THE MARKET FOR DEVELOPING COUNTRY DEBT
The Nature and Importance of Its Shortcomings

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There are two problems in the market for developing country debt: one is the immediate crisis. What do we do about the large volume of outstanding debt? A more subtle but no less important problem is that because contracts are unenforceable and lenders have incomplete information about risk, capital is misallocated. This article examines the latter problem and reviews the nature and causes of the unenforceability. It shows that unenforceability results in higher interest rates on smaller and shorter-term loans than would otherwise be available and discourages investment in developing countries. Similarly, unenforceability can explain the perverse timing of capital flows to developing countries, causing credit to flow into the country when income is high, and out when income is low. The article then analyzes the risk associated with three types of information asymmetries: information about the borrowers' ability to repay, willingness to repay, and use of the loan proceeds. These asymmetries, the author argues, reinforce the effects of unenforceability. The prospects for remedying the immediate crisis are discussed, as is the need to be certain that the proposed solutions do not aggravate these problems.

Governments regularly intervene in credit markets in an attempt to rectify market failures. The U.S. government, for example, guarantees loans for students on the assumption that the market will provide too little credit for investment in human capital. The Farm Credit System was established because of a perception that the market was providing too little credit...
for agricultural producers (Webb 1980), and domestic fiscal policy encourages credit in home mortgage markets in an effort to capitalize on the social benefits of homeownership. In one important credit market, however—the market for developing country debt—there has been no government intervention.

This restraint exists not because this market suffers from no shortcomings; indeed, its shortcomings dwarf those in the mortgage market, for example. The lack of intervention reflects instead uncertainty both about what types of intervention would be desirable and about who should intervene when one of the parties to the loan contract is, either implicitly or explicitly, a national government.

The response to the debt crisis of the 1980s has removed one of the two areas of uncertainty. The World Bank and the International Monetary Fund (IMF) have been recognized as the appropriate agencies for addressing the problems in this market. According to Zedillo, “Except for a few cases, debt arrangements have been explicitly linked to the design of and compliance with Fund-supported stabilization programs. It is not an exaggeration to say that...the Fund has regained its foremost position in the handling of problems affecting global financial stability” (1986, p. 32).

The remaining issue, then, is what sort of intervention is necessary? What should be done about the immediate debt crisis? And what should be done to improve the future functioning of this market? A great deal has been written on the first question. This article focuses on the second issue: how can we improve the way the market for developing country debt functions? Many studies designed primarily to focus on other questions shed light on the issues that are central to this article. None, however, analyzes all the implications of the shortcomings in this market, leaving a substantial gap in our understanding of the problem and of an efficient solution to it.

Although the shortcomings in this market have been addressed by academic economists, it is not clear that economic policymakers share their concern. In discussing the international debt crisis, influential members of the Federal Reserve System have deemphasized the importance of the way this market functions. Manuel Johnson, vice chairman of the Board of Governors of the Federal Reserve, asserts that “there is broad consensus that we have a...problem because...borrowers and lenders agreed to loans that appeared rational...These loans turned out to be problems when real interest rates shifted sharply upward at the same time export revenues...became substantially less than anticipated” (1987, p. 3). His discussion of steps for resolving this crisis says nothing about improving the functioning of the market. And in the 1987 annual report of the Federal Reserve Bank of New York, Frydl and Sobol argue that debt policy has “two major and interrelated goals: (1) to improve [the] economic and financial performance [of the developing countries] with a view toward sustaining economic growth and...restoring...creditworthiness...and (2) to reduce the vulnerability of the international banking system to risk on [developing country] loans” (1988, p. 6). No mention is made of any need to improve
the functioning of the market itself. Finally, Gerald Corrigan (1988), president of the New York Federal Reserve Bank, lists five requirements for resolving the debt problem; not one addresses shortcomings in the credit market.

Thus either the problems discussed here are not recognized or they are not acknowledged. This article describes the significance of the market's shortcomings. The first section looks at the main problem in this market—the unenforceability of contracts—and examines the implications for loans, interest rates, maturity structures, and economic activity. After analyzing the effects of incomplete information regarding the borrowers' ability to pay, willingness to pay, and use of the loan proceeds, the article discusses the prospects for resolving these problems and the effects of proposed solutions to the debt crisis.

Unenforceability

Developing countries borrow for several reasons. Eaton and Gersovitz (1982) describe four primary motives: to smooth consumption, to invest (if domestic returns exceed the world cost of funds), to facilitate international transactions, and to ease the transition to a new economic environment. These motives are not unlike those of borrowers in many other credit markets. But the market for developing country debt differs from the market for other debt for several reasons, the most important of which is that the debt is unenforceable.

In most credit markets, if the borrower refuses to pay the lender can take the borrower to court. As long as the borrower is solvent, the courts will force the borrower to pay the debt, even if the borrower has to liquidate assets. In the market for developing country debt, however, creditors do not have this option. In the event of a default, there is no court with both the jurisdiction and the power to force repayment of the loan. The implications of this situation are enormous. Imagine, for example, a mortgage market in which no court could force borrowers to repay their loans.

Although it is customary to refer to these loans as unenforceable, the term is actually a bit too strong; creditors do have limited enforcement options. As Bulow and Rogoff (1986) point out, creditors' claims are recognized in Western courts. Thus a defaulting country's ships, planes, goods and money in transit, and assets abroad may be subject to seizure. This power does not, however, resolve the problem of unenforceability. As Gersovitz (1985) notes, the Democratic People's Republic of Korea has serious debt problems, but it continues to engage in international trade. When it makes payments, no effort is made to seize the funds in the process of transition. Indeed, Gersovitz argues, only in the case of Iran in 1979–80 has any attempt been made to seize a country's assets abroad to pay its debts. And even this case does not demonstrate the independent use of existing enforcement powers to collect on defaulted debt. Political pressure presumably played a major role in persuading the banks to use their powers of enforcement.
Thus, for whatever reason, creditors are not using the limited powers of enforcement they have. Hellwig (1986) provides a possible explanation for this failure. He points out that at the time the loan is made, the creditor wants to threaten the most serious possible penalties in case of default. At the time of default, however, the creditor wants to avoid taking the debtor to court, since the creditor would be obliged to write down the value of the debt to zero, a result the banks prefer to avoid.

Even if these enforcement procedures were used, it is not at all clear that the loans could be recouped. The penalty a country suffers from default may be quite small relative to the debt owed. According to Bulow and Rogoff (1986), debtor countries can choose between paying the loan, not paying and incurring whatever costs are imposed through seizure abroad, or not paying and reverting to autarky. (Realistically, this last option would mean that the defaulting country could trade only with countries that would not attempt to enforce outstanding debt claims.)

Nordhaus (1986) points out that debtor countries have yet another option. Because in equilibrium the borrower will be relatively indifferent to the options of defaulting or paying, while the lender will be very concerned about repayment, the borrower can use this leverage to negotiate a partial default. Nordhaus argues that the incentives are such that we should never see a complete default; it seems that the incentives are such that complete repayment of a loan is also unlikely. Lomax (1986) points out that this potential for partial default is somewhat constrained by the fact that banking laws prevent creditors from making concessions that depart too sharply from normal commercial terms.

Could collateral requirements help resolve the problem of enforceability? Even if mortgage loans were unenforceable, say, as long as creditors could effectively use the house as collateral, the loan would be virtually enforceable. Could the same solution work in the market for developing country debt? Unfortunately, no. As Eaton, Gersovitz, and Stiglitz (1986) argue, collateral held in the debtor country cannot be seized in case of default, and collateral held abroad is of no value to the borrower. Thus any loan agreement must be what Eaton and Gersovitz (1982) refer to as “incentive compatible.” That is, at the time the loan is made, the lender must believe that after the proceeds have been disbursed it will be in the borrower’s interest to repay the loan.

Indeed, Gersovitz (1985) argues that enforcement is the key problem in ensuring repayment of the debt. He argues that there are only three possible reasons for payment difficulties with any loan: the borrower lacks the resources to repay, or the borrower has a temporary liquidity problem, or the borrower simply refuses to repay.

In the market for developing country debt, the first problem—solvent—is irrelevant. Gersovitz (1985) and Eaton, Gersovitz, and Stiglitz (1986) argue that countries virtually always have sufficient resources to repay their loans; their net worth is positive.¹ Temporary liquidity problems should not cause payment
problems either, so long as the problem is correctly perceived by the creditors. Creditors in this case would simply make additional temporary loans.

Thus repayment is a problem only if the country is unwilling—or is perceived to be unwilling—to service its debt. Creditors must be careful to design contracts that borrowers have an incentive to honor.

The unenforceability of loan contracts reduces the welfare of all parties to the contract. Guesnerie (1986, p. 518) points out that “commitment is always in a sense preferable to noncommitment.” Any contract that is possible without a firm commitment is feasible with a commitment; the borrower and lender simply agree to act as if commitment is not possible. The reverse is not true; many contracts that can be negotiated with a commitment cannot be concluded in the absence of a commitment.

Cohen and Sachs (1986) demonstrate that when a country has the option of repudiating debt, its maximum rate of growth will be lower than it would have been had the debt been enforceable. This conclusion is consistent with Eaton and Gersovitz’s (1982) observation that an increase in the penalties for default may actually increase the welfare of borrowing countries; new debt would carry a lower rate of interest, and loan flows would increase to reflect a lower probability of default. Obviously, if penalties for existing debt were increased and all else was unchanged, borrowers would be worse off. But the finding implies that a negotiated increase in default penalties in exchange for improvements in loan terms may also be a mutually beneficial way to deal with existing debt. However, as Swoboda (1985) notes, the market structure does not permit borrowers to surrender the option of repudiation. Thus an effective and credible precommitment is not possible.

How does unenforceability result in this decline in welfare and growth? Krugman (1985) has likened the market for developing country debt to the general credit market described by Stiglitz and Weiss (1981). They make the case that the probability of default results in some borrowers receiving as much as they would have otherwise, whereas other borrowers receive nothing. Kletzer (1986) compares the Stiglitz and Weiss analysis with that described by Jaffee and Russell (1976). The Jaffee-Russell notion is that each borrower receives a smaller loan as a result of the default probability than it would receive otherwise; the total volume of loans contracts as a result of the possibility of default. And Wakeman-Linn (1988) describes a variant on the Stiglitz-Weiss notion of credit rationing in which all borrowers receive some credit, but less than they would receive if the default probability were zero.

This decline in loan volume is not surprising. As the amount of the loan increases, unless the potential cost of repudiation increases at least dollar for dollar, the probability of repudiation rises. The penalties, such as they are, are unlikely to increase dollar for dollar with the loan amount. In a world of certainty, at some level the debt burden is so large that repudiation is the preferred option; therefore, loans would never exceed that amount. In reality, where uncertainty exists, the probability that repudiation will be the preferred option...
for borrowers increases as the loan amount increases. Thus creditors have an incentive to keep loan amounts down.

The impact of unenforceability on interest rates is even clearer. Since lenders always have the option of making risk-free loans, they will make these risky loans only if they carry a higher rate of interest. Thus the possibility of repudiation increases the rate these countries must pay (see Wakeman-Linn 1988).

Unenforceability also affects the maturity structure of the debt. According to Guttentag and Herring, "Debt repayment schedules are related less to the capacity of the borrower to repay than to the need to influence the borrower's willingness to repay" (1983, p. 217). Kletzer (1986) maintains that maturities are shortened as a way of enforcing some contract provisions. By requiring frequent renegotiation of the contract, the lender hopes to influence the borrower to use the funds in line with implicit or explicit contract provisions. Gersovitz (1985) argues that creditors prefer shorter maturities to facilitate their withdrawal from the market, should that become desirable. Thus "loan maturities tend to be shorter than those that are optimal from the standpoint of repayment capacity" (Guttentag and Herring 1983, p. 217).

The observation that unenforceability reduces growth rates as well as loan volumes in the debtor country (Cohen and Sachs 1986) suggests that it also depresses investment. Since unenforceability reduces the volume of loans available to a country, all activities that would have been financed with that additional credit suffer. Almost certainly some of these marginal activities would involve investment. Further, the increase in interest rates reduces investment. Investments that pay an expected rate of return somewhere between the risk-free rate and the rate the debtor country has to pay will not be financed at this higher rate, but they would have been financed at the lower rate. Atkeson (1988) argues that the optimal contract, given the problem of unenforceability, and assuming the debtor has more information about the use of the loan proceeds than the lender, calls for a net outflow of funds in times of low income. Atkeson's model shows that such a contract will increase investment and reduce risk to the lender. This finding hinges on the proposition that there is only one type of potential investment for borrowers. As Gersovitz (1985) points out, in a market with unenforceable debt, it is generally not clear that investment by the borrower will reduce the risk to lenders. If borrowers invest in export-oriented industries or other areas that increase the borrower's susceptibility to penalties, there is less risk and lenders are better off. But if, for example, lenders invest in foreign exchange or import-competing industries, the borrower is less susceptible to penalties and creditors are worse off.

Since lenders have no effective way of binding borrowers in advance to a particular type of investment, lenders have no incentive to design a contract that encourages investment. Lacking such encouragement, the higher interest rates and lower loan volumes will discourage investment.
Finally, the unenforceability problem can explain a puzzle in this market. In any credit market we would expect borrowers to take out loans when income is low and repay the loans when income is high. But the developing country debt market does not appear to work this way. Indeed, the major criticism of Eaton and Gersovitz (1981) is that their model assumes countries borrow in bad times and repay in good times. In fact, as Bulow and Rogoff (1986) and Gersovitz (1985) point out, countries do the opposite. Why? Atkeson provides one possible answer: contracts are structured this way to encourage investment. As discussed above, however, it is not clear that the argument is applicable given the multiple investment opportunities available to borrowers.

There is a more fundamental cause for this perverse timing, based directly on unenforceability. In their analysis of defaults in the 1930s, Eichengreen and Portes (1986) point out that countries that defaulted tended to be those that were hardest hit by declining terms of trade, and those with the highest debt-service burdens (and the most expansionary fiscal policies). The risk of default is clearly higher when income falls: the welfare benefits of repudiation increase while the costs fall with declining trade. This is particularly true if a decline in income today lowers expected future income.

As both the Stiglitz-Weiss (1981) and Jaffee-Russell (1976) models show, an increase in risk tends to reduce the optimal size of the loan. If countries are already at or above the creditors’ perspective of optimal loan size, the creditors may insist on net repayment when the debtor country’s income declines. But creditors must be careful not to call for a net repayment large enough to prompt the country to default immediately, even if such repayment is consistent with the terms of the loan contract. Although declining income prompts borrowers to desire larger loans, the possibility of default prevents lenders from providing additional funds. As Eaton and Gersovitz (1980) point out, most developing countries would like to borrow more at existing rates of interest. These borrowers cannot get additional funds by offering to pay higher interest rates. Thus the perverse timing that aggravates the effects of income swings is a direct result of the unenforceability of these loans.

Information Asymmetries

There are three types of information about which lenders and borrowers have unequal information: ability to pay, susceptibility to penalties and willingness to pay, and the use of the loan proceeds.

“Ability to pay” is simply whether the country has sufficient resources to pay the loan if it chooses to liquidate those resources. In this sense, a country may technically be able to pay its debts, but political sentiment bars the government from liquidating the necessary resources. For example, it has been argued that Ecuador could sell its oil reserves to pay its foreign debt. The politics
of this proposal are at least as important as the economics. Thus it becomes a question of willingness to pay.

**Information about Ability to Pay**

Often a creditor's major concern is the debtor's ability to repay the loan. Since most debt contracts are enforceable, as long as the debtor has sufficient assets to repay the loan, the creditor will get paid. In the market for developing country debt, however, ability to pay is not a significant issue. As Eaton, Gersovitz, and Stiglitz (1986) point out, countries are likely always to have sufficient resources to repay the loan. Whether the country is willing to liquidate assets or do whatever else is necessary to pay the loan is a separate question. Thus information regarding ability to pay is largely irrelevant.

There are two important qualifications to this statement. First, Gale and Hellwig (1985) show that, when there are costs for the lender to observe the borrower's situation, asymmetric information regarding ability to pay guarantees that the standard debt contract is the optimal arrangement. Debt is preferable to equity in this situation because, with a debt contract, observation costs are incurred only when the borrower claims an inability to pay the debt. With an equity contract, the observation costs must be incurred each period so the investor can be sure of getting the appropriate payment. Thus asymmetric information about ability to pay helps explain the preponderance of debt, as opposed to equity, in this market.

Second, Diwan (1987) shows that a contract that is contingent on the state will maximize loan size. As an example he cites the 1986 IMF renegotiations with Mexico, under which the amount of the loan was contingent on the price of oil. But as Bulow and Rogoff (1986) point out, fully contingent contracts are not possible, since they would have to be contingent on private information. The implications of this information asymmetry are in general difficult to discern. Diwan proves, however, that the lender's inability to write fully contingent contracts is reflected in smaller loans.

**Willingness to Pay**

Since countries must choose to pay this unenforceable debt, it is critical that creditors have information about the debtors' susceptibility to penalties and willingness to pay. Such information, however, is virtually impossible to assess accurately since it depends on a host of economic, political, and sociological factors. Lenders' perceptions of economic factors, such as a country's current economic situation, trade flows, and interest rates should be accurate, since outside lenders are generally as well informed about a country's economic prospects as domestic politicians (Eaton, Gersovitz, and Stiglitz 1986). But political and sociological influences may be harder to assess, and equally—if not
more—important. Political pressures for reform and the effect of the population's attitude toward the debt clearly affect a country's willingness to pay, but the effect is hard to quantify. Lenders have developed some statistical models that attempt to evaluate the safety of loans to particular countries, but they are not based on an accurate understanding of country risk (Eaton and Gersovitz 1982). The investors can hardly be faulted for this failure, since as Guesnerie (1986) points out, contract theory provides no model that can explain this risk.

Inadequate information regarding risk contributed to what many now believe to be the overlending before 1982. Guttentag and Herring (1984) conclude that banks lent so much because they perceived that the risk and covariance of such loans were low. They were supported in this belief by economists. Diversifying loan portfolios across developing countries was considered a valid approach since, according to Goodman (1981), common risk is small relative to country risk, and export performance across developing countries tends to be uncorrelated (Eaton and Gersovitz 1981).

The experience of the 1980s has shown the weaknesses in these arguments. The politics of trade, recessions in developed countries, and such major shocks as the changes in oil prices of the 1970s and 1980s can adversely affect many borrowers simultaneously; renegotiation with one country increases the pressure for similar talks with others.

We are not much better able to assess risk today than we were ten years ago; changes make estimates of risk based on past experience unreliable (Guttentag and Herring 1984). Lacking theoretical models to explain how debtor countries decide whether to default or repay, we cannot accurately assess the risk of loans to any particular country.

In addition to risk, creditors in this market also face uncertainty. The risk is that there is some probability of default. To this extent, the market is similar to the market for most debt; there is generally some risk that lenders have to be enticed to accept. The uncertainty stems from the lender's inability to discern the borrower's intention to pay and therefore the probability of default. Any analysis of this market is thus confronted with uncertainty as well.

What is the effect on the market of inadequate information regarding willingness to pay? If lenders overestimate the risk involved, interest rates will be too high, loan amounts too low, and investment and economic activity in the borrowing country will be depressed. If they underestimate the risk, the opposite will occur.

In the view of Guttentag and Herring (1984), banks tend to underestimate the risk. They argue that disaster myopia, miscalculations, and government guarantees make lenders act as if there is virtually no risk involved.

If lenders overestimate the risk, high interest rates will prevent profitable investments from being undertaken. If lenders underestimate the risk, welfare comparisons are difficult to make. Although the borrower will obtain financing for projects with an expected return to the lender that is below the lender's opportunity cost of funds, the expected return to the project itself exceeds this
opportunity cost. Borrowers are better off, the lender is worse off, and there may be no Pareto-improving trades possible.

Information about Use of the Loan

Creditors are often concerned about how borrowers use the borrowed funds, since that can affect the borrower’s ability to repay the loan. In the market for developing country debt, creditors are concerned about the use of the loan proceeds because it may affect the borrower’s willingness to repay the loan. Eaton, Gersovitz, and Stiglitz (1986) contend that although creditors need not worry about solvency, it is important to pay attention to the way funds are used (and to other activities in the country). These actions may affect the borrower’s susceptibility to penalties, or the likelihood of imposition of penalties, and thus affect the probability of repayment.

Ideally, creditors would like the option of making loans that constrain the borrower’s behavior. But there is no possibility of ensuring an effective and credible commitment (Krugman 1985). Even if such a contract were signed, it would suffer from the same problems of unenforceability as the general contract. And since creditors are concerned about borrower behavior insofar as it affects their willingness to adhere to the unenforceable contract, the unenforceable precommitment is of no benefit.

Without constraints on borrower behavior after the loan has been made, borrowers will act in their own self interest. This may involve actions that diminish their willingness to pay and exacerbate the unenforceability problem, with familiar repercussions for loan quantities, interest rates, maturities, and general welfare. The Atkeson (1988) argument for timing credit flows to influence investment levels focuses on precisely this issue: the use of the loan as it affects the willingness to pay. And the Kletzer (1986) argument for shorter maturities stresses attempts to influence the use of loan proceeds.

Conclusion

Most discussions of the market for developing country debt focus on the crisis in this market: What do we do about the huge volume of outstanding debt that may never be repaid and that is inhibiting growth in the developing countries? This article focuses on what has been referred to as a quieter crisis: the international misallocation of capital. Investments that pay rates of return greater than the opportunity cost of funds to creditors are not being financed, while investments with lower rates of return are being financed elsewhere with enforceable contracts. And this outcome would persist even if, by some miracle, the existing debt burden were eliminated.

Is it possible to correct these shortcomings? There is no way to make these contracts enforceable, barring the elimination of national sovereignty. And it
seems impossible to reduce the important information asymmetries: information about a borrower's willingness to pay and about the anticipated use of loan proceeds is private. That leaves only one option: enforcement. If the penalties for default on future loan contracts were more certain or more harsh, the problem would be less severe and all parties would benefit from the improved international allocation of capital.

The limited powers of enforcement available to creditors are almost never used, at least in part because of regulatory implications. Thus one option is to change the regulatory structure that discourages creditors from declaring a country in default and attempting to impose penalties. Although it is not clear that such a change would have a significant effect on this market, given the meager enforcement powers that exist, it would be a step in the right direction.

More fundamental improvement would have to come from some attempt to increase the penalties for default; it is not immediately clear how (if at all) that could be done. What is clear, unfortunately, is that most existing procedures for dealing with the debt overhang, with their implicit or explicit debt reduction, reduce the perceived penalties for default. Although these proposed solutions may ease the debt burden, they send the signal that the penalties for default are lower than before, thus compounding the problem of misallocation of capital. The Brady Plan, market value buybacks, and debt-equity swaps that involve debt reduction are all subject to this same criticism. Ideally, we would find a way to resolve both crises in this market. But, at a minimum, we need to find a way to reduce the debt burden without simultaneously aggravating the quiet crisis.

Notes

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1. This may not be true for what Mohammed (1986) refers to as the "official borrowers" of Sub-Saharan Africa. However, since this article is focusing on the market for developing country debt, the borrowers we are concerned about are those Mohammed refers to as "market borrowers."

2. This argument assumes that the debtor country, at the time it takes out the loan and uses the proceeds, intends to repay the loan or has the same expectations as the lender regarding the probability of default. If the debtor intends not to repay the loan in full or has different expectations than the creditor regarding the probability of default, the effective interest rate the debtor faces may be less than the risk-free rate. It can easily be demonstrated (see Wakeman-Linn 1989) that, even in this case, investment would decline. Facing a binding credit ceiling, investment is not determined by the interest rate on loans. Rather, the level of investment is chosen to equate the marginal product of capital with the ratio of marginal utility of consumption across time periods. The declining loan volume will reduce investment.

References

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