. A popular method for comparing multiple models, taking descriptive accuracy

When we include 10 lags the impact of renegotiations on trade with all trade partners now averages -5.5% per year during the first 5 years following the default, whereas the affected creditors specific effect is still positive during that period. The decline on overall trade during the first ten years following the default is statistically and economically significant and amounts to -31.7%, while there is no decline in bilateral trade with the "defaulting creditors" during that period (in fact, trade with them increases). While again the contemporaneous effect and the first 4 lags of the "general" default variable are negative and individually significant (they remain negative but not individually significant thereafter until the 10th lag that becomes significant again), the coefficients of the "bilateral" default variable turn negative only 7 years after the default, but they are never individually significant. When we include 15 lags the results remain essentially unchanged. The only relevant point with 15 lags is that 11 years after the default the "general" effect becomes positive but non-significant for two years, becoming negative again afterwards. In that precise year, the 11th after a devaluation, the "bilateral" effects becomes negative and significant, remaining negative (but non-significant individually) thereafter.²⁵²⁶

One way to think about these results is to emphasize the long term “bilateral” effect, and disregard the fact that it appears only more than ten years after the default. And, based on this, to conclude that it constitutes evidence in favor of bilateral trade sanctions. However, interpreting the empirical evidence as the consequence of bilateral sanctions would require a very special story regarding the type of sanctions imposed and their implications. In effect, in such a story sanctions should be such that bilateral trade with the defaulted creditors is not particularly affected for a period of at least ten years following a default, with the largest effect occurring 11 years after the default. It would be hard to find a truly compelling sanction-based story yielding these predictions.²⁷

and parsimony into account, is the use of so-called Information Criteria, the two most popular ones being Akaike Information Criteria (AIC) and Schwarz Bayesian Information Criteria (BIC). Among them AIC, widely felt to have a tendency to select overly complex models, favors the selection of the 13 lags model whereas BIC, sometimes considered too ruthless in favoring simple models, points at the 1 lag model as the better one.

²⁵The inclusion of longer lags does not affect our basic results.

²⁶Note that the results we present in Table 1 differ from those presented by Rose (2003) in his benchmark regression. We find that there is not a negative “bilateral” effect in the aftermath of defaults while he finds that there is a significant decline in trade between the defaulting country and the affected creditors in most of his specifications (not always individually significant though). The basic reason for this difference is, as explained above, that in our regression we control for the effect of defaults on overall trade and then look for the “bilateral” effect on top of it. Rose does not control for the “general” effect, and as a result his “bilateral” default variable is capturing part of the “general” effect. Our results seem qualitatively consistent with those that Rose (2003) obtains when he analyzes the issue of trade diversion. However, our interpretation differs from his.

²⁷We could think of sanctions-based stories matching these empirical facts. For example, if creditor countries imposed sanctions that prevent the defaulting country to import some goods needed for the production process of tradable goods this would affect the defaulting country’s trade with all its trade partners. Over time (more than ten years), firms in the defaulting country may find alternative sources for their imports and this will allow its exports to recover as well. As trade with countries that did not imposed sanctions recovers, and trade with those imposing the sanctions remain depressed, the “defaulted creditor” default variable becomes significant. Such a story could match

We believe that the existence of a negative effect on overall trade in the short-term and the absence of any negative “bilateral” effect for many years following a default (after we control for the “general” effect) are illuminating in order to assess the relevance of the bilateral sanctions argument. We consider that this short-term pattern of trade declines provides relevant evidence against the bilateral sanctions argument. The basic reason is that one would tend to believe that the effects of sanctions on trade should appear not too long after the event that triggered them.

As robustness check of our results, we perform Tobit regressions in order to account for the censoring that the existence of zeroes in bilateral trade data could generate. The results remain largely unchanged with the "general" effect becoming stronger and the "bilateral" one even weaker. As additional robustness checks, we split the sample into two periods, up to 1975 and 1976 - 1997, that reflect clearly different characteristics of international sovereign debt markets and we construct region-specific default variables, distinguishing Africa, Asia and Latin America from all the others, and the results confirm those already advanced. For neither of the two periods into which we split the sample and for none of the lag specifications do we find a negative and significant impact of renegotiations on bilateral trade between the defaulting country and the affected creditors (in addition to the general effect) in the aftermath of defaults. Furthermore, the “bilateral” effect is not significant for any of the four regions defined.

We also performed an analysis of the impact of default on imports and exports separately, the results, presented in Table 2, suggest that defaulting countries suffer a larger decline in their overall exports than in their imports.²⁸ In effect, the contemporaneous decline in overall exports (when no lags are included) amounts to -8.8% while the decline in overall imports is -5.1%, both of them significant at the 1% level. The bilateral effect seems to be positive and significant on impact for both exports and imports. The larger decline on overall exports relatively to overall imports is robust to the inclusion of 5, 10 and even longer lags. Not only the magnitudes are larger, but the negative effect on exports lasts longer (10 years for exports against 5 years for imports). When we include 5 lags the average impact during the first 5 years following renegotiations is -7.0% for overall exports and -3.1% for overall imports. There is no negative “bilateral effect” on exports or imports during the first 5 years after a default. When we include 10 lags the average impact during the first 5 years following a default is -6.1% for overall exports and -3.8% for overall imports.

A serious concern regarding this kind of strategy to assess the effects of default on trade, and certainly difficult to overcome, is the bias induced by a potential simultaneity of the relationship between trade and default. Even when the above relationships convey the idea that default is associated with a substantial decline in overall trade, the direction of causality is not beyond discussion. It might be that the decline in trade is the cause and not the consequence of the default, either because countries can no longer afford to repay their loans (a repayment capacity

the facts, the issue is whether it is convincing and we remain sceptic about it.

²⁸We only report the fixed effects results of these regressions.

argument) or because their exposure to sanctions is now lower, due to the reduction in trade (a multilateral sanctions/willingness to repay argument). In short, default or renegotiation -being the decision of a sovereign- is not a completely exogenous variable and this may not be properly taken into account in our previous estimations.

In an attempt to overcome these endogeneity problems, we follow Rose (2003) and instrument the default variables and their lags using the government budget deficit (expressed as a percentage of GDP), the CPI inflation rate and the current account surplus/deficit (as a percentage of GDP) together with their corresponding lags. The results of these estimations are reported in Table 3. Again, the general effect seems to be negative and there does not seem to be a bilateral effect on top of the general one. However, several problems with IV estimators are evident here. The weak explanatory power of the instruments translates into large standard errors in the second stage so that nothing is significant. Worse, it is well-known that even in large samples IV methods can exhibit potentially large biases when using weak instruments, and they are directly inconsistent whenever the instruments are correlated with the error term, which is likely to be the case here. All this suggests that we should interpret these results with caution. It may be that OLS, with all its shortcomings, is capable of providing a better picture of the situation than IV.

The results, with the shortcomings already described, suggest that defaults tend to be associated with a substantial reduction in international trade for the defaulting country with all its trade partners.²⁹ It seems clear that there is nothing special about bilateral trade between the defaulting country and the creditor countries affected by the default; trade with them is not halted nor even affected in a differential way than overall trade in the aftermath of defaults.³⁰ As a result, because in the aftermath of defaults we observe a decline in overall trade and no decline in bilateral trade with the affected creditors once the “general” effect is accounted for, we conclude that the declines in trade do not seem consistent with bilateral punishment. So, we reject the hypothesis of bilateral trade sanctions being the enforcement mechanism for debt repayments.

3.2 Multilateral Punishment

Having discarded the idea of bilateral trade sanctions imposed by affected creditor countries, we now explore whether there is a broader set of creditors (not just those affected by the default) that jointly punish defaulting countries. To do so, we analyze the effect of defaults on bilateral trade between the defaulting country and different sets of creditor countries, following a similar approach to the one used in the previous section.

²⁹No conclusive evidence has been provided regarding the direction in which causality runs; it may be that defaults cause reductions in trade or the other way around.

³⁰In fact, if anything, bilateral trade with the affected creditor countries seems to decline less than trade with other countries in the aftermath of defaults.

As explained above, we start by estimating Equation (3):

$$(3) \quad \ln(T_{ijt}) = \beta Z_t + \sum_{m=0}^M \phi_m CRED_{ijt-m} + \sum_{m=0}^M \gamma_m RG_{ijt-m} + \varepsilon_{ijt}$$

This equation is a modified version of Equation (2), where we replace the “defaulted creditors” variable with another indicator variable, CRED, that takes on the value of 1 whenever one of the two countries involved in bilateral commerce has defaulted and is renegotiating its debts with Paris Club members and the other belongs to a specific creditor group, and 0 otherwise. We carry out this strategy for two specific group of creditors, Paris Club member countries and OECD countries. In principle if one suspects that creditor countries pool efforts to sanction a defaulting country, the Paris Club offers what seems to be a natural unit of coordination, a self-selected group of creditors that identify themselves as such. OECD membership allow us to check for the possibility of a larger sanctioning group.

We report both fixed and random effect estimates of our regressions as before, and most of the comments and caveats of the previous section also apply here. In particular, we note that fixed effects estimators seem to be more reliable than random effects ones. The results are reported in Tables 4 and 5. Table 4 uses Paris Club countries as the reference creditor group, whereas Table 5 employs OECD countries. It is comforting to see that the results for both groups of creditors are fairly similar. Furthermore, they are also similar to the results we obtain when we analyze the existence of bilateral punishment.

The first two columns of Table 4 report the results of the estimation employing no lags in these variables. The “general” default variable has a negative and significant coefficient of -0.092 in the fixed effects regression, suggesting that defaulting countries experience on average a contemporaneous decline of their international trade of around 9.2%; as before, this effect is beyond what can be explained by the particular macroeconomic difficulties that they might be experiencing (captured by the log of real GDP and IMF regressors). On the other hand, the contemporaneous effect on trade with Paris Club countries seems to be positive and significant. In other words, once more we find that defaults are associated with a contemporaneous decline in trade between a debtor and *all* its trade partners, but there seems to be no additional negative effect on bilateral trade between a defaulting debtor and a group of creditor countries that potentially could coordinate to punish, namely Paris Club countries.³¹

Columns 3 to 8 of Table 4 offer estimations of the same model but employing 5, 10 and 15 lags of the “Paris Club creditors” variable and the “general” default variable. Using 5 lags the average impact on overall trade during the first three years following the renegotiations is -6.0% per

³¹The random effects estimates yield qualitatively similar (the coefficient of the “general” default variable is negative and significant while that of the “defaulted creditor” default variable is positive and significant) but even stronger results. However, we do not comment on the random effects coefficients since Hausman tests suggest that they may be biased

year and again there is no negative additional impact on bilateral trade with Paris Club creditors on top of this. In fact, again the "multilateral effect" is positive and significant. The average impact on total trade during the first five years is -5.7%, while once again there is no negative additional impact on bilateral trade with Paris Club creditors on top of the general effect. When we include 10 lags the impact of renegotiations on trade with all trade partners during the first five years remains essentially unchanged, whereas the effect on trade with Paris Club creditors is still positive. The cumulative decline in overall trade during the first ten years following a default amounts to 37%, while trade with Paris Club creditors increases during these period. For all lag lengths the contemporaneous and the first 5 lags of the general default variable are negative and individually significant, while the bilateral effect is positive and usually non-significant during the first five years, and turns negative but remains usually non-significant thereafter. Table 5 presents the results of the estimation of equation (3) using OECD countries as the reference group. Using this group of creditor countries most results are qualitatively similar, but the "general effect" seems to be even stronger.

It is important to highlight a differences that we find in the multilateral analysis with respect to our results of the previous section, in particular when we use Paris Club countries as the reference group. The negative multilateral effect seems to appear a little bit earlier than the bilateral one, but it is usually non-significant. With 10 lags the multilateral effect becomes negative and significant 7 years after the default (for both Paris Club and OECD creditors), while with 15 lags it does so 11 years after the default.

Summarizing, as in the bilateral case we find evidence of a decline in overall trade following defaults, and no evidence of a larger decline in trade with groups of creditor countries in the aftermath of defaults. However, as mentioned, the negative multilateral effect does not appear as late as the bilateral one.

A final test, on the likelihood of multilateral sanctions causing the declines in trade is provided by the estimation of Equation (4):

$$(4) \quad \ln(T_{ij})_t = \beta Z_t + \sum_{m=0}^M \phi_m RC_{ijt-m} + \sum_{m=0}^M \gamma_m OC_{ijt-m} + \sum_{m=0}^M \theta_m NC_{ijt-m} + \varepsilon_{ijt}$$

As explained, in this equation we are including in the gravity model three default variables that identify whether the other country in the pair (the first one is the defaulting one) is a creditor affected by the default (negotiating Paris Club member), a creditor not affected by the default (Paris Club member not participating in the negotiations) or a non-creditor country (not a Paris Club member). Given the results of the previous section one should expect that the small improvement of the multilateral effect when compared to the bilateral one is driven by those Paris Club members that do not take part in the renegotiations, and this presumption is confirmed by the results of the estimation of Equation (4) presented in Table 5. As expected given the result of

the previous sections, the defaulting country’s bilateral trade declines most significantly with the non-creditor countries. There is also a cumulative significant decline on trade with the group of creditor countries not involved in the renegotiations, that is those creditors (Paris Club members) that were not affected by the default. These results do not seem consistent with a multilateral punishment strategy in which creditors (both those affected and not affected by the default) would be coordinating the imposition of sanctions on defaulting countries.

Finally, to gain further insights on the existence of multilateral punishment we again split the sample in two periods (up to 1975 and 1976 to 1997) and we distinguish among four groups of debtor countries (the same ones we used in the bilateral analysis): Africa, Asia, Latin America and Others. An interesting finding is that the effect on bilateral trade with creditors on top of the general effect is only present in default events of Latin American countries. In addition, the effect seems to be stronger in the latter period.

4 Conclusions

We believe that our paper makes two main contributions. First of all, it devises a clear strategy to test the relevance of trade sanctions (overt or covert) in explaining the declines in trade associated with defaults. This strategy is based on the distinction between “general” declines in trade associated with defaults, from “bilateral” or “multilateral” ones.

In addition, we present empirical evidence showing that sovereign defaults are associated with declines in overall trade for the defaulting country. And, that there is no relevant effect on bilateral trade between a defaulting country and the creditors that suffered the default in the aftermath of the default event once this general decline in trade is accounted for. In addition, the analysis of trade between the defaulting country and larger groups of creditors (not just those affected by the default) shows that trade seems to decline more significantly with those creditors not affected by the default than with those affected by it or with non-creditor countries. Under our maintained assumptions all this amounts to a rejection of the trade sanctions argument both at the bilateral and multilateral levels. This is extremely important, as it could lead to an empirical rejection of one of the main workhorse arguments used in the sovereign borrowing literature to explain why governments repay.

Finally, there are two questions that one can ask regarding the cause of the declines in trade. The first one, positive in its nature, is: why is trade declining following defaults? A narrower but very important one given its role in the sovereign debt literature is: Is it punishment? To the question, “Is it Punishment?”, we provide strong evidence against the punishment hypothesis. Rose (2003) documented that trade declines for debtor countries in the aftermath of default, and we have demonstrated that neither bilateral nor multilateral sanctions provide a plausible account

of this decline. Exactly why the decline occurs remains an important and open question.

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Appendix 1: Description of the variables included in benchmark regression

In addition to the default variables already described in detail, the gravity equations we estimate follows Rose (2003) and includes the following explanatory variables:

- Y: real GDP
- POP: population
- D_{ij} : distance between country i and country j
- LANGUAGE: binary variable that takes the value 1 if i and j have a common language
- CONTIGUOUS: binary variable that takes the value 1 if i and j share a land border
- FTA: binary variable that takes the value 1 if i and j belong to the same regional trade agreement
- LANDLOCK: number of landlocked countries in the country-pair
- ISLAND: number of island nations in the country-pair
- AREA $_i$: total area of country i
- COMCOL: binary variable that takes the value 1 if i and j were ever colonies after 1945 with the same colonizer
- CURCOL: binary variable that takes the value 1 if i and j are colonies at time t
- COL: binary variable that takes the value 1 if i and j were ever colonies of each other
- COMNAT: binary variable that takes the value 1 if i and j remained part of the same nation during the sample (i.e.: UK and Bermuda)
- CU: binary variable that takes the value 1 if i and j use the same currency at time t
- IMF: number of countries in the country-pair that began an IMF program at t

Table 1

Dependent Variable: Log Value of Bilateral Trade in Real '82-'84 \$

	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.
Dummy for default/defaulted creditor	0.1268 [0.0355]***	0.1788 [0.0356]***	0.0907 [0.0367]**	0.1200 [0.0369]***	0.0872 [0.0369]**	0.1243 [0.0370]***	0.0770 [0.0369]**	0.1185 [0.0371]***
Dummy for default/defaulted creditor (t-1)			0.0707 [0.0372]*	0.1015 [0.0373]***	0.0669 [0.0373]*	0.1031 [0.0374]***	0.0595 [0.0373]	0.0999 [0.0375]***
Dummy for default/defaulted creditor (t-2)			0.0478 [0.0377]	0.0797 [0.0379]**	0.0403 [0.0379]	0.0746 [0.0380]**	0.0412 [0.0379]	0.0773 [0.0381]**
Dummy for default/defaulted creditor (t-3)			0.0578 [0.0382]	0.0915 [0.0384]**	0.0521 [0.0384]	0.0831 [0.0385]**	0.0450 [0.0385]	0.0791 [0.0386]**
Dummy for default/defaulted creditor (t-4)			0.1027 [0.0384]***	0.1437 [0.0385]***	0.0957 [0.0390]**	0.1238 [0.0392]***	0.0862 [0.0392]**	0.1181 [0.0394]***
Dummy for default/defaulted creditor (t-5)			0.0409 [0.0385]	0.0904 [0.0386]**	0.0408 [0.0395]	0.0686 [0.0396]*	0.0374 [0.0397]	0.0684 [0.0398]*
Dummy for default/defaulted creditor (t-6)					0.0521 [0.0405]	0.0800 [0.0407]**	0.0469 [0.0407]	0.0756 [0.0409]*
Dummy for default/defaulted creditor (t-7)					-0.0057 [0.0417]	0.0281 [0.0419]	-0.0046 [0.0419]	0.0290 [0.0420]
Dummy for default/defaulted creditor (t-8)					-0.0264 [0.0428]	0.0099 [0.0429]	-0.0162 [0.0429]	0.0152 [0.0430]
Dummy for default/defaulted creditor (t-9)					-0.0349 [0.0448]	0.0121 [0.0450]	-0.0039 [0.0455]	0.0298 [0.0457]
Dummy for default/defaulted creditor (t-10)					-0.0343 [0.0457]	0.0275 [0.0458]	0.0064 [0.0471]	0.0475 [0.0473]
Dummy for default/defaulted creditor (t-11)							-0.1432 [0.0500]***	-0.1024 [0.0502]**
Dummy for default/defaulted creditor (t-12)							-0.0583 [0.0545]	-0.0184 [0.0547]
Dummy for default/defaulted creditor (t-13)							-0.0328 [0.0599]	0.0095 [0.0601]
Dummy for default/defaulted creditor (t-14)							-0.0867 [0.0651]	-0.0443 [0.0654]
Dummy for default/defaulted creditor (t-15)							-0.0454 [0.0755]	0.0123 [0.0758]
Dummy for default/general	-0.0787 [0.0118]***	-0.0837 [0.0118]***	-0.0660 [0.0120]***	-0.0679 [0.0120]***	-0.0665 [0.0120]***	-0.0689 [0.0120]***	-0.0654 [0.0121]***	-0.0680 [0.0121]***
Dummy for default/general (t-1)			-0.0659 [0.0116]***	-0.0701 [0.0116]***	-0.0667 [0.0116]***	-0.0712 [0.0116]***	-0.0689 [0.0117]***	-0.0733 [0.0117]***
Dummy for default/general (t-2)			-0.0369 [0.0119]***	-0.0432 [0.0119]***	-0.0381 [0.0120]***	-0.0446 [0.0120]***	-0.0422 [0.0121]***	-0.0490 [0.0121]***
Dummy for default/general (t-3)			-0.0508 [0.0123]***	-0.0554 [0.0123]***	-0.0498 [0.0123]***	-0.0543 [0.0123]***	-0.0493 [0.0124]***	-0.0543 [0.0125]***
Dummy for default/general (t-4)			-0.0583 [0.0125]***	-0.0614 [0.0125]***	-0.0530 [0.0127]***	-0.0553 [0.0127]***	-0.0489 [0.0128]***	-0.0512 [0.0128]***
Dummy for default/general (t-5)			-0.0188 [0.0128]	-0.0230 [0.0128]*	-0.0142 [0.0131]	-0.0168 [0.0131]	-0.0163 [0.0131]	-0.0192 [0.0132]
Dummy for default/general (t-6)					-0.0054 [0.0136]	-0.0050 [0.0136]	-0.0045 [0.0137]	-0.0040 [0.0137]
Dummy for default/general (t-7)					0.0145 [0.0142]	0.0129 [0.0143]	0.0171 [0.0143]	0.0153 [0.0143]
Dummy for default/general (t-8)					-0.0098 [0.0150]	-0.0131 [0.0150]	-0.0099 [0.0150]	-0.0129 [0.0150]
Dummy for default/general (t-9)					-0.0279 [0.0158]*	-0.0315 [0.0158]**	-0.0280 [0.0160]*	-0.0305 [0.0160]*
Dummy for default/general (t-10)					-0.0497 [0.0164]***	-0.0570 [0.0164]***	-0.0504 [0.0167]***	-0.0565 [0.0167]***
Dummy for default/general (t-11)							0.0265 [0.0178]	0.0236 [0.0178]
Dummy for default/general (t-12)							0.0011 [0.0191]	0.0022 [0.0191]
Dummy for default/general (t-13)							-0.0708 [0.0205]***	-0.0749 [0.0205]***
Dummy for default/general (t-14)							-0.0013 [0.0219]	-0.0060 [0.0219]
Dummy for default/general (t-15)							0.0040 [0.0242]	-0.0027 [0.0243]
Sum first 3 default/defaulted creditor			0.2092	0.3012	0.1944	0.3020	0.1777	0.2957
p-value			0.0002	0.0000	0.0005	0.0000	0.0015	0.0000
Sum first 3 default/general			-0.1688	-0.1812	-0.1713	-0.0089	-0.1765	-0.1903
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 5 default/defaulted creditor			0.3697	0.5364	0.3422	0.5089	0.3089	0.4929
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 5 default/general			-0.2779	-0.2980	-0.2741	-0.2943	-0.2747	-0.2958
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 10 default/defaulted creditor					0.3681	0.7076	0.3685	0.7109
p-value					0.0000	0.0000	0.0000	0.0000
Sum first 10 default/general					-0.3169	-0.3478	-0.3163	-0.3471
p-value					0.0000	0.0000	0.0000	0.0000
Observations	219573	219573	219573	219573	219573	219573	219573	219573
Number of Unique Country-Pair Identifier	11178	11178	11178	11178	11178	11178	11178	11178
R-squared	0.13		0.13		0.13		0.13	

The table reports the results of several lag length estimations of the bilateral sanctions model. The coefficients of the standard gravity controls, the IMF dummy and the time dummies are not reported. Notes: Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 2

Dependent Variable: Log Value of Trade from Country A to Country B in Real '82-'84 \$

	Fixed Eff.	Fixed Eff.	Fixed Eff.	Fixed Eff.
Dummy for default/defaulted creditor/exp	0.1248 [0.0377]***	0.0907 [0.0390]**	0.0809 [0.0391]**	0.0747 [0.0392]*
Dummy for default/defaulted creditor/exp (t-1)		0.084 [0.0394]**	0.0738 [0.0395]*	0.0689 [0.0396]*
Dummy for default/defaulted creditor/exp (t-2)		0.0676 [0.0399]*	0.0512 [0.0400]	0.0503 [0.0401]
Dummy for default/defaulted creditor/exp (t-3)		0.0331 [0.0404]	0.0162 [0.0406]	0.0121 [0.0407]
Dummy for default/defaulted creditor/exp (t-4)		0.0779 [0.0406]*	0.0616 [0.0412]	0.0559 [0.0414]
Dummy for default/defaulted creditor/exp (t-5)		0.0669 [0.0407]	0.0613 [0.0418]	0.0557 [0.0420]
Dummy for default/defaulted creditor/exp (t-6)			0.0499 [0.0428]	0.0384 [0.0431]
Dummy for default/defaulted creditor/exp (t-7)			0.0364 [0.0441]	0.0344 [0.0442]
Dummy for default/defaulted creditor/exp (t-8)			0.003 [0.0451]	0.0097 [0.0452]
Dummy for default/defaulted creditor/exp (t-9)			-0.0201 [0.0474]	0.0008 [0.0482]
Dummy for default/defaulted creditor/exp (t-10)			-0.0673 [0.0484]	-0.0316 [0.0499]
Dummy for default/defaulted creditor/exp (t-11)				-0.0834 [0.0529]
Dummy for default/defaulted creditor/exp (t-12)				-0.0443 [0.0576]
Dummy for default/defaulted creditor/exp (t-13)				-0.0382 [0.0634]
Dummy for default/defaulted creditor/exp (t-14)				-0.0834 [0.0690]
Dummy for default/defaulted creditor/exp (t-15)				0.0367 [0.0798]
Dummy for default/general/exp	-0.0879 [0.0125]***	-0.0674 [0.0127]***	-0.072 [0.0128]***	-0.0755 [0.0128]***
Dummy for default/general/exp (t-1)		-0.0965 [0.0125]***	-0.0987 [0.0126]***	-0.1049 [0.0127]***
Dummy for default/general/exp (t-2)		-0.0673 [0.0128]***	-0.0621 [0.0129]***	-0.0662 [0.0130]***
Dummy for default/general/exp (t-3)		-0.0667 [0.0131]***	-0.0502 [0.0132]***	-0.0539 [0.0133]***
Dummy for default/general/exp (t-4)		-0.0514 [0.0133]***	-0.0229 [0.0136]*	-0.0235 [0.0137]*
Dummy for default/general/exp (t-5)		-0.0532 [0.0136]***	-0.0222 [0.0139]	-0.0234 [0.0140]*
Dummy for default/general/exp (t-6)			-0.0337 [0.0145]**	-0.0272 [0.0147]*
Dummy for default/general/exp (t-7)			-0.0631 [0.0152]***	-0.0581 [0.0153]***
Dummy for default/general/exp (t-8)			-0.085 [0.0160]***	-0.0811 [0.0161]***
Dummy for default/general/exp (t-9)			-0.0918 [0.0170]***	-0.0818 [0.0172]***
Dummy for default/general/exp (t-10)			-0.0693 [0.0176]***	-0.0621 [0.0180]***
Dummy for default/general/exp (t-11)				-0.0148 [0.0192]
Dummy for default/general/exp (t-12)				-0.0265 [0.0206]
Dummy for default/general/exp (t-13)				-0.0822 [0.0222]***
Dummy for default/general/exp (t-14)				-0.0261 [0.0237]
Dummy for default/general/exp (t-15)				-0.091 [0.0265]***

The table reports the results of several lag length estimations

The dependent variable is the log of Trade from Country A to Country B (i.e exports of Country A or imports of Country B) and the default dummies are labeled "exp" or "imp" depending on whether the exporter (country A) or the importer (country B) was the one that defaulted.

The coefficients of the standard gravity controls, the IMF dummy and the time dummies are not reported

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 2 (cont.)

Dependent Variable: Log Value of Trade from Country A to Country B in Real '82-'84 \$

	Fixed Eff.	Fixed Eff.	Fixed Eff.	Fixed Eff.
Dummy for default/defaulted creditor/imp	0.0909 [0.0376]**	0.0707 [0.0389]*	0.0709 [0.0390]*	0.0576 [0.0391]
Dummy for default/defaulted creditor/imp (t-1)		0.0304 [0.0393]	0.0342 [0.0394]	0.0252 [0.0395]
Dummy for default/defaulted creditor/imp (t-2)		0.0125 [0.0398]	0.0122 [0.0400]	0.0143 [0.0400]
Dummy for default/defaulted creditor/imp (t-3)		0.0497 [0.0404]	0.0532 [0.0405]	0.0428 [0.0406]
Dummy for default/defaulted creditor/imp (t-4)		0.0638 [0.0406]	0.0685 [0.0412]*	0.0561 [0.0414]
Dummy for default/defaulted creditor/imp (t-5)		0.0199 [0.0407]	0.0253 [0.0417]	0.0195 [0.0420]
Dummy for default/defaulted creditor/imp (t-6)			0.0185 [0.0428]	0.0149 [0.0430]
Dummy for default/defaulted creditor/imp (t-7)			-0.0408 [0.0440]	-0.0407 [0.0441]
Dummy for default/defaulted creditor/imp (t-8)			-0.0369 [0.0451]	-0.0274 [0.0452]
Dummy for default/defaulted creditor/imp (t-9)			-0.0134 [0.0474]	0.0216 [0.0481]
Dummy for default/defaulted creditor/imp (t-10)			-0.0632 [0.0483]	-0.0217 [0.0498]
Dummy for default/defaulted creditor/imp (t-11)				-0.1704 [0.0529]***
Dummy for default/defaulted creditor/imp (t-12)				-0.0628 [0.0577]
Dummy for default/defaulted creditor/imp (t-13)				-0.0353 [0.0635]
Dummy for default/defaulted creditor/imp (t-14)				-0.0928 [0.0691]
Dummy for default/defaulted creditor/imp (t-15)				-0.1222 [0.0801]
Dummy for default/general/imp	-0.051 [0.0125]***	-0.0467 [0.0128]***	-0.0437 [0.0128]***	-0.0413 [0.0129]***
Dummy for default/general/imp (t-1)		-0.0482 [0.0126]***	-0.0518 [0.0126]***	-0.053 [0.0127]***
Dummy for default/general/imp (t-2)		-0.016 [0.0129]	-0.0226 [0.0130]*	-0.0275 [0.0131]**
Dummy for default/general/imp (t-3)		-0.0267 [0.0132]**	-0.0375 [0.0134]***	-0.035 [0.0135]***
Dummy for default/general/imp (t-4)		-0.0205 [0.0135]	-0.0343 [0.0138]**	-0.0274 [0.0139]**
Dummy for default/general/imp (t-5)		0.0035 [0.0138]	-0.0108 [0.0142]	-0.0119 [0.0143]
Dummy for default/general/imp (t-6)			0.0215 [0.0148]	0.0183 [0.0149]
Dummy for default/general/imp (t-7)			0.0716 [0.0155]***	0.0747 [0.0156]***
Dummy for default/general/imp (t-8)			0.0401 [0.0163]**	0.0401 [0.0164]**
Dummy for default/general/imp (t-9)			-0.0035 [0.0173]	-0.0069 [0.0176]
Dummy for default/general/imp (t-10)			0.0125 [0.0180]	0.0105 [0.0184]
Dummy for default/general/imp (t-11)				0.0341 [0.0197]*
Dummy for default/general/imp (t-12)				0.009 [0.0213]
Dummy for default/general/imp (t-13)				-0.0687 [0.0232]***
Dummy for default/general/imp (t-14)				-0.0051 [0.0249]
Dummy for default/general/imp (t-15)				0.0791 [0.0279]***
Observations	375364	375364	375364	375364
Number of Unique Country-Pair Identifier	20643	20643	20643	20643
R-squared	0.13	0.13	0.13	0.13

The table reports the results of several lag length estimations

The dependent variable is the log of Trade from Country A to Country B (i.e exports of Country A or imports of Country B) and the default dummies are labeled "exp" or "imp" depending on whether the exporter (country A) or the importer (country B) was the one that defaulted.

The coefficients of the standard gravity controls, the IMF dummy and the time dummies are not reported

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3

Dependent Variable: Log Value of Bilateral Trade in Real '82-'84 \$

	Fixed Eff. (IV)	Random Eff. (IV)	Fixed Eff. (IV)	Random Eff. (IV)	Fixed Eff. (IV)	Random Eff. (IV)
Dummy for default/defaulted creditor	0.6154 [0.8156]	2.261 [1.0856]**	0.768 [1.7589]	2.9933 [1.2586]**	0.227 [1.8614]	-0.0397 [2.7411]
Dummy for default/defaulted creditor (t-1)			1.2688 [1.2920]	2.0327 [1.0861]*	1.6663 [1.3520]	2.6461 [2.1334]
Dummy for default/defaulted creditor (t-2)			0.7974 [1.1063]	1.0193 [0.9433]	-2.1592 [1.4919]	-2.5492 [2.0658]
Dummy for default/defaulted creditor (t-3)			0.6746 [1.2701]	0.4346 [1.1974]	-1.8041 [1.8615]	-2.7111 [2.5193]
Dummy for default/defaulted creditor (t-4)			0.4321 [1.3164]	-1.3399 [1.2789]	1.434 [1.5812]	1.0898 [2.1909]
Dummy for default/defaulted creditor (t-5)			-7.9519 [3.7807]**	-5.2841 [4.8376]	-2.1963 [2.3097]	-3.7651 [4.5118]
Dummy for default/defaulted creditor (t-6)					-3.5288 [1.1730]***	-4.3317 [1.9113]**
Dummy for default/defaulted creditor (t-7)					2.6983 [5.0100]	4.8198 [6.6880]
Dummy for default/defaulted creditor (t-8)					-1.6415 [6.0842]	-6.026 [10.0819]
Dummy for default/defaulted creditor (t-9)					1.8358 [6.5255]	2.9271 [10.1311]
Dummy for default/defaulted creditor (t-10)					-4.7136 [7.5500]	-9.2004 [10.4909]
Dummy for default/general	-0.0074 [0.1743]	0.2829 [0.1867]	-0.2164 [0.3857]	-0.1835 [0.3703]	-0.2174 [0.3566]	0.0657 [0.5563]
Dummy for default/general (t-1)			-0.2041 [0.2952]	-0.2068 [0.3104]	-0.1046 [0.3129]	0.026 [0.4905]
Dummy for default/general (t-2)			-0.1725 [0.2082]	0.0667 [0.1919]	0.9478 [0.6402]	1.1508 [0.8350]
Dummy for default/general (t-3)			-0.1958 [0.2328]	-0.2114 [0.2310]	0.627 [0.6487]	0.6702 [1.0169]
Dummy for default/general (t-4)			-0.1014 [0.2623]	-0.2036 [0.2455]	-0.4592 [0.6540]	-0.6569 [1.0934]
Dummy for default/general (t-5)			1.7532 [0.8753]**	0.5415 [1.0741]	0.1418 [0.4392]	-0.1736 [0.6743]
Dummy for default/general (t-6)					1.0897 [0.4520]**	1.2114 [0.6199]*
Dummy for default/general (t-7)					-0.5569 [1.5678]	-1.4974 [2.1948]
Dummy for default/general (t-8)					0.5252 [1.7612]	1.492 [2.7194]
Dummy for default/general (t-9)					-0.0841 [1.7626]	-0.4489 [2.7414]
Dummy for default/general (t-10)					0.9359 [1.7321]	1.7281 [2.3650]
Observations	47661	47661	28248	28248	19618	19618
Number of Unique Country-Pair Identifier	4851	4851	2963	2963	2164	2164

The table reports the results of several lag length IV estimations.

Instruments used: Government Budget Deficit (% of GDP), CPI inflation rate and Current Account Deficit (% of GDP); and their lags.

The coefficients of the standard gravity controls, IMF dummy and time dummies are not reported

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4

Dependent Variable: Log Value of Bilateral Trade in Real '82-'84

	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.
Dummy for default/Paris C. Countries	0.0925 [0.0242]***	0.1748 [0.0241]***	0.0808 [0.0252]***	0.1265 [0.0252]***	0.0783 [0.0253]***	0.1247 [0.0253]***	0.07 [0.0254]***	0.1194 [0.0254]***
Dummy for default/Paris C. Countries (t-1)			0.0281 [0.0256]	0.0796 [0.0256]***	0.0297 [0.0257]	0.079 [0.0257]***	0.0245 [0.0258]	0.0764 [0.0259]***
Dummy for default/Paris C. Countries (t-2)			0.0291 [0.0265]	0.077 [0.0266]***	0.0368 [0.0267]	0.079 [0.0268]***	0.0396 [0.0269]	0.0824 [0.0270]***
Dummy for default/Paris C. Countries (t-3)			0.0328 [0.0274]	0.0785 [0.0274]***	0.0473 [0.0277]*	0.0825 [0.0278]***	0.0465 [0.0279]*	0.0837 [0.0280]***
Dummy for default/Paris C. Countries (t-4)			0.021 [0.0278]	0.0698 [0.0278]**	0.0419 [0.0287]	0.0717 [0.0288]**	0.0392 [0.0290]	0.0705 [0.0291]**
Dummy for default/Paris C. Countries (t-5)			-0.0542 [0.0285]*	-0.0055 [0.0286]	-0.023 [0.0296]	0.0057 [0.0297]	-0.0152 [0.0298]	0.0105 [0.0299]
Dummy for default/Paris C. Countries (t-6)					0.0082 [0.0310]	0.0358 [0.0311]	0.0142 [0.0313]	0.0371 [0.0314]
Dummy for default/Paris C. Countries (t-7)					-0.0645 [0.0324]**	-0.0338 [0.0325]	-0.0474 [0.0327]	-0.023 [0.0328]
Dummy for default/Paris C. Countries (t-8)					-0.0711 [0.0341]**	-0.0406 [0.0342]	-0.0553 [0.0343]	-0.0323 [0.0344]
Dummy for default/Paris C. Countries (t-9)					-0.0651 [0.0363]*	-0.0327 [0.0364]	-0.0357 [0.0371]	-0.0167 [0.0373]
Dummy for default/Paris C. Countries (t-10)					-0.0261 [0.0377]	0.018 [0.0378]	0.0117 [0.0390]	0.0395 [0.0391]
Dummy for default/Paris C. Countries (t-11)							-0.1126 [0.0417]***	-0.084 [0.0418]**
Dummy for default/Paris C. Countries (t-12)							-0.0774 [0.0451]*	-0.0466 [0.0452]
Dummy for default/Paris C. Countries (t-13)							-0.044 [0.0493]	-0.0139 [0.0494]
Dummy for default/Paris C. Countries (t-14)							-0.0661 [0.0529]	-0.0226 [0.0531]
Dummy for default/Paris C. Countries (t-15)							0.0153 [0.0597]	0.0633 [0.0599]
Dummy for default/general	-0.0901 [0.0128]***	-0.1102 [0.0128]***	-0.0767 [0.0130]***	-0.0865 [0.0130]***	-0.0768 [0.0131]***	-0.0871 [0.0131]***	-0.0749 [0.0131]***	-0.0856 [0.0131]***
Dummy for default/general (t-1)			-0.0645 [0.0126]***	-0.0773 [0.0126]***	-0.0657 [0.0127]***	-0.0779 [0.0127]***	-0.0676 [0.0128]***	-0.08 [0.0128]***
Dummy for default/general (t-2)			-0.0379 [0.0130]***	-0.0517 [0.0130]***	-0.0412 [0.0131]***	-0.0538 [0.0131]***	-0.0463 [0.0132]***	-0.0589 [0.0132]***
Dummy for default/general (t-3)			-0.0517 [0.0133]***	-0.0629 [0.0133]***	-0.0545 [0.0134]***	-0.0633 [0.0134]***	-0.0545 [0.0135]***	-0.0639 [0.0135]***
Dummy for default/general (t-4)			-0.0535 [0.0134]***	-0.0631 [0.0134]***	-0.0531 [0.0137]***	-0.0587 [0.0138]***	-0.0492 [0.0139]***	-0.0548 [0.0139]***
Dummy for default/general (t-5)			-0.0035 [0.0137]	-0.0138 [0.0137]	-0.0046 [0.0141]	-0.0103 [0.0141]	-0.009 [0.0142]	-0.014 [0.0142]
Dummy for default/general (t-6)					-0.0034 [0.0146]	-0.0061 [0.0146]	-0.004 [0.0147]	-0.0055 [0.0148]
Dummy for default/general (t-7)					0.0266 [0.0152]*	0.0209 [0.0153]	0.0262 [0.0153]*	0.0216 [0.0153]
Dummy for default/general (t-8)					0.0008 [0.0160]	-0.0063 [0.0160]	-0.0013 [0.0160]	-0.007 [0.0160]
Dummy for default/general (t-9)					-0.02 [0.0168]	-0.0261 [0.0168]	-0.0221 [0.0170]	-0.0255 [0.0170]
Dummy for default/general (t-10)					-0.0509 [0.0173]***	-0.0615 [0.0173]***	-0.0541 [0.0177]***	-0.0621 [0.0177]***
Dummy for default/general (t-11)							0.0309 [0.0187]*	0.0253 [0.0187]
Dummy for default/general (t-12)							0.0088 [0.0200]	0.0069 [0.0201]
Dummy for default/general (t-13)							-0.0681 [0.0215]***	-0.0745 [0.0215]***
Dummy for default/general (t-14)							0.001 [0.0229]	-0.0083 [0.0230]
Dummy for default/general (t-15)							-0.0028 [0.0254]	-0.0137 [0.0255]
Sum first 3 default/Paris C. Countries			0.1380	0.2831	0.1448	0.2827	0.1341	0.2782
p-value			0.0009	0.0000	0.0005	0.0000	0.0014	0.0000
Sum first 3 default/general			-0.1791	-0.2155	-0.1837	-0.2188	-0.1888	-0.2245
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 5 default/Paris C. Countries			0.1918	0.4314	0.2340	0.4369	0.2198	0.4324
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 5 default/general			-0.2843	-0.3415	-0.2913	-0.3408	-0.2925	-0.3432
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 10 default/Paris C. Countries					0.0185	0.3713	0.0804	0.4080
p-value					0.7565	0.0000	0.1939	0.0000
Sum first 10 default/general					-0.2919	-0.3687	-0.3027	-0.3736
p-value					0.0000	0.0000	0.0000	0.0000
Observations	219573	219573	219573	219573	219573	219573	219573	219573
Number of Unique Country-Pair Identifie	11178	11178	11178	11178	11178	11178	11178	11178
R-squared	0.13		0.13		0.13		0.13	

The table reports the results of several lag length estimations of the multilateral sanctions model with Paris Club countries as the reference group. The coefficients of the standard gravity controls, the IMF dummy and the time dummies are not reported.

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5

Dependent Variable: Log Value of Bilateral Trade in Real '82-'84

	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.
Dummy for default/OECD Countries	0.1431 [0.0218]***	0.2164 [0.0218]***	0.1143 [0.0227]***	0.1539 [0.0227]***	0.1097 [0.0227]***	0.1504 [0.0228]***	0.1024 [0.0228]***	0.1463 [0.0229]***
Dummy for default/OECD Countries (t-1)			0.0528 [0.0229]**	0.0985 [0.0229]**	0.0525 [0.0230]**	0.0962 [0.0231]***	0.0483 [0.0232]**	0.0949 [0.0232]***
Dummy for default/OECD Countries (t-2)			0.0689 [0.0237]***	0.1115 [0.0237]***	0.0728 [0.0239]***	0.1098 [0.0239]***	0.0755 [0.0241]***	0.1131 [0.0241]***
Dummy for default/OECD Countries (t-3)			0.0615 [0.0244]**	0.1046 [0.0244]**	0.0706 [0.0247]***	0.1033 [0.0247]***	0.0698 [0.0249]***	0.1046 [0.0249]***
Dummy for default/OECD Countries (t-4)			0.028 [0.0247]	0.0751 [0.0247]**	0.0394 [0.0255]	0.0677 [0.0256]***	0.0384 [0.0257]	0.0684 [0.0258]***
Dummy for default/OECD Countries (t-5)			-0.0167 [0.0254]	0.0306 [0.0254]	0.0052 [0.0263]	0.0333 [0.0263]	0.0107 [0.0265]	0.0364 [0.0265]
Dummy for default/OECD Countries (t-6)					0.0491 [0.0275]*	0.0787 [0.0275]***	0.0536 [0.0277]*	0.0787 [0.0277]***
Dummy for default/OECD Countries (t-7)					-0.0495 [0.0286]*	-0.0197 [0.0287]	-0.0353 [0.0288]	-0.0112 [0.0289]
Dummy for default/OECD Countries (t-8)					-0.087 [0.0301]***	-0.0559 [0.0302]*	-0.0747 [0.0303]**	-0.0505 [0.0304]*
Dummy for default/OECD Countries (t-9)					-0.0395 [0.0320]	-0.0063 [0.0320]	-0.0158 [0.0327]	0.0048 [0.0327]
Dummy for default/OECD Countries (t-10)					-0.0128 [0.0331]	0.0284 [0.0331]	0.0146 [0.0341]	0.041 [0.0341]
Dummy for default/OECD Countries (t-11)							-0.0981 [0.0364]***	-0.0694 [0.0365]*
Dummy for default/OECD Countries (t-12)							-0.0536 [0.0393]	-0.0221 [0.0394]
Dummy for default/OECD Countries (t-13)							-0.0458 [0.0429]	-0.0166 [0.0430]
Dummy for default/OECD Countries (t-14)							-0.0439 [0.0461]	-0.0029 [0.0461]
Dummy for default/OECD Countries (t-15)							0.0287 [0.0521]	0.0755 [0.0521]
Dummy for default/general	-0.1147 [0.0135]***	-0.1391 [0.0135]***	-0.0945 [0.0137]***	-0.1057 [0.0137]***	-0.0942 [0.0138]***	-0.1058 [0.0138]***	-0.0921 [0.0139]***	-0.1044 [0.0139]***
Dummy for default/general (t-1)			-0.0748 [0.0134]***	-0.0898 [0.0134]***	-0.0756 [0.0134]***	-0.0897 [0.0134]***	-0.0775 [0.0135]***	-0.0922 [0.0135]***
Dummy for default/general (t-2)			-0.053 [0.0137]***	-0.0688 [0.0137]***	-0.0558 [0.0138]***	-0.0697 [0.0138]***	-0.0612 [0.0139]***	-0.0752 [0.0139]***
Dummy for default/general (t-3)			-0.0636 [0.0140]***	-0.0776 [0.0140]***	-0.0661 [0.0141]***	-0.0767 [0.0141]***	-0.066 [0.0143]***	-0.0775 [0.0143]***
Dummy for default/general (t-4)			-0.0575 [0.0142]***	-0.0705 [0.0142]***	-0.0556 [0.0145]***	-0.0629 [0.0145]***	-0.052 [0.0147]***	-0.0596 [0.0147]***
Dummy for default/general (t-5)			-0.0105 [0.0145]	-0.0245 [0.0145]*	-0.011 [0.0149]	-0.0189 [0.0149]	-0.0154 [0.0150]	-0.0222 [0.0150]
Dummy for default/general (t-6)					-0.017 [0.0154]	-0.0227 [0.0154]	-0.0173 [0.0155]	-0.0216 [0.0155]
Dummy for default/general (t-7)					0.0271 [0.0161]*	0.019 [0.0161]	0.0262 [0.0161]	0.0195 [0.0162]
Dummy for default/general (t-8)					0.0102 [0.0168]	0.0005 [0.0168]	0.0079 [0.0169]	0.0001 [0.0169]
Dummy for default/general (t-9)					-0.0229 [0.0176]	-0.032 [0.0177]*	-0.0257 [0.0179]	-0.0311 [0.0179]*
Dummy for default/general (t-10)					-0.0534 [0.0182]***	-0.0676 [0.0182]***	-0.057 [0.0186]***	-0.0675 [0.0186]***
Dummy for default/general (t-11)							0.0351 [0.0197]*	0.0269 [0.0197]
Dummy for default/general (t-12)							0.0081 [0.0211]	0.0032 [0.0211]
Dummy for default/general (t-13)							-0.0648 [0.0226]***	-0.0737 [0.0226]***
Dummy for default/general (t-14)							-0.0002 [0.0241]	-0.0131 [0.0241]
Dummy for default/general (t-15)							-0.0074 [0.0267]	-0.0238 [0.0267]
Sum first 3 default/OECD Countries			0.2360	0.3639	0.2350	0.3564	0.2262	0.3543
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 3 default/general			-0.2223	-0.2643	-0.2256	-0.2652	-0.2308	-0.2718
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 5 default/OECD Countries			0.3255	0.5436	0.3450	0.5274	0.3344	0.5273
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 5 default/general			-0.3434	-0.4124	-0.3473	-0.4048	-0.3488	-0.4089
p-value			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sum first 10 default/OECD Countries					0.2233	0.5575	0.2729	0.5855
p-value					0.0000	0.0000	0.0000	0.0000
Sum first 10 default/general					-0.3609	-0.4589	-0.3731	-0.4642
p-value					0.0000	0.0000	0.0000	0.0000
Observations	219573	219573	219573	219573	219573	219573	219573	219573
Number of Unique Country-Pair Identifiers	11178	11178	11178	11178	11178	11178	11178	11178
R-squared	0.13		0.13		0.13		0.13	

The table reports the results of several lag length estimations of the multilateral sanctions model with OECD countries as the reference group.

The coefficients of the standard gravity controls, the IMF dummy and the time dummies are not reported.

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 6

Dependent Variable: Log Value of Bilateral Trade in Real '82-'84 \$

	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.
Dummy for default/defaulted creditor	0.0531 [0.0345]	0.1063 [0.0346]***	0.0287 [0.0357]	0.0641 [0.0358]*	0.0233 [0.0358]	0.06357 [0.03597]*	0.0136 [0.0359]	0.0569 [0.0360]
Dummy for default/defaulted creditor (t-1)			0.005 [0.0359]	0.0398 [0.0360]	-0.0002 [0.0360]	0.03756 [0.03614]	-0.0092 [0.0361]	0.0318 [0.0362]
Dummy for default/defaulted creditor (t-2)			0.0096 [0.0364]	0.0402 [0.0365]	0.0026 [0.0365]	0.03385 [0.03666]	0.0009 [0.0366]	0.0333 [0.0367]
Dummy for default/defaulted creditor (t-3)			0.0063 [0.0368]	0.0374 [0.0370]	0.0043 [0.0370]	0.03267 [0.03714]	-0.0005 [0.0371]	0.0298 [0.0373]
Dummy for default/defaulted creditor (t-4)			0.0358 [0.0371]	0.0687 [0.0373]*	0.0363 [0.0376]	0.06106 [0.03781]	0.0326 [0.0378]	0.0599 [0.0380]
Dummy for default/defaulted creditor (t-5)			0.0113 [0.0372]	0.0442 [0.0373]	0.0166 [0.0381]	0.0387 [0.03824]	0.0122 [0.0383]	0.0353 [0.0385]
Dummy for default/defaulted creditor (t-6)					0.038 [0.0390]	0.05997 [0.03921]	0.0346 [0.0393]	0.056 [0.0394]
Dummy for default/defaulted creditor (t-7)					-0.0021 [0.0401]	0.01977 [0.04027]	0.0034 [0.0402]	0.0248 [0.0404]
Dummy for default/defaulted creditor (t-8)					-0.0447 [0.0410]	-0.02301 [0.04122]	-0.0354 [0.0411]	-0.0172 [0.0413]
Dummy for default/defaulted creditor (t-9)					-0.0622 [0.0431]	-0.03516 [0.04327]	-0.0355 [0.0437]	-0.0165 [0.0439]
Dummy for default/defaulted creditor (t-10)					-0.0739 [0.0439]*	-0.04055 [0.04407]	-0.0396 [0.0451]	-0.0188 [0.0453]
Dummy for default/defaulted creditor (t-11)							-0.1092 [0.0478]**	-0.0875 [0.0480]**
Dummy for default/defaulted creditor (t-12)							-0.0572 [0.0522]	-0.0273 [0.0525]
Dummy for default/defaulted creditor (t-13)							-0.1023 [0.0573]*	-0.079 [0.0576]
Dummy for default/defaulted creditor (t-14)							-0.072 [0.0624]	-0.0436 [0.0627]
Dummy for default/defaulted creditor (t-15)							-0.028 [0.0722]	0.012 [0.0725]
Dummy for default/not affected Paris C. C.	-0.0246 [0.0260]	0.0424 [0.0260]	-0.0184 [0.0270]	0.0186 [0.0271]	-0.0161 [0.0272]	0.01755 [0.02724]	-0.0192 [0.0272]	0.0168 [0.0273]
Dummy for default/not affected Paris C. C. (t-1)			-0.0681 [0.0275]**	-0.026 [0.0275]	-0.0621 [0.0277]**	-0.02603 [0.02775]	-0.066 [0.0278]**	-0.0281 [0.0279]
Dummy for default/not affected Paris C. C. (t-2)			-0.0268 [0.0288]	0.0105 [0.0289]	-0.018 [0.0291]	0.01079 [0.02922]	-0.0185 [0.0293]	0.0097 [0.0294]
Dummy for default/not affected Paris C. C. (t-3)			-0.04 [0.0302]	-0.0023 [0.0303]	-0.0242 [0.0306]	0.00134 [0.03068]	-0.0209 [0.0307]	0.0047 [0.0308]
Dummy for default/not affected Paris C. C. (t-4)			-0.0781 [0.0309]**	-0.0344 [0.0310]	-0.0505 [0.0321]	-0.02616 [0.03220]	-0.045 [0.0322]	-0.0206 [0.0323]
Dummy for default/not affected Paris C. C. (t-5)			-0.097 [0.0322]**	-0.0553 [0.0323]*	-0.0635 [0.0333]*	-0.03913 [0.03345]	-0.0539 [0.0336]	-0.0342 [0.0337]
Dummy for default/not affected Paris C. C. (t-6)					-0.0172 [0.0356]	0.01118 [0.03568]	-0.0067 [0.0359]	0.0152 [0.0360]
Dummy for default/not affected Paris C. C. (t-7)					-0.0534 [0.0380]	-0.02465 [0.03814]	-0.0324 [0.0384]	-0.0129 [0.0385]
Dummy for default/not affected Paris C. C. (t-8)					-0.0779 [0.0412]*	-0.05203 [0.04124]	-0.0666 [0.0414]	-0.0486 [0.0415]
Dummy for default/not affected Paris C. C. (t-9)					-0.0846 [0.0450]*	-0.05868 [0.04510]	-0.0689 [0.0458]	-0.0557 [0.0459]
Dummy for default/not affected Paris C. C. (t-10)					-0.0472 [0.0480]	-0.01385 [0.04813]	-0.0267 [0.0493]	-0.0068 [0.0494]
Dummy for default/not affected Paris C. C. (t-11)							-0.0217 [0.0539]	0.004 [0.0540]
Dummy for default/not affected Paris C. C. (t-12)							-0.0643 [0.0584]	-0.035 [0.0585]
Dummy for default/not affected Paris C. C. (t-13)							-0.0965 [0.0650]	-0.0705 [0.0651]
Dummy for default/not affected Paris C. C. (t-14)							-0.0375 [0.0693]	0.0042 [0.0693]
Dummy for default/not affected Paris C. C. (t-15)							0.0819 [0.0786]	0.1167 [0.0788]

The table reports the results of several lag length estimations of Equation (4)

The default dummies segregate countries into 3 categories: Defaulted creditor (creditor that participated in the Paris Club agreement), Not affected Paris C. Country (Paris club member that did not participate in the Paris Club agreement) and Non-creditor country (countries that do not belong to Paris Club and that are assumed to be non-creditor countries). Each dummy is equal to one whenever one of the countries in the bilateral relationship defaulted and the other belong to the category specified and zero otherwise.

The coefficients of the standard gravity controls, the IMF dummy and the time dummies are not reported

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 6 (cont.)

Dependent Variable: Log Value of Bilateral Trade in Real '82-'84 \$

	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.
Dummy for default/non-creditor Count.	-0.0902 [0.0128]***	-0.1103 [0.0128]***	-0.0763 [0.0130]***	-0.0862 [0.0130]***	-0.0766 [0.0131]***	-0.08677 [0.01309]***	-0.0747 [0.0131]***	-0.0854 [0.0131]***
Dummy for default/non-creditor Count. (t-1)			-0.0648 [0.0126]***	-0.0775 [0.0126]***	-0.0657 [0.0127]***	-0.07793 [0.01270]***	-0.0676 [0.0128]***	-0.0801 [0.0128]***
Dummy for default/non-creditor Count. (t-2)			-0.0384 [0.0130]***	-0.0521 [0.0130]***	-0.0413 [0.0131]***	-0.0538 [0.01308]***	-0.0463 [0.0132]***	-0.0589 [0.0132]***
Dummy for default/non-creditor Count. (t-3)			-0.0527 [0.0133]***	-0.0637 [0.0133]***	-0.0548 [0.0134]***	-0.06353 [0.01339]***	-0.0547 [0.0135]***	-0.0641 [0.0135]***
Dummy for default/non-creditor Count. (t-4)			-0.0551 [0.0134]***	-0.0645 [0.0134]***	-0.0537 [0.0137]***	-0.05918 [0.01377]***	-0.0496 [0.0139]***	-0.0552 [0.0139]***
Dummy for default/non-creditor Count. (t-5)			-0.0052 [0.0138]	-0.0153 [0.0137]	-0.0054 [0.0141]	-0.01108 [0.01411]	-0.0095 [0.0142]	-0.0145 [0.0142]
Dummy for default/non-creditor Count. (t-6)					-0.0043 [0.0146]	-0.00682 [0.01465]	-0.0046 [0.0147]	-0.0061 [0.0148]
Dummy for default/non-creditor Count. (t-7)					0.0256 [0.0152]*	0.01998 [0.01526]	0.0256 [0.0153]*	0.021 [0.0153]
Dummy for default/non-creditor Count. (t-8)					-0.0002 [0.0160]	-0.00713 [0.01596]	-0.002 [0.0160]	-0.0076 [0.0160]
Dummy for default/non-creditor Count. (t-9)					-0.021 [0.0168]	-0.02695 [0.01677]	-0.0226 [0.0170]	-0.026 [0.0170]
Dummy for default/non-creditor Count. (t-10)					-0.0519 [0.0173]***	-0.06238 [0.01727]***	-0.0545 [0.0177]***	-0.0625 [0.0177]***
Dummy for default/non-creditor Count. (t-11)							0.0308 [0.0187]*	0.0253 [0.0187]
Dummy for default/non-creditor Count. (t-12)							0.0083 [0.0200]	0.0065 [0.0201]
Dummy for default/non-creditor Count. (t-13)							-0.0684 [0.0215]***	-0.0748 [0.0215]***
Dummy for default/non-creditor Count. (t-14)							0.0008 [0.0229]	-0.0084 [0.0230]
Dummy for default/non-creditor Count. (t-15)							-0.003 [0.0254]	-0.0138 [0.0255]
Sum first 3 default/defaulted creditor p-value			0.0433 0.4193	0.1441 0.0074	0.0257 0.6345	0.1350 0.0126	0.0053 0.9211	0.1220 0.0247
Sum first 3 default/not affected Paris C. C. p-value			-0.1133 0.0151	0.0031 0.9475	-0.0962 0.0417	0.0023 0.9613	-0.1037 0.0288	-0.0016 0.9719
Sum first 3 default/non-creditor Count. p-value			-0.1795 0.0000	-0.2158 0.0000	-0.1836 0.0000	-0.2185 0.0000	-0.1886 0.0000	-0.2244 0.0000
Sum first 5 default/defaulted creditor p-value			0.0854 0.1694	0.2502 0.0000	0.0663 0.2934	0.2287 0.0000	0.0374 0.5554	0.2117 0.0009
Sum first 5 default/not affected Paris C. C. p-value			-0.2314 0.0000	-0.0336 0.5298	-0.1709 0.0260	-0.0225 0.6914	-0.1696 0.0029	-0.0175 0.7571
Sum first 5 default/non-creditor Count. p-value			-0.2873 0.0000	-0.3440 0.0000	-0.2921 0.0000	-0.3412 0.0000	-0.2929 0.0000	-0.3437 0.0000
Sum first 10 default/defaulted creditor p-value					0.0119 0.8913	0.2890 0.0000	0.0167 0.8475	0.2941 0.0007
Sum first 10 default/not affected Paris C. C. p-value					-0.4675 0.0000	-0.1858 0.1230	-0.3981 0.0000	-0.1537 0.4590
Sum first 10 default/non-creditor Count. p-value					-0.2974 0.0000	-0.3732 0.0000	-0.3060 0.0000	-0.3769 0.0000
Observations	219573	219573	219573	219573	219573	219573	219573	219573
Number of Unique Country-Pair Identifier	11178	11178	11178	11178	11178	11178	11178	11178
R-squared	0.13		0.13		0.13		0.13	

The table reports the results of several lag length estimations of Equation (4)

The default dummies segregate countries into 3 categories: Defaulted creditor (creditor that participated in the Paris Club agreement), Not affected Paris C. Country (Paris club member that did not participate in the Paris Club agreement) and Non-creditor country (countries that do not belong to Paris Club and that are assumed to be non-creditor countries). Each dummy is equal to one whenever one of the countries in the bilateral relationship defaulted and the other belong to the category specified and zero otherwise.

The coefficients of the standard gravity controls, the IMF dummy and the time dummies are not reported

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Appendix 2: Bilateral Regression without year dummies

Dependent Variable: Log Value of Bilateral Trade in Real '82-'84

	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.	Fixed Eff.	Random Eff.
Dummy for default/defaulted credito	0.0544 [0.0357]	0.1218 [0.0360]***	0.0455 [0.0369]	0.0744 [0.0373]**	0.0367 [0.0371]	0.0632 [0.0374]*	0.0239 [0.0371]	0.0532 [0.0375]
Dummy for default/defaulted creditor (t-1)			0.0309 [0.0374]	0.0687 [0.0377]*	0.0248 [0.0375]	0.0568 [0.0378]	0.0145 [0.0376]	0.0484 [0.0379]
Dummy for default/defaulted creditor (t-2)			0.0118 [0.0380]	0.0521 [0.0383]	0.0062 [0.0381]	0.0375 [0.0384]	0.0058 [0.0381]	0.0367 [0.0385]
Dummy for default/defaulted creditor (t-3)			0.0201 [0.0385]	0.0603 [0.0388]	0.0216 [0.0386]	0.0484 [0.0390]	0.0133 [0.0387]	0.0411 [0.0391]
Dummy for default/defaulted creditor (t-4)			0.0526 [0.0386]	0.1003 [0.0390]**	0.0625 [0.0393]	0.0889 [0.0396]**	0.0519 [0.0395]	0.0782 [0.0398]**
Dummy for default/defaulted creditor (t-5)			-0.0193 [0.0387]	0.0296 [0.0390]	0.0056 [0.0397]	0.0327 [0.0401]	0.0042 [0.0399]	0.0272 [0.0403]
Dummy for default/defaulted creditor (t-6)					0.0201 [0.0408]	0.0504 [0.0411]	0.0191 [0.0410]	0.0431 [0.0414]
Dummy for default/defaulted creditor (t-7)					-0.051 [0.0420]	-0.0187 [0.0423]	-0.047 [0.0421]	-0.0221 [0.0425]
Dummy for default/defaulted creditor (t-8)					-0.0645 [0.0430]	-0.0378 [0.0434]	-0.0483 [0.0431]	-0.0279 [0.0435]
Dummy for default/defaulted creditor (t-9)					-0.0793 [0.0451]*	-0.0446 [0.0455]	-0.0372 [0.0459]	-0.0128 [0.0463]
Dummy for default/defaulted creditor (t-10)					-0.0816 [0.0460]*	-0.0421 [0.0464]	-0.0242 [0.0474]	0.0053 [0.0479]
Dummy for default/defaulted creditor (t-11)							-0.1666 [0.0503]***	-0.1392 [0.0507]***
Dummy for default/defaulted creditor (t-12)							-0.0911 [0.0549]*	-0.0664 [0.0554]
Dummy for default/defaulted creditor (t-13)							-0.0665 [0.0603]	-0.0397 [0.0608]
Dummy for default/defaulted creditor (t-14)							-0.1334 [0.0656]**	-0.1091 [0.0662]*
Dummy for default/defaulted creditor (t-15)							-0.1147 [0.0760]	-0.0806 [0.0767]
Dummy for default/general	-0.1524 [0.0117]***	-0.2545 [0.0116]***	-0.1198 [0.0119]***	-0.1784 [0.0119]***	-0.1182 [0.0119]***	-0.18 [0.0119]***	-0.1125 [0.0120]***	-0.1805 [0.0120]***
Dummy for default/general (t-1)			-0.1198 [0.0115]***	-0.1848 [0.0115]***	-0.1195 [0.0116]***	-0.1847 [0.0116]***	-0.1167 [0.0116]***	-0.188 [0.0117]***
Dummy for default/general (t-2)			-0.0843 [0.0119]***	-0.1505 [0.0119]***	-0.0856 [0.0120]***	-0.1453 [0.0120]***	-0.0873 [0.0121]***	-0.1489 [0.0121]***
Dummy for default/general (t-3)			-0.0862 [0.0122]***	-0.1515 [0.0122]***	-0.0888 [0.0123]***	-0.1406 [0.0123]***	-0.0868 [0.0124]***	-0.1426 [0.0124]***
Dummy for default/general (t-4)			-0.0837 [0.0123]***	-0.1541 [0.0124]***	-0.0863 [0.0127]***	-0.1306 [0.0127]***	-0.0817 [0.0128]***	-0.129 [0.0128]***
Dummy for default/general (t-5)			-0.0113 [0.0127]	-0.0825 [0.0127]***	-0.0182 [0.0130]	-0.0622 [0.0131]***	-0.0212 [0.0131]	-0.0618 [0.0132]***
Dummy for default/general (t-6)					0.002 [0.0136]	-0.0432 [0.0136]***	0.0007 [0.0137]	-0.0385 [0.0138]***
Dummy for default/general (t-7)					0.038 [0.0142]***	-0.0116 [0.0143]	0.0358 [0.0143]**	-0.0067 [0.0144]
Dummy for default/general (t-8)					0.0138 [0.0149]	-0.0377 [0.0150]**	0.0085 [0.0150]	-0.0345 [0.0151]**
Dummy for default/general (t-9)					0.0072 [0.0157]	-0.0463 [0.0158]***	-0.0036 [0.0160]	-0.0404 [0.0161]**
Dummy for default/general (t-10)					-0.0094 [0.0163]	-0.0733 [0.0163]***	-0.0241 [0.0167]	-0.0685 [0.0168]***
Dummy for default/general (t-11)							0.0619 [0.0177]***	0.015 [0.0178]
Dummy for default/general (t-12)							0.0375 [0.0190]**	-0.0085 [0.0191]
Dummy for default/general (t-13)							-0.0233 [0.0204]	-0.066 [0.0205]***
Dummy for default/general (t-14)							0.035 [0.0218]	-0.0179 [0.0219]
Dummy for default/general (t-15)							0.0164 [0.0243]	-0.0421 [0.0244]*
Sum first 3 default/defaulted credito p-value			0.0882 0.1128	0.1952 0.0005	0.0677 0.2268	0.1575 0.0053	0.0442 0.4326	0.1383 0.0147
Sum first 3 default/general p-value			-0.3239 0.0000	-0.5137 0.0000	-0.3233 0.0000	-0.5100 0.0000	-0.3165 0.0000	-0.5174 0.0000
Sum first 5 default/defaulted credito p-value			0.1609 0.0124	0.3558 0.0000	0.1518 0.0202	0.2948 0.0000	0.1094 0.0968	0.2576 0.0001
Sum first 5 default/general p-value			-0.4938 0.0000	-0.8193 0.0000	-0.4984 0.0000	-0.7812 0.0000	-0.4850 0.0000	-0.7890 0.0000
Sum first 10 default/defaulted credito p-value					-0.0173 0.8461	0.2768 0.0020	0.0002 0.9990	0.2651 0.0032
Sum first 10 default/general p-value					-0.4556 0.0000	-0.9822 0.0000	-0.4648 0.0000	-0.9709 0.0000
Observations	219573	219573	219573	219573	219573	219573	219573	219573
Number of Unique Country-Pair Identifie	11178	11178	11178	11178	11178	11178	11178	11178
R-squared	0.12		0.12		0.12		0.12	

The table reports the results of several lag length estimations of the bilateral sanctions model not including time dummies.

The coefficients of the standard gravity controls are not reported.

Notes: Standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%