Odious Debt[*]

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Abstract

Many analysts argue that trade sanctions are ineffective because they generate incentives for evasion. Others object to them as hurting the population of the target country as much as its leaders. We argue that loan sanctions unlike trade sanctions may be self-enforcing, and that they help the population by protecting it from being saddled with "odious debt" run up by dictators to finance looting or repression. In particular, governments could impose sanctions by instituting legal changes that prevent seizure of a country's assets for non-repayment of debt if the debt was incurred after the sanction was imposed. This would reduce creditors' incentive to extend loans to sanctioned regimes. However, decisions on whether assets can be seized to enforce debt repayment would be subject to bias if they were made ex post and the deciding body asymmetrically valued the welfare of debtor countries and their creditors. Restricting such decisions to cover only *future* lending would help avoid this time-consistency problem.

1. Introduction

Trade sanctions against dictators are often ineffective because third parties have incentives to break them. Even when trade sanctions bite, they can hurt not only the sanctioned regime, but also the people subject to the regime.

We argue that loan sanctions—limiting sanctioned governments' ability to borrow—would be less prone to these problems. Suppose, for example, that the United Nations Security Council unanimously declared that any future debt incurred by a particular dictator would be considered illegitimate and nontransferable to successor regimes. Suppose also that the United States and the European Union implemented legal changes to prevent assets of the successor regime from being seized to enforce repayment of the dictator's debts. We argue that this would create incentives for lenders in third countries to avoid lending to the dictator, and could potentially eliminate equilibria with illegitimate lending.

Loan sanctions are likely to help the population of the sanctioned country. Both trade and loan sanctions may hurt the population in the short run. Loan sanctions, however, create a long-run benefit for the population by preventing it from being saddled with debts run up by the dictator to finance looting or repression.

Our analysis is related to the legal doctrine of *odious debt*, which holds that debt should not be transferable to successor regimes if (1) it was incurred without the consent of the people and (2) was not for their benefit (Sack, 1927; Feilchenfeld, 1931).[1] The underlying principle is that just as an individual does not have to repay money that someone fraudulently borrows in her name and a corporation is not liable for contracts that its chief executive officer enters into without authority to bind the firm, a country should not be responsible for debt that was incurred without the people's

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[1] Other work on odious debt includes Adams (1991) and Hanlon (2002) who argue the case that much developing-country debt is illegitimate, and Khalfan et al (2002) who discuss related legal issues. Pogge (2001) proposes that a panel assess the democratic status of governments in order to deter lending to autocratic regimes. Buchanan (1987) argues that even in democratic polities, future generations may not have an obligation to repay debts contracted by earlier generations if the debts were intended to support the earlier generation's consumption rather than to provide lasting benefits, unless such debts might have been agreed to in a hypothetical contract entered into behind a veil of ignorance. Brennan and Eusepi (2002) argue against Buchanan. We differ from previous work in discussing the multiple equilibria of the debt market, the deterrence of lending to dictators through elimination of creditors' incentives to issue these loans, and the tradeoffs between ex ante and ex post

consent and was not for their benefit. The doctrine arose after the Spanish-American War when the United States contended that neither the United States nor Cuba should be responsible for debt that Cuba's colonial rulers had run up in Cuba's name. The concept attracted considerable attention in 2003 when the Secretary of the Treasury and other senior U.S. officials suggested that debts incurred by Saddam Hussein should perhaps be considered odious and not the new Iraqi government's obligation to repay.[2]

Yet this doctrine remains a minority view among legal scholars, and U.S. policymakers eventually backed away from the odious-debt rationale when arguing for debt relief for Iraq. This is largely out of concern that the concept of odious debt could prove a slippery slope. Countries could claim that previous debt was odious as an excuse to renege on legitimate debt. More generally, any adjudicating body that had the power to declare debt void might nullify legitimate debt if it placed a high value on the welfare of the debtor country. If creditors anticipated being unable to collect on legitimate loans, the debt market would shut down. We argue that this time-consistency problem could be addressed if loan sanctions applied only to future debt contracted by a country, not existing debt.

Loan sanctions would be effective only in certain cases, since many potential target regimes run their country into the ground economically and cannot borrow in any case. Others, probably including Iraq during the time of Saddam Hussein's borrowing, would be protected from sanctions by the major powers. However, in some cases, loan sanctions could have been a potent addition to the international community's toolkit of sanctions. For example, in 1985 the United Nations Security Council imposed trade sanctions on the apartheid regime in South Africa, but the regime continued to borrow from private banks through the 1980s. Or, in 1997 when Franjo Tudjman of Croatia had instigated violence against political opponents and looted public funds, the major powers cut off International Monetary Fund (IMF) lending to Croatia. Commercial banks nonetheless lent an additional $2 billion to the Tudjman Government before his death in 1999. If the major powers had imposed on apartheid South Africa or Tudjman's regime the type of loan sanctions we describe in this

rulings.
[2] *Wall Street Journal*, April 30, 2003

paper, creditors might have ceased granting loans to those regimes, and the populations would not bear the debt today.

The decision whether to impose loan sanctions on a particular regime would inevitably be subjective, and a concern is that the international community or individual countries would impose them unjustly. These are important issues, though not ones unique to loan sanctions; these issues also pertain to trade sanctions, military force, and the other measures in use today. The paper's objective is to describe loan sanctions and to show why when applied against repressive or looting regimes, they may be more effective and beneficial to the people than existing sanctions.

The remainder of this paper is organized as follows. Section 2 presents the model and discusses equilibria in the absence of either loan or trade sanctions. Section 3 compares loan and trade sanctions. Section 4 discusses extensions of the model. Section 5 argues that decisions about which loans are illegitimate and should be unenforceable are subject to time-consistency problems and therefore should be taken ex ante. Section 6 concludes.

2. Model of Sovereign Debt and Odious Regimes

Modeling loan sanctions requires an underlying model of why sovereign debt is repaid in the first place. In this section we embed the analysis of odious debt in a standard reputational model of borrowing. Later we discuss loan sanctions in a broader class of reputational models, and in models in which debt repayment is enforced with the threat of trade sanctions, exclusion from foreign assistance, or other similar penalties.

2.1 Setup of the model

Production: Suppose there is a set of countries each with a population normalized to 1. In each, period t the government allocates labor $L_F(t)$ to harvesting fruit and $1 - L_F(t)$ to building palaces. Fruit production is $A(t)L_F(t)$ if harvesters are paid at least $w \geq \underline{w}$; if $w < \underline{w}$ the harvesters are too sick to work. $A(t)$, the productivity stream, is uneven. For some of the countries, $A(t) = a$ if t is odd and $A(t) = A > a$ if t is even. For the others, $A(t) = A$ if t is odd and $A(t) = a$ if t is even. This unevenness

generates a reason for either borrowing or saving, namely to smooth consumption. We focus on countries where first-period productivity is low: as discussed below, such countries will prefer to borrow in period 1 and continue with a pattern of borrowing in odd periods and repaying in even periods. We assume a > $\underline{w}$ to ensure that fruit production is sufficient to support harvesting, even in bad years. Fruit is nonstorable.

Fruit can be bought and sold on international markets at price 1. A large number of countries, that do not face the uneven productivity stream, comprise the international markets. These countries also competitively produce marble, issue loans, and offer savings accounts, as discussed below.

Palaces are produced in integer amounts using imported marble with price P_M and well-fed workers who can maintain their concentration. Marble is supplied by Bertrand competitors who can produce at cost P_M. Production is int(min{$(1 - L_F(t))/\mu$, M/μ}) if builders are paid at least w ≥ W > $\underline{w}$ and 0 otherwise, where M is the amount of marble imported, μ is the number of workers and amount of marble needed to build one palace, and the operator int($\cdot$) returns the largest integer less than or equal to the argument .

Credit and savings markets: Loan contracts are as follows. A creditor lends an amount d(t) ≥ 0 in period t, and the country is expected to repay d(t)R in period t+1. A country also can place assets in a foreign savings (demand deposit) account that earns interest rate R.

We assume assets that a country holds abroad can be seized by creditors to enforce debts.[3] As shown by Bulow and Rogoff (1989), without this provision, reputation could not sustain sovereign borrowing. At some point the country would be better-off reneging on its debt, saving the funds that

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[3] In the United States, the Foreign Sovereign Immunities Act of 1976 gives creditors this right by denying sovereign immunity in claims related to commercial activity; a creditor from any country has the right to seize a foreign government's assets held in the U.S. for breach of a lending contract. Similar laws are in place in most developed countries where debtor countries would consider placing their savings.

The law's applicability to sovereign debt was upheld in the 1992 Supreme Court case of *Republic of Argentina et al.* v. *Weltover.* Argentina issued bonds repayable in New York among other places. When the bonds began to mature in 1986, Argentina extended the time for repayment. Two Panamanian corporations and a Swiss bank brought this breach of contract action to the District Court in New York. The District Court, the Court of Appeals, and then the Supreme Court ruled in the plaintiffs' favor.

Other countries have similar provisions. For example, the European Convention on State Immunity, the State Immunity Act 1978 of the United Kingdom, and Article 5 of the Draft Articles on Jurisdictional Immunities of States and Their Property of the International Law Commission, which represents the consensus

would have been used to repay the debt and using them to smooth its consumption in the future. Our assumption that fruit is non-storable implies there are no domestic savings (more realistically, domestic investments may be less attractive than diversifying internationally).

Consumption: Citizens' utility $u(\cdot)$ is concave in fruit consumption and additively separable over time with discount rate β. Citizens receive no utility from palaces.

In the beginning of the first period, a potential dictator faces a utility cost of taking power distributed according to F(c) where F(0) > 0, so that given expected utility from being dictator of V, a dictator takes power with probability F(V). Let $G \in \{odious, nonodious\}$ be the government type in period 1, where G = odious if the dictator takes power. For simplicity we assume governments are always nonodious in subsequent periods.

A nonodious government maximizes the population's discounted utility. Dictators maximize their own utility v(p, f) which is increasing in palace ownership and fruit consumption. We assume preferences for palaces are satiated at one palace so that $v(p,f) = f$ for p < 1 and $v(p,f) = \psi + f$ for p ≥ 1. We also assume $\psi \geq \mu(P_M + W + a - \underline{w})$, or that an odious government's utility from palace ownership outweighs the input costs and forgone fruit production, implying that it constructs a palace, if possible.

These assumptions about v(p,f) generate a benefit to the population from an odious government's trading and possibly borrowing. Preventing an odious regime from importing marble deprives part of the population of the wage premium $W - \underline{w}$ associated with palace construction, as does a loan sanction if an odious government needs to borrow to pay for a palace (which is the case if $a < \mu(P_M + W)/(1-\mu) + \underline{w}$).

Timing: At the beginning of period 1, the dictator's takeover cost is realized, and the dictator decides whether to take over, determining G. Governments may enter loan contracts. Next, the government chooses a wage for the population and allocates the population's labor. Then simultaneously production occurs, the population receives its wage, the government receives any

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view in international law, deny state immunity for commercial activity *(acta jure gestionis)*.

surplus production, and marble and fruit are bought and sold. Fruit is consumed. The government may make a debt repayment. Subsequent periods are identical except the government is always nonodious.

2.2 Equilibria and the status quo of the sovereign debt market

This subsection discusses the multiple equilibria of the model with a focus on trigger-strategy equilibria that can support lending. We then characterize what we call the status quo equilibrium, that is, the equilibrium in the model that best describes the actual sovereign debt market today. We argue that in the status quo, creditors lend to odious governments just as they lend to nonodious governments, and successor governments repay debt they inherit, be it odious or not.

We consider subgame perfect Nash equilibria of the model. The folk theorem implies there are multiple equilibria in this type of repeated lending game. In one equilibrium, creditors never lend: if they did, the governments would never repay their loans. In other equilibria, creditors lend to countries that have never defaulted, and countries repay since failure to do so would exclude them from future borrowing. Nonodious governments are able to smooth consumption by borrowing in odd-numbered periods and repaying in even periods. They maximize $u(a + d(t)) + \beta u(A - d(t)/\beta)$ for odd t, trading off increased consumption at present with decreased consumption in the next period. Since credit markets are competitive, the interest rate will be $R = 1/\beta$. The solution to the first order condition, $u'(a + d(t)) = u'(A - d(t)/\beta)$ defines their optimal odd-period loan amount $D = \beta(A - a)/(1+\beta)$ which will enable the country to consume $(a + A\beta)/(1+\beta)$ in each period. Odious governments always want to borrow as much as possible since they do not care about future repayment.

We assume that nonodious governments are able to borrow their optimal amount. That is, D is less than the maximum loan that can be supported through reputation, denoted D^* and defined implicitly by $u(A - D^*/\beta) + \beta u(a + D^*) = u(A) + \beta u(a)$. The term on the left is the discounted utility for an even period and the next period if the country repays, and the term on the right is if the country defaults and lives in autarky. We also assume that $\mu(P_M + W) - (1-\mu)(a - \underline{w}) \leq D$ which ensures that governments can borrow enough to satisfy odious governments' desire for palaces. In the

inequality, $\mu(P_M + W)$ is the input costs for a palace, $(1\text{-}\mu)(a - \underline{w})$ is one of the government's sources of money to pay those input costs, namely profits from the fruit sector, and D is its second source of money, a loan.

Define a reputational equilibrium as a subgame perfect Nash equilibrium in which on the equilibrium path creditors lend in even periods an amount D_O if the government is odious and D_N if the government is nonodious where $D_O, D_N \leq D^*$, and are repaid $1/\beta$ times that amount from the successor government the following period. If any player has ever deviated from this behavior, creditors refuse to lend and governments borrow if possible but default on all loans incurred. Both types of governments always choose L_F, M, and w to maximize that government's utility subject to the budget constraint of borrowing or debt repayment and unit population size. For simplicity, we will focus on reputational equilibria with $D_O=D_N\equiv D$, though the results do not rely on this restriction.

Proposition 1: Under the preceding assumptions about preferences, players, and technologies, there is a reputational equilibrium in which governments borrow D in odd periods and successor governments repay D/β in even periods.

Proof: Creditors' behavior is such that if a country did not repay D/β it would never be issued loans again. Since by assumption $D<D^*$, the maximum loan incentive compatible for countries, continued borrowing is preferable to autarky, so the country would repay the loan. The loans are zero profit and hence incentive compatible for creditors. Given the behavior off the equilibrium path of creditors (governments), governments (creditors) prefer to borrow if possible but default (never lend) in response to non-equilibrium path behavior by creditors (governments). ∎

The status quo of the sovereign debt market indeed seems to be that successor governments, concerned about their reputation, typically accept responsibility for debt, independent of the nature of the preceding regime. For example, Anastasio Somoza was reported to have looted between $100 million and $500 million from Nicaragua by the time he was overthrown in 1979. Daniel Ortega, leader of the Sandinista government that succeeded Somoza, told the United Nations (UN) General

Assembly that his government would repudiate Somoza's debt, but he reconsidered when his Cuban allies advised him that doing so would unwisely alienate Nicaragua from Western capitalist countries. Similarly, the South African government, in order to remain in the good graces of investors, has distanced itself from the popular movement to nullify its apartheid-era debts.[4]

The equilibrium in the model that best characterizes this status quo is the one described in Proposition 1 in which both types of governments borrow D in odd periods.[5] If the government is odious, μ workers are employed as palace builders and are paid W, and the remainder harvest fruit and are paid $\underline{w}$. The government consumes fruit valued at $D + (1 - \mu)(a - \underline{w}) - \mu(W + P_M)$ plus a palace. If the government is nonodious, all workers harvest fruit and are paid $a+D$ in odd periods. In all even periods, the nonodious government repays existing loans and $A - d(t)/\beta$ is passed along to the people, all of whom harvest fruit.

Of course, in addition to the equilibria discussed above with no lending or with lending in odd periods to all governments, the folk theorem supports a plethora of other equilibria. For example, there are equilibria in which loans made in time periods ending in the number 1 would not be repaid, and hence are not extended. There are also equilibria in which loans are issued only to nonodious governments:

Proposition 2: There exists a reputational equilibrium in which nonodious governments borrow D in odd periods and successor governments repay D/ β in the successive even period, but odious governments receive no loans.

Proof: Consider strategies in which if a country did not repay loans issued to a nonodious regime it would never be issued loans again. Since $u(A - D/\beta) + \beta u(a + D) > u(A) + \beta u(a)$, the country would repay the loan. The loans are zero profit and hence incentive compatible for creditors. Suppose if a successor did not repay loans issued to odious regimes, the country would continue to

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[4] "Somoza Legacy: Plundered Economy" (*Washington Post*, November 30, 1979); "Cuba's Debt Mistakes: A Lesson for Nicaragua" (*Washington Post*, October 5, 1980).; "S. Africa Shuns Apartheid Lawsuits" (*Guardian*, November 27, 2002).
[5] The status quo equilibrium could also be one in which odious governments borrow a different amount than nonodious governments (any D_O satisfying $0<D_O \leq D^*$). This would not alter our results substantively.

receive loans in the future. Compared to repayment, non-repayment would imply a lump sum gain of D/β in period 2, raising the population's consumption by $D(1+\beta)/\beta$ in every period. The successor would not repay since nonrepayment maximizes the population's utility. Anticipating this, creditors would not issue loans to odious regimes. The remainder of the proof follows as in Proposition 1. ∎

One reason why we are not in such an equilibrium may be that creditors and governments have coordinated on the simpler equilibrium in which loans do not depend on government type. This coordination may be a reflection of history: in the past, more governments were undemocratic and may have had little interest in international norms that cast doubt on the legitimacy of sovereign governments.

3. Comparison of Trade and Loan Sanctions

In this section we first argue that cutting off dictators from either trade or lending could deter at least some dictators from taking power. We then show that firms have an incentive to break trade sanctions and that, if trade sanctions are enforced, they make the population worse off in the period in which they are enforced. Finally, we argue that loan sanctions have more attractive properties.

3.1 Deterrent effects of trade or loan restrictions

The probability of a dictator's arising in period 1 is endogenous to the spoils from office, and a dictator's utility from being in office will be lower if he cannot trade or borrow. If odious governments can borrow up to an amount D and there are no trade restrictions, the utility from office is $D + \psi + (1 - \mu)(a - \underline{w}) - \mu(P_M + W))$. If a dictator is able to borrow D but cannot trade, his utility is reduced to $D + a - \underline{w}$ since he cannot import marble to build a palace and instead spends all his resources on fruit. If a dictator is able to trade but cannot borrow, his utility is reduced to $\psi + (1 - \mu)(a - \underline{w}) - \mu(P_M + W))$ if he is able to pay for a palace by selling fruit; if he is unable to pay for marble and build a palace without borrowing, his utility is the lower amount $a - \underline{w}$ obtained from allocating all labor to harvesting and consuming only fruit. If a dictator can neither borrow nor trade, his utility from office is $a - \underline{w}$. In each of these cases, restrictions on trade or borrowing reduce the

utility a dictator would obtain from being in power and therefore lower the probability that he takes

over the country.[6]

3.2 Trade sanctions

In the context of our model, trade sanctions against a country consist of an agreement among

all other countries to not allow their domestic marble suppliers to furnish marble to the sanctioned

country.

Trade sanctions are fragile. Consider the case in which marble suppliers are Bertrand

competitors. If one country with two or more marble suppliers does not agree to the sanctions, the

sanctions do not affect the payoffs for the sanctioned government. Furthermore, there are strong

incentives for marble suppliers to break the sanctions.

A second weakness is that when trade sanctions bind, the population is made worse off. The

government can no longer build palaces, which deprives a portion of the population of the efficiency

wage premium W – w.

3.3 Loan sanctions

Under the model, loan sanctions consist of legal changes made by countries to prevent assets

held there from being seized to repay debt incurred by a particular regime.

Proposition 3: The imposition of loan sanctions against a particular regime eliminates equilibria with

lending to that regime.

Proof. Suppose a creditor issued a loan of size d>0 to a sanctioned government. The sanction

implies that even successor governments that default on the loan to the sanctioned government can

save overseas at R=1/β without assets being seized. If in period 2 the successor government does not

repay the loan, the country's income stream for t=2 onward is A, a, A, a…, and its discounted utility is

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[6] Another rationale for sanctions is that the threat of them improves the behavior of a government in power. This effect is captured by our model if the production of a new government at the beginning of the period is instead construed as a change in the behavior of an existing government. A further argument for sanctions is that they

maximized by consuming $(A+a\beta)/(1+\beta)$ in each period. It achieves this by saving $\beta(A-a)/(1+\beta)$ in each even period and withdrawing $(A-a)/(1+\beta)$ in each odd period. Borrowing does not help with consumption smoothing, so with or without the ability to borrow, it chooses not to borrow. If the successor government instead repays the loan, the country's income stream net of debt repayments for t=2 on would be $A - d/\beta$, a, A, a… which gives lower discounted utility than the income stream A, a, A, a…, regardless of whether the country is able to borrow. The successor does not repay loans issued to the sanctioned regime, so creditors will not issue loans to a sanctioned regime. ∎

The loan sanction eliminates the penalty a country faces for repudiating debt incurred by the sanctioned regime and, anticipating this, creditors would not issue loans to a sanctioned regime in the first place. This is a straightforward application of Bulow and Rogoff (1989) in which, if a country can use savings to smooth consumption in lieu of borrowing, a reputational equilibrium with debt cannot be sustained. With a system of loan sanctions, it remains the case that governments that renege on loans made to unsanctioned regimes would have their savings seized; countries would have incentives to repay these loans, so reputational equilibria with loans to unsanctioned governments would continue to exist. Governments that inherit loans made to sanctioned regimes, however, would not value being able to borrow in the future since they could save abroad instead. The prospect of future loans cannot enforce repayment of loans issued in violation of a loan sanction. More generally, even if governments face more complicated income streams where borrowing might still be valuable, loan sanctions may shift creditors' behavior toward not viewing default on sanctioned loans as cause for curtailing future lending (as in the equilibrium of Proposition 2).

While trade sanctions are fragile since third parties have incentives to break them, loan sanctions are self-enforcing. Potential creditors have incentives to abide by a loan sanction, since any credit issued will not be repaid under the model.

In addition, loan sanctions have better welfare implications than trade sanctions for the population living under an odious regime. If a dictator needs to borrow to pay for palace building, loan

may hasten the fall of the government. We do not model this effect.

sanctions, like trade sanctions, reduce the population's consumption in the short run because workers lose the wage premium W – w. If a dictator can pay for a palace without borrowing, the population does not suffer this short-term cost of lower wages. But in either case, loan sanctions make the population better off in future periods since it has no debt repayment to make. If the gain from not inheriting debt outweighs the short-term economic cost of a sanction, which seems plausible, then ex post a loan sanction is welfare-improving for populations ruled by an odious regime, even setting aside its effect on the probability that dictators come to power.[7] Proposition 4 formalizes this argument.

Proposition 4: If $1/(1-\beta)\{u((A+a\beta)/(1+\beta)) - u((A+a\beta-d(1-\beta)/\beta)/(1+\beta))\} > \mu(u(W) - u(\underline{w}))/\beta$, a loan sanction imposed on an odious regime is welfare-improving for the population of that country relative to the population's welfare under an equilibrium in which the odious government is not sanctioned and borrows d.

Proof. By not repaying debt, the country gains d/β in period 2; it smoothes this windfall by consuming an extra $d(1-\beta)/\beta$ in t=2,3,… Its discounted utility increases from $1/(1-\beta)u((A+a\beta-d(1-\beta)/\beta)/(1+\beta))$ to $1/(1-\beta)u((A+a\beta)/(1+\beta))$. The short-term cost of foregone efficiency wages is a utility loss of $\mu(u(W) - u(\underline{w}))$ in period 1. ∎

Proposition 4 implies that loan sanctions may be particularly attractive instruments in cases in which the sanctioning government or international body does not want to make the population of the target country worse off, but simply its leadership.

Another important point is that the loan sanction's attractive welfare properties for the people pertain only when the sanction is applied against regimes that are borrowing against the people's interests, i.e. governments defined as odious in the model.

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[7] If a trade sanction prevents a dictator from depleting a nonrenewable natural resource with no domestic market, the trade sanction could confer a similar benefit on the population. They would inherit a larger stock of natural resources.

Proposition 5: A loan sanction imposed on a nonodious regime during a low-income period (odd t) is welfare-decreasing for the population relative to their welfare under an equilibrium in which the nonodious government is not sanctioned and borrows.

Proof: This follows from revealed preference since a nonodious government maximizes the population's utility. Because $u(\cdot)$ is concave, the population's indirect utility is increasing in the amount borrowed in odd periods under a nonodious regime. ∎

Proposition 5 highlights an important policy issue: a potential peril with loan sanctions—as with other sanctions—is that they could be applied at will by countries or international bodies. If in practice loan sanctions are imposed on a government that acts in the population's interest, for example because the major powers disfavor the government for foreign policy reasons and want to weaken it, the loan sanction hurts not only the government but also the people.

Stepping outside the model, it is worth noting that a loan sanction is also potentially welfare-improving for the population if the government is not malevolent and its intent is to maximize the population's utility, but it is incompetent at doing so. A government that neither loots nor represses might simply use loans to pursue bad investments, and the population would potentially be better off if the government could not borrow.

4. Extensions of the Model

4.1 Relaxing assumptions

The model assumes that odious regimes leave office after a single period. If odious regimes are allowed to stay in power longer, loan sanctions retain their attractive features. Suppose that in each period there is some fixed probability that the regime survives until the next period, and that a loan sanction continues to imply that successor regimes suffer no penalty from refusing to repay debts incurred by the sanctioned regime. In the model as it stands, dictators have no incentive to repay loans, and in fact would have no need to return to the loan market after period 1 since they will be satiated with palaces after building just one. However, one can imagine an extension of the model in which

dictators have incentives to repay loans (for example, out of Ceausescu-like pride or because long-lasting dictators want to be able to borrow in the future, perhaps because palaces depreciate). In this case, creditors might lend to an odious regime despite the loan sanction. Since a loan will be repaid only if the dictator survives to repay it, the risk that he will lose power increases the interest rate he faces.

The larger the probability of regime change, the higher the interest rate that lenders will require since, in expectation, an odious regime must repay its own loans. Once the probability of regime change becomes large enough, it will no longer be incentive compatible for a dictator to repay since the required repayment in the state of the world in which he survives will be too high. For a high enough probability of regime change, creditors will therefore not lend, and the results will be the same as in the case modeled where there is zero probability of surviving and no lending to sanctioned regimes.

Even in cases where an odious regime continues to receive loans, sanctions have beneficial effects. An odious regime is worse off with the loan sanction than without since it faces a higher interest rate. The prospect of loan sanctions would continue to deter odious regimes. Most importantly, the population has a smaller debt burden when the sanction is in place, because it would not have to repay odious debt that is outstanding when the dictator is toppled.

It is also possible to relax the assumption that dictators take power only in the first period. In this generalized case, odious regimes may inherit debt from the previous government and will always choose to default on it, regardless of whether loan sanctions are in place. Lending that adjusts for this risk can continue to take place. Loan sanctions against dictators still limit the debt burden that dictators can bequeath to the country.

4.2 Loan sanctions more broadly construed

Previous sections examined loan sanctions in the context of a specific reputational model of debt. It is worth considering the impact of loan sanctions in another class of reputational models of

debt, as well as in models in which debt repayments are enforced with the threat of trade sanctions or denial of foreign assistance.

In Cole and Kehoe (1996), failure to repay debt hurts a country's generalized reputation, and a country values a good reputation for reasons that go beyond access to credit. Thus, even with a means of storing assets, a country might still have incentives to repay loans. In a previous version of this paper (Kremer and Jayachandran 2002), we work with a version of Cole and Kehoe's model and show that there will be a multiplicity of equilibria, including equilibria in which there is no lending to odious regimes. In such a model, eliminating creditors' ability to seize assets would not necessarily eliminate equilibria with lending to the sanctioned country but could still potentially coordinate players on an equilibrium in which this lending does not take place. For example, if the U.S., the European Union, Japan, and the U.N. Security Council all declared that they would regard any future loans to a particular dictator as odious and would not expect a successor government to repay them, it seems plausible that this could help coordinate creditors and debtors on an equilibrium in which loans to the dictator would not be repaid, and hence would not be extended.

States that give foreign aid or have substantial influence over multilateral donors might be able to eliminate equilibria with odious debt by announcing that they regard any future loans to a dictator as odious and would not provide aid to countries that are repaying this illegitimate debt. In other words, donors could refuse to give aid to a successor government if the successor will, in effect, hand over this aid to creditors who issued odious loans. If the foreign aid is valuable enough, the country would have incentives to repudiate odious debt, and creditors, foreseeing this, would not originate such loans.

In another class of models of international borrowing, debt repayments are enforced not through reputation but through sanctions imposed by creditor countries, such as trade sanctions or denial of foreign aid. In these models loan sanctions would take the form of countries announcing that they would not impose sanctions on successor governments that refuse to pay certain debt. The extent to which international cooperation would be needed to make loan sanctions effective depends on the nature of the underlying sanctions for failure to repay debt. For example, if countries failing to repay

debt are subject to retaliation through trade sanctions, but competition is Bertrand, then even if a few countries announce they will not impose trade sanctions, successor governments will not have incentives to repay, and hence creditors will not lend.

5. Time Consistency

Preventing enforcement of debts is subject to time consistency problems, so there is a case for allowing this to be done ex ante, but not ex post. To see this, suppose a body that has the power to prevent seizure of assets to enforce repayment of certain loans receives utility α_B from transferring a dollar to creditors, and α_P from transferring a dollar to the population, where α_B and α_P are nonnegative random variables realized at the beginning of each period. We consider two possible timings of the decision-maker's actions: (1) before creditors make lending decisions and (2) at the end of the period in which the lending decision was made.

If the body acts ex post, then if $\alpha_P > \alpha_B$, it will prevent creditors that are owed payment for outstanding nonodious loans from seizing assets. It does this as a way to redistribute resources from creditors to the debtor country. Anticipating this, creditors will not lend. (Or if the deciding body's preferences are uncertain instead of known at the time creditors make lending decisions, lenders will charge higher interest rates.) If $\alpha_B > \alpha_P$, an ex post decision maker might refuse to block seizure of assets to enforce loans, regardless of the legitimacy of the regime that incurred the debt.

In contrast, if the decision making body acts ex ante, these preferences do not pose the same problem, because they create an incentive to allow lending to occur when it benefits the population, that is, when the government is not odious. If the ruling is ex ante, creditors are, to a first approximation, indifferent to lending to the country or to another. Hence as long as α_P is non-negligible, the decision maker will not allow odious loans, but will allow legitimate loans.

While making decisions regarding the legitimacy of loans ex ante rather than ex post will help address potential time consistency problems that arise if the decision maker asymmetrically values the population and their creditors, it cannot address the problem of political bias for or against particular governments by the decision maker. If the policy goal is to do no worse than the status quo of

indiscriminate lending, safeguards could be put in place with ex ante decisions by requiring a supermajority of the deciding body's members to prevent seizure of assets. With a supermajoritarian voting rule, if members' biases are not completely correlated, the decisive voter would be less biased against the government than under a simple majority rule.

6. Conclusion

The debt relief movement rests on two main arguments: debt further impoverishes poor countries, and loans were often illegitimate in the first place. Economic models of debt overhang formalize the first argument, suggesting that debt relief may enhance efficiency if a country's debt is large relative to its income. Partly in response, donors have granted debt relief to several debtor countries under the Heavily Indebted Poor Countries (HIPC) policy initiative. However, other countries with arguably illegitimate debt, including post-apartheid South Africa, are not eligible for HIPC debt relief. Given the extent of looting and repression by many dictators, it seems plausible that the efficiency gains from preventing odious debt are much larger than the efficiency gains from solving debt overhang. Loan sanctions against such dictators could potentially prevent some of this borrowing.

Loan sanctions are potentially self-enforcing, unlike trade sanctions which are fragile. In our model, equilibria with lending to governments judged to be illegitimate could be eliminated by legal changes to prevent creditors from seizing assets for non-repayment of loans issued to such governments. More broadly, public ex ante announcements about the legitimacy of loans might deter lending by leading to coordination in the debt market on an equilibrium with lending only to legitimate governments. If in addition donors tied their foreign aid to past announcements and withheld foreign aid from countries that were repaying predecessors' illegitimate debt, equilibria with odious debt could be eliminated.

Since more countries engage in foreign trade than in sovereign borrowing, a loan sanction could be applied only in certain cases, but in these cases (e.g., Croatia under Tudjman or apartheid South Africa), it could have a significant impact.

Creditors would potentially be better off under a system in which the "rules of the game" are known in advance. Currently, there is a movement to nullify some debt on the grounds of odiousness, but it is hard for creditors to anticipate which loans will be considered odious in the future. If odiousness were declared in advance, creditors would avoid lending in the first place and would have to find alternative borrowers, but they would not risk large losses from a successful ex post campaign that nullified some of their outstanding loans. Accordingly, interest rates could fall for legitimate governments.

Could loan sanctions be put into practice? Rather than being adopted overnight as a general policy, it seems more likely that loans sanctions might be imposed against some particular future dictator, and then a general policy would evolve. For example, if there were a coup in Nigeria and the international community wanted to respond, it seems plausible that some countries would choose to impose loan sanctions alongside trade sanctions.

Many other important issues would need to be addressed before adopting loan sanctions—what standards to use for odiousness, whether humanitarian loans should be blocked, etc. Arguably the single most important issue is who should impose loan sanctions. One possibility is that courts could apply loan sanctions, adjudicating in response to lawsuits. Either domestic courts or an international court could play this role. While our model suggests loan sanctions might be effective if imposed unilaterally by a single large country, it might be preferable to have a system that required international consensus to impose them. A possibility is that the UN Security Council could decide on loan sanctions, a natural extension of its role in imposing trade sanctions. The United States and other major powers would have veto rights, and while their ability to act unilaterally would be constrained, they would gain veto power over other countries' actions.

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