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Limiting Punishment for Default on Sovereign Debt and the
London Club

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Abstract

In this paper, we examine the role that institutions may play in enabling banks to write contracts whereby sovereign debt is not forgiven *ex post*. Our model provides a rationale for the emergence of a centralized forum for debt renegotiation, such as the London Club as well as for bank syndicates. These bank syndicates arise as part of a pre-commitment device rather than risk sharing. We propose a debt contract under which, only involuntary default is forgiven *ex post*. Our main findings are that under this contract, renegotiations take place only after involuntary default and debt forgiveness after voluntary (strategic) default is avoided. When voluntary default occurs, access to the credit market is denied only for a limited number of periods, rather than forever. In contrast to a voluntary default, involuntary default is renegotiated immediately.

Limiting Punishment for Default on Sovereign Debt and the London Club

One of the major problems in the literature on sovereign debt is the design of contracts limiting debt forgiveness. The difficulty stems from two sources: borrowers may not be able to credibly commit to repay the loan; similarly, lenders may not be able to credibly commit not to relend immediately to borrowers who default voluntarily.[1] This paper examines the debt contracts and bank syndication that emerge in the presence of institutions such as the London Club—a centralized forum for debt renegotiation. We find that such institutions may enable banks to write contracts whereby sovereign debt is not forgiven *ex post*. It is well known that such contracts exist only under very restrictive conditions.[2] Hence, given that the market for sovereign debt exists, it must be the case that market systems have developed which prevent lenders from being too lenient and/or borrowers from breaching the debt contract.

Hurn (1990, p. 1) defines a syndicate as follows: "A syndicate loan is a loan made by two or more lending institutions, on similar terms and conditions, using common documentation and administered by a common agent." Our objective is to explain why the common agent that emerges in the context of sovereign loans is the London Club. The London Club can be characterized as follows.. In practice, the London Club does not have a formal structural organization, a permanent staff or a fixed location. Since Mexico's default in 1982, the coordination problem between many private-bank lenders has been solved in the following way: a consultative committee consisting of lending banks, normally from all the lending syndicates and representing all bank lenders, work out a debt restructuring plan; after

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[1] As is typical in the literature on sovereign debt, we distinguish between a voluntary (strategic) default and an involuntary default induced by liquidity problems. See, also, Eaton, Gersovitz and Stiglitz (1986).

[2] For example, Gromb (1994) and Eaton and Gersovitz (1981) show that renegotiation-free debt contracts will exist only under the condition that banks expect to make zero profits from their loans.

acceptance by the lenders and the borrowers, this plan is implemented. These consultative committees are highly visible and are called the London Club. According to Kearney (1993), this default-settling mechanism saves costs; furthermore, the London Club has a reputation of a tough bargainer.[3]

Our work is motivated by the observation that from the second half of the eighties agencies such as the IMF, the Paris Club and the London Club have become increasingly important for handling country debt problems.[4] We claim that, besides its efficiency in the handling of reschedulings,[5] an institution such as the London Club may also serve as a device in helping banks to overcome the precommitment problem. When a debt problem is handled by a body like the London Club—a very visible and central device that manages many of the reschedulings of commercial bank loans—the borrower knows that lenders cannot afford to be lenient: leniency of the London Club and the consequent adjustment in borrower behavior could cause a general collapse of lending to countries by banks.[6] Thus, using an institution such as the London Club allows banks to credibly precommit not to relend immediately

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[3]Kearney (1993, p. 66) reports that, "The London Club almost never reschedules interest obligations, and it charges current market interest rates on the principal payments rescheduled."

[4]For a discussion of the important role that these institutions play in debt renegotiations, see Kremmydas (1989) and Ebenroth (1989).

[5]Note that, in principle, all commercial banks with exposure to the debtor country participate in debt reschedulings organized by the London Club. This number can be as large as 800 banks (in the case of the default by Mexico in 1982). With its experience and specialized procedures, the London Club is well suited to handle the complicated rescheduling process when such a large number of creditors is involved. The involvement of so many creditors is the consequence of the equal treatment clauses implied in bank syndicate contracts. For an overview of equal treatment clauses see, for example, Ebenroth (1989, pp. 634-635).

[6]It is well accepted, both by practitioners and academics, that if a financial institution relends easily to a voluntary defaulting borrower, other borrowers observing this, may change their policy from repaying to not repaying (see, for example, Chowdhry (1991)).

following a voluntary default.[7] In the context of our model, banks precommit to using an institution such as the London Club *ex ante* by forming loan syndicates rather than lending independently. Consequently, following a voluntarily default, the syndicate finds it more efficient to penalize the borrower rather than to forgive it. Note that these bank syndicates arise as part of a pre-commitment device rather than for reasons of risk sharing.

In the presence of an institution like the London Club, we propose a debt contract such that, depending on the type of default, debt may or may not be forgiven *ex post*. Our main findings are that under this contract, debt is forgiven only after involuntary default and debt forgiveness after voluntary (strategic) default is avoided. Consistent with observed behavior, if voluntary default occurs access to the credit market is denied for only a limited number of periods rather than forever. The length of this punishment phase depends upon the growth prospects of the borrower: countries with high growth prospects reenter the credit market more quickly compared to countries with low growth prospects.[8] In contrast to a voluntary default, involuntary default is forgiven immediately.

In our model, the preceding results obtain because being denied credit is costly to the borrower. Hence, a credible threat of temporary denial of credit may be sufficient to prevent the borrower from defaulting voluntarily. Furthermore, we show that during this punishment phase no other lender has any interest in granting a loan because the borrower would rationally default on it; hence a borrower who defaults voluntarily is excluded from the borrowing market temporarily. However, no lender wishes to deny credit forever since such a policy would cut it off permanently from future profitable business.

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[7]Given that the IMF and the Paris Club are concerned with debt provided by supra national and governmental agencies, in the handling of country debt by these institutions issues other than direct profitability of lending operations are likely to play an important role. Thus, our focus is on the London Club, which specializes in debt provided by private banks. See Kearney (1993) for a description of the differences between the Paris Club and the London Club.

[8]In fact, for borrowers with very low growth prospects the credit market may close permanently.

Our work is related to the literature that views institutions and the legal framework as tools that help create renegotiation-free contracts and is closest in spirit to Chowdhry (1991). Chowdhry also views syndication as part of a system that makes voluntary default costly to the borrower. However, whereas in Chowdhry the purpose of syndication is to limit the number of lenders to which a defaulting debtor has access, the present paper focuses on the role of syndication and the London Club as devices that make lenient treatment costly to lenders. Also, the predictions of our model about the functioning of the lending-borrowing market are very different from those in Chowdhry. In Chowdhry, a lender never relends to a particular borrower after a default, while borrowing from alternative lenders resumes immediately. However, once the supply of alternative lenders is exhausted, the borrower is denied credit permanently. As mentioned before, our contract predicts that after a default a lender generally relends to the defaulting borrower, but possibly only after some time has elapsed. During that time no other lender steps in so that the borrower is actually cut off from the credit market.

As in Eaton, Gersovitz and Stiglitz (1986), who posit that penalties on lenient creditors are likely indirect, we aim at identifying how the institutional framework may create one such possible cost. In particular, the institutional feature studied in this paper enhances the reputation mechanism, thereby increasing the cost of being a lenient creditor. Other papers that consider the links between institutional features and the costs imposed on lenders include Chowdhry (1991), Eaton and Gersovitz (1981), Guttentag and Herring (1984), and Kaletsky (1985). Costs that the institutional setting may impose on borrowers have been studied by Bulow and Rogoff (1989), Giammarino and Nosal (1990), and Schwartz and Zurita (1992).

The rest of this paper is organized as follows. The model is described in Section 1. Section 2 contains our main results. Our conclusions are presented in Section 3.

1. The Model

In this section, we characterize the London Club in the context of our problem and the assumptions made to derive our results.

Commensurate with reality, we define the London Club as a highly visible mechanism whereby a limited committee of banks involved in the bankruptcy coordinates the actions of lenders who wish to participate in coordinated behavior. As mentioned before, this coordinated behavior leads to cost savings once the number of banks in the syndicate is large enough. We also assume that once enough borrowers are involved, this committee becomes very visible; this visibility implies that the committee acts under the assumption that if it is lenient to a voluntarily defaulting borrower, in the future, borrowers will always default voluntarily. Hurn (1990, p. 95) states that, "overlooking the default can never be an appropriate course of action for a prudent banker; a court would likely interpret such inactivity as being a permanent waiver of default." An example where the banks were clearly concerned about the precedent-setting effects of the acceptance of a lenient debt-settlement proposal is the case of debt renegotiation with Zaire in (1979); details can be found in Callaghy (1993).

In our model, a syndicate has to solve the following three problems: (a) create a debt contract such that, if the syndicate precommits to this contract, it is not in the borrower's interest to default voluntarily; (b) create a precommitment to the debt contract by making the threat to join the London Club in case of default a credible one; (c) make certain that the individual syndicate members have no incentive to deviate *ex post* from the syndicate's decision so that the syndicate does not unravel. We now describe our modeling assumptions.

We assume an infinite period setting. At the beginning of each period, a risk neutral borrowing country has an investment opportunity available requiring the outlay I. If the investment is made, the project produces a random quantity X of a perishable good at the end of the period. The output X is a random variable with finite expected value and time-invariant distribution. At the end of each period the country decides to either consume X and pay zero (voluntary default) or pay the risk neutral lender (a single bank or a syndicate of banks) the minimum of P (no default) or X (involuntary default). That is, we assume that partial voluntary

default is not possible.[9] The quantity P, which includes principal and interest, is assumed to be given and constant over time.[10] The borrowing country's discount rate is a constant given by δ_b, while the lender's discount rate is the constant δ_l. In this setting we interpret "growth capacity" of the borrowing country to be the present value of the period-by-period gains $(X-P)$ from the investment opportunity.

We assume that at the beginning of each period either nothing is invested or I is invested in full; that is, partial investment cannot be undertaken. In a period in which the borrower does not undertake any investment project, it has nothing to consume. It is also presumed that the country cannot use the output from one period to pay for the investment, I, of the next period as the good perishes between the time it is produced and the time it can be used for investment in the next period.[11] Therefore, to finance I the country needs to borrow from foreign banks. Specifically, one could imagine that at the beginning of every period a country announces whether or not it wishes to borrow I. Then this country asks a bank to organize a loan. If a bank refuses, the country may ask another bank to arrange the loan. If the bank accepts, it decides about the size of the syndicate (that is, if this bank does not ask other banks to join the financing, the syndicate is of size one). Also, as in practice, we assume that syndicate members are protected by equal-sharing clauses so that the debtor cannot default against syndicate members selectively. Even if there were multiple syndicates, cross-default clauses rule out selective default against a particular syndicate or bank; see Gabriel (1986, p. 113) for the cross-default clause.

We also assume that there is symmetric and perfect information. The assumption that the realization of X is common knowledge implies that a lender can distinguish perfectly

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[9]This assumption, consistent with the literature, limits the number of unlikely scenarios that have to be considered. We also assume that in a situation in which the borrower is indifferent between repaying and not repaying, it repays and repayment of earlier loans in later periods is ruled out.

[10]The amount P is determined by general competitive conditions.

[11]As in Chowdhry (1991), the assumption that X is perishable may reflect a borrower's lack of financing capacity; or it may capture the notion that it is costly for a borrower to substitute the benefits of access to the international capital market via savings.

between a voluntary default and an involuntary one, and reflects the idea that there is no inside information with respect to the general state of a country's economy. We make the standard assumption that, unless a borrower defaults voluntarily, *ex ante*, banks derive a positive net present value from lending.[12]

If at the end of a period a country defaults (voluntarily or involuntarily) the syndicate has the choice whether or not to use the London Club mechanism. As mentioned in the introduction, we assume that a highly visible body like the London Club cannot afford to be lenient to a voluntary defaulting borrower. We also assume that banks are similar to each other and syndicate cost structures are as specified below.

a) Settling a (voluntary or involuntary) default *without* the help of an institution like the London Club costs the bank syndicate a total amount equal to $g(N)$, with $g(.)$ a strictly increasing function of N, the number of syndicate members, which captures the idea that the cost of coordinating the action of lenders increases with their number. This implies that if there is an involuntary default, the bank syndicate pockets $X-g(N)$, and if there is a voluntary default the syndicate receives $-g(N)$.

b) Settling a (voluntary or involuntary) default with the help of the London Club costs $f(N)$ with $f(.)$ a strictly increasing function and $f(1) = g(1)$. We also assume that due to

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[12]This could be consistent with the following situation. Consider a world with similar banks. Because of ever-changing regulations and rules, a lender needs time to draw up a loan contract and also incurs direct out-of-pocket costs. Therefore, no bank will accept to go into a competitive situation where the borrower asks several lenders simultaneously to submit a contract and then picks the one with the lowest interest rate. This would lead to a loss for the competing banks: at the time the interest rate is announced, the investigation costs are sunk; hence, competition forces banks to accept rates that do not recover these costs. Consequently, banks only accept to participate if the following type of exclusivity contract is offered: between the moment that the bank starts its investigation and it makes its interest-rate offer, the borrower does not approach any other lender. Lenders could give the country an incentive to abide to this exclusivity clause by charging an up-front fee. Thus, each time a country refuses an offer, it will lose time and money. If the borrower is sufficiently impatient relative to the

the coordination possibilities of the London Club, $f(.)$ increases slower than $g(.)$. This cost structure implies that as the number of lenders increases, it is increasingly efficient to use the Club for settling defaults. Our assumption about the positive net present value implies that in case of no voluntary default, $0 < E\left[\dfrac{\min(P, X - f(1))}{(1+\delta_l)}\right] - I$, where the symbol E denotes the expectations operator.

c) We presume all costs and revenues are split evenly over syndicate members. Hence, each period that lending occurs and there is no voluntary default, each syndicate member pockets the fraction $1/N$ of the net present value, which is $E[\min(P, X - f(N))/(1+\delta_l)] - I$ if the London Club is used to settle an involuntary default and $E[\min(P, X - g(N))/(1+\delta_l)] - I$ if the London Club is not used.

2. The Efficiency of Temporary Punishment

This section contains our results. We show that: (a) borrowers rationally prefer not to default (voluntarily) *ex post*; (b) lenders precommit to a contract promising to abstain from lending for a limited number of periods after voluntary default so that punishment is only for a finite period; (c) to precommit to the preceding contract, lenders form sufficiently large syndicates so that *ex post* it is efficient to use an institution such as the London Club in the event of a default; (d) equal-sharing clauses eliminate any incentives for individual members of a syndicate to deviate *ex post* from the syndicate's policy.

The above results are obtained via three propositions. In Proposition 1, we derive the optimal length of the punishment phase in a world with only one syndicate (and possibly many borrowers) presuming that this lender, if it wishes, can *ex ante* credibly precommit to abstain from lending during the punishment phase and assuming that syndicates do not unravel. Still assuming that syndicates do not unravel, Proposition 2 shows that the way banks *can* precommit to abstain from lending during the punishment phase is by forming a multi-bank syndicate that finds it optimal, *ex post*, to negotiate with the debtor country through an institution such as the London Club and exclude it from new loans during the punishment

phase. Finally, Proposition 3 considers the situation with many lenders and shows that in the event of a voluntary default by a borrower against the current lender, other lenders will abstain from lending to this borrower during the punishment phase. This implies that no individual syndicate member has an incentive to form a new syndicate (possibly consisting only of itself) and relend next period. Thus, syndicate members have no incentive to deviate from syndicate policy.

We start by examining the case of a single syndicate.

PROPOSITION 1: *Consider a syndicate of N banks such that $E[min(P, X-f(N))/(1+\delta_l)] - I >$ 0. Also consider the following contract: the syndicate promises to lend to a borrower until a voluntary default occurs; in the case of a voluntary default, the lender abstains from relending for T(X) periods, with T(X) satisfying*

$$T(X) = \min \left\{ t \mid X - \max[0, (X - P)] \leq E[\max(0, X - P)]a(t, \delta_b) \right\} , \qquad (1)$$

where, t is some positive integer and a(.,.) is the annuity factor, $(1/\delta_b) \times (1 - 1/[1+\delta_b]^t)$. Under the contract described above, a rational borrower does not default voluntarily; also, given the choice ex ante, the lender prefers to precommit to this contract (that is, not to lend for T(X) periods following a voluntary default).

Proof: Part 1—to show that under the proposed contract voluntary default is against the interests of the borrower. Consider the moment the borrower decides whether or not to repay the amount owed, P. The borrower, expecting the lender to abide by the contract, perceives the following present value of consumption in case it defaults voluntarily this period but abides by the contract afterwards:

$$\text{Value default} = X + \frac{1}{(1+\delta_b)^{T(X)}} \frac{E[\max(0, X - P)]}{\delta_b} .$$

If the borrower does not default voluntarily, its payoff is:

$$\text{Value abide} = \max(0, X - P) + \frac{E[\max(0, X - P)]}{\delta_b} .$$

To get a rational borrower not to default, $T(X)$ should be chosen so that Value default $\leq$ Value abide:

$$X + \frac{1}{(1+\delta_b)^{T(X)}} \frac{E[\max(0, X - P)]}{\delta_b} \leq \max(0, X - P) + \frac{E[\max(0, X - P)]}{\delta_b} ,$$

or equivalently:

$$X - \max(0, X - P) \leq E[\max(0, X - P)]a(T(X), \delta_b) .$$

To interpret this condition, note that the left-hand-side of (1) is the single-period gain from defaulting while the right-hand-side is the loss suffered during the $T(X)$ periods that the borrower is excluded from new loans. Thus, the condition in (1) ensures that defaulting voluntarily is not profitable for the borrower. Clearly, (1) also guarantees that defaulting more than once is also unprofitable to the borrower.

Part 2—to show that, given the choice, a rational lender prefers to precommit to punishing a borrower for $T(X)$ periods rather than forgiving and relending immediately following a voluntary default. Suppose that the lender did not precommit to abstain from lending immediately (in the next period) following a voluntary default; that is, $T(X) = 0$. Then, because condition (1) is violated, the lender would rationally expect the borrower to default again at the end of that period. Hence, if the lender compares the net present value of this outcome (always negative) to the one where it precommits to not lend immediately following a default (zero), it prefers the latter choice. The same argument may be repeated for any $t \leq T(X)$. However, as soon as $t > T(X)$, the lender prefers to relend because for such t, condition (1) is met. For $t > T(X)$, the net present value from lending, $E[\min(P, X - f(N))/(1+\delta_l)] - I$, is greater than the net present value from not lending, zero, and thus it is optimal not to punish for a period longer than $T(X)$. ////

Part 1 of the proof places a lower bound on $T(X)$, while the arguments in Part 2 impose an upper bound and imply that a contract promising permanent exclusion is not subgame perfect for the lender; that is, if the lender did not make new loans even after $T(X)$ periods have elapsed, it would be cutting itself off from future profitable business.

Equation (1) shows that the optimal punishment is independent of history (that is, past deviation). This, of course, follows from the stationarity of the game. Furthermore, the present value of the stream $E[\max(0, X - P)]$ is the main factor influencing the length of punishment: the larger the present value of $E[\max(0, X - P)]$, the shorter the length of punishment. Hence countries with high growth potential need not be punished very long before the windfall gains from voluntary default are offset by the loss in growth. Conversely, if the present value of $E[\max(0, X - P)]$ is very low, it may not be possible to satisfy condition (1); in this case there may not exist a debt contract to which a rational borrower complies with *ex post*. In our model, such borrowers would be excluded from the market for sovereign loans.[13]

We have shown, in Proposition 1, that given the choice, lenders find it optimal to precommit *ex ante* to abstain from lending in the event of a voluntary default. Lenders also recognize that *ex post* there may be an incentive to deviate from their commitment to punish borrowers who have defaulted voluntarily. In Proposition 2, we show that the way lenders overcome the precommitment problem is by forming a large enough syndicate at the time of initiation of the loan so that in the event of a voluntary default it is optimal to use the London Club to deal with the borrower in default. And, the institutional setup of the London Club is such that to maintain its reputation it does not resume lending immediately to a borrower who has defaulted voluntarily.

Summarizing the argument in Proposition 2, note that following a default the choice that lenders are faced with is to: (a) use a more cost-efficient agency such as the London Club to handle negotiations, with the understanding that this precludes the possibility of resuming lending immediately; or (b) to negotiate with the borrower-in-default without a specialized agency—at a higher cost—but with the option to forgive the defaulting borrower. Lenders ensure that it will be preferable to use the London Club *ex post* (and not relend immediately) by

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[13]Such borrowers may be able to enter the credit market with the help of other agencies. For example, if the country receives financial help from donor countries, P and/or δ_b could be reduced, so that the present value of $E[\max(0, X-P)]$ increases. In fact one possible reason why interest rates charged by banks decrease after a borrower has defaulted could be the fact that in return for help the country has to accept supervision from the IMF (see Kremmydas (1989)) whereby usually the IMF steers the country into opting for less risky projects.

ex ante forming syndicates that are large enough so that the cost advantage of using the London Club outweighs the benefits from the immediate resumption of lending.

PROPOSITION 2: *Assume that syndicates do not unravel . Then, banks credibly precommit to the contract described in Proposition 1 by forming a syndicate large enough for the London Club to be cost efficient. In particular, lending occurs whenever there exists an N such that*

$$0 < \left\{ E\left[\frac{\min(P, X - f(N))}{(1+\delta_l)} \right] - I \right\} (1+\delta_l)\, a(t, \delta_l) \; < \; g(N) - f(N) \qquad (2)$$

and if such an N does not exist, then banks do not lend.

Proof: The first inequality states that for lending to take place it must be a positive net present value operation for the syndicate as a whole. The second inequality in (2) implies that it is profitable to use the London Club in the event of a voluntary default. To see this, suppose that at the end of the period the borrower defaults voluntarily but promises not to default in the future if the current default is forgiven. Then, the syndicate has two choices: either to use the London Club and exclude the borrower for $T(X)$ periods or to resume lending immediately. If the syndicate uses the London Club to negotiate with the borrower *and* excludes the borrower from future loans for $T(X)$ periods, the cashflows to this syndicate are $-f(N)$ today and zero for the next $T(X)$ periods. If, on the other hand, the syndicate decides not to use the London Club and it decides to forgive the default, then the cashflows this period are $-g(N)$, and the present value from future loans over the next $T(X)$ periods is:

$$\left\{ E\left[\frac{\min(P, X - f(N))}{(1+\delta_l)} \right] - I \right\} (1+\delta_l)\, a(t, \delta_l).$$

Thus, it will be optimal *ex post* to abstain from lending for T periods only if:

$$-g(N) + \left\{ E\left[\frac{\min(P, X - f(N))}{(1+\delta_l)} \right] - I \right\} (1+\delta_l)\, a(t, \delta_l) < -f(N).$$

Rearranging this condition yields the second inequality in (2). ////

The second inequality in (2) can be interpreted as one that compares the present value of the gains to the syndicate over the next $T(X)$ periods from not using the London Club to

implement the promised punishment phase (= $[E[\min(P, X - f(N))/(1+\delta_l)] - I](1+\delta_l)a(T, \delta_l)$

with the direct saving from using the London Club (= $g(N) - f(N)$). Clearly if the latter is

larger than the former, the syndicate has a credible precommitment to use the London Club. As

without such precommitment there is no reason for the borrower ever to repay, and in view of

the fact that $g(N)$ and $f(N)$ are increasing functions of N, the optimal action for the lenders is to

form the *smallest* syndicate for which (2) holds.

Proposition 2 implies that if the left hand side of the second inequality in (2) is large

(say, for example, because the loan is for a large amount), then the syndicate needs to be large

so that the cost savings from using the London Club device are sufficiently important.

Conversely, when the net present value from making sovereign loans is smaller, a smaller

syndicate is sufficient. Furthermore, if the profitability is not large enough to sustain a positive

net present value for a precommitted syndicate, no lending occurs. Proposition 2 also implies

that when lending occurs, the London Club handles all debt renegotiation, and if the growth

prospects of borrowers are estimated correctly, debt is forgiven only in the case of involuntary

default.

We now examine the situation where there are many *potential* lenders, and where the

existing lender has precommitted to the contract described in Proposition 1.

PROPOSITION 3: *Given a lender who has precommitted to exclude for T(X) periods a*
borrower that defaults voluntarily, then no other lender has an incentive to lend to this
borrower while it is being punished by the first lender.

Proof: Suppose that a second syndicate would relend to a voluntary defaulting borrower

during the last period of the punishment phase, $T(X)$. Then the borrower may switch back to

the first lender next period. Hence, the borrower has no incentive to repay the second syndicate

at the end of period $T(X)$. As the second syndicate anticipates this, it prefers not to grant credit

during this period. Folding back to period $T(X) - 1$, as the borrower anticipates that in period

$T(X)$ the second syndicate will not grant it credit, the borrower has no incentive to repay the

second syndicate at the end of period $T(X) - 1$, either. Hence, the second syndicate prefers to

abstain from lending at time $T(X) - 1$. The proposition is proved by folding back until the period immediately following a voluntary default. ////

Proposition 3 implies that while a borrower is being punished by a particular lender for defaulting voluntarily, it is cut off from the rest of the credit market. It also implies that no individual syndicate member has an incentive to deviate from the syndicate's policy by forming a new syndicate (possibly consisting of only itself) and relending immediately. Hence, after a voluntary default a large enough syndicate (that is, one precommitted to the London Club) does not unravel.

3. Conclusions

In this paper, we develop the notion that syndication and the London Club are devices that allow banks to precommit to a debt contract so that: (a) borrowers rationally prefer not to default (voluntarily) *ex post*; (b) lenders precommit to a contract promising to abstain from lending for a limited number of periods after voluntary default by borrowers; (c) to make this precommitment credible lenders form syndicates; (d) in the event of an involuntary default, there is no punishment; and (e) even after repeated voluntary default it is possible for a borrower to have access to credit markets. Thus, our work provides a rationale for bank syndicates, which arise as part of a pre-commitment device rather than for the traditional reason of risk sharing, and for the emergence of a centralized forum for debt renegotiation, such as the London Club.

References

Bulow, J. and K. Rogoff (1989), Sovereign debt: Is to forgive to forget?, *American Economic Review* 79.1, 43-50.

Callaghy, T. (1993), Restructuring Zaire's debt, 1979-82, in *Dealing with debt: International financial renegotiations and adjustment bargaining*, T. Biersteker eds, Westview Press Inc.

Chowdhry, B. (1991), What is different about international lending ?, *Review of Financial Studies*, vol 4, no 1, 121-148.

Eaton, J., and M. Gersovitz (1981), Debt with potential repudiation: Theoretical and empirical analysis, *Review of Economic Studies* 48, 289-309.

Eaton, J., M. Gersovitz and J. Stiglitz (1986), The pure theory of country risk, *European Economic Review* 30, 481-513.

Ebenroth, C. (1989), The changing legal framework for resolving the debt crisis: a European's perspective, *The International Lawyer*, vol 23, no 3, 629-649.

Gabriel, P. (1986), *Legal Aspects of Syndicated Loans*, Butterworths, London.

Giammarino, R. and E. Nosal (1990), Debt over hang and the efficiency of international rescheduling, in S. Khoury ed., *Recent Developments in International Banking and Finance*, Elsevier.

Gromb, D. (1994), Renegotiation in debt contracts, London School of Economics, mimeo.

Guttentag, J. and R. Herring (1984), What happens when countries cannot repay their bank loans? The renegotiation process, *International Banking and Global Financing*, ed. S. Kaushik, Pace University, New York.

Hurn, S. (1990), *Syndicated Loans*, Woodhead-Faulkner, Cambridge, England.

Kaletsky, A. (1985), *The costs of default*, Priority Press Publications, New York.

Kearney, C. (1993), The creditor clubs: Paris and London, in *Dealing with debt: International financial renegotiations and adjustment bargaining*, T. Biersteker eds, Westview Press Inc.

Kremmydas, N. (1989), The cross-conditionality phenomenon—some legal aspects, *The International Lawyer*, vol 23, no 3, 651-675.

Schwartz, E. and S. Zurita (1992), Sovereign debt: Optimal contract, underinvestment, and forgiveness, *Journal of Finance* 47, 981-1004.