The Market-Based Menu Approach in Action

The 1988 Brazil Financing Package

Ruben Lamdany
RECENT WORLD BANK DISCUSSION PAPERS

No. 1. Public Enterprises in Sub-Saharan Africa. John R. Nellis

No. 2. Raising School Quality in Developing Countries: What Investments Boost Learning? Bruce Fuller

No. 3. A System for Evaluating the Performance of Government-Invested Enterprises in the Republic of Korea. Young C. Park

No. 4. Country Commitment to Development Projects. Richard Heaver and Arturo Israel

No. 5. Public Expenditure in Latin America: Effects on Poverty. Guy P. Pfeffermann


No. 8. Macroeconomic Policies, Debt Accumulation, and Adjustment in Brazil, 1965-84. Celso L. Martone

No. 9. The Safe Motherhood Initiative: Proposals for Action. Barbara Herz and Anthony R. Measham [Also available in French (9F) and Spanish (9S)]

No. 10. Improving Urban Employment and Labor Productivity. Friedrich Kahnert

No. 11. Divestiture in Developing Countries. Elliot Berg and Mary M. Shirley

No. 12. Economic Growth and the Returns to Investment. Dennis Anderson


No. 15. Dairy Development and Milk Cooperatives: The Effects of a Dairy Project in India. George Mergos and Roger Slade

No. 16. Macroeconomic Policies and Adjustment in Yugoslavia: Some Counterfactual Simulations. Fahrettin Yagci and Steven Kahin

No. 17. Private Enterprise in Africa: Creating a Better Environment. Keith Marsden and Therese Belot

No. 18. Rural Water Supply and Sanitation: Time for a Change. Anthony A. Churchill, with the assistance of David de Ferranti, Robert Roche, Carolyn Tager, Alan A. Walters, and Anthony Yazer


No. 23. The Poor and the Poorest: Some Interim Findings. Michael Lipton

No. 24. Road Transport Taxation in Developing Countries: The Design of User Charges and Taxes for Tunisia. David Newbery, Gordon Hughes, William D.O. Paterson, and Esra Bennathan

No. 25. Trade and Industrial Policies in the Developing Countries of East Asia. Amarendra Bhattacharya and Johannes F. Linn


No. 27. Multisector Framework for Analysis of Stabilization and Structural Adjustment Policies: The Case of Morocco. Abel M. Mateus and others

No. 28. Improving the Quality of Textbooks in China. Barbara W. Searle and Michael Mertaugh with Anthony Read and Philip Cohen (Continued on the inside back cover.)
The Market-Based Menu Approach in Action

The 1988 Brazil Financing Package

Ruben Lamdany

The World Bank
Washington, D.C.
Discussion Papers are not formal publications of the World Bank. They present preliminary and unpolished results of country analysis or research that is circulated to encourage discussion and comment; citation and the use of such a paper should take account of its provisional character. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. Any maps that accompany the text have been prepared solely for the convenience of readers; the designations and presentation of material in them do not imply the expression of any opinion whatsoever on the part of the World Bank, its affiliates, or its Board or member countries concerning the legal status of any country, territory, city, or area or of the authorities thereof or concerning the delimitation of its boundaries or its national affiliation.

Because of the informality and to present the results of research with the least possible delay, the typescript has not been prepared in accordance with the procedures appropriate to formal printed texts, and the World Bank accepts no responsibility for errors.

The material in this publication is copyrighted. Requests for permission to reproduce portions of it should be sent to Director, Publications Department, at the address shown in the copyright notice above. The World Bank encourages dissemination of its work and will normally give permission promptly and, when the reproduction is for noncommercial purposes, without asking a fee. Permission to photocopy portions for classroom use is not required, though notification of such use having been made will be appreciated.

The complete backlist of publications from the World Bank is shown in the annual Index of Publications, which contains an alphabetical title list and indexes of subjects, authors, and countries and regions; it is of value principally to libraries and institutional purchasers. The latest edition is available free of charge from Publications Sales Unit, Department F, The World Bank, 1818 H Street, N.W., Washington, D.C. 20433, U.S.A., or from Publications, The World Bank, 66, avenue d’Iena, 75116 Paris, France.

Ruben Lamdany is a financial economist in the Debt Management and Financial Advisory Services Department of the World Bank.

Library of Congress Cataloging-in-Publication Data

Lamdany, Ruben, 1954--
p. cm. -- (World Bank discussion papers ; 52)
Bibliography: p.
ISBN 0-8213-1227-8
1. Debts, External--Brazil. 2. Debts, relief--Brazil. I. Title.
II. Series.
HJ8579.L36 1989
336.3’4’0981--dc20 89-9066
CIP
This paper analyzes the economic and financial effects of some of the instruments and facilities in the 1988 Financing Package for Brazil, which was structured along the lines of the market based menu approach. The paper focuses on those aspects of the package that may be relevant in structuring packages for other debtor countries. In particular, currency switching, interest retiming, relending, debt conversion programs, and exit bonds.
ACKNOWLEDGMENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>II. Main Components of the Brazil Financing Package</td>
<td>4</td>
</tr>
<tr>
<td>III. Currency Switching</td>
<td>12</td>
</tr>
<tr>
<td>IV. Retiming of Interest Payments</td>
<td>16</td>
</tr>
<tr>
<td>V. The Relending Facility</td>
<td>21</td>
</tr>
<tr>
<td>VI. Debt/Equity Conversion</td>
<td>30</td>
</tr>
<tr>
<td>VII. Exit Bonds</td>
<td>44</td>
</tr>
<tr>
<td>References</td>
<td>49</td>
</tr>
</tbody>
</table>
I. INTRODUCTION

This paper analyzes the economic and financial effects of some of the instruments and facilities included in the 1988 Brazilian Financing Package, especially those aspects that may be relevant in structuring packages for other debtor countries. This was the first financial package specifically structured along the lines of what has been called the market-based menu approach to sovereign debt workouts. This approach was first advocated by US Secretary of Treasury Baker and by Brazil's Finance Minister Dilson Funaro in April 1987. This approach consists on tailoring the forms of participation in the package to the different needs and preferences of different banks. The development and the mechanics of many of the options in the menu, including most of the options in the Brazilian package are discussed in Cline (1987), The World Bank (1988) and Bouchet and Hay (1989).

The 1988 Brazilian Financing Package has four basic components:
- the restructuring of US$62 billion of outstanding debt into a single Deposit Facility in Brazil's Central Bank.
- 5 New Money Facilities which amount to US$5.2 billion.
- the renewal of trade and interbank credit lines.
- an exit option which may substitute for both the restructuring and the new money.

Each component of the package was structured to allow for many different options, referred to as "bells and whistles", which are
attractive to different groups of banks. The wide variety of instruments and options was tailored to the regulatory and tax needs of banks in different jurisdictions. In addition, the disbursement of new money is linked in different forms to actions by the World Bank and the IMF, which banks expect will enable them to treat the new money differently from the old. These factors may explain the creditors' favorable response to the package.\(^1\)

Two important observations need to be born in mind while reading this paper. First, it is important to notice that the inclusion of each clause and option in any agreement is negotiated between the debtor and its creditors. Hence, the fact that we show that the inclusion of a particular option in the package had a negative effect on the debtor does not imply that the debtor erred in allowing such an option. In order to assess whether the inclusion of the option was an error it is necessary to compare the costs related to the option with the benefits that the debtor may have received in compensation. This assessment requires an analysis of the bargaining process, which, however, is beyond the scope of this paper. Second, it is necessary to be very careful while trying to apply the conclusions of this paper to other situations, since its analysis depends on many factors which are "country specific". Hence, in each case careful attention should be paid to differences in the restrictions on the current and capital accounts.

\(^{1}\) All this said, it is possible that almost any package would have been well received by most creditors given their large exposures in Brazil, the fact that this package ends the moratorium, and that a large share of the new money would go to repay the banks that participated in the Interim Agreement of 11/87.
of the balance of payments, the situation of the public finances, and the structure of the domestic capital market.

The paper is structured in the following manner. Section II describes the structure and main components of the 1988 Brazilian Financing Package. The effects of currency switching and interest retiming on Brazil and on the creditor banks are discussed in more detail in subsequent sections. Sections 5 and 6 study the relending and the debt conversion programs, respectively. Finally, section 7 analyzes the role and pricing of exit bonds.
II. Main Components of the Brazil Financing Package

This section describes the main components of the financing package: the restructuring of existing debt, the New Money package and the commitments pertaining Trade and Interbank lines. In June 1988, Brazil and its Bank Advisory Committee reached an agreement on a Financing Package for 1988 - 1989, which formally terminated the moratorium declared by Brazil in February 1987. Over 90% of the new money was committed by August 5, the deadline to receive an early participation fee of 3/8%. In September 1988 the agreement was signed by Brazil's creditors, and in November 1988 the first US$4 billion of the New Money loans were disbursed.

Restructuring of Existing Debt. 2

Figure 1 shows the main components of the restructuring agreement. The main terms of the agreement are:

The outstanding claims of each participating creditor bank will be converted, as they become due, into a deposit account on its behalf in the Brazilian Central Bank. These deposits are consolidated into a Multi-year deposit facility (HYDF), which by 1993 will total US$62 billion and will account for 95% of Brazil's outstanding medium term external debt owed to commercial creditors. This facility comprises

---

2/ Issues marked with an asterisk (*) are discussed in more detail in subsequent sections.
the deposits under the 1983, 1984 and 1985 Deposit Facility Agreements as well as all maturities due up to 1993.

- The MYDF has a tenor of 20 years, and grace period of 7 years. The principal of the MYDF will be repaid in 26 semi-annual instalments. The size of the instalments increases over time, from 1% for the first 2, to 5% for the last 4 instalments.

- The interest rate on the MYDF is set at 13/16% over the 6 month LIBO rate. Alternatively, creditors can opt for a similar spread over an agreed domestic rate or for an equivalent fixed rate. The repricing leads to an average reduction in the cost of funds for Brazil of over 3/16%, which becomes effective as the claims become part of the MYDF. The annual savings for Brazil rise from about US$90 million in 1989, to over US$115 million annually after 1993.

- Currency Switching. Each bank may choose to denominate its claims either in US dollars or in its "home currency".

- Retiming of Interest Payments. Interest payments are shifted from a quarterly to a semi-annual basis.

- Relending. The agreement establishes that all deposits will be available for relending.

- Debt/Equity Conversion. Deposits in the MYDF will be eligible for conversion into equity in accordance with Resolution 1460 (February 1988), which regulates conversion of existing deposits.

- Brazil undertakes to have in place an IMF supported program until 1994 and will make all purchases authorized under such program. If for any reason a Program is not in place, Brazil will request that the IMF

3/ US$1.7 billion of the MYDF were excluded from these terms and will be paid according to their original maturities over 1991-1993.
implement the Article IV Procedures as promptly as practicable. This clause is clearly tailored to fit regulatory requirements faced by some creditor banks.

- The interest on amounts in arrears due to the moratorium was set at 13/16% over LIBOR. The interest and the amounts in arrears were paid, and creditors waived their rights to receive penalty interest on the amounts overdue due to the moratorium.

- Exit Bonds.* Brazil undertook to issue up to US$5 billion of Brazil Investment Bonds, but only about US$1 billion were subscribed. The bonds are exempted from this and any future new money requirements.
FIGURE 1.
BRAZIL – 1988 RESTRUCTURING AGREEMENT

TOTAL US$82.1 Billion
New Money Package.

Each creditor bank was expected to commit 11.4% of its outstanding Brazilian exposure as of the Base Date. This was the first major concerted New Money package in which the original base date was changed, from December 1982 to March 1987. The change in the base date benefited those banks that have been active in disposing of their exposure through sales or conversions, e.g. American regionals. On the other hand the change in the base date hurt those banks whose exposure is denominated in currencies that appreciated since 1983, especially Japanese banks.

Banks were allowed certain flexibility in deciding what share of their commitments they commit to each of the 5 new money facilities, but the total size of each facility was predetermined. Figure 2 shows the structure of the New Money Package. The new money will be disbursed in three tranches, each of which is linked in some form to World Bank and/or IMF actions. The first tranche of US$4 billion was disbursed in November 1, 1988, and the rest will be disbursed by mid 1989. Four of the facilities have a tenor of 12 years, a grace period of 5, and are repayable in equal semi-annual installments; the Trade Facility has a bullet maturity of 9 years. They all carry an interest rate equal to 13/16% over LIBOR, and they are eligible for debt/equity conversion under Resolution 1460 on the same terms as the MYDF.

4/ Past new money participations, exit bonds, and debt that has been either assigned, paid in Cruzados, or forgiven before July 15, 1988 are not counted as part of the base. The "old new money" was also excluded from the base.
The five new money facilities are:

- The **Parallel New Money Facility** is for US$2.85 billion plus any amount lenders decide to commit in lieu of committing under the other facilities. All funds under this facility are eligible for relending. In addition, beginning in August 1989 and for 3 years thereafter, these loans are eligible for debt/equity conversion at par at a rate of US$50 million per month (a total of US$1.8 billion in conversions).

- **Two Cofinancing Facilities** (US$750 million in total). Disbursement under these two facilities are closely linked to effectiveness and disbursement by the World Bank under certain Bank loans.

- **New Money Bonds**. Brazil will issue up to US$1 billion of bonds carrying the same terms as the Parallel Facility. Banks can purchase bonds for up to the lesser of 20% of their commitments or US$5 million (or total commitments if less than US$1.3 million). The bonds will be issued in bearer form, which may enhance their marketability and may immunize them from future new money requests. This may lead some banks to prefer the bonds to the other facilities. On the other hand, other banks may rather increase their commitments to the Parallel Facility, since the bonds are not eligible for debt/equity conversions at par nor, obviously, for relending. Furthermore, regulators may ask banks to mark the bonds to market, if a market for these bonds develops in the future.

- **New Money Trade Deposit Facility** (US$600 million). Funds under this facility will be available for trade financing, following an initial deposit period of one year at the Central Bank. Individual loans within the facility will have a tenor of at least 1 year.
New and Additional Trade and Interbank Commitments.

Participating banks will commit to renew trade and interbank credit lines to the level agreed in the 1986 commitment, approximately US$15 billion. In order to enforce this commitment, Brazil will require that banks be in compliance with their commitments under these facilities as well as with the New Money Trade Deposit Facility to be able to relend under MYDF or the Parallel New Money Facility Agreements. The same is true for the right to convert loans under the Parallel New Money Facility to equity at par.
FIGURE 2.
BRAZIL – 1988 NEW MONEY PACKAGE

TOTAL US$5.2 Billion
III. Currency Switching.

The agreement established that each creditor bank may choose the currency denomination of its claims between US dollars or its "home currency". Banks have the option to switch between these two options at certain times, e.g. upon relending or on the last interest date before the grace period ends. The interest rate was set at 13/16% over the LIBOR rate or over a comparable and agreed upon domestic interest rate. The spread over the base rate is the same for all currencies, regardless of the level of the base rate.

Some type of currency switching option was included in most restructuring agreements since 1984, including those of Argentina, Chile, Mexico and the 1986 rescheduling agreement. In all cases, the choice to change the currency denomination of the loans was set at the option of the creditor banks, implying that the inclusion of this option can only improve banks' situation. On the other hand, most debtors have strongly opposed the inclusion of this option because they perceived that it could raise the cost and riskiness of the loans.

The currency switching option enables non-American banks to denominate the loans in the same currency as their capital and reserves, hence immunizing their capital-asset ratios from exchange rate fluctuations. In addition, by denominating their claims in the same currency as their deposit base, they may be able to reduce the average cost of funding the loans. There are other important considerations that
banks should take into account in deciding on whether to switch currencies: the duration of the loans, the effect on future new money requirements, and the relative interest rate spread on the loans.

"Strong currency" loans\(^5\) have a longer duration (average maturity) than dollar loans. This is so because a larger part of the total loan proceeds are expected to be paid as principal at maturity, rather than as interest payments. Hence, these loans may carry a greater credit risk than dollar loans.

A bank switching to a "stronger currency" faces another risk if Brazil requires an additional New Money loan in the future. Over time, as its currency appreciates, the dollar value of the principal of its loans will increase. Hence, the share of the "switching banks'" loans to Brazil will increase relative to the share of those banks whose loans are denominated in dollars. If the base date for future new money loans is changed, "switching banks" will have to provide an increasing share of such new money loans, since commitments to these loans are assessed as a proportion of principal outstanding.

The interest rate spread is the same in all currencies. However, a spread of 13/16% yields a higher income in an appreciating (low interest rate) currency than in a depreciating (high interest rate) currency.

---

5/ By "strong currency" we mean those currencies, such as the yen and the mark, which pay a lower interest rate in the expectation of an appreciation. We assume that there is no covered interest rate differential between these currencies and the dollar, i.e. that the market instantly closes any arbitrage opportunities. Hence, loans in all currencies yield the same total return, when evaluated at the risk free discount rate.
currency. Hence, banks that switch to "stronger currencies" can expect to receive larger payments over the life of the loan, as long as Brazil services its debt according to the contractual terms. To some extent, this compensates banks switching to "stronger currencies" for the larger duration of their loans.

Switching some of its long term liabilities to "stronger currencies" is likely to be beneficial from Brazil's point of view. The main effect of the switch is to extend the duration of the loans, which provides cash flow relief in the short and medium term. Also, the lengthening of the duration reduces the present value of the loans, as evaluated by Brazil. This is case, as long as Brazil's rate of discount is higher than the (exchange rate adjusted) interest rate on the loans, which is very likely to be the case.

An additional, though probably less important, effect of the currency switching is its effect on Brazil's exposure to unexpected fluctuations in exchange rates (which represent deviations from covered interest rate parity). The currency switching option, if exercised, leads to changes in the currency composition of Brazil's liabilities, and therefore modifies Brazil's degree of immunization to unexpected exchange rate fluctuations. Whether this change increases or reduces the volatility in Brazil's ability to pay depends on whether the share of US dollar denominated liabilities in Brazil's total liabilities before the switching was higher or lower than the "optimal" share (see Claessens
1988). An assessment of this question is, however, beyond the scope of this paper.\(^6\)

\(^6\) The US dollar share in Brazil’s total debt is about 70%, which at first sight may look too high.
IV. Retiming of Interest Payments.

The restructuring and new money agreements include interest retiming clauses. Interest payments on the MYFD and the new money facilities will be paid on a semi-annual basis. This represents a shift for the 75% of the commercial bank loans which were serviced on a quarterly basis. The interest rate on the loans was shifted accordingly from the 3 months to the 6 months LIBO rate. Interest retiming clauses have been included in other debt restructuring agreements. The 1987 credit agreement between Chile and its creditor banks shifted interest payments from six months to one year, beginning in the second half of 1988. Under the agreement, interest payments would revert gradually to a six month schedule between 1991 and 1993.

Probably, the main reason for the inclusion of retiming in the package is that it reduces Brazil's financial requirements for the years 1988-1989, by moving the payment of the equivalent of one quarterly interest payment beyond the period covered by the agreement. In this way, the retiming reduced Brazil's financial requirements for the period 1988-1989 by over US$1 billion, which is a substantial amount, as it represents over 20% of the New Money package. In this way the retiming facilitated raising the New Money by reducing its size (but increasing Brazil’s financial requirements beyond the period covered by this agreement). The retiming has an immediate positive cash flow effect on Brazil which is reflected in its Balance of Payments (since the Balance of Payments is calculated on a cash basis). On the other hand, the
Retiming may also have an important effect on the real debt service burden on the restructured loans, in that it may change the present value of the loans as evaluated by Brazil. While retiming extends immediate cash flow relief by postponing interest payments, it may actually increase the debt service burden due to the corresponding move on the yield curve which on the average is upward slopping, i.e. the longer term rate is generally higher than the shorter term rate. Whether the total effect on the present value of the debt is positive or negative depends on which of these two effects dominates. Retiming reduces the present value of the outstanding loans if the relief due to stretching out interest payments is larger than the additional cost due to the effect of moving on the yield curve, evaluated using the debtor's rate of discount. If the effect of the higher interest rates is greater, the debtor ends up with a larger interest burden.

In Table 1, we present estimates of the effect on the present value of the MYDF contractual debt service due to retiming from 3 to 6 months. The calculations are made under different assumptions for LIBOR, Brazil's rate of discount, and the term structure of interest rates. Loans (with and without the retiming) are assumed to carry a spread over LIBOR of 13/16%, and to be repaid according to the repayment schedule agreed for the MYDF in the financing package. The figures
represent the change in the present value of Brazil's service payments over the 20 years of the loan per US$1000 of face value of debt, and the change in the present value of debt service per US$1000 of present value of debt.

In our calculations, we assumed that Brazil's rate of discount is between 12% and 15%. The benefits for Brazil are larger, the higher its rate of discount. Different factors determine the difference between the 3 and the 6 month rates. Six months rates tend to be higher because of the liquidity premium. In addition, interest rates may differ (in either directions) due to expectations on future developments in credit markets. In our calculations, we assumed differences between the 3 and the 6 month rates of between 0% and 0.15%. These differences try to capture only the liquidity premium, since we assume that the "expectations effect" will have no effect on the cost of borrowing, in the long run. As can be seen in Table 1, the effects of a given absolute difference between the 3 and 6 months rates are smaller as the LIBO rate rises, because the difference becomes relatively smaller. We assumed that LIBO rates remain constant over the 20 year period covered by the agreement at levels around 8% and 9%.

Table 1 shows that the retiming reduces the present value of debt service by between US$2 and US$3 per US$1000 of face value of Brazil's debt, assuming that the difference between 3 and 6 month LIBO rates are almost zero over the duration of the loan. Since the loans' present value is only 65% of their face value when evaluated using discount rates of 12% to 15%, this represents a reduction in future debt
service of about US$2.5 - US$5.5 per US$1000 present value of the loans. Over 20 years this implies savings in debt service of between US$90 and US$135 million on the US$45 billion of debt affected by the retiming.

On the other hand, as the difference between the 3 and 6 months LIBO rates increases, the positive effects of the retiming are greatly reduced. When the difference between these rates is 0.075% the effect of the retiming already becomes negative. As the difference approaches 0.15% the costs of the retiming become quite substantial; the present value of debt service increases by between US$4 and US$8 per US$1000 of face value, and by about US$7 and US$10 per US$1000 of present value of the loans of Brazil's debt. Evaluating retiming over shorter periods reduces the size of its effects, but does not change the fact of whether these effects are positive or negative. Over a 2 year period the present value of Brazil's debt service increases by between US$1.5 and US$4.4 per US$1000 of face value of Brazil's loans, as the difference between the 3 and 6 months LIBO rates approaches 0.15%. Hence, retiming could be very costly for Brazil, as it could imply an increase in debt service of between US$180 and US$360 million over 20 years.

For the creditor banks the retiming of interest payments has no direct costs since they can switch the funding of the loans accordingly, from 3 to 6 months deposits. Retiming reduces the number of payment dates reducing administrative costs, and allowing banks to match more closely the disbursement of new money with interest payments.
## TABLE 1

**BRAZIL - Interest Retiming.**

<table>
<thead>
<tr>
<th>LIBOR 3mth.</th>
<th>LIBOR 6mth.</th>
<th>Brazil's Discount Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>8.00</td>
<td>12% 15%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-2.2 (-2.7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-2.2 (-2.7)</td>
</tr>
<tr>
<td></td>
<td>8.075</td>
<td>2.8 (3.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.7 (1.0)</td>
</tr>
<tr>
<td></td>
<td>8.15</td>
<td>7.7 (9.7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.9 (7.5)</td>
</tr>
<tr>
<td>9</td>
<td>9.00</td>
<td>12% 15%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1.6 (-1.9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1.6 (-1.9)</td>
</tr>
<tr>
<td></td>
<td>9.075</td>
<td>3.3 (3.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.9 (1.3)</td>
</tr>
<tr>
<td></td>
<td>9.15</td>
<td>8.2 (9.6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.2 (7.3)</td>
</tr>
</tbody>
</table>

**References:**
- All loans carry a spread over the corresponding LIBOR of 13/16th percent.
- Figures represent change in present value of debt service per US$ 1000 of face value of loan.
- Negative numbers indicate savings, positive numbers indicate additional costs.
- The figures in parentheses represent the change in the net present value of debt service per US$ 1000 of the loans.
V. The Relending Facility

The agreement establishes that all amounts in the MYDF and the Parallel New Money Facility will be available for relending subject to Central Bank approval. Relending facilities were also provided for as part of all previous concerted lending packages for Brazil. The actual amounts of onlending/relending were US$2.5 billion in 1983, US$7.9 billion in 1984, US$5.9 billion in 1985, and it declined to $0.6 billion by 1986. In 1987 total relending amounted to US$1.7 billion, and from January to April 1988 it amounted to US$0.5 billion. Relending and onlending facilities were also present in the restructuring or "new money" packages of Argentina, Chile, the Philippines and Venezuela.

Relending was created in the context of the Brazilian Rescheduling in 1982-83. While Brazilian debtors had the cruzeiros to repay their foreign debts (at the going exchange rate), the Central Bank was unable or unwilling to provide the foreign currency. Instead, the government took over the foreign liability and asked the original borrowers to repay the equivalent in domestic currency to the Central Bank. The foreign creditor became the owner of an account in the Central Bank denominated in foreign exchange. Consequently, a large and increasing portion of commercial banks' loans to Brazilian enterprises

7/ The 1983 and 1984-1986 Deposit Facility Agreements specified that lenders could relend to private and public sector borrowers the amounts that fell due during the life of the agreements. The 1983 and 1984 new money packages provided for onlending on similar terms. Onlending is the same as relending but in the context of a new money loan.
were converted into Central Bank deposits, sometimes exceeding the amount that individual creditor banks were allowed to lend to a single borrower under their national regulatory regimes. The relending facility allowed banks to reallocate these funds as new loans among different public and private sector entities while deferring the outflow of foreign currency from Brazil.

Relending gives creditor banks the right to use their Central Bank deposits (from the MYDF) to fund loans to different borrowers in Brazil. As the Brazilian borrowers repay their loans into the MYDF, the creditor bank can again relend those funds within Brazil. Although the new borrower appears to get a foreign currency loan, he actually receives a loan in cruzados that is linked to the exchange rate. Hence, the borrower of relent funds bears the exchange rate risk of the loan but cannot use its proceeds to import or pay other debts abroad, due to the existence of foreign currency restrictions in Brazil. The funds available for relending will diminish as the MYDF gets repaid.

Creditors prefer to relend to the private sector since this enables them to collect higher fees, to develop business relationships, and to fund their own subsidiaries at a preferred effective exchange rate. They can also sell the loans at a premium in the secondary market. On the other hand, the government of Brazil, which has to authorize each transaction, prefers to limit relending, particularly to the private sector, to minimize whatever effect this may have on the expansion of domestic credit and on the allocation of credit. Hence, as a compromise, the agreement establishes that the Central Bank shall
authorize at least minimum annual private sector relending quotas, which banks can be expected to utilize fully. After the MYDF becomes effective, the agreed minimum amount of relending to the private sector to be authorized will be US$100 million per month for the rest of 1988. During 1989-1990 the minimum annual quotas would be approximately US$1.5 billion. Thereafter, the amounts available for relending to the private sector will be at least equal to the principal maturities repaid by private sector borrowers each year.

Loans relent to public sector borrowers must have a tenor of at least 12 years and will carry an interest rate equal to that applicable to the MYDF. Loans to the private sector must have a tenor of at least 7 years and an interest of 15/16% over the LIBO rate. All relendings made before 1994 must have a grace period of at least 5 years.

Benefits for the Creditor Banks.

The main benefits for commercial banks from the introduction of a relending facility are:

a. Relending enables creditor banks to circumvent the legal limit that they face on the amount they can lend to a single borrower. This is especially important for nationally chartered American banks (e.g., Citibank and Chase Manhattan) and for some European banks.

b. Relending to the private sector enables banks to charge higher spreads than they receive on the deposits in the Central Banks, which in part reflect the additional credit risk.
c. Relending enables banks to maintain or develop business relationships with clients in the borrower country. In the absence of cross border lending, this is the only way to develop these relationships. This is especially important for those banks with subsidiaries in the borrower country. Relending allows the operations of the subsidiary to expand, without having to expand its capital (which would increase the country exposure). The relent funds are not counted as assets of the subsidiary and therefore do not require capital. On the other hand, all the operations are processed by the subsidiary, which receives commissions and expands its market share.

d. Banks tend to relend to firms where they may get related businesses, e.g. opening of letters of credit or conducting a feasibility study on investments. This allows them to charge fees which firms are often entitled to pay in foreign currency.

e. Quasi Debt/Equity Swap. Loans that can be relent to the private sector sell in secondary markets at a premium over other loans of as much as 15% or more. The reason is that these loans enable investors to fund investments in Brazil at preferential terms. A multinational company with subsidiaries in Brazil can buy relendable loans and subsequently extend this loan to the subsidiary. This enables the parent company to fund its subsidiary at a preferential exchange rate (e.g., with a secondary market discount of 50% on Brazil's loans, the effective exchange rate is twice as high as the official one). The parent company will be repaid in foreign currency (at the official exchange rate) on the same terms as all other rescheduled debt. Also, creditor banks or other investors (including Brazilians) may use a similar mechanism to invest in Brazilian firms at a preferred
exchange rate, hence circumventing the restrictions on debt/equity swaps. ⁸

f. Finally, banks claim that they prefer to lend to firms that engage in productive activities, especially export-oriented ones. They claim that this will improve Brazil’s creditworthiness and indirectly increase the probability of being repaid. These arguments are mostly for public relations purposes, given the small effect of relending on the overall allocation of credit.

The Effects on Brazil.

There are three main issues that need to be addressed in order to assess the effects of relending from Brazil’s point of view: the effect on the timing and size of the external transfer of resources, the effect on the expansion of domestic credit (and therefore on inflation), and the effect on the allocation of credit in Brazil.

a. Relending may affect the external transfer in two ways. On the one hand, the transfer is indirectly accelerated by the factors described above (especially by quasi debt/equity swaps). On the other hand, the introduction of relending in the package may have contributed to delaying the external transfer by enabling Brazil to obtain better terms on the rescheduling and a larger new money package than it would have obtained otherwise. On the whole the relending facility is

⁸/ Some of the transactions described above are not allowed under Brazilian law.
likely to have only a minor effect on the size and the timing of the external transfer.

b. The main objection to relending raised by Brazil's government (as well as by other debtor countries' governments) is that it is inflationary. Relending has an expansionary effect on domestic credit. The difficulties that the Brazilian government faces in trying to offset this effect depend on the size of the facility, the distribution of the relent funds between the private and the public sector, and the initial situation in credit markets. The quotas on private sector relending limit its size to about 2% of the outstanding domestic credit to the private sector (or less than 1% of total outstanding domestic credit) for each of the next 3 years. Whether the government is able or willing to sterilize this expansion is hard to assess. In any case, the effect of such an expansion on Brazil's inflation can only be limited. On the other hand, the government can control the amount of relending to the public sector by controlling the demand from public agencies and parastatals. In addition, the Central Bank can offset part of the credit expansion due to relending by reducing its direct credit lines to these public agencies and parastatals. Overall, relending may have some inflationary impact, but in the case of Brazil this is unlikely to be a major effect.

c. An important consideration for Brazil is how relending affects the allocation of credit, i.e., if credit flows to more or less

9/ Part of these relent funds actually off-sets the initial contraction that takes place as Brazilian firms service their outstanding foreign loans, by depositing cruzados in the Central Bank. This is also true for relending to the public sector.
productive sectors and firms than would otherwise have been the case. The effect of relending on the allocation of credit is related to its effect on total credit expansion. The effect on the allocation of credit are larger when relending has no effect on credit expansion. On the other hand, if the Central Bank accommodates the "credit needs" of government agencies, parastatals and "preferred sectors", relending will only have a minor effect on credit allocation. It is highly unlikely that this facility would have any sizeable "general equilibrium" effect on the allocation of credit in Brazil, even for a given level of domestic credit expansion. In order to explain this we consider two extreme cases. In an economy with relatively free financial markets (and barring subsidies) firms would substitute the "relending" loans for other types of credit without much change in the overall allocation. On the other hand, in an economy where the government administratively allocates credit, it is very likely that the government will offset the effects of relending through the reduction of other credit lines. In either case, the Government can also affect the allocation of credit through its control on the demand for relent funds by public sector borrowers. Finally, whether the allocation of credit is affected or not, it is impossible to assess in advance whether any such change would have a positive or negative welfare effect.

Costs and Benefits for Brazilian Enterprises and Banks.

a. In many cases, the borrower in the relending operation is the same as the original borrower. These new loans are the only way in which
these borrowers may share the benefits from the rescheduling of the foreign debt.

b. Borrowers benefit from the fact that relending is almost the only source of long or medium term credit available in Brazil. In addition, these loans are presently cheaper than most other credit lines. On the other hand, borrowers are exposed to foreign exchange risk, since the debt is linked to the currency designated in the agreement between the Central Bank and the foreign creditor.

c. Relending enables the subsidiaries of foreign banks to expand their operations, and the government protects the market share and "profitability" of official banks. Hence, domestic private banks are the prime candidates to be "crowded out" by this facility. This effect has been attenuated by the formation of partnerships between foreign banks and Brazilian banks to handle both relending and debt conversion operations.

Main Conclusions

Relending provisions render important benefits to creditor banks, while they have only minor effects on the economy of debtor countries. Hence, it is likely that relending provisions will be included in most future agreements, since banks should be able to compensate debtor countries for any negative effects by sharing part of the benefits. In Brazil's case the introduction of relending in the financing package facilitated the negotiations with the banks, and enabled Brazil to obtain better terms than it would have otherwise obtained. For example, the right to relending was made contingent on
maintaining certain level of interbank and trade lines. An additional way in which governments of debtor countries can share the benefits creditors obtain from the relending provisions is by charging a facility fee from either the borrower or the creditor (e.g. an annual fee of 1% or 2% from the borrower).
VI. Debt/Equity Conversion.

The agreement establishes that the deposits in the MYDF, the debt held under the different New Money Facilities, and the Brazil Investment Bonds will be eligible for conversion into equity in accordance with Resolution 1460.10 This resolution, issued February 1988, sets the terms and conditions for conversions, the type of permitted investments, and the limitations on capital and profit repatriation. Under different programs during the past decade, over US$3 billion of foreign debt were converted to equity in Brazil. Most of the swaps were done by multinationals converting inter-company loans into equity holdings.

Conversions under Resolution 1460 take place through two monthly auctions: one for investments in "incentivated" areas (e.g. the less developed areas in the northeast of Brazil), the other for all other projects. In each auction, the government offers the cruzado equivalent (at the official exchange rate) of US$75 million. Investors bid for those funds in terms of outstanding foreign debt, e.g. US$1.33 of loans (face value) for the equivalent of US$1 in cruzados. The banks offering the highest bids (the larger discounts) receive the auctioned cruzados in exchange for their debt. These funds are then used in pre-specified investments, which can be new projects, the expansion of existing business or special capital conversion mutual funds. The

10/ This paper does not analyze the effects of "informal" conversions, i.e. those operations that take place outside of the formal auction.
auctions are used for the conversion of private debt (or formerly private sector loans converted into Central Bank deposits) into equity in private firms.

Resolution 1460 sets several restrictions on the swap operations:
- The converted proceeds cannot be repatriated for 12 years.
- Dividends remittances of over 12% of registered capital are restricted, as for all other foreign investment.
- Foreign investors cannot acquire control over a Brazilian firm through swaps.
- Conversion Funds may not acquire more than 20% of Brazilian owned companies (5% of the voting capital).
- Public sector debt can only be invested in public sector companies, or used to cancel debt to these companies. These conversions are assessed by the government on a case by case basis.

The effects on Commercial Banks

Commercial Banks support the emergence of debt/equity swap programs because these programs create a demand for sovereign loans outside the financial institutions, which increases the secondary market price of these loans. This demand by "ultimate user" of debt instruments provides a floor for the price of the loans, and has a stabilizing effect on secondary market trading. Debt/equity swap programs also create a vehicle for banks to diversify their Brazilian exposure, between equity and debt.
The Effects on Brazil.

In order to analyze the effects of debt/equity swaps on the Brazilian economy, it is useful to decompose the operation in two parts: the "pre-payment" of Brazil's debt at a discount, and the direct foreign investment at a "preferential" exchange rate. It is as if the government applies an exchange rate higher than the official rate to buy foreign currency from a foreign investor, and then uses the proceeds to buy-back its debt in the secondary market. The main difference between this "two stage operation" and debt/equity swaps is that while buy-backs are legally restricted, swaps are not only legal but are also encouraged by creditor banks.

As is the case with direct foreign investment in general, the main concern for the government should be that investment goes to industries in which Brazil has comparative advantage and that it is not motivated by distorting regulations, as is the case with highly protected industries. To some extent, the preferential exchange rate compensates for the fact that Brazil's official exchange rate does not reflect the long run "scarcity value" of foreign exchange (this is hinted by foreign exchange parallel market premium of over 50%). Furthermore, the "subsidy" is indirectly financed by the creditor banks, who sell the debt at a discount.

Two other important issues from Brazil's point of view are the size and the timing of the transfer of resources abroad. The "pre-
payment" of debt takes place at a very substantial discount. In the first five "non-incentivated" auctions Brazil paid the Cruzado equivalent of US$375 million (at the official exchange rate), to retire almost US$500 million of debt. Brazil's savings are larger than this 25% discount because the effective dollar value of the domestic currency the government used to "buy-back" the debt is lower than implied by the official exchange rate, as mentioned above. Since over the long run the exchange rate is likely to move closer to the "true scarcity value" of foreign currency, foreign investors will have to repatriate their profits and capital at those higher exchange rates. Taking this into account the implied "buy back" renders Brazil an annual rate of return of about 20% over 20 years. This return is higher than most "alternative projects" available to Brazil's government.

An alternative way to assess the swap is by looking at the difference between the expected debt service and the expected profits and capital repatriation from the swap related foreign investment. The assets acquired by the foreign investors are likely to render a rate of return (calculated over the face value of the loans) which is much smaller than the cost of servicing the debt. Hence, the swap is a good investment for Brazil. Actually, the "pre-payment" through debt/equity swaps consists of an exchange of assets in which Brazil trades one type of foreign claims on its resources, i.e. external debt, for a different type of foreign claim, i.e. future profit and capital repatriation. Looking at debt/equity swaps in this manner, it becomes

11/ The swap may still be a profitable venture for the investor, as long as he purchases Brazil's debt at a substantial discount over its face value.
clear that swaps do not necessarily accelerate the transfer abroad of Brazil's official foreign currency reserves. Whether debt/equity swaps accelerate or delay the transfer depends on two factors:

- The degree of additionality in the amount of foreign investment achieved through the swaps. By the degree of additionality we mean to what extent the foreign investment that takes place through the swaps would have taken place even without the "subsidy", in which case the swap would be replacing the direct inflow of capital (and reducing the inflow to the extent of the subsidy). This is an empirical issue which is difficult to assess. Over US$2 billion per year of foreign investment may take place through the auction over the next 3 years. On the other hand, during the period 1983-1987 gross direct foreign investment (including portfolio investment, but excluding conversions) has averaged about US$500 million per year, and net foreign investment (gross minus capital repatriation) has been nil. Therefore, it is likely that a substantial part of the investment that will take place through the swaps will be "additional". This expected increase will be mainly due to the preferential exchange rate, and to the fact that creditor banks can be expected to spend a considerable amount of resources to promote investment in Brazil among their clients.

- The path of profit and capital repatriation relative to that of debt servicing. During the coming seven years (when debt service consists only of interest payments) debt service and swaps would lead to the same transfer of resources as long as LIBO rate of about 8%, the average discount in the auctions is at least 25%, and the repatriation of profits on the swap related investment is about 12% per year (the
maximum unrestricted transfer). A higher LIBO rate, or a larger discount in the auctions, or lower profit repatriation would make the transfer under the swap lower than the transfer under the rescheduled debt service profile during this period. After the grace period on debt repayment and up to year 12, swaps are likely to reduce the transfer since Brazil is scheduled to repay part of the principal on the rescheduled debt, while investors would not be allowed to repatriate capital invested through swaps. At some point after year 12, the transfer under the swap will become larger than the service of the rescheduled loan. Overall, the swap may end up lengthening (rather than shortening) the de-facto duration of Brazil's foreign liabilities.

Each individual investor may accelerate the transfer of its own capital by purchasing foreign currency in the parallel market. This is usually called "round tripping". "Round tripping" would not affect Brazil's official currency reserves, as long as the foreign currency comes from other foreign investors or from capital repatriation by domestic residents (again, subject to the additionality issue). On the other hand, "round tripping" puts pressure on the parallel market and may increase the amount of false invoicing in trade, which would affect Brazil's official reserves.

The "incentivated swaps" took place at a much lower discount. However, the discount is less important in assessing the welfare effects of these swaps, since they are used by the government of Brazil to achieve a different set of goals. The difference in the discount obtained in the two types of auctions should be seen as a subsidy to the
projects in the "incentivated" area, and it is likely that in the absence of the swap program, the government would subsidize them in some other way.

An additional benefit from the introduction of debt/equity swaps is that it gives creditors a positive signal on Brazil's willingness to service its debt (see Acharya and Diwan, 1988). Hence, the existence of a debt/equity swap program facilitated the negotiations on the package, and also reduces the likelihood of retaliatory measures should Brazil need to re-negotiate the terms of the loans. This "signaling effect" may explain the fact that the financing package also establishes that up to US$1.8 billion of the Parallel New Money Facility may be converted into equity in Brazil at face value.12

**Monetary Effects.**

The main argument that is raised in Brazil against debt/equity swaps is that it may exacerbate Brazil's already high inflation. Similar arguments are raised in other highly indebted countries. The reason for this claim is that the government uses domestic currency to purchase the foreign debt, hence expanding the money supply. Our analysis indicates that the Brazilian conversion program may be less inflationary than

---

12/ This conversion program will begin in September 1989, and will be subject to a monthly quota of US$50 million during 3 years. In all other aspects this program will be identical to the one under Regulation 1460. It is not yet known how the Brazilian government will allocate the monthly quotas, but it is clear that there will be excess demand for this program. It is possible that the Brazilian government will implement a method to allocate these quotas, that will enable it to capture at least part of the discount in an indirect way.
alternative ways of financing debt service. Furthermore, given their expected size swaps could lead to an annual expansion of at most 1% in outstanding domestic credit, which should not be difficult to sterilize.

In order to analyze the monetary effects swaps, we first begin by discussing the effects of a swap of US$100 of Central Bank deposits for private assets. We compare the effect on the money supply of a swap with the effect of servicing the foreign debt on its contractual terms. Figure 3 presents the flow of funds in these operations, the unbroken lines show the flows under the swap and the broken lines the flows under the contractual terms. The foreign investor (the creditor bank or an investor that purchased the debt from the bank) participates in the auction and exchanges with Brazil's Central Bank the US$100 debt for US$75 worth of Cruzados. The investor then uses the Cruzados to buy equity in the investment project and as a result the money supply increases by the equivalent to US$75. The reason for the expansion in the Central Bank's net liabilities to the private sector (in the form of monetary expansion) is that it indirectly used private domestic assets to pay for public external debt.13

Still, the inflationary effect of the swap option could be smaller than it would be if the Central Bank services the foreign debt as scheduled. In that case, the Central Bank would have to purchase dollars with Cruzados from exporters, in order to service the debt (interest plus principal); therefore increasing the money supply over

13/ It is important to recall that this monetary expansion matches the contraction of US$100 that takes place when private borrowers pay their foreign debt into a deposit account in the Central Bank.
time by the equivalent of US$100 plus interest. Whether this monetary expansion is easier to sterilize and/or more or less inflationary than the monetary expansion taking place under the swap depends on the effects that these two options have on the private sector's demand for domestic currency assets and money.

Debt/equity swaps have two opposite effects on the supply of money (relative to what the public perceived as the future path of monetary policy before the swap): they expand the money supply in the present, but they reduce it in the future. The present expansion of the money supply is smaller than the present value of the future contraction, due to the discount that the government collects in the auction. Hence, swaps should reduce the private sector's expectations on future monetary expansion, therefore reducing expectations on future inflation, other things being equal. This should lead to an increase in the demand for money (offsetting in part the increase in the money supply) as well as to an increase in the demand for domestic currency denominated assets (making it easier to sterilize the non-offset part). Hence, whether the combined effect of all these changes is inflationary or not depends on the public's rate of discount to evaluate future changes in the money supply relative to present changes in the money supply (and its effect on the demand for domestic currency assets and money).

There are several factors that may lead the public not to increase its demand for domestic currency assets. First, the public may believe that in the absence of swaps the debtor would end up paying less
of its debt in present value terms, e.g. due to partial defaults or to refinancing at concessional terms. Second, the public may believe that following the discounted swap the government may increase its expenditures or reduce taxes in a way which would maintain the future rate of monetary expansion unchanged. Under these circumstances swaps would have an inflationary effect.14

Discounted swaps of private debt are less likely to cause inflation than swaps of public debt, since they are basically an exchange of assets within the private sector15 and their effects are easier to sterilize. The broken lines in Figure 4 show the flow of funds when private debt is serviced under its contractual terms, which has no monetary effect. The unbroken lines show the flow of funds in a swap of private debt for private assets. An investor participates in the auction and exchanges US$100 of debt for US$75 worth of Cruzados which he then uses to buy equity in an investment project. Although the money supply increases by US$75, the government's net liabilities to the private sector fall by the difference between US$75 and the present value of the US$100 loan, approximately by US$25. Eventually, as the debtor services its debt (now held by the Central Bank) the money supply will contract by the amounts paid, principal plus the interest payments. Therefore, the effect of the swap is an increase in the money supply in the present, and a larger contraction in the future. Hence, the effect on

14/ Actually, the effect of a swap would be an immediate jump in the price level followed by an inflation rate similar to the one that would have prevailed in its absence.

15/ If the debtor and the investment project are the same firm, the swap becomes a capitalization of debt, with the Central Bank playing only a marginal role.
inflation depends on how the private sector discounts the future contraction relative to the immediate increase. Actually, the Central Bank could sterilize the immediate expansion by selling the loans that it acquires in the auction; and the swap may end up having a contractionary effect if the loans are sold a lower discount than the one obtained from the foreign bank.

Banks are also allowed to use the proceeds of the auction to invest in equity in public firms. If the cruzados are swapped for Central Bank deposits, the operation does not have any immediate monetary effect. The effects on future monetary expansion depend on whether the public firm pays the private investor higher or lower dividends than the original interest payments. Similarly, the operation does not have any immediate monetary effect if the tendered debt is private sector external debt. In this case though, the money supply would contract in the future, as the private debtor repays its debt to the government, which has acquired this claim through the swap.

Main Conclusions

- Our discussion on the costs and benefits of swaps indicates that debt/equity swaps are cheaper for Brazil than servicing its debt on its contractual terms. To a large extent, the opposition to swaps is based on the belief that in their absence Brazil will service a much smaller fraction of its external debt.\textsuperscript{16}

\textsuperscript{16} Under those circumstances swaps are obviously "expensive" and "inflationary". But this is unlikely to occur, and in any case should not be the benchmark to compare the effects of swaps.
Swaps of public debt for private assets have two opposite effects on the money supply: they expand the money supply in the present, but they reduce it in the future. These changes are in comparison with what the public would otherwise perceive as the future path of monetary policy before the swap. Due to the discount that the government collects in the auction, the present expansion of the money supply is smaller than the present value of the future contraction. Whether the combined effect of these two changes is inflationary or not depends on their effects on the demand for domestic currency denominated assets and money. Discounted swaps of private debt are less likely to cause inflation than swaps of public debt, since they are basically an exchange of assets within the private sector and their effects are easier to sterilize.

In deciding on the optimal size of a debt conversion program, governments should take into account the effects that the size would have on the amount of debt reduction that such a program will afford. A government can maximize the share of the secondary market discount (per unit of debt converted) that it captures through the auction. This can be achieved by keeping the size of the auction small, and by increasing the amounts of eligible debt. On the other hand, by increasing the size of the program, the government may be able to increase the total amount of debt reduction, although with a lower discount per unit of debt.

Furthermore, this argument assumes that Brazil will be able and willing to renege on part of its debt, but that on the other hand it will not have the possibility to expropriate foreign investments or substantially restrict repatriation of profits and capital in other ways.
FIGURE 3
Flow of Funds in Swaps and Repayment of HYDF.

References:

--- Flow of funds under Debt Equity Swap.

--- Flow of funds under contractual debt service.
FIGURE 4
Flow of Funds in Private Debt Swaps and Repayment.

References:

--- Flow of funds under Debt Equity Swap.

--- Flow of funds under contractual debt service.
Exit Bonds.

Exit bonds, called Brazil Investment Bonds or BIBs, were included in the package in order to deal with "free rider" banks. These are banks, usually small-exposure banks, that do not lend any new money in the expectation that Brazil will pay them out of other banks' lending. The idea of the exit bonds is to create a mechanism that enables these banks a formal exit from concerted lending while insuring an adequate burden sharing (in the form of a lower contractual interest rate and a longer maturity). The main problem with this approach is that for most banks that can afford and intend to free ride the formal exemption from new money calls is not very valuable and does not represent enough of an incentive to accept a lower return. Several additional features were added to the BIBs to make them more attractive and prevent the disappointing response received by the Argentine exit bonds.17 However, exit bonds can only work if, in conjunction with their offer, potential free riders are faced with some type of pressure from other creditor banks and/or regulators. This is so because no exit instrument that insures some degree of burden sharing can be more valuable than free riding.

BIBs have a 25 year tenor and a grace period of 10 years. They are exempted from New Money requirements which gives them de-facto

17/ The 1987 financing package for Argentina included an exit bond option, which proved to be a failure, as only 2 banks subscribed to it. Those bonds carried a 4% interest rate and had a maturity of 25 years.
seniority, but they carry a concessional fixed interest rate of 6%. They are eligible for debt/equity conversions on the same terms as deposits in the Parallel Facility and the MYDF. BIBs' main additional enhancement is that they are exchangeable, at any time, for Cruzado denominated instruments (called OTNs), with a repayment schedule similar to the remaining schedule of the investment bond. These OTNs will pay a tax free interest rate of 6% plus a "monetary correction", which over the long run should be equivalent to a 6% real return in Cruzados. Upon each maturity the holder can choose whether he wants the principal adjusted by the monetary correction or by the US dollar exchange rate. Due to the OTN option, BIBs have a lower credit risk than Brazilian loans since Brazil is unlikely to default on a Cruzado denominated instrument. BIBs will also be eligible for swaps for non-traditional exports, if such a program ever becomes effective.18

Due to these enhancing features exit bonds may be attractive to banks that want to diversify their exposure across different instruments. For example, BIBs become an attractive option for those banks that want to dispose of their Brazilian exposure when their secondary market price is higher than the secondary price of the DFA (the original loan) minus the difference between the face and the secondary market value of the new money loan. BIBs may also be attractive as a speculative instrument for those banks that expect large fluctuations in Brazil's real exchange rate.

18/ Although several banks (including some official Brazilian banks) are working on designing such programs, it is unlikely they will become effective in the near future.
In order to price the BIBs we can look at them as convertible securities with a main component, i.e. a stream of dollar claims, and two conversion options, to OTNs and to equity. The BIBs' secondary market price will be at a premium over the highest market value of each of its components. The value of the "dollar claims" depends on the rate of discount the market uses to evaluate future payments. The top graph in Figure 5 illustrates the relationship that exists between this rate of discount, the market yield, and the value of the BIBs' "dollar claims". Using the discount rate implied by secondary market price of Brazilian debt (over 20%) these claims are worth about 30% of the BIB's face value. BIBs' market yield is likely to be lower than the one on DFAs, given their implicit seniority and lower credit risk. The market discount rate would have to be less than 15% for the value of the "dollar claims" to be around the secondary market price of DFAs.

The dollar value of the OTN option depends on two factors: the Cruzado price of the OTN's and the parallel foreign exchange market premium. The Cruzado price of an OTN is inversely related to its real market yield. It is difficult to estimate the OTN's yield since presently there are no long term securities in Brazil to compare to. Similarly, the effective dollar value of the OTNs is inversely related to the premium in the parallel market over the official exchange rate. These relationships are illustrated by the bottom graph in Figure 5. Each curve in the graph was drawn assuming a different parallel market premium. For example, the Cruzado price of the OTNs would be about 60% of their face value, assuming a market yield of 10% in real terms. In
this case the dollar price of the OTN would be less than 45% of the face value of the original BIB (assuming a parallel market premium of 40%).

The Financing agreement established that Brazil would issue up US$5 billion of BIBs. The BIB proved relatively successful, with over US$1 billion subscribed. Initially banks were allowed to subscribe for up to US$15 million, but latter they were allowed to increase their subscription as the target of US$5 billion was not reached (the largest subscriber was for US$50 million). Of over 300 banks which signed the restructuring agreement, 108 subscribed to the BIBs. Some of these banks may have been potential free riders or are banks that expect to exit completely from Brazil, as is indicated by the fact that about 50 of the subscribers converted their entire portfolio. However, most of the bonds were purchased by banks trying to diversify their Brazilian exposure across different instruments. From Brazil's point of view, placing US$1 billion of BIBs will render annual savings of over US$30 million, which combined with the effects of a longer maturity will result in a reduction in the net present value of debt service of over US$200 million over 25 years (evaluated at discount rates of 10%-15%).
FIGURE 5

INVESTMENT BOND PRICE AS A FUNCTION OF MARKET YIELD

OTN PRICE AS A FUNCTION OF MARKET YIELD AND PARALLEL MARKET EXCHANGE RATE PREMIUM
REFERENCES


<table>
<thead>
<tr>
<th>Country</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARGENTINA</td>
<td>Carlos Bich, SRL Galeria Guemes Florida 165, 4to. Row-O. 435/445</td>
</tr>
<tr>
<td>AUSTRALIA, PALAU, NEW GUINEA, FIJI, SOLOMON ISLANDS</td>
<td>Vincennes and Western Samoa D.A. Books &amp; Journals 31-13 Station Street Melbourne 3132 Victoria</td>
</tr>
<tr>
<td>BAHRAIN</td>
<td>Bakers Research and Consultancy Amoun Ltd. P.O. Box 2703 Manama Town 312</td>
</tr>
<tr>
<td>BANGLADESH</td>
<td>None Industries Development Assistance Society (MIDAS) House 56, Road 7A Dhanmondi K’Area Dhaka 1209 Bangladesh</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>Publications des Nations Unites Aia du Bat 202 1040 Brussel Belgium</td>
</tr>
<tr>
<td>BRAZIL</td>
<td>Publicacoes Tecnico Internacionais Ltda. Rua Pinheiro Guimaraes 209 01490-000 Sao Paulo SP Brazil</td>
</tr>
<tr>
<td>CANADA</td>
<td>Le-Difalcar C.P. 61 135 Rue Ample Boisduval, Quebec J61 S2 Marie-Jose Canada</td>
</tr>
<tr>
<td>CHINA</td>
<td>China Financial &amp; Economic Publishing House 8, Da Fu St Dong Jie Beijing China</td>
</tr>
<tr>
<td>COLOMBIA</td>
<td>Banco Libra Apartado Aereo 34270 Bogota D.C. Colombia</td>
</tr>
<tr>
<td>COSTA RICA</td>
<td>Libreria Tipica Calle 11-13 4 Ave. Fernando Grass San Jose Costa Rica</td>
</tr>
<tr>
<td>COTE D’IVOIRE</td>
<td>Centre d’Editions de Diffusion Africaine (CEDIA) 04 BF 241 Abdoul Mamat Plateau Cote D’Ivoire</td>
</tr>
<tr>
<td>CYPRUS</td>
<td>MIMIS Information Services P.O. Box 2094 Nicosia Cyprus</td>
</tr>
<tr>
<td>DENMARK</td>
<td>Svenhjelt A/S 202 1040 Frederiksberg C Denmark</td>
</tr>
<tr>
<td>DOMINICAN REPUBLIC</td>
<td>Editores Taller de Publica &amp; A. Restauracion e Ibuel de Catalu 39 Avenida Postal 2120 Santo Domingo Dominican Republic</td>
</tr>
<tr>
<td>EGYPT, ARAB REPUBLIC OF</td>
<td>Al Ahram At Gula Street Cairo</td>
</tr>
<tr>
<td>EL SALVADOR</td>
<td>Armando Manuel Enrique Aracil #350 Suffolk-600 Las Delicias El Salvador</td>
</tr>
<tr>
<td>FRANCE</td>
<td>Akademische Kydgrup层次 P.O. Box 128 57-007 Helicon 10 France</td>
</tr>
<tr>
<td>GERMANY, FEDERAL REPUBLIC OF LINDEN-VERLAG</td>
<td>Pappschneider Allee 55 D-3000 Bonn 1 Germany</td>
</tr>
<tr>
<td>GREECE</td>
<td>Reme P.O. Box 120 13695 Athens 6 Greece</td>
</tr>
<tr>
<td>HUNGARY</td>
<td>Kultura P.O. Box 120 13695 Budapest 6 Hungary</td>
</tr>
<tr>
<td>INDIA</td>
<td>Allied Publishers Pvt Ltd. 751 Mill Road Madras 600 002 India</td>
</tr>
<tr>
<td>IRELAND</td>
<td>English office: 151-11, Hambra Mong Ballard Estate Bombay 400 002 Ireland</td>
</tr>
<tr>
<td>ITALY</td>
<td>13/14 Aalbi All Road New Delhi 110 002 Italy</td>
</tr>
<tr>
<td>JAPAN</td>
<td>17 Chitose Avenue Colombo 702 071 Japan</td>
</tr>
<tr>
<td>JORDAN</td>
<td>Jiyowaya Hotel Building 525 Main Road Castlemartier Bengurion 560 009 Jordan</td>
</tr>
<tr>
<td>KOREA</td>
<td>5-5-1139 Kichiganda Cross Road Hyogo 000 007 Korea</td>
</tr>
<tr>
<td>LEBANON</td>
<td>Partusians Ra. 2nd Floor Han Theodora Bang, Neuvoagora Ahmedabad - 300 000 Lebanon</td>
</tr>
<tr>
<td>MALAYSIA</td>
<td>Patung House Ra. 2nd Floor Han Theodora Bang, Neuvoagora Ahmedabad - 300 000 Malaysia</td>
</tr>
<tr>
<td>MEXICO</td>
<td>Guada P.O. Box 120 13695 Mexico D.F. Mexico</td>
</tr>
<tr>
<td>MOROCCO</td>
<td>Society of Banking Marketing Association 12 rue Menara, Bd. d’Afa Casablanca Morocco</td>
</tr>
<tr>
<td>NETHERLANDS</td>
<td>InCh-Publikationh.v. P.O. Box 14 7240 BA Leiden Netherlands</td>
</tr>
<tr>
<td>NEW ZEALAND</td>
<td>Hills Library and Information Service Private Bag, Newmarket Auckland New Zealand</td>
</tr>
<tr>
<td>NIGERIA</td>
<td>University Press Limited Three Crowns Building Jinho Private Mail Bag 1005 Dakar Ngaer</td>
</tr>
<tr>
<td>NORWAY</td>
<td>Norske Informasjonssentrer Bertrand Norskenas ver 2 P.O. Box 6422 Postbox N-0002 Oslo 6 Norway</td>
</tr>
<tr>
<td>OMAN</td>
<td>MIMIS Information Services P.O. Box 104, Seeb Airport Muscat Oman</td>
</tr>
<tr>
<td>PAKISTAN</td>
<td>Mirc Bank Agency 68, Shah-e-Qaid-d-e-Ajam P.O. Box 729 Lahore 3 Pakistan</td>
</tr>
<tr>
<td>PHILIPPINES</td>
<td>Editorial Desemtro SA Apartado 380 Lima Philippines</td>
</tr>
<tr>
<td>POLAND</td>
<td>National Bank Store 701 Real Avenue P.O. Box 1049 Milan 1000 Poland</td>
</tr>
<tr>
<td>PORTUGAL</td>
<td>Lisbon, Portugal Road Do Carmo 70-74 1200 Lisbon Portugal</td>
</tr>
<tr>
<td>PUERTO RICO</td>
<td>National Bank Store 701 Real Avenue P.O. Box 120 1200 Lisbon Puerto Rico</td>
</tr>
<tr>
<td>SAUDI ARABIA, QATAR</td>
<td>Jatti Bank Store P.O. Box 3094 Ryady 13414 Saudi Arabia, Qatar</td>
</tr>
<tr>
<td>SINGAPORE, TAIWAN, BURMA</td>
<td>National Bank Store 701 Real Avenue P.O. Box 1049 Milan 1000 Poland</td>
</tr>
<tr>
<td>SOUTH AFRICA</td>
<td>For single title Oxford University Press Southern Africa</td>
</tr>
<tr>
<td>SWITZERLAND</td>
<td>For single title Libreria Pepe 6 rue Genève Case postal 281 CH-1211 Geneva 11 Switzerland</td>
</tr>
<tr>
<td>THAILAND</td>
<td>Central Department Store 304 Silom Road Bangkok Thailand</td>
</tr>
<tr>
<td>TURKEY</td>
<td>Ravenci, A.S. Ismelet Cadde No. 66 Beypaşa Kadıkoy Turkey</td>
</tr>
<tr>
<td>TRINIDAD &amp; TOBAGO, ANTIGUA BARBUDA, BARBADOS, DOMINICA, GRENADA, GUAYANA, JAMAICA, MONTserrat, ST. KITTS &amp; NEVIS, ST. LUCIA, ST. VINCENT &amp; GRENADINES Systematic Inside Unit 51 Eastern Main Road Carpea, Trinidad, West Indies</td>
<td></td>
</tr>
<tr>
<td>UKRAINE</td>
<td>For subscription orders Libreria Pepe 6 rue Genève Case postal 281 CH-1211 Geneva 11 Switzerland</td>
</tr>
<tr>
<td>UNITED ARAB EMIRATES</td>
<td>MIMIS Gulf Co. P.O. Box 639 Sharjah United Arab Emirates</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>Interior Ltd. P.O. Box 7 Akas, Hampshire GU1 2PG United Kingdom</td>
</tr>
<tr>
<td>URUGUAY</td>
<td>Instituto Nacional del Libro San Juan 1114 Montevideo Uruguay</td>
</tr>
<tr>
<td>VENEZUELA</td>
<td>Libreria de las Antio. Aptto. 03335 Caracas 1000-A Venezuela</td>
</tr>
<tr>
<td>YUGOSLAVIA</td>
<td>Jugoslovenska Knjiga BZ-11400 Belgrade, Yugoslavia Yugoslavia</td>
</tr>
</tbody>
</table>
No. 31. Small Farmers in South Asia: Their Characteristics, Productivity, and Efficiency. Inderjit Singh

No. 32. Tenancy in South Asia. Inderjit Singh

No. 33. Land and Labor in South Asia. Inderjit Singh

No. 34. The World Bank’s Lending for Adjustment: An Interim Report. Peter Nicholas

No. 35. Global Trends in Real Exchange Rates. Adrian Wood

No. 36. Income Distribution and Economic Development in Malawi: Some Historical Perspectives. Frederic L. Pryor


No. 38. Quality Controls of Traded Commodities and Services in Developing Countries. Simon Rottenberg and Bruce Yandle

No. 39. Livestock Production in North Africa and the Middle East: Problems and Perspectives. John C. Glenn [Also available in French (39F)]

No. 40. Nongovernmental Organizations and Local Development. Michael M. Cernea

No. 41. Patterns of Development: 1950 to 1983. Moises Syrquin and Hollis Chenery

No. 42. Voluntary Debt-Reduction Operations: Bolivia, Mexico, and Beyond... Ruben Lamdany

No. 43. Fertility in Sub-Saharan Africa: Analysis and Explanation. Susan Cochrane and S.M. Farid

No. 44. Adjustment Programs and Social Welfare. Elaine Zuckerman

No. 45. Primary School Teachers’ Salaries in Sub-Saharan Africa. Manuel Zymelman and Joseph DeStefano

No. 46. Education and Its Relation to Economic Growth, Poverty, and Income Distribution: Past Evidence and Further Analysis. Jandhyala B.G. Tilak


No. 48. Contract Plans and Public Enterprise Performance. John Nellis [Also available in French (48F)]

No. 49. Improving Nutrition in India: Policies and Programs and Their Impact. K. Subbarao

No. 50. Lessons of Financial Liberalization in Asia: A Comparative Study. Yoon-Je Cho and Deena Khatkhate


No. 52. The Market-Based Menu Approach in Action: The 1988 Brazil Financing Package. Ruben Lamdany

No. 53. Pathways to Change: Improving the Quality of Education in Developing Countries. Adriaan Verspoor

No. 54. Educating Managers for Business and Government. Samuel Paul, Jacob Levitsky, and John C. Ickis


No. 57. The Management of Common Property Natural Resources. Daniel W. Bromley and Michael M. Cernea