Revista de Análisis Económico, Vol. 4, Nº 1, pp. 25-38 (Junio 1989)

VOLUNTARY DEBT REDUCTION OPERATIONS, BOLIVIA, MEXICO AND BEYOND...*

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Abstract:

This paper studies two recent voluntary operations of debt reduction: Bolivia's buy-back and Mexico's exchange of loans for bonds. It is argued that the buy-back had a cost for Bolivia and, hence, it required a political decision when comparing this option to other alternative use of its scarce foreign exchange resources. In the case of Mexico, it is shown that the operation, which can be seen as an indirect buy-back, gave this country a rate of return on the use of its reserves, between 18% and 24%. The effects of both transactions on the debtor are examined, as well as on participating and non-participating creditor banks.

I. Introduction

In this paper I study two recent voluntary debt reduction operations (VDR) in highly indebted countries: Bolivia's buy-back of its debt, and Mexico's exchange of loans for bonds. I propose that the buy-back had a cost for Bolivia and, hence, it required making a decision based on evaluating the alternative use of its scarce foreign exchange resources. I describe Mexico's recent bond-for-loans exchange transaction. I show that in this operation Mexico obtained a high rate of return on the use of its reserves, between 18% and 24%, and that this operation can be seen as an indirect buy-back. I examine the

* Presented at the International Seminar on Foreign Debt Conversion and Access to Credit Markets, Dec. 5-7, 1988, organized by the Graduate Program in Economics of ILADES/Georgetown University, in Santiago, Chile.
** I am indebted to I. Diwan, B. Greenberg and N. Paul for their useful comments. The views presented in this paper are those of the author, and do not necessarily reflect the views of the World Bank.

effects of these transactions on the debtor, as well as on participating and non-participating creditor banks. I also discuss the issues that need to be addressed in designing other VDR transactions.

During the past two years, an increasing number of banks have chosen not to participate in "new money" packages and other concerted lending operations for the highly indebted countries. Some banks do not participate because they expect to "free ride", i.e. they expect to be paid out of the new loans extended by those banks that cannot afford a breakdown of the concerted environment. Other banks refuse to participate on the grounds that they would rather "exit", even at a loss. These banks can sell their loans in the secondary market for LDC loans. This market expanded with the emergence of debt conversion programs which increased the final demand for the loans beyond the banking industry. The volume of trading has increased substantially, from a face value of less than US$ 3 billion in 1985 to almost US$ 15 billion in 1987. Since mid 1985, the first date for which consistent quotations are available, secondary market prices followed a downward trend. The average price of the ten largest debtors dropped from over 70% in mid 1985 to 67% in January 1986. In January 1987 the average price was 61%, and in January 1988 just over 40%[1].

The fact that banks sell loans at a large discount led many people to think of ways in which debtor countries could share part of the discount. The idea of creating some type of international debt facility which would buy the LDC debt at a discount and pass on most of the discount to the debtor has been proposed by many since the early days of the crisis, e.g. Kenen (1983) and Rohetyn (1983). More recently, J. Robinson III (1988), the chairman of American Express, raised a proposal along similar lines. Proposals for a debt facility have also been discussed in official circles in creditor countries, e.g. the provision on this respect contained in the U.S. Senate's Trade Bill Proposal (1988) and the proposals put forth by U.S. Senator Bradley.

The possibility of debt relief has received increasing attention in economic literature. Sachs and Huizinga (1987) point out that an overhang of debt creates various inefficiencies which could be prevented through negotiated debt relief. The main inefficiency which they discuss is the fact that debt creates perverse incentives against investment and policy reform in debtor countries. In addition, they mention the cost of continuous renegotiations of the debt and the uncertainty over a costly breakdown of these negotiations. Hence, they call for concerted debt relief, which may end up improving the situation of both debtors and creditors. They suggest that this could be achieved through official intervention, which could take the form of a new international debt facility.

However, such a facility may aggravate some of the already existing problems as well as create some new ones. For example, it may increase the incentives for other debtors not to service their debt, and will require very complex negotiations between creditor countries to allocate the funding of the facility. Corden (1988) claims that the establishment of such a facility on a large scale would imply a "vast transfer of risk internationally from private banks to governments or multilateral institutions" and that, therefore, it "seems hardly conceivable". In any case, governments of creditor countries have repeatedly said that they are against massive intervention of this type. This attitude may be due to the problems raised above or to the fact that it may be politically easier for governments to absorb any unavoidable losses in an indirect way (insurance of deposits) rather than in a more transparent manner (an official "debt discounting agency"), event if this proves to be more costly in the long run.

Others, e.g. Krugman (1988) and Williamson (1988), have studied the possibility of more limited, "market based", VDR operations. These operations take place when a creditor voluntarily agrees to reduce the contractual value of its claims, e.g. by participating in a buy-back or in a discounted exchange offer. Other examples of VDR operations are loan restructuring with a concessional interest rate, or participation in a discounted debt/equity swap. The recent G-7 resolution on granting debt relief to the poorest African countries seems to be structured along these lines. The large increase in bank reserves for LDC loans that took place in the second quarter of 1987 increased interest in these type of operations. Until then, several VDR transactions took place, but on a very limited scale. Two operations which were intented to deal with a large share of Bolivia and Mexico's debt were announced after the increase in banks reserves. This paper studies those operations.

The paper is structured in the following manner. Section 2 describes Bolivia's buy-back, and discusses its effect on Bolivia and on participating and non-participating banks. Section 3 studies Mexico's exchange offer. Section 4 discusses the motivations and behavior of debtors as well as of participating and non-participating banks. It discusses the main characteristics of VDR operations which need to be taken into account in designing future transactions.

II. Bolivia's Debt Buy-back

In this section I describe the main components and the results of the Bolivia buy-back. I propose that launching this operation was not a "free lunch" for Bolivia, but required making a decision based on evaluating the alternative use of scarce resources. I discuss the issues creditors faced when decided to allow this operation. I then look at the criteria used by different banks to decide whether to participate.

During the first half of 1984 Bolivia completely stopped servicing its foreign commercial debt. This occurred in the midst of a deep economic crisis characterized by recession and hyperinflation. This crisis was due in part to a decline in Bolivia's terms of trade, and to a lack of consistent economic management. In August 1985 a new government came to power and implemented a stabilization program which succeeded in stopping hyperinflation. Although this program was "orthodox" in its approach to domestic policies (e.g. tight fiscal and monetary policies, trade liberalization), it continued to rely on arrears as its main source of external financing. The Bolivian crisis and the stabilization program are analyzed in Morales and Sachs (1986).

In July 1986 Bolivia reached an agreement wich the Paris Club by which 100% of its foreign debt service (including arrears) to official creditors for 1986 and 1987 were rescheduled. Following the Paris Club agreement, Bolivia raised the possibility of a buy-back with its Bank Advisory Committee. This buy-back was to be financed by donations from donor countries. At the time Bolivia's total external debt was over US$ 4 billion, of which about US$ 670 million (plus interest arrears) was owed to commercial banks. The creditor banks suggested a debt conversion option be included in the proposal. Before the announcement of the buy-back Bolivia's loans were trading in the secondary market at about 6%-9% of their face value. Following this announcement the secondary market price of these loans fluctuated between 10% and 15%.

In July 1987 all of Bolivia's 131 creditor banks approved the necessary amendments to the 1981 Refinancing agreements, which allowed Bolivia to buy-back some of its debt. The amendments approved established the following:

- Only contributions from other countries, and not Bolivia's own international reserves could be used in the buy-back.
- The contributions would be deposited in a Trust Fund managed by the IMF.
- Offers would be made to all creditor banks on identical terms.
- If available funds were insufficient to redeem all of the debt tendered, the repurchase was to be made on a pro-rata basis.
- Any funds which remained unused after the operation would be returned to the donors.

In addition, the amendments established a debt conversion program. The main features of the conversion program will be:

- Those creditor banks willing to participate in the conversion program will exchange the debt for Investment Bonds.
- The Investment Bonds will be 25 years, zero coupon, Boliviano denominated, indexed to the US dollar, negotiable, registered bonds issued by the Central Bank of Bolivia.
- These bonds will be collateralized with AAA/Aaa rated, 25 year, zero coupon, US dollar denominated bonds held by a trustee appointed by the Central Bank. Bolivia can use its own reserves to purchase the collateral for these bonds.
- The Central Bank will redeem these Bonds, at a premium of 50% over their price, upon conversion into qualified investments.
- The bonds will be redeemed in Bolivianos at the official exchange rate in effect on the date of the conversion. Bolivia has no exchange or capital movement controls.
- In order to increase the costs of "round tripping", the "Shares" acquired through this investment will be deposited in the Central Bank, and the Central Bank will disburse the proceeds directly to the Company. The Central Bank will issue a non-negotiable Trust Certificate to the owner of these shares.

The amendments became effective November 1987 and banks received the Offering Memorandum on January 15, 1988. Five days later, Bolivia announced that the price for the buy-back was US$ 0.11 for each dollar of principal. Hence, the implied value of the conversion for an investor is 16.5% of the face value of the loans. Participating banks will be required to waive any claims on interest arrears, interest on interest or any penalties arising in connection with the debt repurchased or exchanged. Banks were given until March 3, 1988 to respond to the offer; and Bolivia would act upon the response within 30 days of such date.

On March 18, 1988 Bolivia announced that 53 of its creditor banks tendered over US$ 335 million of eligible debt, almost US$ 270 million in exchange for cash and about US$ 65 million in exchange for investment bonds. This transaction required US$ 28 million from the IMF Trust Account, and will extinguish more than forty percent of Bolivia's commercial indebtedness.

It is not clear what will happen to the remaining debt. Bolivia has stated repeatedly that it cannot and will not resume servicing it, even partially. This is a very credible position, since Bolivia has already "paid" any costs its creditors can impose on it, and it is unlikely that it will reap any benefit from resuming partial payments. In any case, Bolivia is studying other vehicles to extinguish the remaining debt, but it let its creditors know that any transaction would be at a price lower than the 11 cents on the dollar offered in the buy-back.

At first glance, the buy-back seems like a "free lunch" for Bolivia, since the funds used in the operation were provided by donors and not from Bolivia's foreign currency reserves. However, this is not accurate. It is true that the funds deposited by donors in the

IMF Trust account were earmarked for the buy-back. However, at least part of these funds were diverted from aid budgets which were aimed at Bolivia in any case. As these funds would have otherwise been at Bolivia's disposal for general purposes, or for expenditures that Bolivia undertook in any case, in essence this is akin to Bolivia using its own reserves. Furthermore, the funds used to collateralize the investment bonds came directly from Bolivia's reserves. On the other hand, it is likely that the buy-back led to some additionality in international aid targeted for Bolivia. It is only to the extent of such additionality that this operation represented a "free lunch" for Bolivia.

In this sense, Bolivia's decision to buy-back its debt was an economic decision. It required evaluating the costs of having a large stock of defaulted debt against the benefits from alternative use of its scarce foreign currency reserves. Bolivia paid the banks 11% of the face value of their loans, but this represented less than 8% of the value of the cancelled debt, since banks were required to give up all their claims on overdue interest payments. The actual cost of the buy-back for Bolivia is the share of the funds it used that were "non-additional" aid. Assuming that one third of the funds were additional, the actual cost of the buy-back for Bolivia was about 5% of the face value of the cancelled debt. The fact that Bolivia decided to pursue the buy-back indicates that it decided that at this price the benefits outweighed the costs, i.e. that at this price the rate of return on the use of its foreign exchange reserves was higher than their opportunity cost.

From the creditors' point of view there are two decisions to be made. First, all creditors had to approve the operation, and then each bank had to decide if it was interested in participating. The fact that while all 131 creditor banks approved the operation only 56 chose to participate, indicates those are two distinct although interrelated decisions.

In order to launch the buy-back operation Bolivia needed the consent of all its creditors to amend or waive several clauses of the 1981 Refinancing Agreement (e.g. waiver from sharing provisions). The negotiations to obtain the waivers were "easier" in the case of Bolivia than they might be for other debtors, although still very difficult. There were several reasons for this. First, after 4 years of not receiving any payments, creditors believed that any funds used in the buy-back would not have been used to pay interest due, even in the absence of the buy-back. Even those creditors that did not expect to participate in the buy-back shared this view. Second, the funds were provided by a third party (the donors) and were perceived by creditors as fully additional[2]. Third, Bolivia finds itself unable to service its foreign debt, in spite of pursuing a very orthodox stabilization program. This fact, combined with the recent dramatic deterioration in living standards[3], may have convinced creditor banks that Bolivia did not constitute a precedent to be followed by other debtors.

Once the necessary waivers were approved, each bank had to decide whether to sell its loans at the offered price. The first step in reaching a decision was to estimate the present value of the expected stream of payments from the debtor to non-participating banks. The rate of discount used in evaluating the present value of these payments should take into account the high level of uncertainty involved. Then each bank had to compare its estimate with the buy-back offer price. In the case of Bolivia the result of this comparison was straightforward, as Bolivia announced that it would not service the remaining debt.

Given these considerations, it is surprising that 60% of creditor banks, which accounted for over 50% of Bolivia's debt, decided not to participate. There are several possible explanations for such a decision:

- If only a small amount of debt would be left after the buy-back, Bolivia might have been willing to pay a higher price to wipe it all out. Some banks may have thought that this was likely to occur, and tried to "free ride" on other banks' losses.
- Some banks decided to keep the loans because the amount to be recovered would not cover the administrative costs of participating (e.g. economic, legal and accounting studies, presentations to their board).
- Other banks did not participate to avoid setting a precedent.
- Some banks donated the loans to charities that can trade them for Bolivianos at a higher price than in the buy-back.
- The fact that banks did not know if Bolivia had enough money to buy all the tendered loans prevented some banks from participating or from offering large amounts of debt. For example, American banks would have to reduce the book value of all tendered loans to 11 cents, even if they were not accepted.
- Finally, some banks were unwilling or unable to take the accounting loss implied by the offered price, with the consequent effect on reported income and primary capital. This loss is equal to the difference between the 11 cents offer and the book value of these loans. The book value of these loans differs from bank to bank, but in some American banks it could be as high as 35 cents on the dollar. These banks could have taken the investment bond, since that would not have necessarily required a write-down of the assets to their cash value. However, this action had two risks. First, the investment bonds will be paid in Bolivianos, implying a future transfer risk. Second, if an active market for the bonds develops in the future, regulators may require banks to mark to market their holdings.

III. Mexico's Exchange Offer

In this section I study Mexico's recent bonds for loans exchange offer. I describe its structure and its results. I also calculate Mexico's rate of return on the use of its reserves in this operation under alternative assumptions on the future repayment profile of its existing loans, and show that this operation is akin to a debt buy-back.

In August 1982 Mexico announced that it was unable to service its foreign debt. The factors that directly triggered this situation were an unexpected decline in the price of oil, higher than expected interest rates on its debt and large "capital flight". Initially, creditor banks as well as Mexico believed that they were facing only a temporary liquidity problem. By 1986 it was already clear to all parties that this was, to some extent, a solvency problem which would require some degree of concessionality. This led to a gradual reduction in spreads and extension of maturities.

Between 1983 and 1986, Mexico rescheduled US$ 45 billion of outstanding public debt to commercial banks stretching repayments over 14 years. In 1983 and 1984 Mexico received two New Money Loans for US$ 8.8 billion dollars, which were basically used to pay the interest due on its rescheduled loans. All outstanding loans were again restructured in March of 1987 with terms much more favorable to Mexico; a maturity of 20 years, a grace period of 7 years and an interest rate equal to LIBOR plus 13/16%[4]. Parallel to this restructuring, Mexico obtained additional new money commitments for over US$ 7 billion.

The agreements of March 1987 included an amendment (Section 5.11) to all previous restructuring agreements allowing debt/equity conversions and the sale of loans to Mexican investors who in turn would use them to make "Qualified Investments". These

two amendments served as the basis for the launching of Mexico's debt/equity program and for the use of UMS paper in the restructuring of several private firms, e.g. Alfa and Hylsa. The amendment also set forth the procedures for the exchange of existing credits (UMS) for "Qualified Debt". It establishes that any exchange or cancellation of existing credits pursuant to the provisions of the amendment will not constitute receipt of a payment for the purpose of the Restructuring Agreement, and therefore it will not be subject to sharing requirements. The amendment establishes that qualified debt instruments are "indebtedness of any Mexican public or private sector entity" which either: (a) has a longer maturity than the credit for which it is exchanged; or (b) is offered to all creditor banks (pro rata in accordance with the principal amount of their exposure to Mexico at the time of the exchange).

On December 29, 1987 Mexico announced an offer to exchange up to US$ 10 billion of its outstanding obligations for collateralized bonds. The amendment to the restructuring agreement described above played an important role in facilitating the transaction, by exempting it from sharing provisions. This reduced the threshold of banks whose consent was needed from the 100% required to waive the sharing provisions, to the 51% required to waive the negative pledge clauses. This waiver was required in order to collateralize the new bonds. Several factors helped Mexico to obtain waivers even from banks that did not intend to participate in the exchange:

- Mexico did not need any new money for at least a year, since at the end of 1987 it had over US$ 14 billion in gross foreign exchange reserves. This meant that the reserves spent on the collateral would not have otherwise gone to pay interest to other banks.
- Although Mexico implied that the new securities would be senior to existing loans, most banks were skeptical of this assertion.
- Many banks felt that this was important in order to maintain good relations with Mexico, as well as with some regulators in their own countries who seemed to be supporting the operation.
- Many banks believed that the quality of their assets would be enhanced more by the reduction in Mexico's indebtedness than it would be hindered by the use of the reserves.

On December 30, 1987, Mexico requested the waivers from all its creditors, and by mid February 1988 it received the required consent[5]. On January 18, 1988 Mexico sent the invitation for bids to all creditor banks under the restructuring agreement (a total amount of eligible debt of US$ 53 billion). This invitation explained the terms of the bid and the exchange, as well as legal and accounting opinions by American regulators, accountants and others. The main features of the proposed operation were:

- Mexico invited its creditor banks to exchange its loans for a new type of bonds (the 2008 bonds) issued by the Governments of Mexico.
- The 2008 bonds have a single maturity of 20 years and pay 1.625% over LIBOR.
- The principal amount of the 2008 bonds is fully secured by non-marketable zero coupon U.S. Treasury securities, with matching maturity and principal. The fact that these securities were issued especially to be sold to the Government of Mexico for this purpose, gave a sense of official support to the transaction.
- Mexico will issue up to US$ 10 billion of 2008 bonds, and pledged not to spend more than US$ 2.5 billion to purchase the collateral.
- Banks were invited to present up to 5 bids. Each bid had to specify the amount of debt tendered and the bid ratio. The bid ratio was the amount of loans the creditor

was willing to exchange for each dollar of face value of bonds. Banks had until February 19, 1988 to submit their bids.

- Mexico claimed that the 2008 bonds would be excluded from any future restructuring or renegotiations of Mexico's commercial bank debt, and that the loans tendered would be excluded from the base amount for determining any future request for new money. This claim was undermined by the fact that the 2008 bonds are in registered form and by declarations by some creditors that Mexico could not decide the base for new money request.

Although Mexico did not announce the minimum discount that it would accept, many Mexican officials said publicly that they expected to retire as much as US$ 20 billion of their old debt, i.e. that the loans would be exchanged at a discount of 50%. However, this was regarded by most banks and observers as part of a selling strategy, which also included statements regarding the seniority of the 2008 bonds and the suspension of the debt conversion program. A discount of 50% would have required that participants treat the bonds as cash, as the secondary market price for the UMS fluctuated between 50% and 60% for all of 1987. However, the 2008 bonds would still be mostly Mexico risk and therefore, could be expected to trade in the future at less than par.

On March 3, 1988 Mexico announced that it received 320 bids from 139 banks (one third of the total). Bids totalled US$ 6.7 billions, of which US$ 3.67 billion were accepted within a range of US$ 65.75 and US$ 74.99. Mexico issued US$ 2.56 billion of 2008 bonds, yielding an average price of US$ 69.75. Mexico used US$ 492 million to purchase the collateral. The average discount was in line with what was widely expected, although there seemed to be some disappointment about the quantities exchanged.

From the results of the auction we learn that most bidders decided on their offer price by looking at the bond as an instrument composed of two separate parts. The principal, which is U.S. Treasury risk, was valued at about the cost of the collateral or about 19% of face value. Interest payments are a Mexican risk and bidders calculated their present value using a discount rate similar to the yield implicit in the secondary market price for UMS, between 16% and 19%. This calculation yields a cash value for the stream of interest payments equal to about 50% of the bonds' face value, and a total value for the 2008 bonds of about 70% of their face value. The "fair" or break-even bid ratio from the banks' point of view, the one that leaves them indifferent between selling the loans in the secondary market and participating in the exchange, is equal to the ratio between the cash prices of UMS and 2008 bonds in the secondary market. This ratio is close to the average of the accepted bids, about 70%.

Some banks may have offered larger discounts than the break-even ratio in order to improve its relationship with Mexico, or because transaction costs may be lower than in the loan secondary market. Other banks may have assumed that the 2008 bonds will enjoy seniority for interest payments over loans, at least because it will be more difficult to organize new money loans from bondholders.

It is more difficult to establish the factors which determined the quantities tendered. Very few banks looked at this operation as an exit vehicles, and most of the bidders tendered only a small part of their portfolio. It seems that the most important objective for those banks was to lock in tax losses. Therefore, the amount tendered was effected by the size of their provisions and their tax strategy. This was facilitated by favorable tax rulings in the U.S., Great Britain and Japan. Some potentially successful biders (at a price of 70) did not participate because of Mexico's statements on a 50% discount.

In order to evaluate this operation from Mexico's point of view, I estimated the rate of return that it achieved on the use of the US$ 500 million of foreign exchange reserves. For this purpose I compared the costs of servicing the new securities, vis a vis the cost of servicing its old loans. Table 1 presents the estimates obtained under three different assumptions about Mexico's debt service profile of the UMS loans:

a. *Existing UMS Loans.* Mexico services its debt, including repaying the principal in accordance with the existing loan contracts. This consists of paying a spread over LIBOR of 0.8125%, and repaying the principal over 13 years beginning in 1994.
b. *20 Year Loan:* Mexico pays interest of LIBOR plus 0.8125%, but repays all the principal only after 20 years. This scenario differs from the bond offer in that it does not require the use of reserves to buy the collateral, and in that the interest rate is lower.
c. *Perpetuity.* Mexico succeeds in rolling over the principal forever. This scenario saves Mexico the payment of the principal at the cost of having to pay interest at a rate of LIBOR plus 0.8125% forever. This is clearly a benefit, as long as this rate is lower than the return that Mexico obtains from the use of funds.

Table 1 presents the estimates for different assumptions of LIBOR. The rate of return increases as the assumed LIBOR increases. This is due to the fact that the spread, which is higher for the new bonds, is additive. Therefore, as LIBOR goes up the difference between the two rates becomes relatively smaller, and the new bonds become more attractive from Mexico's point of view. We also see that the longer the assumed maturity of the existing loans, the lower the rate of return in this transaction. This is because the loans carry an interest rate which is lower than the rate of return on the operation. According to these calculations the exchange rendered very high rates of

TABLA 1

ESTIMATES OF RETURNS FROM EXCHANGE OPERATION

	Alternative expected LIBOR		
	7.5%	8.0%	8.5%
Rate of Return under Alternative Repayment Schedules			
Existing UMS Loans	23.2%	23.9%	24.7%
20 Year Loan	18.6%	19.4%	20.2%
Perpetuity	16.7%	17.6%	18.5%
Savings over 20 Years under Alternative Repayment Schedule (Discount Rate 10%)		(in US$ millions)	
Existing UMS Loans	676	697	718
20 Year Loan	602	645	688
Rate of Return from Buy-back in Secondary Market			
at 50% of face value	18.9	19.8	20.7
at 60% of face value	15.7	16.5	17.2

return. Relative to the existing UMS the rate of return is over 23%, and relative to the 20 year loan the rate is about 19%. Even under the unlikely perpetuity scenario the yield is over 13%.

A related measure of the effects of this operation is given by the value of debt service savings over the life of the 2008 bonds. Table 1 shows that the present value of these savings are between US$ 600 and US$ 700 million, evaluated using a discount rate of 10%[6]. Given its size and its voluntary nature, this transaction will have no effect on Mexico's access to voluntary lending. It is also unlikely to have a major effect on concerted lending operations, since bondholders may be called on to provide new money or to capitalize interest. Finally, looking at the changes in outstanding debt is not a relevant measure of the effects of the transaction because the 2008 bonds have a structure completely different from the UMS: while their principal is de facto pre-paid, they carry a larger interest burden per unit of face value.

How does this transaction compare with using the reserves to buy-back debt in the secondary market? This is an important comparison because it gives us an idea of the relative efficiency of the exchange offer in reducing Mexico's external debt, by using its foreign reserves. As mentioned before, loan agreements do not allow debtors to buy-back their own debt in the secondary market. However, this is still a relevant comparison, because most debtors can purchase, at least small amounts, through related third parties, e.g. state companies. Table 1 shows the rates of return from a direct buy-back under different assumptions on the level of LIBOR. For a secondary market price of 60% the rate is between 16% and 17%, and for a price of 50% the rate is between 19% and 21%. These rates of return are very similar to the ones that we obtained for the exchange offer.

The similarity between the rates of return in both operations is not a coincidence. The reason for this similarity is that the two operations are equivalent, except for minor details. As a simplifying device to demonstrate this proposition, I explore the effect of Mexico buying back the 2008 bonds in the secondary market. The exchange created US$ 2.56 billion of negotiable securities which trade in the secondary market at about 70% of their face value, as discussed above. In order to buy back all the 2008 bonds Mexico needs to spend US$ 1.79 billion. In the process Mexico acquires US$ 492 millions worth of US Treasury securities, the collateral on the 2008 bonds. Combining the exchange and the buy-back of the 2008 bonds Mexico spent US$ 2.28 billion, and acquired US$ 492 million worth of securities. Hence, the total cost to retire the US$ 3.67 billion of UMS is US$ 1.79 billion (the cash spent minus the value of the securities). Otherwise, Mexico could have bought-back US$ 3.67 billion of UMS directly in the secondary market for about US$ 1.84 billion (at an average discount of 50%).

In both cases Mexico reduces its foreign liabilities by the same amount. However, Mexico reduces its foreign assets by US$ 50 millions less with the exchange offer than with the direct buy-back (2.7% of the total cost). This occurs because for the exchange offer Mexico is forced to invest US$ 492 million of its reserves in non-tradeable twenty year securities, which yield less than 9%. If we assume that the alternative use of these reserves would be to buy-back additional UMS (at a 50% discount) the cost of the two operations becomes identical. This shows that except for the scale of the operation the two alternatives are identical. The main benefit of the exchange offer is that it provided Mexico with a "simple" and "fully legal" method to repurchase its debt at a discount. Furthermore, more banks might have been able to participate in the exchange operation than would be able or willing to sell their assets in the secondary market, giving Mexico access to a larger amount of its liabilities.

IV. Future Voluntary Debt Reduction Operations

This Section studies several aspects of voluntary debt reduction (VDR) operations. It examines the motivations and behavior of participating and non-participating banks, and of debtors. It identifies possible sources of funds that can be used in VDR operations, and discusses the main characteristics of VDR instruments.

In any VDR scheme there are three agents: the debtor, participating banks, and non-participating banks. For a VDR operation to take place it is necessary for the three agents to be at least as well off with the operation as they would be without it. Non-participating banks are important because they have a veto power over any such operation. Launching a VDR operation requires amendments or waivers to several clauses in the original loan agreements, e.g. sharing provisions, prepayment and negative pledge clauses. Most loan agreements require the consent of all creditors, even those that will not participate directly in order to amend the corresponding clauses.

In deciding whether to allow VDR operations, creditors face conflicting incentives, especially non-participating banks. This complicates the negotiations between the debtor and its creditors, as well as between banks that expect to participate and those that do not expect to participate in the transaction. On one hand, VDR operations enhance the value of the loans remaining after the transaction, since the amount of resources left to service them increases when other banks accept a reduction in the contractual value of their claims. On the other hand, these operations create perverse incentives for the debtor not to service its loans, and instead to use the corresponding resources to buy-back or exchange these loans at a discount[7]. Hence, when negotiating the approval of such an operation creditors try to insure that whatever resources are used will be fully additional to anything they would have gotten otherwise. Ideally, creditors would like these funds to come from sources that would not have been available to pay them interest or principal on contractual terms. No arrangement can fully achieve this objetive . However, creditors may limit the negative incentive created by the VDR operation in several ways: by specifying the source of the funds used to finance the operation, and by limiting the size of the operation and the period of time during which it can take place.

Creditors allowed Bolivia to use only funds provided by donors in the buy-back, and they also specified a period of 4 months for the transaction to take place. In Mexico, creditors set a maximum on the amount of reserves that could be used to purchase collateral, and the exchange had a clear timetable. Other debtor countries were allowed by their creditors to use different sources of financing. For example, direct foreign investment is being used as a source of financing for VDR operations in most highly indebted countries, through debt for equity swap schemes. Chile's creditors agreed to the use of capital repatriation to finance indirect buy-backs (this is similar to repayment in domestic currency which is also an option in the recent Brazilian agreement). Recently, Chile was allowed to use up to US$ 500 millions of the increase in its exports receipts due to the rise in copper prices to finance VDR operations. During the next 3 years, Chile can use these funds to buy back its own debt in secondary markets or directly from interested creditors. The idea of using the proceeds of windfall gains from unexpected and temporary improvements in the terms of trade to finance VDR operations may be useful in other countries.

A VDR operation consists of an exchange of assets between the debtor and the creditor (in the case of a buy-back, one of these assets is money). For this operation to take place voluntarily, each party has to value the asset that is receiving more than the asset that it is giving up. Obviously for this to be true, at least one of the assets should be

valued differently by the parties. For example, in a buy-back, the debtor must ascribe a higher value to its debt than the creditor does (since the value of money is presumably the same for both of them). The key motivation for these transactions is the differences that exist in the subjective valuation of these assets (the existing loans and the new instrument) between debtors and different types of creditors.

There are three main parameters that determine the valuation of these assets: the subjective probability of repayment, the marginal cost of funds, and the tax and capital requirement regulations that determine the cost of funds for each specific operation. Differences in these parameters create an incentive for creditors to trade loans in the secondary market. They also may create an incentive for the debtor to buy-back his own loans, or to exchange the loans for a different asset which is worth relatively less for him that it is worth for some banks. In the absence of "market based" VDR operations, the difference in the subjective valuation of the loans cannot be closed through trading, because of legal and regulatory restrictions. By relaxing the restrictions, the introduction of these operations creates new possibilities of trade which may prove profitable to all parties.

Typically, these operations are a way for the creditor to trade lower contractual returns for some combination of lower uncertainty. Regulatory and tax relief, and an exemption from forced new lending. In terms of the parameters mentioned above, banks will trade the loans for a new asset, the VDR instrument, with a lower contractual value but to which they ascribe a higher probability of repayment, or which affords them some tax or regulatory relief. The VDR instrument has either a lower face value or a lower interest rate than the old loans.

For the debtor, VDR operations are a way to exchange or purchase their loans for less than they believe they are worth. In order to do so, they need to enhance the VDR instrument to make it more valuable than the loans for the creditor. The design of this instrument should aim at maximizing the value to the creditor for a given cost to the debtor. The main way to achieve this is by raising the creditors' perceived probability of repayment by focusing on three characteristics of the new asset: seniority, third party credit enhancement and collateralization.

Seniority of the new instrument can take different forms: preferred status (e.g. subordination of old claims), exemption from new money (e.g. exit bonds), preferential access to certain facilities (e.g. convertible bonds that have preferential access to a debt equity program). In all its forms, seniority of the new instruments can be accorded by the debtor only in conjunction with all creditors. Any attempt by the debtor to ascribe seniority to new instruments is complicated by sharing provisions and other clauses in loan agreements which stipulate that all creditors must be treated uniformly (pari passu" status). Hence, only creditors can "create" seniority by either subordinating their own claims or by conferring preferential status on the new instruments. Securitization is sometimes mentioned as a way for the debtor to circumvent these clauses and confer seniority on the VDR instrument. This may be the case for small amounts of bonds, but not in general[8]. For example, when Mexico suggested that the new bonds in the exchange offer will be exempted from new money calls, many creditors claimed that this was not up to Mexico to decide.

The simplest form of third party credit enhancement is a guarantee. A full guarantee of principal interest payments makes the credit risk of the new instrument similar to that of the guarantor, and enhances the value of the instrument accordingly. A partial guarantee raises the value of the instrument only by its effect on the guaranteed part, unless the guarantee creates a linkage between servicing the guaranteed debt and other

unrelated financing sources. In such a case, the guarantee may also provide some degree of seniority for the instrument. For the debtor, a guarantee is preferable to a buy-back if the sum of the guarantee fee and the present value of the guaranteed instrument is lower than the secondary market price of its old loans. In general, this can be the case only if the guarantee is provided as a form of aid, or if the the guarantor has a higher perceived probability of repayment than the existing creditors. This occurs if the guarantor has more leverage over the debtor to force repayment, than the old creditors do.

Collateralization enables the debtor to enhance the value of the VDR instrument by using its own resources. There are many ways in which the debtor can collateralize the new asset. The simplest way is by using its reserves to purchase collateral, as did Mexico in its collateralized exchange offer. In a buy-back the debtor uses its reserves to collateralize all of the new asset, as in Bolivia. Debtors can also pledge as collateral specific future foreing currency income, thus creating convertible or commodity bonds. This is similar to attaching a warrant or an option on the VDR instrument which gives the owner rights over the earnings from an export project, or over specified amount of certain commodities. This type of collateralization increases the value of the VDR instrument by the value of the "attached" warrant, at most, and does not eliminate credit risk. Hence, the warrant may be worth relatively more to the debtor than to the creditor (relative to the old debt); in which case this would not be a cost efficient way of collateralizing the VDR.

In designing VDR instruments with any of the features discussed above, the debtor must pay attention to the needs of banks that are in different financial situations and that face very different regulatory and tax environments. By tailoring the VDR instruments to the needs of different banks, the debtor can "create value" for the banks, at no cost for itself. Furthermore, depending on the transaction's design, the debtor may be able to share part of this value. For example, for capital constrained banks[9] it may be important to structure the operation as an amendment to existing loan contracts, rather than as an exchange offer. This may enable banks to avoid writing down the book value of the assets, with the corresponding loss of capital. Other creditors may prefer an exchange of assets in order to book a loss and take a tax deduction. The conflicting needs of banks call for the design and emergence of several different instruments, a "menu" of instruments, for VDR operations.

Notes:

1 The newsletter Swaps presents a monthly index of the weighted average price of loans to these countries. Vatnick (1987) presents a detailed description of the evolution of the secondary market.

2 We have refuted this point from the point of view of Bolivia. However, from the creditors' point of view the buy-back resources passed the test of additionality, since the obvious alternative was to get nothing for a very long period of time.

3 Income per capita, which is the second lowest in Latin America (higher only to that of Haiti), declined by about 40% between 1981 and 1987.

4 This operation created a standard debt instrument which facilitated secondary market trading. We shall refer to these instruments as UMS.

5 Mexico also requested and obtained negative pledge waivers from the World Bank and the Inter-American Development Bank. In addition, Mexico had to secure its outstanding bond debt on similar terms to those of the 2008 bonds. This required to purchase U.S. Treasury zero coupon bonds for about US$ 100 million to secure approximately US$ 540 million of bonds.

However, most of those bonds had relatively short maturities and most of the collateral will revert to Mexico within the next 5 years.

6 The savings are worth over US$ 1 billion, evaluated using a discount rate equal to LIBOR. The savings become nil when the rate used is equal to the rates of return estimated above, i.e. around 20%.

7 This type of perverse incentive effect is known as moral hazard. The emergence of a debt reduction program in one country has a similar incentive effect on other debtors, which may expect the same treatment in the future.

8 On the other hand, securitization may add some value by enhancing tradeability. However, most banks would rather hold loans, since in general, bonds must be valued for capital requirement purposed at market prices.

9 Some capital-constrained banks may be reluctant to allow any VDR operations since they give "official legitimacy" to secondary market valuations, and may lead regulators to require a write-down in the value of their loans.

References

DIWAN, I. (1988). "An Analysis of debt Conversion Schemes", mimeo. The World Bank.
DOOLEY, M. (1987). "Buy-backs and the Market Valuation of External Debt". IMF Working Paper.
KANEN, P. (1983). "Third World Debt: Sharing the Burden a Bailout Plan for the Bank" *The New York Times*, March 6.
KRUGMAN, P. (1988). "Market-based debt reduction schemes".
MORALES, A. and J. SACHS. (1986). "Bolivian Hyperinflation and Stabilization". NBER Working Paper Series. Nº 2073.
ROHATYN, F. (1983). "A Plan for Stretching out Global Debt" *Business Week*. February 28.
SACHS, J. and H. HUIZINGA (1987) "U.S. Commercial Banks and the Developing Country Debt Crisis" Brookings Papers on Economic Activity 2.
ROBINSON III, J. (1988). "LDC Debt and Trade", Testimony before the Subcommittee on International Finance and Monetary Policy. U.S. Senate, Washington, D.C., August.
VATNICK, S. (1987). "The Secondary Market for Debt", mimeo, The World Bank.
WILLIAMSON, J. (1988). "Voluntary Approaches to Debt Relief", mimeo.

Revista de Análisis Económico, Vol. 4, Nº 1, pp. 39-50 (Junio 1989)

EL PROBLEMA DE LA DEUDA Y DESARROLLO ECONOMICO EN AMERICA LATINA*

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Abstract:

The outward transfer of resources from Latin American hinders growth and economic restructuring when aggravating the foreign exchange constraint and the savings/fiscal constraint in this region. In the absence of systematic payment guarentees, debt reduction schemes through market options promise to reduce the transfer burden only gradually. On the other hand, a more ambitious public policy initiative that recognizes the collective nature of the debt problem, will surely allow a more significant and orderly reduction of it. It will also be socially efficient and it will extend to more countries.

I. Análisis de la Situación Actual

Si usamos agosto de 1982 como punto de partida, el problema de la deuda latinoamericana lleva ya más de 6 años. La situación presente está mejor en algunos aspectos que cuando comenzó. Pero en general aún hay mucho de qué preocuparse, especialmente en lo que respecta a la capacidad de pago y desarrollo de los países deudores. Este artículo expondrá un breve análisis de la situación actual de los deudores y acreedores para luego evaluar algunas de las dificultades que se presentan en el manejo internacional del problema.

* Este trabajo fue presentado en el Seminario Internacional "Conversión de Deuda Externa y Acceso al Crédito Internacional", realizado en Santiago entre el 5 y el 7 de diciembre de 1988, organizado por el Programa de Postgrado en Economía de ILADES/Georgetown University.

** Las opiniones vertidas en este artículo no comprometen a la Comisión Económica para América Latina y el Caribe, de la O.N.U.