Debt Reduction and Market Reentry under the Brady Plan

by John Clark

In March 1989, U.S. Treasury Secretary Brady proposed a new approach to resolving the developing country debt problem and restoring the creditworthiness of restructuring countries. From the outbreak of the debt crisis in mid-1982, financial packages for restructuring countries had emphasized new lending to give countries time to grow out of their debt-servicing difficulties. However, seven years later, few countries appeared close to returning to normal debt servicing and financing was becoming progressively harder to arrange. Drawing on banks' and countries' widening experience with agreements to convert and reduce debt, Secretary Brady urged a shift in emphasis toward permanent relief through market-based debt and debt service reduction for countries adopting strong economic reform programs. This article examines the impact of this new approach on participating countries and their creditors.[1]

The agreements that followed the new approach provided for long-term net cash flows broadly comparable to the net flows previously achieved on a temporary basis through new money packages. Thus, countries were encouraged to embark on reform efforts by a new confidence that needed financial support would be available over time. Moreover, by marshaling this support through market-based debt reduction, the new approach contained the growth in debt and fostered cooperation between debtors and creditors. Nonetheless, the immediate benefits to countries should not be exaggerated. The need to continue reform efforts was underscored by countries' ongoing debt burdens, which remained heavy notwithstanding the reductions in claims, and the persistence of deep discounts on the countries' external obligations immediately after the restructurings. Indeed, for countries that in recent years had unilaterally curtailed interest payments, such as Argentina and Brazil, restoring normal relations with creditors through Brady restructurings required significant increases in debt service payments.

The ultimate results of the change in approach have been impressive. In particular, several countries that mounted sustained reform efforts and reduced their debts have benefited from growing market access on improving terms. Although stronger economic performance by debtors has undoubtedly been the key to reopening market access, the Brady operations catalyzed and accelerated this process. Because the Brady agreements provided cash flow relief over a longer time horizon than conventional restructuring packages and insulated countries from possible future interest rate increases, the operations improved prospects for breaking the cycle of continual renegotiation that impeded capital flows under the previous approach. In the event, lower global interest rates have made the Brady operations more effective by giving countries additional cash flow relief and encouraging investors seeking alternatives to low-yielding industrial country investments to reevaluate restructuring countries' payment prospects.

The change in approach has also contributed to the recovery in the secondary market value of creditor claims,

[1] The analysis focuses on the experiences of eight middle-income countries—Argentina, Brazil, Costa Rica, Mexico, Nigeria, the Philippines, Uruguay, and Venezuela—that had obtained agreement to reduce their bank debts by end-1992. Some comparisons are also made to Chile, which significantly reduced its debt through market-based debt conversions. Bank claims have been substantially reduced in several other cases, but the affected claims accounted for a small portion of these countries' total indebtedness. For example, since 1988 five low-income countries—Bolivia, Guyana, Mozambique, Niger, and Uganda—have completed buybacks of their debts at steep discounts These latter operations were largely financed out of grants and concessional loans from official creditors

enhanced the claims' liquidity, and helped create expanded income opportunities in the secondary market trading of restructured bank claims and the underwriting of securities flows to restructuring countries. From mid-1988 until February 1989, as the market's confidence in the existing new money approach waned, the price of claims in what remained a fairly thin secondary market declined sharply. In fact, the amount of debt reduced in relation to cash outlays in the early Brady deals was broadly consistent with what could have been achieved through a cash purchase at these lower market prices. The subsequent substantial appreciation of prices, which came with a lag, reflected the market's reassessment of the reinforced strategy's overall prospects for success in an environment of improved macroeconomic performance by several countries as well as lower global interest rates.

The Brady Plan and the evolving debt strategy

While reaffirming the basic tenets of the existing debt strategy—a case-by-case approach stressing reform by debtor countries and financial support from private and official creditors—the Brady Plan introduced important innovations. Tactically, the new approach emphasized using financial incentives such as collateralized partial guarantees to encourage banks to provide financial relief. At the strategic level, the new initiative completed an evolution toward longer term horizons in bank debt restructuring packages by emphasizing permanent relief through principal write-downs and interest reductions.

The pre-Brady new money approach

When the debt crisis erupted, the international community—debtors, creditors, governments, central banks, and international financial institutions—moved swiftly to avert a systemic disruption of international trade and finance.[2] The strategy emphasized cooperation among debtors and creditors and timely financing to allow countries to reorient their economies while remaining current on interest payments. Banks rescheduled amortization payments falling due and in arrears, maintained short-term credit lines, and in effect partially refinanced interest obligations by extending new loans. Multilateral creditors—initially the International Monetary Fund (IMF) and later the World Bank—increased their lending. Countries tightened their belts by cutting public investment and noninterest current expenditures and by devaluing their currencies and slashing imports.[3]

As restoring creditworthiness proved a time-consuming process, the strategy adopted a progressively longer horizon. Debt packages became more comprehensive, often restructuring the entire stock of medium-term bank debt rather than just the obligations falling due in a one- to two-year period. Repayment periods lengthened from around eight years out to as much as twenty years, and interest rate spreads narrowed to 13/16 of a percent over bank funding costs.[4] On the policy side, the emphasis broadened under the "Baker Plan" to include structural reforms, such as trade liberalization and tax reform, that were designed to enhance countries' longer term growth prospects.[5] To support faster growth, the Baker initiative also called for increased official and commercial bank lending.

By 1989, this basic case-by-case approach had achieved some measure of success. It had afforded banks the time to increase their capital, thereby containing systemic threats to the international financial system.[6] In addition, after peaking at mid-decade, most restructuring countries' debt and debt service indicators had begun to decline (Chart 1).

Nonetheless, important strains had emerged, leading to deepening fatigue and frustration for both debtors and creditors. The net cash drain on debtors remained burdensome and the goal of countries' servicing their obligations without further extraordinary financing arrangements remained distant. While principal deferrals were longer, relief from interest payments continued to be of short duration because new loans covered a fraction of the interest falling due only during a two-year period. Debtor economies had grown disappointingly slowly and in many cases policy reform had not been adequate. Rates of capital formation had failed to recover from their sharp declines at the onset of the crisis, and domestic investors continued to express their lack of confidence by hoarding financial

[2] Worries about the international financial system grew out of the risks to the international banking system posed by the high exposure to developing country debt For example, at the end of 1982, exposure to restructuring developing-country borrowers equaled 215 percent of the capital and 260 percent of the equity of the U.S. money center banks. Many of the large regional banks also were heavily exposed, as were leading banks of other industrial countries For example, at the end of 1984 the less developed country exposures of the major banks of the United Kingdom and Canada were about 275 percent and 195 percent of equity, respectively, see David Mengle, "Update: Banks and LDC Debt," Morgan Guarantee Trust Co , Economic Research Note, May 1992

[3] Nonetheless, as a result of transfers of external debt obligations from the private to the public sector and the public sector's greater reliance on more expensive internal financing following the cutoff of international bank lending, overall deficits declined by less than the improvements in the noninterest balances of the central governments. For a review of fiscal adjustment by several major debtors, see William Easterly, "Fiscal Adjustment and Deficit Financing during the Debt Crisis," in Ishrat Husain and Ishac Diwan, eds , *Dealing with the Debt Crisis* (Washington D C . World Bank, 1989).

[4] Reschedulings at the onset of the debt crisis typically entailed spreads over LIBOR ranging between 1⅞ and 2¼ percent

[5] This adaptation of the official strategy, emphasizing growth-oriented reform and new lending, was adopted along lines suggested by United States Treasury Secretary Baker during presentations at the October 1985 annual meetings of the World Bank and IMF, and hence was named the "Baker Plan."

[6] By end-1988, U.S money center banks' exposure to restructuring countries in relation to capital had been cut by more than half, to about 95 percent

assets abroad. The growing liabilities of international banks to depositors from restructuring countries partly indicate the extent of this capital flight (Chart 2).

At the same time, on the financing side, new money packages became increasingly difficult to arrange The new money approach relied on banks to act in their collective interest even though, individually, banks might have preferred to "free ride"—that is, to benefit from the financial packages by receiving interest payments without providing new money. The approach was successful so long as the contradiction between collective and individual interests was not too severe. However, as the market's confidence in the prevailing strategy tumbled—as revealed by secondary market discounts that widened from one-third at end-1986 to an average of two-thirds by early 1989—disbursing cash in return for uncertain loan claims appeared ever more unattractive.[7] The slide in secondary market prices in part reflected countries' uneven economic performances and the souring of the general atmosphere that followed some countries' impositions of unilateral payments moratoria Moreover, the strengthening of bank balance sheets, including increased loan-loss provisioning by the major banks, reduced the adverse consequences of temporary payment interruptions and allowed banks to take a harder line in negotiations [8] This tension between stronger countervailing individual interests and weakened perceptions of collective interest produced a growing number of free riders and increasingly constrained the feasible financing that could be raised through new money

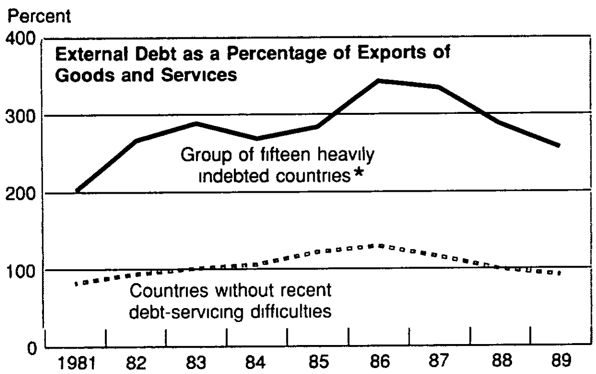
While ever more banks resisted new lending, at least some banks were willing to sell their claims. By 1987 most major debtors had instituted conversion schemes under which foreign debt could be exchanged for local currency to make direct or portfolio investments Some banks directly transformed their loan claims into equity stakes in local businesses, others sold their claims at a discount for cash to foreign or local investors who in turn undertook the conversion Debt retirements under ongoing official debt conversion schemes rose from a total of $3.7 billion in 1984-86

[7] This concept of cost, based on the difference between the amount of new money disbursed and the expected future receipts associated with the new claim, did not necessarily accord with the "accounting cost" of providing new money The regulatory authorities of some creditor countries required banks to establish reserves against their new money loans Even where such provisioning requirements did not exist, however, new money could be perceived as lowering shareholder wealth if free riding presented a viable alternative

[8] When exposure was high in relation to banks' capital, banks had stronger incentives to cooperate with the debtor to prevent the loan from lapsing into nonperforming status Analyses of the rationale for and drawbacks of the new money process can be found in William Cline, *International Debt and the Stability of the World Economy* (Washington, D C Institute for International Economics, 1983), and Paul Krugman, "Private Capital Flows to Problem Debtors," in Jeffrey Sachs, ed , *Developing Country Debt and Economic Performance* (Chicago University of Chicago Press, 1989)

Chart 1

Evolution of the External Debt Burden of Selected Developing Countries, 1981-89

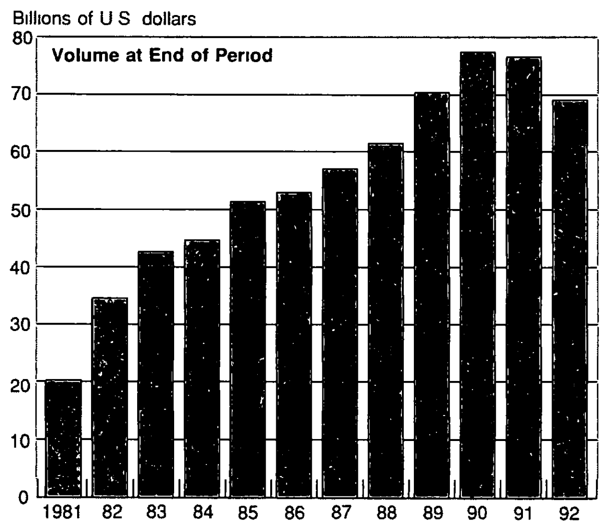


Source International Monetary Fund, *World Economic Outlook*

* Argentina, Brazil, Bolivia, Chile, Colombia, Cote d'Ivoire, Ecuador, Mexico, Morocco, Nigeria, Peru, the Philippines, Uruguay, Venezuela, and Yugoslavia

Chart 2

Cross-Border Liabilities of International Banks to Nonbank Depositors from Selected Restructuring Countries



Source International Monetary Fund, *International Financial Statistics*

Note The selected restructuring countries are Argentina, Brazil, Chile, Mexico, and Venezuela to $4.7 billion in 1987 and $8.8 billion in 1988.[9] In one important transaction in 1988, Mexico used its reserves to finance a debt-for-debt exchange in which $3.7 billion of bank loans were swapped for $2.6 billion of partially collateralized twenty-year bonds.[10] In addition, large amounts of cross-border debt were extinguished through unofficial conversions, particularly in Mexico and Brazil.[11] These latter transactions usually involved direct negotiations between corporations and their foreign bank creditors. Nonetheless, despite the demonstrated increased willingness of banks to sell, debtor countries became increasingly disenchanted.[12] The burden of essentially prepaying external debt at a discount proved difficult for fiscal and monetary authorities to manage. Concerns about possible adverse inflationary or balance-of-payments impacts led many countries to suspend or curtail their official programs by early 1989.

The Brady Plan

The need for a new, more comprehensive, and longer lasting approach was widely appreciated.[13] Against this background, Secretary Brady proposed a shift in emphasis toward permanent relief through market-based debt and debt service reduction. Instead of providing new money, banks would voluntarily reduce their claims on the debtor countries in return for credit enhancements on their remaining exposure, such as collateral accounts to guarantee the principal and/or interest in a bond exchange, or cash payments in the context of buybacks.

To support countries' economic reform programs and help debtors make the required up-front cash outlays for the debt operations, official creditors would provide financial assistance. Under the strategy, reforming countries would continue to benefit from loans from the IMF and World Bank, reschedulings from Paris Club creditors, and loans and loan guarantees from government agencies. However, a portion of the loans from the Fund and Bank would be set aside specifically to finance operations involving debt reduction. Additional Fund and Bank financing could also be made available to fund interest guarantees.[14] To receive such support, countries would need to adopt strong policies to ensure that they would be able to service their reduced debt burdens. Measures to promote domestic savings and the repatriation of flight capital, such as removing interest rate controls, received particular emphasis. In addition, countries would be encouraged to maintain ongoing debt conversion schemes to provide additional relief.

By offering individual banks direct financial incentives, such as collateralized guarantees, to provide the targeted levels of financial relief, the new approach addressed the contradiction between individual and collective interests that had increasingly troubled its predecessor. Whereas high discounts and increased capital levels had worked against the new money strategy, they actually supported the new approach. High discounts allowed limited amounts of public moneys to "buy" a higher targeted level of cash flow relief, while strengthened capital and reserves allowed banks to take the hit on their balance sheets.

The new plan in action: the menu approach

In implementing the Brady approach, countries and bank steering committees negotiated comprehensive packages that offered "menus" of debt and debt service reduction options. These menus, which differed in their details from case to case, gave banks a range of choices that varied from as few as two to as many as six.

From the debtors' perspective, these packages were equivalent in impact to a combination of a partial debt buyback at market prices and a restructuring of the remainder.[15] The restructurings usually securitized the claims—that is, converted the form of the claims from loans to

[9] Charles Collyns and others, *Private Market Financing for Developing Countries* (Washington D.C.. International Monetary Fund, December 1992)

[10] In some other notable experiments in 1988, Venezuela's bank creditors disbursed $100 million in cash and swapped $400 million of loans for $500 million of new securities, and banks exchanged $1.1 billion of loans for an equivalent amount of uncollateralized "exit" bonds carrying a 6 percent fixed interest rate as part of the financial package for Brazil Most of the experiments of 1987-88 were less successful than countries had hoped. However, the lessons of these experiments were later applied to the Brady restructurings.

[11] Eli Remolona and Paul DiLeo estimate that $11.4 billion of Brazilian and Mexican debts were canceled through informal conversions in 1987-88 ("Voluntary Conversions of LDC Debt," in Kate Phylaktis and Mahmood Pradhan, eds., *International Finance and the Less Developed Countries* [London: MacMillan, 1989], p 75)

[12] Major U S banks initially remained on the sidelines. However, following the increases in reserves against developing country debt by money center banks in 1987, several U.S. money center banks became more active. For example, Citibank reported in 1989 that it had reduced cross-border exposure to developing countries by some $2.4 billion at an average discount of about one-third Regulatory changes that allowed U.S banks to take larger equity shares in companies as a result of debt conversions also facilitated greater participation See Mark Allen and others, *International Capital Markets: Developments and Prospects* (Washington D.C. International Monetary Fund, April 1989)

[13] By the eve of Secretary Brady's speech, many prominent individuals and politicians had made public proposals for new approaches involving elements of debt reduction Included in this group were French President Mitterand and Japanese Finance Minister Miyazawa Moreover, in 1988 the U S. Congress had directed the Treasury to study the feasibility of creating an international debt management authority to purchase the bank debts of developing countries in the secondary market and to pass the discount along to the debtors

[14] The distinctions between the uses of "set-asides" and "additional financing" were relaxed in January 1994

[15] The first debt package for the Philippines, completed in 1990 and involving a buyback and new money, differed from other Brady packages in that it deferred the handling of the remaining exposure to a subsequent operation The second stage was completed three years later

bonds—and lengthened the repayment periods, sometimes to as much as thirty years. Much of the remaining exposure (about half in total) was converted from floating to fixed rate obligations.

For the banks, the Brady operations offered complex ranges of options designed to accommodate banks' diverse needs and expectations (Chart 3).[16] At one extreme, some menus included buyback options—that is, outright sales of bank claims at a discount for cash—that enabled well-provisioned, pessimistic, or risk-averse banks to exit completely. At the other extreme, new money/debt conversion options permitted banks to exempt their existing exposure from debt and debt service reduction and usually to convert the exposure into a security, provided that they disbursed fresh money. Such financing in turn helped countries replenish reserves used to finance the up-front costs of debt reduction options chosen by other banks. Although the disbursement of new money for risky bonds was costly, some optimistic banks were attracted to the possibility of capital gains on their base exposure. Such gains might be anticipated because of securitization or because the debt reduction agreed to by others decreased competing claims. Banks valued securitization because it imparted greater liquidity to their claims. In addition, since securitized claims would be more widely held, a future restructuring would be more difficult to organize and hence less likely.[17]

Discount and par exchanges, which combined elements of both a buyback and a restructuring, proved the most popular options (Chart 3). Creditors swapped existing loans for new bonds with a lower principal amount (discount exchange) or with the same principal but submarket, fixed interest rates (par exchange). Instead of receiving cash as in a buyback, creditors benefited from the attachment of irrevocable collateral accounts to the securities. Most commonly, the principal would be fully secured by zero coupon U.S. Treasury bonds, and the next twelve to eighteen months of interest payments would be backed by escrowed high-grade short-term securities.[18] If the country remained current on interest, the interest guarantee would roll forward, covering the next twelve- to eighteen-month period, but usually the interest earnings from the escrow account would return to the debtor.[19] Altogether, par and discount exchanges reduced banks' economic exposure by the present value of the outright interest or principal reduction plus the present value of any principal or interest guarantees.

For the debtor, the collateral accounts also effectively reduced the burden of the debt because expected rebates of interest and later principal from the accounts would eventually cover the cost of funding the collateral accounts.[20] By contrast, in the case of a simple buyback, there would be no prospect of future rebates; a country's debt would merely decline by the amount of debt purchased and increase by the borrowings to finance the operation.

Par and discount exchanges generally entailed lower cash outlays in relation to exposure reduction than did buybacks or secondary market sales.[21] Many banks were nonetheless attracted to bond exchanges rather than outright sales because of the upside potential on the remaining exposure—again owing to securitization and the reduction in claims. Relative to new money/debt conversion options, bond exchanges held the additional attraction for banks of concentrating remaining unsecured exposure into interest claims, which were less commonly rescheduled than amortization obligations. Against this, par and discount exchanges required a longer maturity for the remaining exposure than debt conversion options and usually involved registered rather than bearer securities.

[16] The range of options has varied across packages from just two for Argentina (par and/or discount exchanges) and Costa Rica (buyback and/or par exchange) to as many as six (Brazil) All packages have included at least one bond exchange option Buybacks were included in all packages except those for Argentina, Brazil, and Mexico New money options were omitted in the Argentina, Costa Rica, Dominican Republic, and Jordan agreements. More information on the structure of individual agreements and bank choices may be found in World Bank, *World Debt Tables*, various issues, and Collyns and others, *Private Market Financing for Developing Countries*, 1992 and 1993

[17] Against this view, it could be argued that the difficulty of rescheduling widely held bonds would make debtors' future cash flow problems more difficult to resolve and would increase the likelihood of default should difficulties arise Some advocates for securitization pointed to restructuring countries' record of regularly servicing their bonds throughout the 1980s as evidence that the new securities would be serviced better than the previous loans. However, this argument ignores the likelihood that the privileged servicing record of bonds has owed more to their small share of total debt than to their actual form

[18] The amounts deposited in the interest guarantee accounts varied from 7 to 13 percent of the expected present value of the interest streams on the bonds, depending on the number of months covered and the interest rates involved

[19] Temporary interest reduction bonds differed in that the interest would cumulate in the interest collateral account When the temporary interest reduction expired after about six years, the collateral and accrued interest would be returned to the debtor

[20] Usually with collateralized guarantees, as the country serviced its debt it would receive rebates of interest earned by the interest collateral account, at maturity the country would also receive the principal and accrued interest in the principal collateral account and the collateral deposited in the interest account. The rebates of course would be expected to equal in present value the money originally borrowed or drawn from reserves and deposited in the accounts. Hence, the *gross* debt reduction achieved through, say, a discount exchange would typically be equal to the discount times the exchanged debt plus the present value of the expected rebates, while the *net* debt reduction (which takes into account financing costs) would be equal to just the discount For a further discussion of guarantee structures and the concepts of gross and net debt reduction, see John Clark, "Evaluation of Debt Exchanges," IMF Working Paper 90/9, 1990

[21] As shown in Collyns and others, *Private Market Financing for Developing Countries*, pp 12-13, the ratio of collateral costs to exposure reduction was generally slightly lower for par and discount exchanges than prevailing secondary market prices In contrast, buybacks took place at the prevailing price

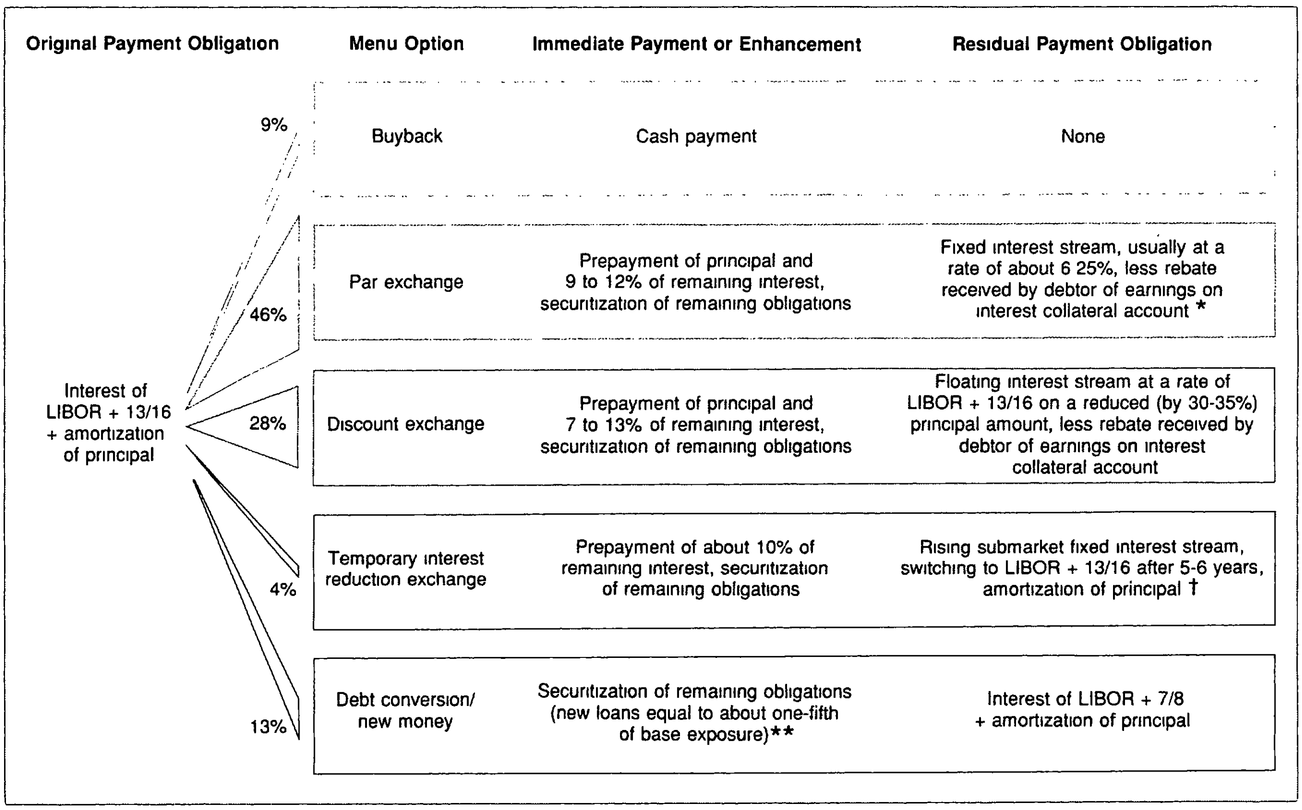
Uniformity and diversity in terms

Brady packages have shown tendencies toward both uniformity in the design of some aspects of individual options and a tailoring to countries' individual needs On the one hand, the discount and par exchanges, the primary debt reduction vehicles for the packages of the four largest debtors, generally kept the extent of principal or interest rate reductions at about one-third because banks were unwilling to grant terms more favorable than those accorded Mexico.[22] The lone exception was the discount exchange for Bulgaria agreed upon in principle in November 1993; the agreed terms in this case specified a discount of one half. On the other hand, through differing degrees of

[22] The par exchange for Mexico, whose terms were agreed to in July 1989 while LIBOR stood at 8 81 percent and thirty-year Treasury bonds were yielding 8 14 percent, specified a fixed interest rate of 6 25 percent Reflecting subsequent movements in the yield curve, some later agreements have specified initial coupon rates as low as 4 percent, which gradually rise to levels similar to those negotiated with Mexico

Chart 3

Principal Restructuring Options in a Brady Menu



Source Federal Reserve Bank of New York staff estimates

Notes Most menus did not include the full range of options Several packages provided for the refinancing of outstanding overdue interest at market rates following an initial cash down payment Percentages show proportion of aggregate principal allocated to each menu option for agreements concluded by mid-1993 Countries also achieved debt relief through debt conversions These conversions took place before and after the Brady operations but were not part of the menu in a Brady exchange

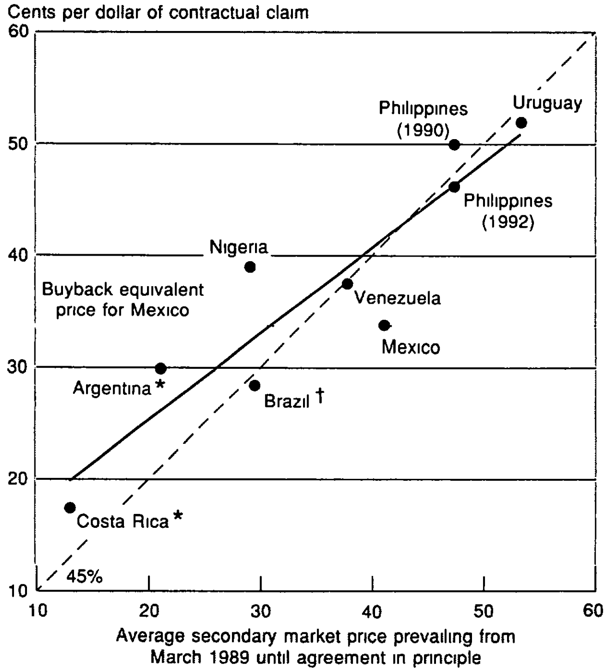
* Initial interest rates were sometimes lower (for example, 4 percent for Argentina), reflecting the shape of the yield curve at the time of agreement in principle

† Rates reflected term structure at the time of agreement in principle.

** The Mexican new money option did not entail securitization of the base The Brazilian agreement provides for an interest capitalization option in addition to a debt conversion/new money option

Chart 4

Buybuack Equivalent Prices of Brady Packages



Sources Salomon Brothers and Federal Reserve Bank of New York staff estimates

Notes The buyback equivalent price is the price at which the same amount of cash could have purchased an equivalent amount of debt reduction through a buyback. It is calculated as the ratio of the actual cost of the package to the amount of gross debt reduction achieved. The gross debt reduction comprises the outright principal reduction through buybacks and discount exchanges, the present value of interest reduction on par exchanges, and effective prepayments of principal and interest through collateral accounts

The solid line plots the results of a cross-sectional regression of the buyback equivalent prices (BEP) on the price of the Mexican agreement (Mexican BEP) and the secondary market price for each country's debt during the period of negotiations (Avg Price) T-statistics are shown in parentheses

$$\underset{(6\ 06)}{\text{BEP}= 0\ 77\ (\text{Avg Price})} + \underset{(2\ 07)}{0\ 29\ (\text{Mexican BEP})} + u \qquad R^2 = 0\ 78$$

This regression suggests that the price of a Brady deal can be expected to reflect a weighted average of the secondary market price prevailing during negotiations (3/4 weight) and the price established for Mexico (1/4 weight)

* The buyback equivalent prices for Argentina and Costa Rica do not reflect down payments made at closing against interest arrears. Inclusion of these costs would raise the Argentina price by around 5 cents and the Costa Rica price by about 2 cents

† The estimated price for Brazil reflects bank choices among options and interest rates prevailing in July 1992, when the terms of the package were agreed upon in principle The actual cost of the package may be higher because long-term interest rates have subsequently declined, raising the cost of thirty-year zero coupon bonds

collateralization, effective pricing varied in a manner correlated with the differing secondary market discounts prevailing before the deals (Chart 4). For example, Argentina and Brazil collateralized only twelve months of interest while Mexico collateralized eighteen, likewise, Costa Rica did not guarantee the principal on its par bonds. In addition, the range of options included varied from package to package, reflecting the circumstances of particular cases. In particular, smaller debtors were able to achieve higher percentage reductions in claims payable to banks by securing a greater role for buybacks.[23]

In many cases, countries were slow to implement and sustain policy changes that would provide the basis for needed official financial support In addition, the richer menu of options made negotiations more complex, particularly when precedents did not yet exist or countries tried to vary from the precedents. In cases where significant interest arrears had accumulated, agreement on the level of payments to banks ahead of completion of the debt package often presented a key hurdle Moreover, reconciling overdue interest claims proved arduous. As a result of these factors, implementing the new strategy has been time consuming. Still, progress has been steady and comprehensive packages have been completed for eight countries: Mexico, Costa Rica, and Venezuela in 1990; Uruguay in 1991; Nigeria and the Philippines in 1992; Argentina in April 1993; and Jordan in December 1993. Also in 1993 banks formally committed to participate in the package for Brazil and agreements in principle were reached for the Dominican Republic and Bulgaria. Altogether, the first ten of these middle-income countries account for about four-fifths of all bank claims on countries that had encountered debt-servicing difficulties at the start of the last decade. Discussions are in progress in a number of other cases, including Poland, Peru, Ecuador, and Panama [24]

Advantages and disadvantages of the menu approach

The menu approach encouraged nearly universal participation and helped countries maximize the debt reduction achieved with a given amount of collateral resources by allowing banks to choose options that best fit their particular tax, regulatory, and accounting situations, as well as

[23] Countries could encourage more banks to choose the buyback by offering a relatively attractive price Costa Rica's Brady agreement was contingent on banks' offering at least 60 percent of their aggregate exposure to the buyback option To encourage individual banks to tender at least 60 percent of their claims to the buyback option, Costa Rica offered more attractive terms, in the form of guarantees and shorter maturities, on the remaining exposure of banks that met that threshold

[24] Not all countries with recent bank debt-servicing difficulties have sought Brady-type restructurings Among the countries targeted for special attention under the Baker initiative, Chile has achieved a more manageable debt profile through debt conversions that canceled much of the country's medium-term debt, while Colombia and Morocco have refinanced principal without reducing debt

their views on interest rates and the countries' prospects. Nonetheless, for countries, the approach introduced uncertainty as to the overall cost and impact of the packages For example, if banks allocated too much exposure to the debt reduction options, the cost might exceed available financing, whereas if banks opted excessively for new money, the country might not achieve its debt reduction objectives In this context, par and discount exchanges were often attractive to countries because they embodied in one option an outcome close to the overall desired mix, and thereby reduced uncertainty surrounding the overall impact of the package.

In addition to the above uncertainties, allowing banks to choose among options proved costly to countries when the external environment changed between the time of agreement on a menu and the actual selection of options This complication reflected the convention, still observed, of fixing the interest rates and guarantees at the time of agreement in principle rather than indexing them to movements in market rates before the completion of the deal As a result, movements in rates could shift the overall pricing and also favor some options over others This problem did not arise with the early bank packages but emerged as an important issue for Argentina and Brazil, which saw a fall in long-term interest rates following agreement in principle with banks on a restructuring menu These declines, to the extent they were unhedged, increased the cost of the Treasury zero coupon bonds used to secure the Brady bonds' principal, raising collateral costs for both the par and discount bonds. The cost increase was more pronounced for the par bonds because they had a larger principal amount to be secured In addition, when the gap narrowed between market rates and the agreed fixed rates for the par bonds, banks strongly preferred the par option, which became more costly for the debtors In both cases the countries sought a "rebalancing" or reallocation of choices away from the unexpectedly less concessional par exchange

Financing

The debt operations entailed large up-front cash outlays for buybacks, collateral purchases for the bond exchanges, and in some cases down payments on arrears Official sources provided the bulk of the financing of these costs for the seven operations that have been completed [25] In particular, three-fifths of the overall financing came from official sources, although in every case the debtor also made a significant contribution (Table 1) However, for Mexico, the Philippines, and Venezuela, new money committed by banks effectively covered a substantial portion of the debtors' share of the financing burden Interpretation of the financing of the Argentine package is more complex Although Argentina did not receive new money, banks refinanced accumulated interest arrears. Hence, to a large extent the resources that Argentina is expected to contribute are the counterpart of earlier unpaid interest To date, only the financing for Nigeria's debt operation breaks with the prevailing pattern Nigeria received neither new money nor direct official financial support.[26]

Debt conversions

As noted above, the revised official strategy encouraged the maintenance of debt conversion schemes [27] In negotiating their debt packages, most countries agreed to maintain or reestablish debt conversion schemes and to carry out an agreed minimum level of conversions In contrast with the Brady packages, which were concerted operations that dealt with all the debt at one go on preset terms, these conversions were usually smaller scale, ongoing operations that involved auction mechanisms Overall, the pace of conversions did accelerate after 1989, with some $28 billion in claims converted under official schemes from 1989 through 1992 For most countries, however, these debt conversions played a smaller, complementary role to the Brady packages in reducing countries' debt

[25] Most of the operations involving middle-income countries were directly or indirectly financed with loans or reserves, grants have more commonly been used to finance operations for low-income countries

[26] Under the Nigeria agreement, since all debt service arrears were to be eliminated before the closing, no effective financing was achieved through arrears

[27] The IMF and World Bank guidelines on support for debt and debt service reduction explicitly endorsed the existence of debt equity swap programs as a useful step in encouraging investment Banks pressed strongly for debt conversion schemes, reflecting beliefs that such programs enhanced the value and liquidity of their claims

Table 1

Financing for Debt Reduction Packages

Billions of Dollars

	Total Cost of Operation	Sources of Funding: Official Support†	Sources of Funding: Own Reserves	Memorandum New Money from Commercial Banks
Mexico	7 12	5 33	1 79	1 09
Costa Rica‡	0 22	0 18	0 04	—
Venezuela	2 38	1.46	0 92	1 20
Uruguay	0 46	0 06	0 40	0 09
Nigeria	1 70	0 00	1 70	—
Philippines	1 80	0 88	0 92	0 85
Argentina‡	3 64	2 53	1 12	—
Total	**17.32**	**10.44**	**6.89**	**3.23**
(as a percentage of total cost)	**(100.0)**	**(60.3)**	**(39.8)**	**(18.7)**

†Includes disbursements of parallel financing from Japan Eximbank Although not directly tied to debt reduction, this financing supported the programs of several countries that completed debt packages

‡Includes down payments made at closing against interest arrears

service burdens (Table 2).

The principal exceptions to this rule have been Chile and Argentina, which account for about three-fifths of the debt converted under official schemes since 1989. For Chile, debt-equity conversions constituted the primary means of reducing debt owed to banks, although some debt was reduced through buybacks in 1988 and 1989. For Argentina, debt conversions ahead of its Brady operation were an integral part of the country's overall debt reduction strategy. From 1990 onward these conversions consisted entirely of exchanges of debt for equity in privatized firms. The reduction in bank claims through such operations exceeded that achieved through the debt package and more than offset the $8 billion accumulation of bank debt from 1988-92 stemming from interest arrears.

Impact on countries' debt and debt service burdens

The Brady operations gave countries a leg up in their efforts to surmount their debt-servicing difficulties. Essentially the operations provided permanent cash flow relief on a scale comparable to the temporary relief previously achieved through new money packages. Nonetheless, significant debt service obligations remained, to other creditors as well as to banks, so that debtors had to continue to pursue sound economic policies to service the remaining debt and maintain growth.

Reduction in debt service obligations

The seven Brady Plan operations completed to date are expected to cancel debt service obligations with an expected present value of roughly $50 billion, or about one-third of the eligible bank debt (Table 2). The expected percentage reductions in the present value of gross claims payable to banks have differed across cases, from a low of about three-tenths for Venezuela and Argentina to about four-fifths for Costa Rica and Nigeria.[28] With the completion of the Brazil package, the present value of obligations canceled is expected to rise to about $65 billion.

Comparison of changes in debt stock and debt service obligations

The stock of debt to banks, however, will decrease by a much smaller amount. Roughly three-fifths of the gross reduction in debt service burdens is expected through interest rate reductions on par exchanges and effective prepay-

[28] The gross reduction in claims payable to banks might alternatively be called the gross reduction in bank exposure. It measures the partial effect of those features of the packages that reduce debt and debt service; it does not include the increases in debt to banks through new money. It is the sum of the reduction in principal through discount exchanges and buybacks, the present value of debt service reduction on the reduced interest par bonds, and the prepayment of principal and interest through collateral accounts. The present value of the interest reduction is an ex ante calculation based on the long-term interest rates prevailing when agreement in principle was reached.

Table 2

Debt Reduction through Concerted Bank Packages

	Gross Reduction in Claims Payable to Banks†		Net Debt Reduction‡ as a Percentage of			Memorandum: Debt Retired under Official Debt Conversion Schemes§ (Billions of Dollars)	
	Billions of Dollars	Percent of Eligible Bank Debt¶	GDP (1991)	Exports (1991)	Total External Debt (1989)	1984-92	1989-92
Mexico	21.1	43.5	5.1	30.8	14.6	7.3	3.1
Costa Rica	1.2	75.0	13.5	43.0	25.2	0.3	0.2
Venezuela	6.4	32.1	7.5	21.6	12.2	1.7	1.6
Uruguay	0.9	55.3	4.7	18.1	10.3	0.2	0.1
Nigeria	4.3	79.6	8.2	19.4	8.1	0.8	0.8
Philippines	3.7	57.8	4.2	13.0	6.8	3.2	2.6
Argentina	10.5	36.7	5.3	46.3	10.5	12.9	11.3
Brazil††	16.0	27.1	2.8	32.1	10.1	5.2	1.3
Chile	N.A.	N.A.	N.A.	N.A.	N.A.	11.4	5.2
Total/(average)‡‡	**64.0**	**(38.2)**	**(4.8)**	**(30.6)**	**(11.8)**	**43.0**	**26.1**

Sources: International Monetary Fund, World Bank, Federal Reserve Bank of New York staff estimates.

†Principal reduction through discount exchanges and buybacks, present value of reduction in interest rates on interest reduction bonds, and prepayments of principal and interest through collateral accounts.
‡Gross reduction in claims payable to banks less the cost of financing the operation.
§Includes the 1988 Mexican collateralized bond exchange but excludes estimates of unofficial debt conversions.
¶As a percentage of public sector medium-term bank debt, including interest arrears, at the time of the operation.
††Author's estimate, based on banks' latest allocation among eligible options.
‡‡Averages are weighted by shares in total bank debt as of end-1986.

ments of principal and interest through collateral accounts, that is, operations that reduce the present value of debt service but not the stock of debt (Chart 5) The impact on total debt stocks is even smaller than the direct reduction in bank debt because of new borrowing to finance the operations [29] For example, because they involve loans to finance the collateral accounts, par exchanges actually increase the stock of debt even though they fix interest rates below prevailing market rates

Cash flow impacts

Although the Brady operations canceled a significant amount of claims, they did not necessarily directly provide countries with more cash to finance growth and investment than did the previous approach Recall that under the new money approach, banks often effectively refinanced a portion of the interest due by extending new loans Moreover, some countries forced an even greater degree of cash flow relief by instituting unilateral partial or complete moratoria on interest payments

In fact, the Brady operations on average tended to leave net transfers largely unchanged This observation is borne out by a comparison of the absolute levels of net financial flows (debt service actually paid less disbursements from banks) during the Baker plan period and before and after the Brady operations (Table 3) [30] These calculations also reflect the complementary impact of debt cancellations under debt conversion schemes as well as the level and structure of interest rates at the time of each agreement

Net cash flow impacts have varied, however, for the different countries Countries that were paying full interest before their Brady deals, that is, countries not benefiting from new money loans nor incurring arrears, achieved the largest expected savings in cash outflows. In contrast, for Argentina and Brazil, restoring normal relations with creditors through Brady restructurings required significant increases in debt service payments The agreements provided for net payments that were expected to rise over time to levels comparable to those of the earlier Baker plan period [31] For Mexico, which had benefited from large new money packages in 1983, 1984, and 1987, projected debt service payments after the Brady operation were slightly higher than the average net payments made in 1986-88 but lower than those made in the years immediately following the onset of the crisis

The Brady operations departed more strikingly from the previous new money approach by greatly extending the time horizon of contractual relief A comparison of Mexico's net debt service obligations on restructured principal resulting from the financial packages of 1983, 1986, and 1989 shows the lowering and flattening of contractual obligations (Chart 6) Compared with the earlier agreements, the Brady packages substantially reduced the likelihood of further rescheduling or new money requests Thus they enhanced countries' access to the international capital markets, further improving their net cash flow

Implications of declining U.S. interest rates

The central goal of the Brady operations was to reduce

[29] On average, countries achieved net reductions in total debt service obligations of about one-eighth The net debt reduction is defined as the gross reduction in claims payable to banks less the cost of financing the operation The low reduction in net debt reflects the fact that the Brady restructurings to date have dealt only with medium- and long-term public sector debt to banks, these debts have generally accounted for between one-half and one-quarter of the total debt of the participating countries

[30] For alternative calculations of debt service savings for packages completed through mid-1991 and a discussion of alternative counterfactual scenarios, see Eduardo Fernandez, "Cost and Benefits of Debt and Debt Service Reduction," World Bank Working Paper no 1169, August 1993

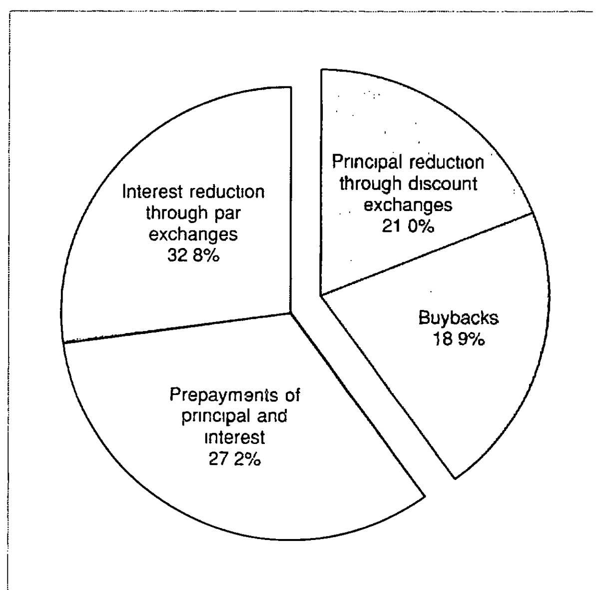
[31] Brazil has already begun to step up its payments After interest payments were suspended in 1989, a $2 billion down payment on overdue interest was made in 1991 along with 30 percent of the current interest accruals on principal The partial payment rate was stepped up to 50 percent of the accrued interest in 1993, with retroactive payments made on 1992

Footnote 31 continued

accruals In addition, full interest has been paid on 1989-90 interest arrears refinanced in 1992

Chart 5

Reduction in Claims Payable to Banks through Concerted Bank Packages, by Modality of Debt Service Reduction



Source Federal Reserve Bank of New York staff estimates

Notes Chart does not show claim reductions resulting from packages agreed upon but not yet finalized (as in the case of Brazil) Separated portion of pie represents outright reduction of principal (39 9%)

countries' debt service outflows to manageable levels on a permanent basis To achieve this, countries prepaid a portion of their debt service obligations at a discount and locked in the interest rates on a significant portion of the remainder [32] These steps helped insulate them from future interest rate changes, up or down

This locking in of interest rates may have resulted in additional ex ante costs which are not reflected in the calculations above if long-term rates generally exceed an average of relevant short-term rates. The calculations of the present value of countries' expected debt service savings are based on long-term interest rates at the time of agreement in principle for each of the packages Specifically, the interest rates on the par bonds are compared with the hypothetical fixed rate that would result from swapping a LIBOR plus 13/16 payment stream into a fixed payment stream [33] In this way, the ex post costs or benefits from unanticipated interest rate changes are separated from the ex ante relief negotiated with creditors. However, to the extent that long-term interest rates have an upward bias in predicting short-term rates, this measure overstates the expected savings resulting from the par exchanges [34]

In the event, developments in dollar money markets since the launching of the Brady initiative have thus far turned out remarkably well for debtor countries The LIBOR rate for U S dollar deposits, to which most loan contracts

[32] The transformation of debt obligations from floating to fixed rates may be considered an extra benefit of the restructurings to the extent that the debtor country prefers fixing the rates on a portion of its liabilities but is prevented by its credit standing from achieving such rates through the swap market

[33] The swap rate is taken as the market's expectation of the average level of future short-term rates

[34] The literature on the predictive power of the term structure has cast strong doubts on the accuracy of the pure expectations theory of the term structure, particularly as the theory relates to the ability of short-term rates to predict movements in shorter maturities However, some research suggests that at longer time intervals, medium- and long-term rates do tend to be useful predictors of medium-term movements in short rates see, for example, Eugene Fama and Robert Bliss, "The Information in Long-Maturity Forward Rates," *American Economic Review*, vol 77 (1987), Kenneth Froot, "New Hope for the Expectations Hypothesis of the Term Structure of Interest Rates," *Journal of Finance*, vol 44 (1989), and John Campbell and Robert Shiller, "Yield Spreads and Interest Rate Movements A Bird's Eye View," *Review of Economic Studies*, vol 58 (1991) Studies have also found that when the yield curve slopes upward, the yields on longer bonds subsequently tend to decline, while short-term interest rates tend to rise Although many theoretical models have been developed to explain the existence of a possible term premium, no consensus has emerged on the degree to which long-term rates overpredict future short-term rates

Table 3

Annual Net Transfers to Banks before and after Completion of Debt Reduction Packages

Billions of Dollars

	Before Conclusion of Bank Package†	After Conclusion of Bank Package‡		Memorandum: Net Transfers		Memorandum: Cumulative New Money Disbursements
		Short-Run	Long-Run	1983-85	1986-88	1983-88
Mexico	3 24	3 59	3 59	3 95	3 22	14 27
Costa Rica	0 04	0 05	0 05	0 22	0 06	0 28
Venezuela	2 02	1 53	1 69	1 12	2 21	0 00
Uruguay	0 29	0 10	0 11	0 06	0 17	0 24
Nigeria	0 64	0 22	0 28	1 05	0 48	0 00
Philippines	1 04 §	0 28	0 49 ¶	0 00	0 71	0 93
Argentina	0 59	1 19	2 09	0 68	1 33	6 50
Brazil	2 20 ††	2 45	4 44	0 74	3 70	14 90
Total	**10.05**	**9.42**	**12.73**	**7.82**	**11.88**	**37.11**

Sources World Bank, *World Debt Tables*, author's estimates

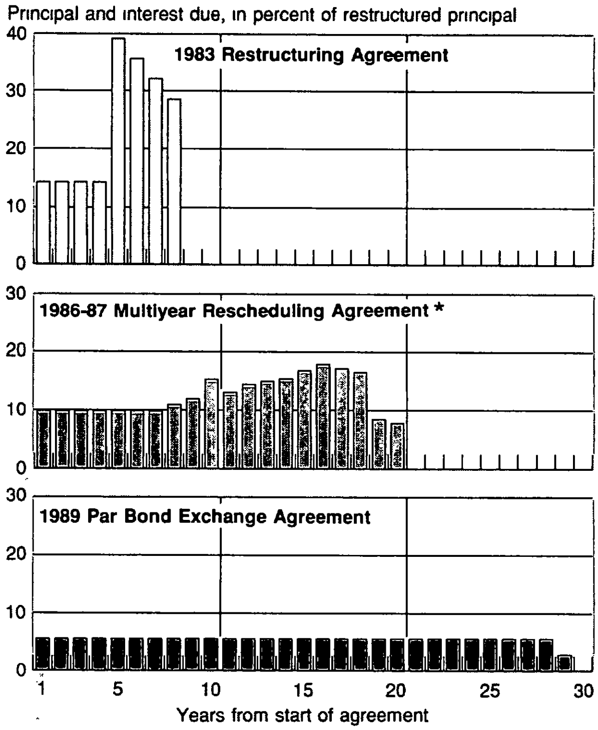
Notes Net transfers before debt reduction are defined as cash debt service payments less disbursements from banks Transfers after debt reduction are defined as net interest payments due on new debt instruments issued plus interest on funds used to finance the transaction, including use of reserves and new money from commercial banks Floating rate interest obligations are projected on the basis of swap rates prevailing at the time of agreement in principle The calculations do not reflect additional expected savings due to downward shifts in the yield curve following the initial agreements

†Average net transfer in the three years preceding the completion of the bank package
‡The difference between short- and long-run projected net transfers reflects temporary interest reduction on par bonds and the expected path of floating rate interest rates based on the term structure of interest rates at the time of agreement in principle For cases with rising interest payments, the long-run level of interest payments is generally expected to be reached in five to seven years
§Average net transfers during 1987-89
¶Includes interest but not principal on bank debt not eligible for debt reduction
††Estimated average during 1991-93 Includes 1991 down payment against interest arrears and interest on refinanced interest arrears (so-called interest due and unpaid bonds)

were indexed before the Brady operations, declined by about 500 basis points between November 1990 and February 1993 For most debtors the interest savings implied by this decline are significantly larger than those resulting from the debt restructurings. For countries that had already agreed on debt packages (Mexico, Venezuela, Costa Rica), the declines did produce additional savings on the portion of their remaining medium-term bank debt that was left at floating rates (for example, discount and new money bonds). Moreover, savings accrued on other floating rate debts, such as short-term debt and debt to international institutions. Nonetheless, for Mexico and Venezuela, countries that restructured early, near-term interest obligations on their medium-term debt to banks are currently about the same as if the restructurings had not taken place (Chart 7). Of course, the sharp upward slope of the yield curve indicates that the market expects an eventual recovery in short-term rates. Should this occur, these countries' interest obligations will rise, but by much less than if the debts had not been restructured.

Chart 6

Mexico: Debt Service Due on Restructured Principal under Selected Restructuring Agreements



Source. Federal Reserve Bank of New York staff estimates, based on the terms of the respective agreements

Notes The 1983 and 1986 financial packages also provided for new loans that effectively covered a portion of the interest due in the initial years In contrast, the 1989 agreement required outlays for principal and interest guarantees Floating rate interest obligations on the 1983 and 1986-87 agreements are projected on the basis of long-term U S Treasury yields at the time the packages were finalized Payments on par bonds exclude principal and interest payments prepaid through collateral accounts

* The terms of the rescheduling agreement were agreed upon in principle in September 1986, and the package was finalized in April 1987

Countries that restructured later, particularly Argentina and Brazil, benefited more from the decline in rates. The coupon profiles on their par bonds mimicked the slope of the U.S. yield curve at the time of their agreements.[35] Most of the countries that had not yet reached agreements by early 1991 were making at best only partial payments on accruing interest obligations. For these countries, a Brady package required a significant increase in cash outflows. The decline in short-term rates made for a more gradual step-up in payments, giving these countries time to grow into their long-term debt-servicing capacity (Chart 7).

Buying back into the market

As argued above, the Brady operations did more to lock in a longer horizon of debt service relief than to change immediate net debt service outflows from their levels during the Baker Plan period This locking in improved countries' prospects for breaking out of the cycle of continuous renegotiation that characterized the previous approach (Table 4). Of course, it was crucial that countries implement and sustain the policy reforms that would allow the servicing of the remaining reduced claims as well as any new borrowings In this way, the Brady operations in concert with sound economic policies helped countries return to the international capital markets and played an indirect but catalytic role in helping countries achieve a positive net cash flow [36]

Breaking the cycle of continuous renegotiation

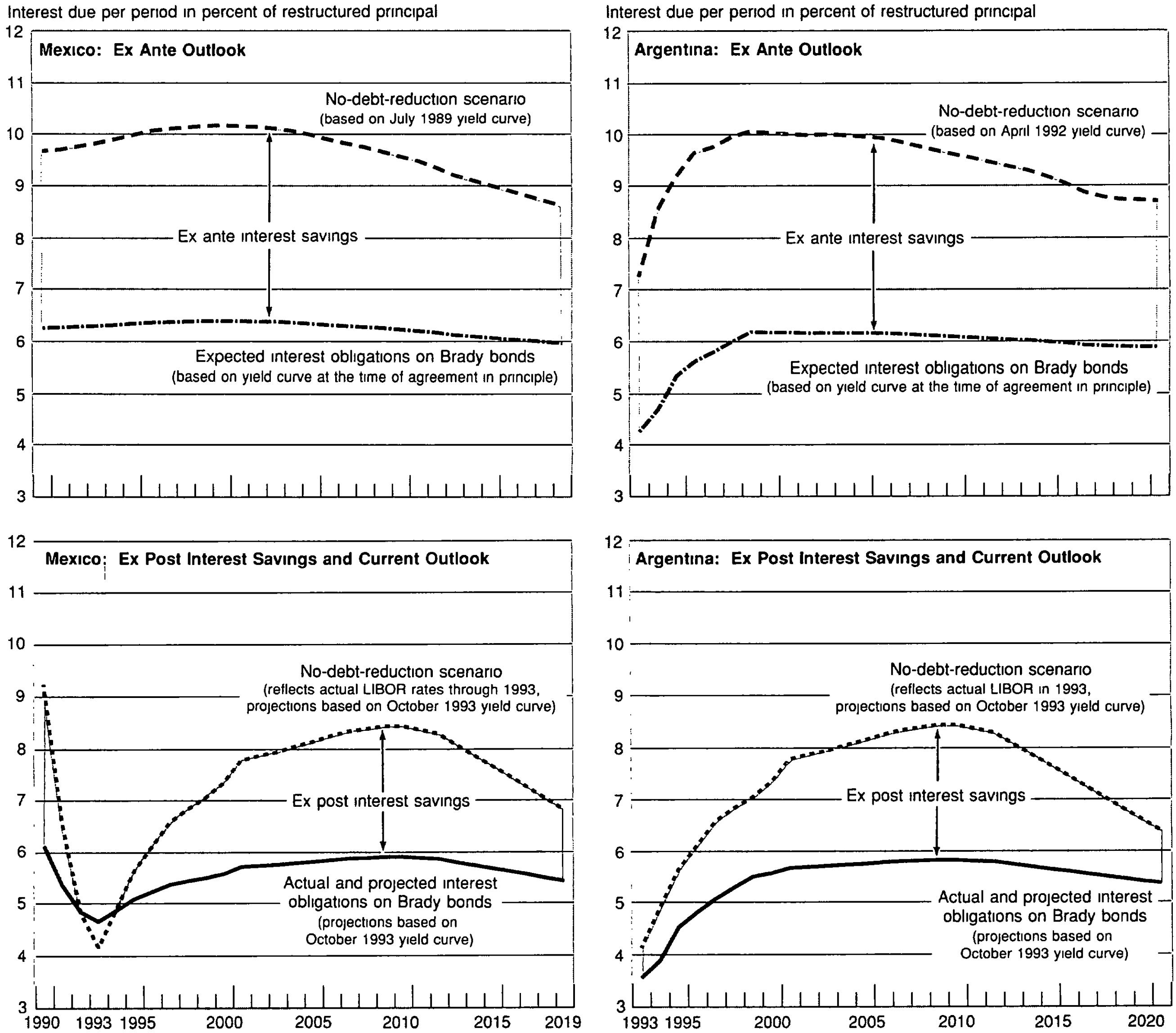
Under the new money approach that predated the Brady initiative, bank packages provided "front-loaded" cash flow

[35] For example, the Argentina and Brazil par exchange agreements provided for interest rates that rose gradually from 4 to 6 percent over a six-year period

[36] Restoration of market access has always been a central goal of the debt strategy, and the shift toward debt reduction was presented as an important means toward this end Secretary Brady, in his March 10, 1989, address to the Bretton Woods Committee, argued that "the path towards greater creditworthiness and a return to the markets needs to involve debt reduction" (reprinted in Edward Fried and Philip Trezise, eds , *Third World Debt The Next Phase* [Washington D C Brookings Institution, 1989]) The IMF guidelines on Fund support for debt and debt service reduction, approved in May 1989, stated that in considering requests for support, particular reference would be made to the strength of economic policies, "the scope for voluntary market-based debt operations that would help the country regain access to credit markets and attain external viability with growth," and the efficiency of resource use See International Monetary Fund, *Selected Decisions and Selected Documents,* no 16, 1991

Chart 7

Mexico's and Argentina's Interest Savings on U.S. Dollar Brady Bonds



Notes Mexico's and Argentina's annual interest savings on their par and discount bonds are shown as the shaded distances between the "no-debt-reduction scenario" lines and the lines showing the interest obligations on their Brady bonds The no-debt-reduction line presents a counterfactual scenario under which interest accrues at a rate of LIBOR plus 13/16, and amortization is continually deferred The Brady bond line shows the interest coupons expected on par and discount bonds weighted by their shares of restructured principal The coupons are expressed as a percentage of the base exposure, hence, the market interest rates for discount bonds are reduced by the size of the discount

In the ex ante panels, interest coupons (including those for the floating rate Brady discount bonds) are projected from forward interest rates implied by the yield curve prevailing when the Brady operation was agreed upon in principle (July 1989 for Mexico and April 1992 for Argentina) In the case of Argentina, the rising projected interest obligations on the Brady bonds reflect the step-up in coupon rates on the fixed rate par bonds as well as the expected rise in interest rates on the discount bonds The ex post panels reflect the actual path of short-term rates through 1993 and the future path of short-term rates implied by the October 1993 yield curve relief. Since new money loans would generally cover a fraction of the interest due only over the next year or two, further packages would be necessary unless debt-servicing prospects improved sharply.

On the face of it, this approach served the interests of banks by maintaining a contingent claim on future improvements in debt-servicing capacity. If a country's debt-servicing prospects improved in the years following a new money package, then continuing with the current agreement (which usually provided for rising amortization payments and no further new money) would ensure that banks would benefit.[37]

However, as indicated earlier, this approach was becoming harder to implement over time. Renegotiation was time consuming and distracting for decision makers. Moreover, such arrangements increased the already high stock of debt and blunted the perceived incentives for restructuring countries to improve their debt-servicing capacity. Finally, this approach impeded the resumption of voluntary lending. Potential new creditors were wary of being caught up in this cycle of continuous renegotiation. Given the unclear rules of the game, in which contracts were continually reopened, they feared that cash flow relief might be required from

[37] A formal model exploring how bank packages would be expected to address only the debtor's near-term need for debt service relief is presented in Jeremy Bulow and Kenneth Rogoff, "A Constant Recontracting Model of Sovereign Debt," *Journal of Political Economy*, vol. 97 (1989). To encourage creditors to agree to contractual relief over a longer time horizon, a number of countries agreed to "recapture clauses" in their Brady packages that provided for increased debt service payments in the event of certain largely exogenous improvements in debt-servicing capacity; these clauses were usually linked to higher export proceeds (oil for Mexico, Venezuela, and Nigeria and agricultural commodities for Uruguay), although the Costa Rica clause was linked to GDP growth. The more recent agreements for Argentina, Brazil, and the Philippines have not included such clauses.

Table 4

Chronology of Restructuring Agreements, 1983-92

Country	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Brady Countries										
Mexico	**N**	**N**	**R**		**N**		**B**			
Costa Rica	**N**		**N**	p	p	p	**B p**			
Venezuela				**R**				**B**		
Uruguay	**N**			**R**				**B**		
Nigeria	**R**				**N** p		**N**	p	**B p**	
Philippines			**N**		**R**		**B**			**B**
Argentina	**N**	p	**N**		**N**	m	m	p	p	**B p**
Brazil	**N**	**N**		**R**	p	**N**	m	m	p	**B p**
Dominican Republic	**R**			**R**			m	m	m	m
Jordan							**R**	m	p	p
Bulgaria								**d**	**d**	p
Selected middle-income countries currently negotiating debt reduction packages										
Ecuador	**N**		**N**		**N** p	m	p	p	p	m
Panama	**N**		**N**		m	m	m	m	m	m
Peru	**N**	**R** p	m	m	m	m	m	m	m	m
Poland	**N**	**N**		**N**		**R**		m	p	m
Other selected middle-income countries with recent debt servicing difficulties										
Chile	**N**	**R**	**N**		**R**	**R**		**R**		
Colombia			**Rf**			**Rf**			**Rf**	
Cote d'Ivoire			**N**	**R**	m	**N** m	m	m	m	m
Morocco				**R**	**R**			**R**		
Yugoslavia†	**N**	**R**	**R**			**N**				m

Sources: International Monetary Fund, *International Capital Markets: Developments and Prospects*; World Bank, *World Debt Tables*; Federal Reserve Bank of New York.

Notes: Brady countries are those that have completed or reached agreement in principle on operations to substantially reduce their commercial bank debt. Brady countries are ordered by the date of agreement in principle.

N: Agreement includes provisions for new financing.
R: Agreement provides for principal rescheduling only.
B: Agreement in principle on a Brady Plan debt restructuring.
d: Rolling agreement to defer all payments of principal and interest.
Rf: Principal refinancing agreement.
m: Indicates that at year-end country had suspended interest payments to banks. Excludes moratoria of less than twelve months.
p: Indicates that the country was making partial interest payments to banks; bold indicates that the level of payments was consistent with an agreement in principle with the bank steering committee.
†Serbia and Montenegro in 1992.

them as well or that new inflows from them would be used to justify a cut in debt relief by existing creditors.[38] Then, instead of improving debtor countries' capacity for growth, the new creditors would in effect be buying out the old creditors' heavily discounted debt at par. In contrast, debt reduction and longer maturities capped existing creditors' claims on current cash flows, allowing new flows to finance new growth and investment.

Lowering the profile of contractual obligations would not, by itself, be expected to lead to renewed market access. To be successful on its own, the Brady operation would need to convince the market that enough reduction had taken place so that the debtor, without further changes, would have sufficient capacity to service the remaining claims. Here market-based debt reduction faced an inherent limitation: to the extent that the reduction in the stock of claims was expected to raise the probability that the remainder would be more fully serviced, creditors would only be willing to sell at higher prices. With prices being bid up and financing limited, less debt reduction would be achieved and the overhang would persist, deterring new flows.[39] In the event, despite the reductions in claims owed to banks, discounts on unsecured restructured obligations generally remained steep, albeit somewhat lower, immediately after the Brady operations. In part, this discount reflected the longer maturities arranged under the restructurings. Hence, in order to gain significant market access, countries have had to show evidence of improved debt-servicing capacity as reflected in declining yield spreads.

[38] *Pari passu* clauses in the contracts on the existing debt specified that the old debt would be treated equally with all other debts of the borrower Charging a higher interest rate on new credits to cover the possibility of a debt consolidation could lead to an explosion of debt; moreover, new creditors might not be able to maintain their interest premia if their claims were consolidated under a restructuring exercise The debt overhang deterred nonbank flows as well as new bank loans. For example, while most rescheduling countries exempted their external bonds from refinancing during the 1980s—a move reflecting both the bonds' small share of total indebtedness and difficulties in organizing debt relief—discounts on bonds still tended to be high These discounts reflected fears that de facto seniority was not absolute, and access to new flows appeared to be ruled out Portfolio and direct investment equity flows could also be reduced because of concerns that debt-servicing difficulties could lead to restrictions on repatriations of profits and capital and/or costly confrontations with creditors that could adversely affect the return on capital. Similar fears of cost shifting could induce domestic investors to engage in capital flight

[39] Countries did try to circumvent the problem of capital gains for nonexiting banks through a combination of novation (converting the remaining claims of participating creditors into bonds that might be treated more favorably than the claims of free-riding creditors) and requirements that nonexiting banks provide new money In theory these efforts could have led to a complete elimination of the discount at little cost, however, in practice the Brady operations generally entailed up-front resource costs (that is, buyback equivalent prices) broadly similar to those prevailing in the period of negotiations Discussions of the limitations of market-based debt reduction can be found in Stijn Claessens, Ishac Diwan, Kenneth Froot, and Paul Krugman, "Market-Based Debt Reduction for Developing Countries: Principles and Prospects," World Bank Policy and Research Series no. 16 (1990), and Jeremy Bulow and Kenneth Rogoff, "The Buyback Boondoggle," *Brookings Papers on Economic Activity,* 1988 2, pp 675-703.

Mexico as prototype

The experience of Mexico, the first and most successful of the Brady countries to return to the international capital markets, illustrates the interactions between debt reduction, improved debt-servicing capacity, and market reentry (Chart 8). Mexico's implementation of a broad-based macroeconomic stabilization and structural reform program was already well advanced before the Brady initiative was announced.[40] Even as the Brady operation was being negotiated, Mexican borrowers began returning to the international bond markets. However, initial yield spreads were very steep (although lower than those on the old bank debt), overall volumes were not high compared with later levels, and most of the initial placements were enhanced by the attachment of receivables accounts or favorable equity conversion rights.[41] Later, as perceptions of improving economic performance and rising payments capacity led to lower yield spreads on the restructured long-term (Brady) debt, yield spreads on new unenhanced issues decreased, the volume rose significantly, and the composition shifted toward unenhanced issues. Maturities were initially short because creditors were not sure that the improvements in debt-servicing capacity would last. By lending over the short term, creditors could monitor whether the improvement in capacity was being sustained; if not, they could then try to reduce their exposure as it matured. More recently, most Mexican Eurobond issues, particularly by public sector borrowers, have carried maturities of at least five years, and the maturity of several issues has exceeded ten years. In fact, in November 1993, Pemex, the state oil company, was able to place a thirty-year issue.

Market reentry: broad based but not universal

Certainly one of the more remarkable recent developments in the international financial arena has been the explosion of private capital flows to borrowers, especially Brady countries, that were once credit constrained. Most of the new flows have been in the form of direct and portfolio investment, both through equity and securities markets, and repatriation of flight capital. Syndicated lending from commercial banks has not resumed on a significant scale.

Not all Brady countries, however, have been able to

[40] See Claudio Loser and Eliot Kalter, eds , *Mexico· The Strategy to Achieve Sustained Economic Growth,* International Monetary Fund, Occasional Paper no 99, September 1992.

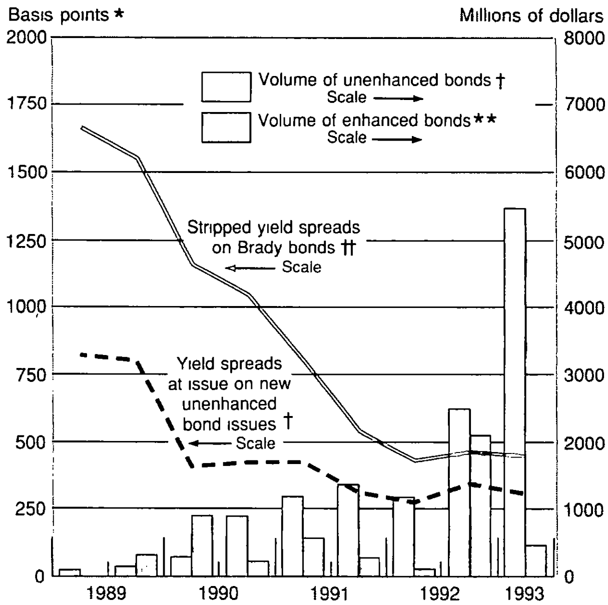
[41] The fact that new issues carried lower spreads than the Brady bonds may have reflected perceived de facto seniority owing to the new issues' shorter maturity and small share of total indebtedness Receivables-backed borrowings eliminated convertibility risk by directing an entity outside of Mexico to pay funds owed to the Mexican borrower into a special purpose vehicle (a specially created trust, partnership, or corporation) that would then issue securities on behalf of the Mexican borrower For example, Telmex, the Mexican telephone company, directed AT&T to deposit long-distance payments owed to Telmex into a trust located in the United States. See Andrew Quale, "Securing the Future," *LatinFinance,* May 1991

regain access to the international capital markets (Table 5, Chart 9) [42] As reflected in secondary market prices, the market did not perceive an improvement in Nigeria's prospects for growth and reform following the completion of its package, and the country has not returned to the international capital markets In addition, the Philippines, which experienced a decline in secondary market prices following its 1990 buyback, was largely absent from the capital markets until the completion of the second stage of its Brady restructuring further reduced its debt and lengthened the maturity of the remaining exposure

[42] Observed credit flows are of course only partial indicators of credit availability Some countries, such as Chile, have taken active measures to limit the extent of capital inflows, while other countries have not been willing to borrow unless the terms were sufficiently attractive

Chart 8

Mexico: Volume and Yield Spreads on New International Bond Issues
1989 to 1993, First Half



Sources *International Financing Review*, *Euroweek*, *Financial Times*, Salomon Brothers, J P Morgan, and Federal Reserve Bank of New York staff estimates

*Spread over comparable maturity U S Treasuries

† Unenhanced bonds are new issues that do not carry equity conversion rights and are not backed by collateral or receivables accounts

** Volume of bonds enhanced by attachment of collateral or receivables accounts or equity conversion rights

†† Yield spread on unguaranteed portion of par bonds, that is, stripped yield spread Before the issuance of Brady bonds, spreads are implied yield spreads on Brady-eligible bank loans Implied yields on bank loans are constructed by dividing the long-run average expected interest rate by the price of the loan

Argentina and Brazil

The success of Argentina and Brazil in regaining access to the international capital market when their debt packages were not yet completed and they were still incurring interest arrears raises questions about the relative importance of the debt operations This is particularly the case for Brazil, where high levels of inflation persist and uncertainties continue regarding when the package will be completed

Support for the view that the debt operations were a catalyst for reentry can be found in the timing of the countries' entries into the market in the third quarter of 1991 For both countries, market reentry followed developments indicating that the probability of a "Brady package" in the near future was increasing sharply Brazil had just recently reached a preliminary agreement with the banks on the treatment of accumulated interest arrears that cleared the way for negotiations on a debt reduction package.[43] While Argentina's negotiations were not as advanced as Brazil's (although partial payments of interest had resumed sooner), the

[43] Brazil initiated partial interest payments on its medium- and long-term public debt in early 1991 after an eighteen-month moratorium Agreement with the banks on the treatment of interest arrears accumulated during 1989-90 was reached in April 1991 Moreover, earlier in the year, in an effort to restore market access for Brazilian corporations, all private sector borrowers as well as several leading publicly owned corporations were given permission to negotiate directly with their bank creditors Concerted interbank and short-term trade facilities were allowed to expire in April 1991 and were replaced with voluntary facilities

Table 5

Net Capital Inflows to Restructuring Countries
Billions of Dollars

	1989	1990	1991	1992	1993e
Mexico	4 5	10 4	21 9	24 0	23 9
Costa Rica	0 6	0 3	0 5	0 5	0 7
Venezuela	-1 1	-3 4	0 7	2 2	1 3
Uruguay	-0 1	-0 1	0 1	0 2	0 3
Nigeria	0 1	-2 5	-0 6	-6 0	1 3
Philippines	1 9	2 3	3 0	2 7	3 7
Argentina	-0 5	1 2	4 9	12 8	12 7
Brazil	-0 1	4 3	1 0	8 4	8 7
Chile	1 3	2 7	0 9	2 9	2 8
Total	**6.5**	**15.2**	**32.5**	**47.7**	**55.4**

Sources International Monetary Fund, *International Financial Statistics*, Federal Reserve Bank of New York staff estimates

Notes Net capital inflows are defined as the current account deficit plus the increase in gross reserves The inflows include errors and omissions and exceptional financing country was making important progress in controlling inflation and restructuring the economy. As a result, Argentina's prospects for receiving official financial support for a future Brady restructuring appeared to be on the rise.[44] In addition, the precedents established through the debt operations with Mexico, Venezuela, and other countries tended to make the timing of an agreement less crucial because potential new creditors were able to project reasonably well how existing bank claims would be treated under a debt package. The likely future structures were further clarified once the April 1991 Brazilian arrears agreement established a pattern for the treatment of such claims. The notion that terms for the treatment of old debt were already broadly defined apparently contributed to a presumption, reinforced by the countries' policies, that pending a restructuring of the old debt, new obligations would be given a de facto senior status. Hence the new flows were priced more on the basis of expected post-deal creditworthiness

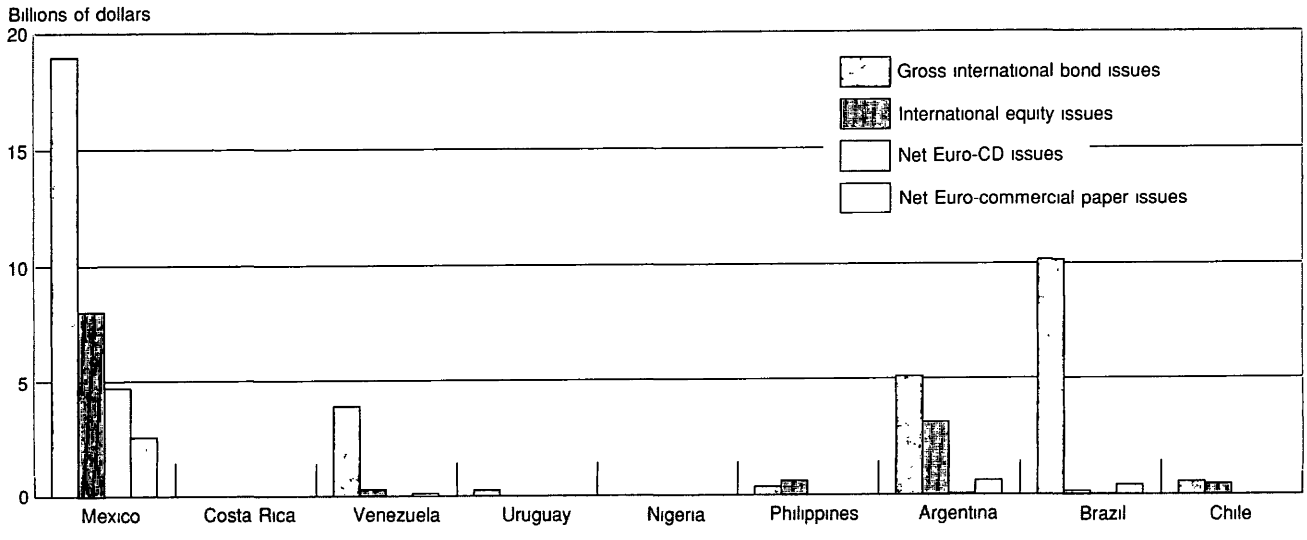
[44] Since mid-1989 Argentina had been implementing sweeping measures to encourage competitiveness, including liberalizing the trade regime and privatizing several major public enterprises Argentina's reentry into the international capital markets in August 1991 followed the adoption of a new stabilization program in March 1991 The program, which involved a tightening of public finances, further structural measures, and a fixed exchange rate, was showing success in sharply curbing inflation and formed the basis for a stand-by arrangement with the IMF approved that same month

For both Argentina and Brazil, access to new capital flows followed changes in the market's perception of their capacity to service existing debts. In both cases, the yield spreads on their long-term debt sharply improved ahead of their reemergence in the international bond markets. In the case of Brazil, it is notable that bond issues peaked in the first half of 1992, this development coincided with a low point in yield spreads on the long-term debt as the country approached an agreement in principle, announced in July 1992, on a debt reduction package (Chart 10). Afterwards, in the face of political uncertainties culminating in the resignation of President Collor and continued high inflation, prospects for a deal dimmed, the yield spread on the long-term debt widened, and the flow of new issues slowed markedly [45] Argentina made an initial foray into the Eurobond market in the third quarter of 1991, but it was not until after agreement on a term sheet for the bank operation in June 1992 that further significant bond issues took place (Chart 11) Moreover, the completion of the par and discount exchanges in April 1993 and the deepening success of the country's stabilization and reform effort, reflected in further declines in yield spreads in 1993, led to an explosion of new issues in the second and third quarters of 1993.

[45] Net foreign purchases of Brazilian equities followed a similar pattern they fell to $0 3 billion in the second half of 1992 after rising to $1 4 billion in the first half of 1992 from $0 6 billion in all of 1991

Chart 9

International Capital Market Financing Received by Restructuring Countries, 1990-93



Sources For bonds and equities, *Financial Times*, *International Financing Review*, and *Euroweek*; for Euro-CDs, Euroclear, for Euro-commercial paper, Bank for International Settlements, *International Banking and Financial Market Developments*

Note Data include issues through September 1993, except for Euro-commercial paper issues, which are through June 1993

Brazil's access to capital market inflows still appears somewhat tentative in comparison with that achieved by Mexico Argentina, which in 1993 saw growing interest from institutional investors, occupies a somewhat intermediate position. Through 1992, almost all of the unsecured Eurobond issues by Brazilian borrowers carried maturities of two to three years, whereas most recent Mexican issues have had maturities of five years or more Argentina has been relatively more successful in placing longer term borrowings, notably, all of the five-year issues came after agreement on a term sheet for the debt exchange (Chart 12) While institutional and retail investors from developed countries are reportedly showing substantial interest in Mexico, Brazil has not captured institutional investors' interest to nearly the same degree Market participants reported in mid-1993 that flight capital still accounted for the bulk of the demand for Brazilian Eurobond issues, particularly for private sector borrowers, in contrast, industrial country investors, particularly from the United States, accounted for most of the demand for recent bond issues by Mexican corporations [46] These differences suggest that if Brazil is to emulate some other countries' success in broadening the investor base, achieving a longer maturity structure, and narrowing yield spreads, investor concerns about cross-border risk must be addressed through improvements in debt-servicing capacity and completion of the debt package

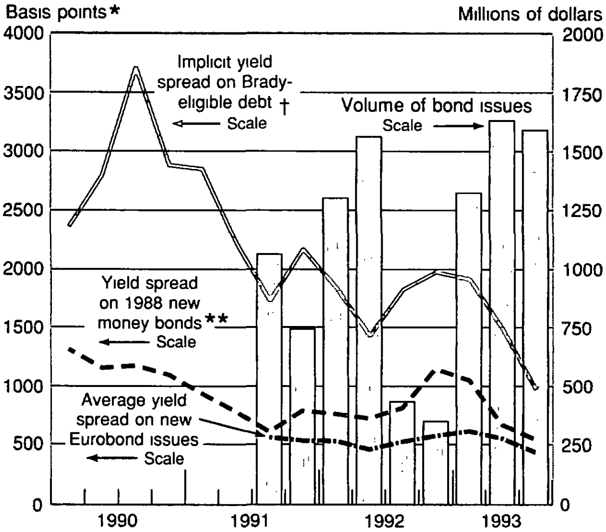
Overall, the pattern of sharply increased capital inflows received by many Brady restructuring countries since 1990 confirms that the debt operations, when accompanied by

[46] Information on final holders of Eurobonds is sketchy at best However, evidence of the interest of developed country investors in Mexico can be found in the strong growth of foreign holdings of domestically issued Mexican government bonds, which increased by about $20 billion between end-1990 and mid-1993

Chart 10

Brazil: Volume and Yield Spreads on New International Bond Issues

1990 to 1993, Third Quarter



Sources *International Financing Review, Euroweek, Financial Times, LatinFinance*, Salomon Brothers, J P Morgan, and Federal Reserve Bank of New York staff estimates.

* Spread over comparable maturity U S Treasuries

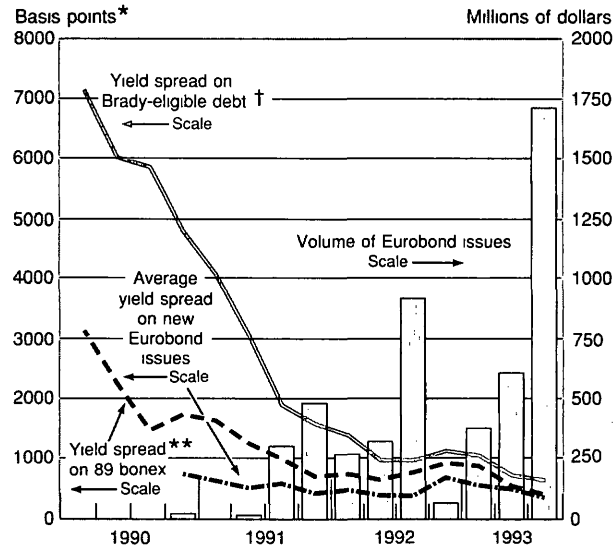
† Implied yields on medium-term bank loans are constructed by dividing the long-term expected interest rate by the price of the debt

** The 1988 new money bonds were issued as part of Brazil's 1988 financing package They are amortizing bonds with a final maturity in 1999

Chart 11

Argentina: Volume and Yield Spreads on New International Bond Issues

1990 to 1993, Third Quarter



Sources *International Financing Review, Euroweek, Financial Times, LatinFinance*, Salomon Brothers, J P Morgan, and Federal Reserve Bank of New York staff estimates

* Spread over comparable maturity U S Treasuries

† Implied yields on medium-term bank loans are constructed by dividing the long-term expected interest rate by the price of the debt From April 1993, yield spreads are based on the stripped yields on par bonds Stripped yields measure the yield to maturity on the uncollateralized or risky portion of a Brady bond

** Bonex 89 are sovereign bonds issued in 1989 that fully mature in 1999.

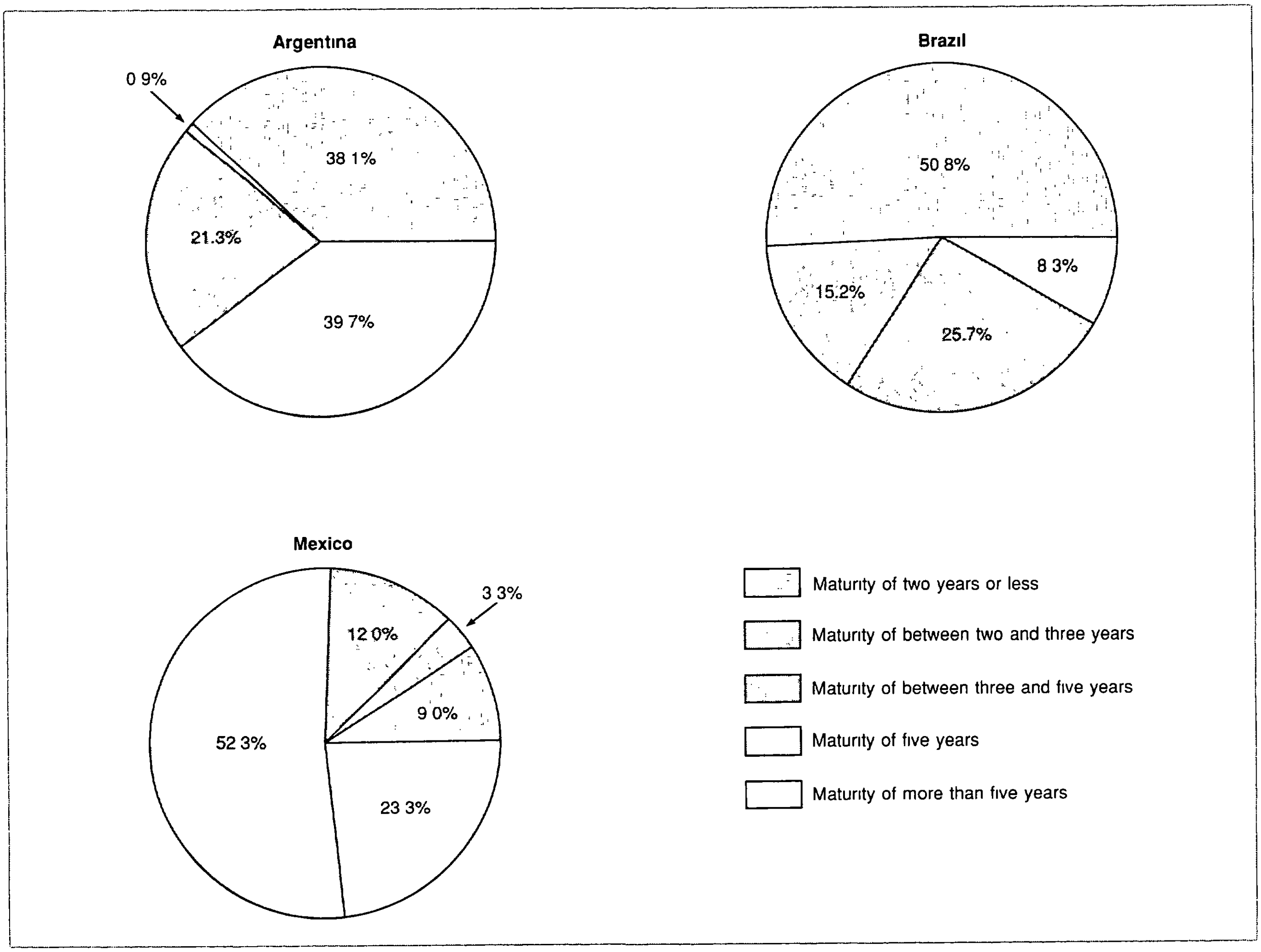
improved policy performance, have played a catalytic role. Countries that have boosted their debt-servicing capacity and reduced their debts have been rewarded with growing market access on improving terms. However, the pattern of inflows suggests that other factors are at work as well. Most important, lower global interest rates, particularly the medium- and long-term declines in 1993, have encouraged yield-sensitive investors to reconsider the prospects of restructuring countries. The generally more favorable environment for capital flows helps account for the magnitude of net capital flows to Mexico, which greatly exceed the debt reduction achieved through the Brady operation, and the 1993 rebound in flows to Brazil despite uncertain fundamentals. In the current environment, some investors seem more willing to lend on the promise of reform, provided the contractual yield is sufficiently attractive.

Impact on investment performance

Many advocates for debt reduction argued that lowering countries' debt and debt service burdens would lead to

Chart 12

Maturity Structure of Unsecured International Bond Issues, 1990-92



Sources: *International Financing Review*, *Euroweek*, and *Financial Times*

Note: In cases where put options are incorporated, time to put is used.

higher rates of capital formation. In fact, for most Brady countries, investment rates have been increasing in recent years (Table 6). Nonetheless, although in some cases capital inflows now rival those observed before the debt crisis and secondary market discounts have narrowed, in most Brady countries investment still accounts for a substantially smaller share of GDP than in the pre-debt crisis period.

The "debt overhang" hypothesis, advanced by a number of analysts of the developing country debt crisis, had suggested the possibility of a stronger investment response, at least in some cases According to this hypothesis, elimination through debt reduction of the substantial discounts on countries' external debts would encourage investment, thereby producing important efficiency gains [47] The "overhang," or excess of what debtors owed over what they could pay (as indicated by the market value of the debt), was thought to dissuade countries from improving their debt-servicing capacity· any improvements were expected to be largely "taxed away" through reduced debt relief in the future This disincentive was seen to act both at the level of governments reluctant to adopt unpopular austerity measures and on the microeconomic level of investors who feared confiscatory tax policies. A variant of the overhang hypothesis argued that the discounts constrained investment by restricting the availability of financing. Absent credible seniority for new flows, potential creditors refused to finance new investments for fear that their loans, like the old loans, would not be fully serviced [48]

To be fair, overhang proponents were skeptical about market-based debt reduction, as opposed to mandatory writedowns of excess claims, arguing that the former would not make much of a dent in the prevailing discounts. Indeed, discounts often remained high immediately following the implementation of the Brady packages Nonetheless, even in those countries experiencing the largest ex post reductions in discounts—for example, Mexico— or the greatest restoration of capital flows, the improvements in investment rates have not generally been striking compared with the deterioration at the outset of the debt crisis [49]

Impact on banks

The secondary market value of claims on restructuring countries has recovered significantly in the period following the change in strategy Some banks have also gained from

[47] Amongst the most widely cited expositions of this view are the theoretical arguments of Jeffrey Sachs, "The Debt Overhang of Developing Countries," in Jorge de Macedo and Ronald Findlay, eds , *Developing Country Debt and the World Economy* (Helsinki WIDER Institute, 1988), and Paul Krugman, "Market Based Debt Reduction Schemes," in Jacob Frankel, Michael Dooley, and Peter Wickham, eds , *Analytical Issues in Debt* (Washington, D C International Monetary Fund, 1989) The overhang hypothesis was by no means universally endorsed For example, Jonathan Eaton in "Debt Relief and the International Enforcement of Loan Contracts," *Journal of Economic Perspectives*, vol 4 (1990), and Jeremy Bulow and Kenneth Rogoff in "Cleaning up Third World Debt Without Getting Taken to the Cleaners," *Journal of Economic Perspectives*, vol 4 (1990), strongly questioned the empirical significance of the overhang effect

[48] Ishac Diwan and Dani Rodrik developed an argument broadly along these lines in "Debt Reduction, Adjustment Lending, and Burden Sharing," World Bank, mimeo, September 1991 Eduardo Borenzstein presented numerical simulations suggesting that credit rationing associated with excess indebtedness may be more important in restraining investment than negative incentive effects, see "Debt Overhang, Credit Rationing and Investment," International Monetary Fund, Working Paper no 89/74, 1989 Daniel Cohen presented empirical evidence of a negative linkage between net debt service outflows and investment in "Low Investment and Large LDC Debt in the Eighties," CEPREMAP Working Paper no 9002, 1989 Cohen's results implied that a restoration of capital inflows should lead to increased investment

[49] Adherents of the debt overhang hypothesis did not specify how rapidly investment would recover However, the comparisons that some made with the collapse in investment at the start of the debt crisis appeared to imply that a rapid rebound would be possible The weak association observed to date between debt reduction and investment may reflect in part countries' monetary and fiscal policies In the aggregate, about half of the increased capital inflows in recent years have been channeled into increased holdings of official reserve assets Public sector investment has declined relative to the period immediately preceding the debt crisis, a change that reflects both public sector austerity and reductions in the size of the state sector through privatization

Table 6

Investment Performance in Restructuring Countries

Nominal Gross Fixed Capital Formation, Percent of GDP

	1978-82	1983-89	1990-92	1989	1990	1991	1992
Mexico	24 4	19 3	19 9	18 2	18 6	19 4	21 6
Costa Rica	23 5	19 3	21 1	20 5	22 4	19 7	21 2
Venezuela	29 6	19 4	17 6	17 2	14 1	18 2	20 6
Uruguay	15 9	11 3	11 4	11 6	10 8	11 3	12 1
Nigeria	22 7	8 7	13 1	8 2	11 9	12 7	14 6
Philippines	26 4	20 6	22 3	20 9	24 1	20 6	22 3
Argentina	23 7	18 5	15 1	15 5	14 0	14 6	16 7
Brazil	22 7	20 2	19 9	24 8	21 6	19.0	19 1
Chile	19 1	18 0	23 3	23 1	24 6	21 7	23 7

Sources International Monetary Fund, *International Financial Statistics*, Federal Reserve Bank of New York staff estimates expanding income opportunities in the secondary market trading of restructured debts and the underwriting of new securities flows to restructuring countries. Although in the early cases the prices paid to banks in the form of collateral and cash for their forgone claims were close to the historical lows that had prevailed in the secondary market, banks have regained ground through subsequent price appreciations on their remaining exposure. This price rebound, which came with a lag, reflects growing optimism about the effectiveness of the new strategy. Moreover, the dramatic increase in secondary market liquidity, thanks in large measure to the securitization of claims through the Brady restructurings, has given banks new flexibility in managing their developing country exposure.

Sorting through the aftermath of the debt crisis has been a painful and costly process for the banks. From 1987 to 1992, the leading U.S. money center and regional banks charged off more than $25 billion of their loans to restructuring country borrowers, or about one-third of their aggregate exposure at the end of 1987.[50] For the largest banks, these losses equaled two-thirds of these banks' capital at the start of the debt crisis.[51]

It is difficult to determine the extent to which the change in the debt strategy caused or contained these losses. Different views reflect largely unconfirmable hypotheses about what would have happened had another course been followed. In one view, shifting of the rules of the game to recognize that the loans were no longer fully collectible weakened the position of banks and created losses. This perspective imputes a strong role to the official community in arbitrating between countries and their creditors. By contrast, others maintain that banks were bound to incur losses anyway; providing official financing to help countries buy back their debts benefited banks by driving up prices and shifting risk to the official sector.[52] One could also argue that the strategy helped all parties by encouraging greater economic efficiency.

A Brady bounce or a Brady dip?

One kind of evidence that bears on this problem is the reaction of secondary market debt prices to the Brady initiative.[53] Secondary market prices have generally been on an upward trend since the launching of the Brady initiative; in particular, prices rose just after the proposal was announced (Chart 13). Some critics have pointed to such price behavior even against a background of continued steep discounts to suggest that the new plan was beneficial for banks, in some arguments to the exclusion of other parties.[54] However, any focus on the short-term movement immediately after the announcement needs to be tempered by awareness that the market anticipated the possibility of a tilt toward debt reduction well before Secretary Brady's March 1989 speech. Once this is taken into account, the initial reaction of the market to the change in approach appears on balance to be unfavorable. In particular, the free fall in secondary market prices from mid-1988 to the eve of Secretary Brady's speech must be regarded as at least partly reflecting fears that a change in strategy would adversely affect banks.[55] In the debate leading to the change in strategy, banks expressed concerns that any new approach be voluntary and that the Baker Plan's emphasis on policy reform continue. Secondary market prices did rise in the two months following Secretary Brady's speech as the official community worked out the details of the new approach, but this rebound offset the declines that had taken place only since December 1988, when President-elect Bush announced that the debt strategy was under review, and was still much smaller than the fall from mid-1988.

Buyback equivalent prices and post-deal price improvements

Brady deals can also be examined on a country-by-country basis to determine the effects on banks. The financial impact of Brady restructurings can be separated into two aspects: (1) the effective purchase price in the form of collateral and

[50] Some charge-offs and provisions were made before 1987, but these were relatively insignificant compared with the post-1986 actions Although some of these charge-offs are potentially recoverable because the banks have retained their legal claims, many are not because they reflect losses through swaps and sales

[51] In contrast, leading U S banks' net earnings on foreign operations, which include many activities unrelated to developing country lending, were on the order of $1 1 billion per year in 1981-82.

[52] See, for example, Bulow and Rogoff, "Cleaning up Third World Debt " Why creditors might or might not be better off is also discussed in W Max Corden, "An International Debt Facility?" in *Analytical Issues in Debt;* and Michael Dooley, "Buy-Backs, Debt-Equity Swaps, Asset Exchanges, and Market Prices of External Debt," in *Analytical Issues in Debt*

[53] Because of the thinness of the secondary market before the launching of the Brady initiative, prices from this period might be regarded as unreliable However, even after secondary market volumes increased in 1989 and 1990, trading stayed broadly in the ranges reached at end-1988, with prices rising somewhat in cases where economic performance was improving and falling where it did not

[54] Conclusions about the implications of price movements for other parties, such as the borrowing countries, are generally based on strong assumptions that usually rule out the very efficiency gains that the reinforced strategy was seeking.

[55] In March 1989, the U S Treasury cited "heightened publicity on establishing debt facilities in the latter part of 1988" as one of the factors contributing to downward pressure on secondary market prices in the second half of 1988 (Department of the Treasury, "Interim Report to the Congress Concerning International Discussions on an International Debt Management Authority," in *Third World Debt—Reports and the Brady Plan,* Hearings before the Subcommittee on International Development, Finance, Trade and Monetary Policy of the House Committee on Banking, Finance and Urban Affairs, 101st Cong , 1st sess. [Washington, D C.: GPO, 1989], p. 64) Clearly the decline reflected pessimism about the pre-Brady strategy However, neither anticipation of a new approach nor clarification of how the strategy would change fully reversed the downward adjustment

cash paid to compensate banks for forgone claims and (2) the returns on remaining exposure Banks realize a benefit on market accounting when the effective purchase price is high compared with the prevailing secondary market price However, even when it is low, they may be better off because of an induced capital gain on their remaining exposure due to a reduction in the amount of debt outstanding.[56]

The effective pricing of the early deals was consistent with the low levels to which prices had fallen (Table 7). In the case of Mexico, the buyback equivalent price—that is, the price at which the same amount of cash could have purchased an equivalent amount of debt reduction through a buyback—was below the secondary market prices prevailing during the period of negotiations [57] Despite a rise in prices just before the agreement with Venezuela was reached, the buyback equivalent price was in line with the average price prevailing during the negotiation period

Still, despite the relatively low compensation received by creditors for their reductions in nominal claims, they have benefited as their remaining exposure has appreciated in value. This recovery in prices was not immediate and it reflects a variety of factors, including some unrelated to the change in strategy. Undoubtedly the most important influence has been the increase in debt-servicing capacity Since 1988, most Brady countries have increased their exports, lowered their fiscal deficits, curtailed inflation, and strengthened their balance of payments positions (Table 8) [58] The shift in strategy may well have encouraged such changes by making needed policy reforms more politically acceptable The reduced debt burden magnified the effects of improvements in debt-servicing capacity on perceived creditworthiness, helping speed the return to market access. In addition, the securitization of remaining

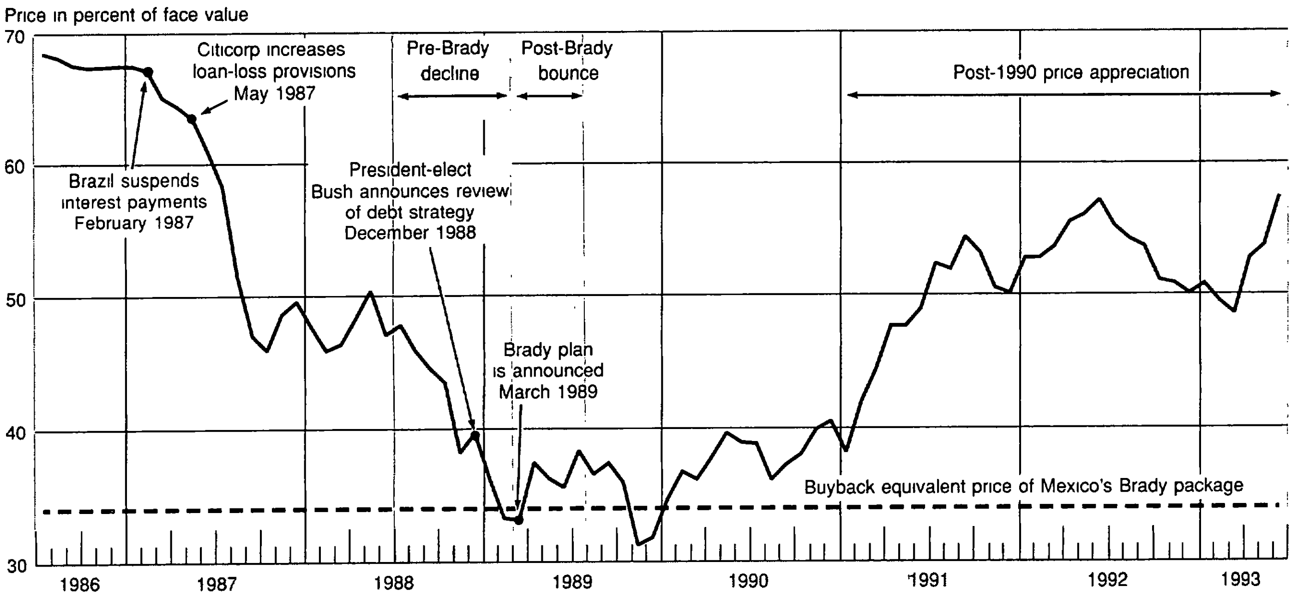
[56] In fact, some have argued that banks could have been paid less in anticipation of a post-deal price rise However, this would give rise to free rider problems because any single bank selling off its exposure would be worse off than those that did not

[57] The buyback equivalent price for a Brady package is the ratio of total up-front cash outlays for buybacks and collateral purchases to the present value of the exposure reduction by exiting banks For a further discussion of buyback equivalent prices, see John Clark, "Evaluation of Debt Exchanges," International Monetary Fund, Working Paper no 90/9, February 1990

[58] The country that made the least progress in some of these areas, Brazil, is also the country that showed the weakest price performance

Chart 13

Average Secondary Market Prices for Medium-Term Bank Debt



Sources Salomon Brothers, Federal Reserve Bank of New York staff estimates

Notes Index weights countries' debt prices by their share in total debt at the start of the period The countries included are Argentina, Bolivia, Brazil, Chile, Colombia, Cote d'Ivoire, Ecuador, Mexico, Morocco, Nigeria, Peru, the Philippines, Uruguay, Venezuela, and Yugoslavia Index reflects stripped prices (that is, prices adjusted to remove the effects of partial collateralization and interest reduction) following Brady restructurings claims greatly expanded liquidity (some Brady bonds are among the most actively traded instruments in the Euromarkets) and facilitated the entry of new investors into the market.

An important factor in the price rises not linked to the change in strategy has been the recent decline in global interest rates, particularly at medium- and long-term maturities. Lower rates raise the present value of future expected

Table 7

Evolution of Secondary Market Prices of Bank Claims on Selected Restructuring Countries

Cents per Dollar of Contractual Claim

Country	Secondary Market Prices: Mid-1988	February 1989	Average during Negotiations†	Following Agreement in Principle	December 1992‡	Memorandum Item: Buyback Equivalent Price of Brady Package
Weighted Average§ (excluding Chile)	**48.3**	**31.9**	**34.3/38.3**	**41.8**	**46.8**	**33.6**
Mexico	51.3	36.5	41.1	44.5	59.4	33.7
Costa Rica¶	14.7	13.5	13.0	16.0	34.1	17.4 ¶
Venezuela	55.6	35.0	37.8	42.8	53.9	37.5
Uruguay	61.3	60.5	53.4	56.3	65.4	51.0
Nigeria	29.5	22.0	29.1/36.1	44.6	39.5	39.0
Philippines (1990)	54.8	42.8	47.4	51.5	54.7	50.0
Philippines (1992)				53.3		46.2
Argentina	26.5	19.0	21.1/39.3	44.8	48.0	29.9 ¶
Brazil	52.1	30.0	29.5/34.2	35.9	29.5	28.5 ††
Chile	61.6	59.5	N.A.	N.A.	93.0	N.A.

Sources: Salomon Brothers, Federal Reserve Bank of New York staff estimates.

†Average price from March 1989 until agreement in principle. In cases where formal negotiations did not begin in 1989, the second price is the average during the period of formal negotiations.

‡Reflects weighted average price of new instruments issued under debt exchanges. In cases where buybacks were included, the price includes the buyback price weighted by the share of debt allocated to the buyback option.

§Prices are weighted by shares in total debt to commercial banks as of end-1986.

¶The buyback equivalent prices for Argentina and Costa Rica do not reflect down payments made at closing against interest arrears. Inclusion of these costs would raise the Argentina price by around 5 cents and the Costa Rica price by about 2 cents.

††The estimated price for Brazil reflects bank choices among options and interest rates prevailing in July 1992, when the terms of the package were agreed upon in principle. The actual cost of the package may be higher because of subsequent declines in long-term interest rates that have raised the cost of thirty-year zero coupon bonds.

Table 8

Selected Indicators of Economic Policy Performance

	Inflation (Annual Percent Change in Consumer Price Index)			Primary Fiscal Balance† (Percent of GDP)			Cumulative Export Growth‡
	1988	1989-91	1992	1988	1989-91	1992	(1988-92)
Mexico	51.7	22.8	11.9	8.0	7.1	5.6	47.5
Costa Rica	25.3	20.8	17.0	2.5	1.5	4.3	60.6
Venezuela	35.5	49.5	31.9	-6.1	3.5	-1.2	33.2
Uruguay	69.0	99.9	58.9	-0.4	1.3	3.4	36.5
Nigeria	64.7	23.8	48.8	-2.9	6.5	1.8	78.0
Philippines	9.0	15.0	8.1	2.7	3.6	4.6	62.4
Argentina	387.5	2,119.0	17.7	-0.6	0.3	1.4	33.0
Brazil	1,006.5	1,302.9	1,156.4	-0.4	1.5	2.0	11.7
Chile	12.2	22.5	12.8	5.0	5.5	4.6	53.4

Sources: International Monetary Fund, *International Financial Statistics*; Federal Reserve Bank of New York staff estimates.

†Excludes privatization receipts.

‡Exports of goods and services.

net debt service payments.[59] In addition, lower global rates raise the prospects for productive new inflows as yield-sensitive investors seek alternatives to industrial country investments. These new inflows in turn can raise debt-servicing capacity, increasing the value of existing debt.[60]

The emerging markets fixed income business

Finally, the Brady operations have helped create a new industry focused on investments in countries that have restructured their debts. The operations catalyzed a restoration of market access and encouraged the emergence of a vibrant secondary market for restructured claims. Secondary market trading rose more than sevenfold from 1988 to 1992, reaching about $0.7 trillion during the latter year.[61] On the fixed income side, the main lines of business include investing and trading in Brady bonds and Brady-eligible medium-term bank claims, and underwriting and investing in new international bond, commercial paper, and certificate of deposit issues.[62] In addition, derivatives underwriting has expanded in recent years. In some cases, the increased investor interest has spilled over into domestically issued debt instruments as well, principally those of Mexico and Argentina.

Most of the income earned in these markets accrues directly in the form of yield spreads and capital gains to investors willing to put their capital at risk. However, ancillary noninterest income opportunities have arisen as well from market making and underwriting. Although banks have captured a large, although shrinking, share of the noninterest income, they generally have been reluctant to expand their exposure significantly. Most of the growth in claims has been taken up by an expanding pool of nonbank investors.

The experience of late-restructuring countries

The early Brady deals (Mexico, Venezuela, Costa Rica) were priced at levels that reflected skepticism about the effectiveness of the new approach. However, as the early reformers, particularly Mexico and Chile, demonstrated how policy reform and debt reduction could lead to restored market access and sustainable growth, and as the interest rate outlook improved, a reassessment took place.

For late-restructuring countries, including those yet to negotiate a Brady deal, this reappraisal represents a mixed blessing. These countries have been helped by the enhanced credibility given to needed structural reforms, which makes their adoption more likely, and by the acceleration of their return to the market. Hence, their debt-servicing capacity has improved. However, this reappraisal has also tended to push up the price at which banks are willing to reduce their claims.[63] For example, market participants cited this demonstration effect to explain market bullishness in third-quarter 1991 for claims on countries in the earlier stages of policy reform and debt restructuring.

Late restructuring countries also face more of an uphill debt-servicing path because of their past interest arrears. Banks have taken a harder line on the treatment of interest arrears relative to principal, as part of their strategy of discouraging forced relief through such arrears. For example, in the bank packages for Brazil and Argentina, refinanced interest arrears were excluded from principal or interest reduction and carried maturities of ten to twelve years in contrast to maturities of as long as thirty years for restructured principal. As a consequence of not granting as flat a repayment profile as that accorded Mexico, the banks have effectively maintained a claim on these countries' expected increases in market access over the medium term.[64]

Conclusion

Since the emergence of the developing country debt crisis in 1982, policymakers have sought to avert systemic threats to the international financial system, to gain time for debtor

[59] The value of a country's external debt may be viewed as a function of the portion of export receipts or national income that the country is presumably willing to devote to the debt's servicing in the future When the discount rate is lowered, the present value of any future path of service payments rises.

[60] Of course, this outcome requires that the inflows be channeled into activities with appropriate returns.

[61] For estimates of the growth in trading volumes based on periodic surveys of market participants, see Richard Voorhees, "A Trillion Dollar Market," *LatinFinance*, no 45, pp 49-62. The 1992 estimate is taken from the Emerging Markets Traders Association's (EMTA) survey of market participants. The EMTA estimate does not adjust for double counting, see "EMTA Volume Study: Brazil, Mexico Grab Top Spots in $734 Billion Debt Market," *LDC Debt Report*, October 4, 1993, p. 7.

[62] For a discussion of recent developments in equity flows, see John Mullin, "Emerging Equity Markets in the Global Economy," Federal Reserve Bank of New York *Quarterly Review*, Summer 1993

[63] In many cases, before recovering, the prices of claims on the late-restructuring countries fell well below the buyback equivalent price of the Mexican Brady package. Note that fears that countries might drive down the price of their debt so as to purchase it subsequently on the cheap do not appear to have been borne out Banks have used arguments of precedence to resist offering more generous terms to late-restructuring countries, the power of precedent has pushed buyback equivalent prices of debt exchanges to conform more closely to those offered Mexico Countries that did not adopt strong adjustment programs generally lacked the resources to complete comprehensive restructuring operations because direct support from official creditors was not available. When countries that had been incurring interest arrears showed signs of moving toward a debt operation, debt prices tended to recover sharply. As a result, the effective prices of the bank packages reflected precedent, expected future debt-servicing capacity, and up-front enhancements rather than past debt-servicing history

[64] Although capturing the benefits of the improved outlook for capital inflows might not have directly informed banks' negotiating positions on the treatment of interest arrears, countries surely considered the outlook for future flows in deciding whether to agree to the banks' terms. Moreover, it seems reasonable to expect that banks as negotiators attempted to anticipate countries' positions. Hence, in this way, the outcomes on the arrears restructurings reflected the more optimistic outlook

countries to build up their debt-servicing capacity and get back on a sustainable growth path, and to restore countries' access to the international capital markets. Advances toward these goals were uneven under the new money strategy, and the process proved less and less workable over time. Designed to address these shortcomings, the Brady approach has achieved impressive results. The Brady restructurings did not achieve significantly more near-term cash flow relief for debtors than the previous approach. But they did provide a more stable long-run financial framework that, in combination with structural reforms by debtors and a favorable environment of lower global interest rates, helped to restore market access.

Although there has been a remarkable turnaround in the market's assessment of restructuring countries, significant risks remain. Debt service obligations remain heavy for the Brady countries. While the restoration of market access is helpful, the key to sustained growth and creditworthiness continues to be sound macroeconomic policies complemented where needed with further structural reforms.