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The Trade Costs of Sovereign Default Reconsidered

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Abstract

Trade falls sharply after sovereign default, by roughly eight percent a year between a defaulter and its creditors, persisting for about fifteen years. That finding has been read in two incompatible ways. On the punishment reading, creditors and their governments retaliate, and the anticipated loss of trade is part of what makes sovereign debt enforceable in the absence of collateral or courts. On the disruption reading, nothing is being enforced: trade credit evaporates, banks holding defaulted paper contract lending, importers lose access to inputs, and the trade decline is a symptom of a broken financial circuit rather than a sanction. This article reviews the evidence and argues that the disruption reading now commands most of it. Direct trade sanctions are essentially undocumented; the decline concentrates in sectors dependent on external finance and on imported inputs; and the mechanism that reproduces the observed output and trade dynamics in general equilibrium runs through working capital for imported inputs rather than through retaliation. Three consequences follow, and none is minor. First, the enforcement theory of sovereign debt loses one of its principal candidate mechanisms, which matters because the alternatives have known weaknesses. Second, the trade cost of default becomes a remediable friction rather than an equilibrium feature, which changes what restructuring architecture and trade finance backstops can be expected to achieve. Third, the rhetorical use of trade costs in debt negotiations, where the prospect of trade collapse is deployed as an argument for repayment, rests on a mechanism the evidence does not support, and is better understood as an argument for crisis financing. The article specifies the tests that would settle the remaining ambiguity and identifies where the data fall short.

Keywords: - Sovereign Default, Debt Restructuring, Trade Credit, Enforcement, Trade Finance, Imported Inputs, Paris Club, Debt Sustainability.

I. INTRODUCTION

Sovereign debt presents a puzzle that ordinary debt does not. There is no bailiff. A sovereign that repudiates its obligations cannot be liquidated, its territory cannot be seized, and cross-border enforcement is slow, partial, and frequently unavailable. Yet sovereigns overwhelmingly do repay, and the question of why has occupied a literature running from the foundational treatments onward (Bulow & Rogoff, 1989; Eaton & Fernandez, 1995; Panizza et al., 2009).

Two families of answer exist. Reputation models hold that default forecloses future market access, so the borrower repays to preserve it. Direct-cost models hold that default triggers tangible penalties in the present, of which the most frequently invoked is disruption to international trade. The empirical foundation for the second family was laid by Rose (2005), who used a gravity framework and Paris Club restructuring dates across fifty years and a large panel of partners to show that renegotiation is followed by a decline in bilateral trade between debtor and creditors of approximately eight percent a year, persisting for around fifteen years. The magnitude and persistence are striking, and the finding has been widely read as evidence that the threat to trade is what sustains repayment.

Rose himself was careful to note that two mechanisms could generate the pattern: creditors may be deterring default deliberately, or trade finance may simply dry up after default. That distinction has never been fully resolved, and it has often been elided in subsequent discussion, where the correlation is treated as though the punishment interpretation followed from it. The distinction is not semantic. If the trade decline is punishment, it is an equilibrium object. It exists because creditors want

it to, it is part of the implicit contract that makes lending possible, and removing it would reduce the willingness to lend. Attempts to shield defaulters from trade losses would be attempts to dismantle the enforcement mechanism, and would raise borrowing costs *ex ante*. If instead the decline is disruption, it is a market failure. Nobody chose it, it destroys value on both sides, it makes the defaulter less able to service any restructured claim, and eliminating it would improve outcomes for debtor and creditor alike.

This article reviews the accumulated evidence and argues that the disruption reading is the better supported one. Section 3 sets out why trade entered the enforcement literature at all. Section 4 assembles the empirical record. Section 5 distinguishes three candidate mechanisms and Section 6 weighs them. Sections 7 through 9 draw out what follows for the theory of enforcement, for what the evidence cannot yet settle, and for policy, including the uncomfortable observation that a claim widely used in debt negotiations rests on a mechanism the literature has largely abandoned.

II. METHOD OF THE REVIEW

The corpus was assembled through a structured search across EconLit, Scopus, Web of Science, RePEc/IDEAS, and SSRN, together with the working paper series of the International Monetary Fund, the World Bank, and the National Bureau of Economic Research. The search combined two required term blocks, "sovereign default" OR "sovereign debt" OR "debt restructuring" OR "debt renegotiation" and trade OR exports OR imports OR "trade credit" OR "trade finance", with a third block, cost OR punishment OR sanction OR enforcement OR output, used to identify the costs-of-default sub-corpus.

The window ran from 1989 to 2026, beginning with Bulow and Rogoff (1989) because that paper established the enforcement problem in the form the subsequent literature addresses. Inclusion required peer-reviewed publication or circulation in a recognised institutional series, together with either empirical estimation of post-default outcomes or a formal model in which the enforcement mechanism is explicit. Purely legal analyses of restructuring procedure were excluded except where they bear directly on the mechanism question. Backward and forward citation chaining was applied to the most-cited retained items, which brought in the trade finance literature that keyword search on debt terms alone does not reach.

No effect-size pooling was attempted. The estimates in the corpus differ in their treatment variable, since some use Paris Club dates, others use rating-agency default definitions, and others distinguish hard from soft default, and pooling across these would average over the very heterogeneity that Section 6 argues is informative.

III. WHY TRADE ENTERED THE ENFORCEMENT PROBLEM

The enforcement literature begins from an impossibility. Bulow and Rogoff (1989) showed that reputation alone cannot sustain sovereign lending when the borrower can save abroad, because a defaulter can replicate the insurance value of continued borrowing through asset accumulation. If reputation is insufficient, something else must be doing the work, and attention turned to direct costs: penalties incurred in the present rather than opportunities forgone in the future.

Trade was an attractive candidate for three reasons. It is large relative to the debts at issue, so a modest proportional loss can outweigh the gain from repudiation. It is observable, unlike the shadowy reputational penalty. And it is plausibly under creditor influence, since creditor governments control export credit agencies, trade finance guarantees, and, in principle, market access. Rose (2005) supplied the empirical fact the theory needed, and the direct-cost family gained its most cited support. Quantitative sovereign default models that generate realistic default frequencies and spreads typically require some such cost to make repayment attractive at observed debt levels, since the reputational channel alone generates too much default (Arellano, 2008).

It is worth being explicit about what the theory needs from the mechanism, because Section 7 turns on it. For a cost to function as an enforcement device, it must be anticipated, it must be attributable to the act of default rather than to the circumstances surrounding it, and it must not be something the debtor and creditor would jointly wish to eliminate. Disruption fails the third condition, and possibly the second.

IV. THE EMPIRICAL RECORD

4.1. The Trade Decline

The core finding is Rose's, described above: approximately eight percent per year, persisting around fifteen years, in bilateral trade between the defaulting sovereign and its creditor countries (Rose, 2005). The bilateral structure is important. The estimate is not of a general collapse in the defaulter's trade but of a decline specific to the creditor pairs, which is precisely the pattern a targeted punishment would generate and is the reason the punishment reading gained traction.

4.2. The Wider Cost Estimates

Broader assessments find default costs to be real but more modest and shorter-lived than the trade estimate alone implies, with output effects concentrated in the first years and substantial heterogeneity across episodes (Borensztein & Panizza, 2009; Panizza et al., 2009). Distinguishing hard from soft default sharpens the picture: outright repudiation is followed by materially worse output outcomes than pre-emptive or negotiated restructuring, indicating that the cost depends on how default is executed rather than on the fact of it (Trebesch & Zabel, 2017). Market penalties likewise scale with the severity of the terms imposed, with larger creditor haircuts followed by higher subsequent borrowing spreads and longer exclusion (Cruces & Trebesch, 2013).

That gradation is the first substantive problem for the punishment reading. A retaliation mechanism operating through creditor governments would be expected to respond to the fact of non-payment. A disruption mechanism operating through financial relationships would be expected to scale with how much value was destroyed and how much acrimony was generated, which is what the evidence shows.

4.3. Firm-Level and Sectoral Evidence

The most informative evidence for the mechanism question is disaggregated. Borensztein and Panizza (2009) find that default costs fall disproportionately on export-oriented sectors, and interpret this as consistent with a trade-credit channel rather than with retaliation. Hébert and Schreger (2017), using high-frequency equity price responses to Argentine legal rulings, identify the causal effect of default risk on firm values and find declines concentrated in ways that trace to financial conditions rather than to market access restrictions.

Evidence from large crises more generally shows that trade adjustment operates substantially through imported input access and firm-level disruption rather than through demand alone (Gopinath & Neiman, 2014). This matters because it establishes that the input channel is quantitatively significant in exactly the circumstances that accompany sovereign default.

4.4. The Sanctions that are Not There

The punishment reading requires an instrument. Systematic evidence of direct trade sanctions following sovereign default is, however, essentially absent. Martinez and Sandleris (2011) address the question directly and find that the post-default trade decline does not follow the pattern that creditor retaliation would produce: it is not concentrated in the bilateral relationships where a punishing creditor would have leverage, and it appears in trade with countries that had no claim to enforce. This is the strongest single piece of evidence in the debate, and it is negative evidence of an unusually clean kind. The punishment hypothesis makes a specific prediction about where the decline should fall. The prediction fails.

V. THREE CANDIDATE MECHANISMS

5.1. Direct Sanctions

Creditor governments restrict market access, withdraw export credit agency cover, or otherwise retaliate. Prediction: decline concentrated in creditor bilateral pairs, responsive to the fact of default, invariant to how the default was executed, and absent in trade with non-creditors.

Status: not supported. The bilateral concentration that Rose (2005) documented is real but is equally consistent with the financial mechanisms below, since creditor countries are also the countries whose banks provide the defaulter's trade finance. The distinguishing predictions fail (Martinez & Sandleris, 2011).

5.2. Financial Disruption Through Trade Credit

Default impairs the banks and the correspondent relationships through which trade is financed. Trade is credit-intensive and its instruments are supplied by a concentrated and geographically specialised set of institutions, so that impairment propagates directly to trade volumes (Niepmann & Schmidt-Eisenlohr, 2017). Payment terms shift towards cash-in-advance as counterparty and country risk rise, transferring the financing burden to parties least able to bear it (Antràs & Foley, 2015; Schmidt-Eisenlohr, 2013). Domestic banks holding defaulted sovereign paper suffer balance-sheet losses that contract private lending, a channel documented in the sovereign-bank nexus literature (Gennaioli et al., 2014). Sectors dependent on external finance and holding few collateralisable assets suffer most, which is the same gradient found in the 2008 to 2009 trade collapse (Chor & Manova, 2012; Manova, 2013).

Prediction: decline concentrated in externally-finance-dependent sectors; scaling with the severity of financial disruption rather than with the fact of default; present in trade with non-creditors whose banks are nonetheless affected; and attenuated where alternative financing is available.

Status: well supported on every dimension the evidence reaches.

5.3. Input Access and Productivity

Mendoza and Yue (2012) supply the general equilibrium mechanism. In their model, default cuts firms off from the working capital needed to purchase imported inputs, forcing substitution towards inferior domestic substitutes and lowering measured total factor productivity. Output falls not because anyone is punishing the country but because its producers are using worse inputs. The model reproduces the joint dynamics of default, spreads, output, and trade that reduced-form work documents, without any retaliation.

This is the theoretical counterpart to the disruption reading, and its importance is that it closes the loop. A critic of the disruption view could argue that trade credit withdrawal is a second-order friction unlikely to generate declines of the observed magnitude and persistence. Mendoza and Yue show that once the input channel is included, it can.

Prediction: decline concentrated in import-intensive production; observable as a productivity decline rather than solely as a demand or market-access effect; persistent, because input relationships and supplier networks take time to rebuild.

Status: supported theoretically and consistent with the crisis-adjustment evidence (Gopinath & Neiman, 2014).

VI. WEIGHING THE MECHANISMS

Table 1. Candidate mechanisms and their evidential status.

Mechanism	Distinguishing prediction	Key evidence	Status
Direct sanctions	Decline confined to creditor pairs; invariant to execution of default	Martinez and Sandleris (2011); absence of documented sanctions	Not supported
Trade credit withdrawal	Decline concentrated in externally-finance-dependent sectors; scales with financial disruption	Borensztein and Panizza (2009); Chor and Manova (2012); Niepmann and Schmidt-Eisenlohr (2017)	Supported

Sovereign-bank nexus	Domestic lending contraction where banks hold sovereign paper	Gennaioli et al. (2014); Hébert and Schreger (2017)	Supported
Imported input access	Productivity decline through input substitution; persistence via supplier networks	Mendoza and Yue (2012); Gopinath and Neiman (2014)	Supported
Execution-dependence	Worse outcomes for hard than soft default	Trebesch and Zabel (2017); Cruces and Trebesch (2013)	Supported, and inconsistent with pure punishment

Three observations follow from the table. First, the punishment mechanism is the only one for which the distinguishing prediction has been tested and failed. The others have been tested and passed, or have not been separately tested but rest on mechanisms independently documented in adjacent literatures.

Second, the bilateral concentration that made the punishment reading attractive is not diagnostic, because creditor countries and trade finance provider countries are largely the same countries. A defaulter loses trade disproportionately with the states whose banks financed that trade, and this is what a disruption mechanism predicts as much as a retaliation mechanism does. The original finding is therefore consistent with both readings, and the discriminating evidence lies elsewhere.

Third, the execution-dependence result is difficult for the punishment reading to accommodate. If trade loss were an enforcement device, creditors would have an interest in applying it predictably and in proportion to the shortfall, since an unpredictable penalty enforces poorly. That the loss instead varies with whether default was pre-emptive or disorderly, and with the acrimony of the process, is the signature of value destroyed in the process rather than value withheld as a sanction.

VII. CONSEQUENCES FOR THE THEORY OF ENFORCEMENT

If trade costs are disruption rather than punishment, the enforcement literature loses a mechanism it has leaned on, and the loss is not easily absorbed. The immediate problem is that disruption costs are jointly undesirable. Creditor and debtor both prefer that the defaulter's producers retain access to inputs and trade credit, since a defaulter with a functioning tradable sector services a restructured claim better than one without. A cost both parties wish to eliminate cannot serve as the thing that makes the contract enforceable, because both parties have an incentive to contract around it, and the machinery of restructuring is in substantial part an attempt to do exactly that.

There is a subtler difficulty concerning attribution. Enforcement requires that the cost follow from the act of default. Disruption costs follow from the circumstances that produce default and from the manner of its execution, which means they are partly endogenous to the crisis rather than to the decision. A sovereign contemplating default is not choosing between repayment and a known penalty; it is choosing between two paths through a crisis it is already in. That is a weaker deterrent than the models require.

Where does this leave the theory? Three possibilities deserve attention, and the literature has not settled among them. The reputational channel may be stronger than Bulow and Rogoff (1989) allowed, particularly where secondary markets and domestic creditor holdings alter the calculus (Broner et al., 2010). Domestic costs operating through the banking system may substitute for external ones, in which case enforcement is enforced by the sovereign's own financial system rather than by foreign creditors (Gennaioli et al., 2014). Or the observed pattern of repayment may reflect the fact that the choice is rarely presented starkly, since restructuring is usually negotiated and partial, and the discrete default of the models is a poor description of what actually happens (Cruces & Trebesch, 2013; Trebesch & Zabel, 2017). The point for present purposes is narrower. The trade channel has functioned as the empirically best-documented direct cost, and the documentation does not support the interpretation the theory required.

VIII. WHAT THE EVIDENCE CANNOT SETTLE

8.1. Attribution of the Counterfactual

Defaults do not occur randomly. Countries default amid recessions, currency crises, and political disruption, all of which reduce trade independently. Event-study designs and gravity specifications with pair fixed effects mitigate this but cannot eliminate it, and the persistence of the estimated decline is particularly vulnerable, since the conditions producing default are themselves persistent.

8.2. Absence of Evidence on Sanctions

The finding that direct sanctions are undocumented is strong but is not the same as a finding that they do not occur. Informal pressure on export credit agencies or on banks would leave little trace in the datasets used.

8.3. Instrument-Level Data

The trade credit mechanism is inferred from sectoral financial-dependence gradients rather than observed directly. Corridor-level data on letters of credit and correspondent relationships around default episodes would test it head-on, and such data now exist but have not been applied to this question.

8.4. Heterogeneity Across Defaults

Estimates pool episodes differing in creditor composition, in whether the debt was owed to official or private creditors, and in the legal regime. The rise of non-Paris Club official lending in recent decades makes the pooled historical estimate an uncertain guide to contemporary episodes.

8.5. Contemporary Relevance

The current wave of distress in low-income and lower-middle-income sovereigns is unfolding against a trade finance environment in which unmet demand is already estimated in the trillions and is concentrated in exactly the countries now at risk (Asian Development Bank, 2025). Whether default in such an environment produces larger trade costs, because the buffer is thinner, or smaller ones, because trade finance was already scarce, is an open and pressing question.

IX. POLICY IMPLICATIONS

9.1. Restructuring Architecture should aim to Protect the Trade Circuit Explicitly

If trade losses are disruption, they are deadweight, and preserving trade credit lines through a restructuring raises the value available to creditors as well as to the debtor. Trade credit has often been afforded informal seniority in practice; the argument here is that this practice has a firmer economic rationale than it is usually given, and that formalising it would be efficiency-improving rather than a concession to the debtor.

9.2. Trade Finance Backstops belong in Crisis Response

Multilateral guarantee capacity deployed during restructuring addresses the mechanism directly. The case for it does not depend on charity or on burden-sharing arguments; it depends on the claim that the trade collapse destroys value that would otherwise be available to service restructured claims. That claim follows from the disruption reading and not from the punishment reading.

9.3. The Execution of Default Matters More Than the Fact of it

The evidence that pre-emptive and negotiated restructurings carry materially lower costs than disorderly ones (Trebesch & Zabel, 2017) is actionable. It argues for earlier engagement, for restructuring frameworks that reduce holdout delay, and against strategies that postpone recognition of insolvency, since delay converts a soft default into a hard one.

9.4. The Negotiating Rhetoric Should Be Corrected

In debt negotiations the prospect of trade collapse is regularly invoked as a reason to repay. On the evidence reviewed here, that prospect is real but is not a penalty the creditor is imposing and could withhold. It is a consequence of financial disruption that both parties would prefer to avoid. Presented accurately, the same fact is an argument for arranging trade finance support alongside a restructuring rather than an argument for avoiding the restructuring, and the difference between those two conclusions is substantial for countries currently making the decision.

9.5. Debt Sustainability Analysis Should Model the Channel Rather than Assume It

Frameworks that embed a default cost as a reduced-form output loss are implicitly taking a position on the mechanism. If the loss runs through imported inputs and trade credit (Mendoza & Yue, 2012), then it is a function of import intensity and financial depth and varies enormously across countries, rather than being the common parameter that standard practice applies.

X. CONCLUSION

Trade falls after sovereign default. Whether it falls because someone is pushing or because something has broken is a question the literature posed clearly at the outset and then allowed to blur, and the blurring has had consequences. The evidence assembled here points to breakage. Direct sanctions are undocumented and the prediction that identifies them fails when tested. The decline concentrates where financial dependence is greatest, scales with the severity and disorder of the episode rather than with the fact of non-payment, and appears in relationships where no creditor has anything to enforce. A general equilibrium mechanism running through working capital for imported inputs reproduces the observed dynamics without invoking retaliation at all.

The theoretical cost of this conclusion is real: the enforcement literature loses its best-documented direct penalty, and the substitutes have known weaknesses. The practical gain is larger. A cost that nobody wants is a cost that can be reduced, and reducing it makes both the defaulting sovereign and its creditors better off. That reframing turns the trade consequences of default from an argument against restructuring into an argument for financing it properly, which is a conclusion of some urgency for the substantial number of sovereigns currently deciding which path through their debt problems to take.

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