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# The Macroeconomics of the Brazilian External Debt

Eliana A. Cardoso and Albert Fishlow

## 4.1 Introduction

Brazil has been a central participant in the developing country debt experience. In quantitative terms, Brazil's \$110 billion debt accounts for some 10 percent of the total debt of developing countries.<sup>1</sup> In qualitative terms, Brazil's strategic use of debt in the 1970s and subsequent adjustment difficulties in the 1980s epitomize the possibilities and risks inherent in reliance on foreign capital inflows. Brazil's large resource transfer to its creditors and low investment rate since 1982 point up the medium-term problem of sustaining adequate rates of economic development faced by other debtors. Finally, Brazil's evolution from diligent conformity to the rules of the game to its current moratorium symbolizes both the continuing precariousness of the present debt regime and the apparent inability to devise durable solutions.

Brazil's experience is distinctive, however, in three dimensions. First, a long tradition of inflation, and hence explicit indexing of wages, rents, financial assets, and the exchange rate, introduce special problems of adjustment to the sequence of balance of payments shocks since 1973. Second, Brazil is a continental economy, with limited reliance on trade. Export performance, although much improved relative to earlier periods, has remained somewhat erratic; the internal market has exercised much greater appeal. Shortage of foreign exchange for essential imports has always lurked as a potential constraint to economic expansion. Third, there is an imperative for rapid economic growth, which on the whole has been satisfied. In the postwar period, Brazil's trend rate of

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expansion of over 6 percent is one of the highest for developing countries. That standard is a constant source of pressure upon policymakers, whether under military or civilian government. Recession is not a permissible option. In combination, these three characteristics define very narrow limits for economic policy. They help to explain both why debt has proved so seductive but also difficult to manage, and why return to sustained economic growth and reasonable inflation rates is closely tied to more adequate treatment of the debt problem.

#### **4.2 The Debt Strategy of the 1970s**

The first oil shock caught Brazil at the height of its economic “miracle”: a product growth of 10 percent a year that had prevailed since 1968. The economy was showing clear signs of overheating, and excess demand for imports. As the leading developing country importer of petroleum, and one whose industry and transport were centered on the car and truck industry, the blow was especially severe. To make matters even more delicate, a political transition was in its initial stages, for which continuing prosperity was regarded as a necessary condition. These circumstances predisposed Brazil to an adjustment strategy based upon high, although slower, rates of growth, and one in which there was more reliance upon government-stimulated import substitution investment than upon market driven responses to changes in exchange rates or relative prices of petroleum. External debt played a central role in that strategy through its financing of increased investment rates and of large trade and current account deficits. By permitting gradual rather than immediate accommodation, the negative real income effects of the shock could be postponed and go unnoticed in the midst of continuing growth.

If there was demand for debt, there was also supply. Brazil was a favored and privileged participant in the Eurocurrency market. It had started to borrow early, even before the oil shock, and its rapid growth and level of industrialization qualified the country as highly credit-worthy. The Brazilian economic technocracy was held in high regard, and its political stability was not in doubt.

The strategy succeeded in sustaining high rates of growth: Between 1973 and 1979 Brazilian product expanded at a rate of 7 percent, well above the average for developing country oil importers as a whole. It did so, however, at the expense of a very rapid increase in medium- and long-term net debt: \$5.3 billion at the end of 1972 to \$31.6 billion at the end of 1978. The 35 percent annual rate of debt growth was also well above the 25 percent for oil importers. More significantly, the Brazilian net debt-export ratio had almost doubled and was about three times as great as the developing country average.

Brazil had thus become much more vulnerable to changes in the international economy as a result of its adjustment style. Import-substituting industrialization was itself highly import intensive in its early stages, and despite increasing export subsidies, the domestic market was clearly the priority. Oil imports continued to expand, while export performance lagged: Even though sales of industrial products increased, total export volume stagnated between 1973 and 1978. Improved terms of trade were an important factor in helping the trade balance through 1977.

At the same time, there were signs of an accumulating domestic disequilibrium as the ambitious investment plan was followed. Government expenditure outran its finance, and monetary accommodation was increasingly necessary to sustain direct outlays and mounting indirect incentives. The level of inflation had doubled from its pre-oil shock of 20 percent, and only a stop-and-go macropolicy and increasing direct controls prevented the situation from getting even more out of hand.

### **4.3 The Second Oil Shock and Subsequent Adjustment**

Even on the eve of the second oil shock, Brazil faced the need for a midterm modification of strategy. Such was the proposal of Mario Simonsen, to whom economic policy had been entrusted in the Figueiredo government installed in March 1979. He sought to reduce the government deficit and to finance less of it through credit. In addition, he sought to expand the use of price signals, including more aggressive exchange rate devaluation, as well as to accept the more modest rates of growth implicit in a stabilization policy.

This approach, labeled "recessionist" by Brazilian critics, yielded to a more ambitious supply-side plan undertaken by Simonsen's successor, Antonio Delfim Neto, the author of the earlier "miracle." Priority was given to expenditure and credit expansion to finance investment in the agricultural and energy sectors. A maxi-devaluation of 30 percent, the first departure from the crawling peg implanted in 1968, would ease the foreign exchange constraint. Macroeconomic policy would contain inflation by reducing interest rates (a significant cost component), and by changing expectations through preannounced internal monetary correction and exchange rate devaluation at 45 percent and 40 percent, respectively.

Heterodoxy did not work this time. The balance of payments, under pressure from the oil price increase and a 7 percent product increase, registered a record current account deficit of \$12.4 billion in 1980. Inflation reached a three digit level, reflecting excess demand, the increases of public-sector prices, the effects of devaluation, and the con-

sequences of a new wage law mandating a shorter adjustment lag. New finance was necessary, adding not only to the registered medium-and long-term debt, but increasingly to short-term liabilities.

The deterioration in creditworthiness enforced a foreign exchange constraint and, in October 1980, a more orthodox package of fiscal and monetary restraint was fashioned. Banks then agreed to new loans in 1981 to meet immediate needs. But the financing, since it was increasingly allocated to debt service, did not leave a margin for real growth. Brazil reluctantly entered into a lengthy period of adjustment through recession that was to last until 1983, provoking a decrease in absolute income of 4 percent that was greater than the fall in the 1930s.

The sudden decline in the availability of bank financing for debtors in 1982, after the Mexican *de facto* moratorium in August, was a major reason for this poor performance. Coming just when interest rates were rising sharply, and OECD countries were opting for reduced demand to control inflation, the capital supply shock left no alternative but contraction. Try as Brazil might in September and October to emphasize its continuing creditworthiness, replete with its own austerity program, the application for an IMF extended facility loan immediately after the November elections was a foregone conclusion.

Brazil's experience under the aegis of the Fund was tumultuous, as the submission of seven letters of intent over a two-year period suggests. There was reason for the two waivers, three modifications of targets, and two suspensions that characterized the relationship.

First, the initial program retained the limited and unrealistic financing requirements that the Brazilian authorities themselves had calculated in their effort to bypass the Fund. Such an underestimate required larger domestic financing of the rising interest debt service, and thereby made internal targets equally erroneous. Even the reduced disbursements agreed upon were not made in a timely fashion, complicating the situation more. Noncompliance was self-fulfilling.

Second, the standard nominal target for public-sector borrowing requirements, which is the centerpiece of an IMF stabilization program, did not easily conform to a highly indexed economy. The recorded increase in nominal government borrowing necessarily accommodated to the realized rate of inflation (and the exchange rate for a large part of the debt) since the outstanding principal was automatically revalued. Higher than projected inflation rates quickly absorbed all available finance for monetary and exchange correction, suggesting that policies were unrealistically stringent. This soon became apparent after another maxi-devaluation in February 1983 and led to an amended letter even before the first had been considered by the board. By the fourth letter in November, the Fund finally accepted the concept of an operational deficit purged of monetary and exchange correction that more ade-

quately measured the management of fiscal policy. This innovation has become characteristic of arrangements with other Latin American countries as well.

The third reason for agreement changes was that there was a marked divergence between internal and external performance. Contrary to the IMF model tying the improvement in the balance of payments to reduction in domestic credit and inflation, the Brazilian external accounts improved partially at the expense of higher inflation and larger public-sector deficits. Pervasive indexation projected exchange devaluations into higher rates of inflation. Export surpluses absorbed domestic saving and exerted upward pressure on interest rates that were applied to growing internal debt. Despite these interactions, and the Brazilian subordination of internal targets to external priorities, the Fund's preoccupation with inflation and deficits was persistent and became a source of continuing friction.

Brazil's trade balance improved more rapidly than had been expected, due to the jump in exports in 1984. Surpluses of \$1 billion a month, adequate to meet interest payments, obviated the need for new private capital inflows in 1985. This led to suspension of the IMF agreement as well as postponement of the planned multiyear rescheduling with the banks. The new civilian government, free from the requirements of external creditors, soon opted for a more expansionist policy based upon increased internal demand. Gross domestic product grew more than 8 percent in 1985.

Accelerating inflation, however, remained a concern and provoked popular discontent and political dissatisfaction. The response was the *Plano Cruzado*, in the mold of programs launched within the year in Argentina and Israel. It was a bold, and temporarily successful, attempt to match the success that had been achieved on the trade account with a recession-free solution to inflation that had escalated, by February 1986, to an annual rate approaching 400 percent.

#### 4.4 Stopping Inflation

The basis of the *Plano Cruzado* was the recognition that indexing played a central role in projecting past increases in price into the future:

$$p_t = a \cdot p_{t-1} + b \cdot gap_t + c \cdot e_t,$$

where  $p$  is the rate of inflation,  $gap$  is a measure of excess demand, and  $e$  is an indicator of supply shocks. Past inflation is built into current cost through its effect on wages, the exchange rate, and public sector prices. Excess demand measures the degree to which cost increases will be absorbed, but also the extent to which cost increases can be averted, as for example by increased labor turnover to avoid mandated

wage increases. Shocks record the effect of independent internal and external effects upon prices: harvests, oil prices, devaluation, etc. Where such a process has long been operative, as in Brazil, the role of nominal demand in stopping inflation is weak relative to the replicative effects of formal indexation. Moreover, any escalation of prices from supply shocks get permanently embedded in the inflation rate. Endogenous increases in velocity and money supply accommodate increases in prices.

To stop inflation effectively under such conditions requires a coordinated standstill of wages and prices. Indexing is nothing more than an automatic incomes policy to guard against erosion of real returns. The essence of the Cruzado Plan was to substitute a sophisticated price and wage freeze, where the latter took into explicit account the staggered contract period and thus the average level of real earnings over the preceding six months. Financial contracts also had to be rewritten to account for anticipated inflation in future payments. The new currency, which progressively appreciated against the old, facilitated the adjustment.

A neoclassical alternative approach would have consisted of an announcement of a new and credible noninflationary monetary regime, and a simultaneous wage recontracting. In conditions of hyperinflation, prices and wages tend to be measured in terms of foreign currency. It is not difficult, therefore, simply to rescale and stop inflation flat, as long as monetary and fiscal policies assure that the conversion holds. In Brazil, short of that degree of inflation, the freeze of the Cruzado Plan was a more feasible way of breaking the vicious circle. Nonetheless, it required that other sources of inflation be eliminated.

As it turned out, however, they were not. After an initial euphoric reception, the price freeze instead became the principal and preferred instrument of anti-inflationary policy. Politics had much to do with the decision. An impending election in November became the critical horizon around which all planning was centered. Critical decisions were postponed, and those intermediate measures taken to restrain the overheating economy were consciously diluted. Remonetization of the economy to satisfy increased demand for money balances and to prevent excessive real interest rates had gone too far. Fiscal policy, instead of being neutral, as the authors of the Cruzado Plan had hoped after the December tax increases, was expansionary. And wage policy encouraged, rather than restrained, the increases in real wages that had been on the rise since the expansion in 1985.

As shortages developed, expectations of resurgent inflation encouraged speculative accumulation of inventory and real assets, but not longer-term investment. Since the exchange rate had been held constant, it was becoming overvalued relative to repressed inflation, leading to disincentives to export. Consequently, the trade balance

underwent rapid deterioration in the last quarter of the year, and reserves were drawn down. When new increases in the excise tax (100 percent on beer and cigarettes and 80 percent on cars) were finally announced immediately after the election, they were too little and too late. Efforts to purge the price index, and hence prevent it from influencing wage demands, encountered popular resistance. Thereafter, de-control proceeded irregularly until the freeze was formally lifted in February 1987. Unchecked by the force of past, low-inflation inertia, prices exploded and were joined by wages triggered by the 20 percent annual threshold of the *escala movel* (sliding scale) that had been added to the Cruzado Plan. Interest rates registered ever increasing inflationary expectations that became reflected in actual price increases. The finance minister, Dilson Funaro, had gone from hero to villain in the space of six months. Even the proclamation of a moratorium on interest payments on the medium- and long-term commercial debt could not save his job.

The Cruzado Plan, which had been so promising, had failed and accelerating inflation remained. Its treatment was to require still new emergency measures and another freeze put in place by the successor finance minister, Luiz Carlos Bresser Pereira. The prospect of more conventional stabilization, predicated upon some reduction of real wages and slower demand growth, has unleashed a profound debate within the majority party, the Partido do Movimento Democrático Brasileiro (PMDB). Central to success will be the ability to gain control over government expenditures, not only of the Federal government but of heavily indebted states and municipalities.

Comparison of the earlier 1964–67 success in reversing accelerating inflation with the failure of the Cruzado Plan suggests three lessons. The first is that it was easier to gain control over the fiscal deficit in 1965, when the inherited public debt from the past was small and external assistance was forthcoming. By contrast, the debt-income ratio in 1986 stood at 50 percent, and a large transfer of resources amounting to 4 percent of product was necessary to service external interest.

The second lesson is to avoid excess boldness in policy implementation. The Cruzado Plan aimed for zero inflation and abolished indexation, while the program of 1964–68 introduced indexing as a way of reducing the real misallocations inherent in living with some inflation. Indexation is a source of inflation propagation, but it is also protection against rapid inflationary acceleration of the kind that occurred in early 1987. Adjustment triggers without caps and financial assets tied to the short-term interest rate created a volatile climate whose end result was inflation that reached almost 30 percent a month, or twice what had provoked the Cruzado Plan.

Third, distributionally neutral disinflation is theoretically attractive but difficult to manage. Incomes policy is a necessary means of achieving coordination and a reduction in inflation, but not sufficient by itself to sustain it. In 1964, residual wage repression was the element that underwrote continued progress in reducing the rate of inflation. Real wages were supposed to be maintained at their previous average, but the nominal wage adjustments were based upon prospective inflation rates much lower than realized. In 1986, real wages were increasing at the expense of profit margins, and provoked shortages, black markets, and disordered growth. In this case, it eventually meant that disinflation not only was checked, but that further costs were incurred through a deterioration in the balance of payments. Neither the 1964 nor the 1986 program were implemented as planned.

#### 4.5 External Debt, Budget Deficits, and Inflation

The budget deficit is central not only to the failure of the Cruzado Plan, but to the acceleration of inflation and high real interest rates of the 1981–84 stabilization period. Adding considerably to the complication of fiscal policy is the multiplicity of budgetary concepts, ranging from inclusion of monetary and exchange correction that is self-financed, to a cash-flow measure that excludes the implicit subsidies of the monetary authorities. We add another in table 4.1: a deficit measure corrected for inflation, based upon the real increases in the money stock and debt required to finance public sector expenditures. This, like the others, is large and above target, and has the added advantage of relating directly to the issue of financing.

In Brazil, because of its more sophisticated financial market and the attempt to comply with monetary targets, increases in debt rather than changes in the real monetary base and the inflation tax were used to

**Table 4.1** Different Measures of the Budget Deficit as a Share of GNP

Year	Increase in Total Debt/GDP	Deficit Corrected for Inflation/GDP	FGV <sup>a</sup> measure/GDP	BRPS <sup>b</sup> /GDP	Operational <sup>c</sup> Deficit/GDP
1982	29.9	8.4	3.7	15.8	6.6
1983	60.5	15.2	4.1	19.9	3.0
1984	60.7	4.6	4.7	23.3	2.7
1985	65.6	6.1	n.a.	27.8	4.3

Source: Cardoso and Reis (1986), and Banco Central of Brazil, *Brasil Programa Econômico*, February 1987.

<sup>a</sup>Calculated on cash-flow basis, excludes the monetary authorities' deficit.

<sup>b</sup>Borrowing requirement of the public sector, calculated on accrual basis, excludes the monetary authorities' deficit.

<sup>c</sup>Subtracts monetary correction from BRPS.

finance the deficit. As external resources became more limited, increases in the internal debt were the necessary vehicle. This process required ever higher real interest rates, that crowded out private investment, provoked in turn higher public interest expenditure and deficits, and pushed up private financial costs. Real devaluation in 1983 had the effect of significantly increasing internal debt through an exchange rate-based revaluation of principal greater than the inflation rate.

A simple two equation model incorporating debt finance in an open economy and specifying inflation dynamics brings out the essential elements of this interaction. The first equation combines the government budget constraint and the balance of payments definition:

$$(1) \quad \mu = a/h - \pi$$

where  $\mu$  is the growth rate of the real monetary base;  $a$  is the sum of the domestic deficit financed by increases in the monetary base and of the net trade and nonfactor service surplus;  $h$  is the real monetary base; and  $\pi$  is the rate of inflation.

The second equation describes changes in inflation as a function of excess demand. Inertial inflation is built in. Inflation accelerates when the actual real interest rate ( $i - \pi$ ) corresponding to goods and money market equilibrium, is below the full employment real interest rate,  $r$ , determined by permanent government expenditure,  $G$ , and the net trade and nonfactor service surplus,  $NX$ :

$$(2) \quad \pi = \sigma[r(G, NX) - (i - \pi)]$$

Figure 4.1 shows how Brazilian inflation between 1979 and 1985 increased despite reductions in the real monetary base. The two equations are graphed. Since a reduced monetization of domestic deficits offsets the export surplus, the schedule  $\mu = 0$  is held constant. The other,  $\pi = 0$ , shifts to the left as government expenditure increased and larger trade surpluses were necessary to pay interest on the external debt. The economy adjusts in a cyclical fashion; inflation no sooner subsides before another increase in excess demand sends both inflation and the required real interest rate up again.

In late 1986 and 1987, the acceleration in inflation after the failure of the Cruzado Plan can also be explained within the context of the same model. But now, with monetization of the larger deficit, the  $\mu = 0$  schedule also shifts, but to the right. The increase in the money supply lowers nominal interest rates and stimulates demand, pushing up the inflation rate. Gradually, inflation catches up with money growth and then exceeds it, reducing real cash balances and increasing the real interest rate. There is, therefore, a direct linkage between the growing inability to finance the public sector deficit externally after 1979, and

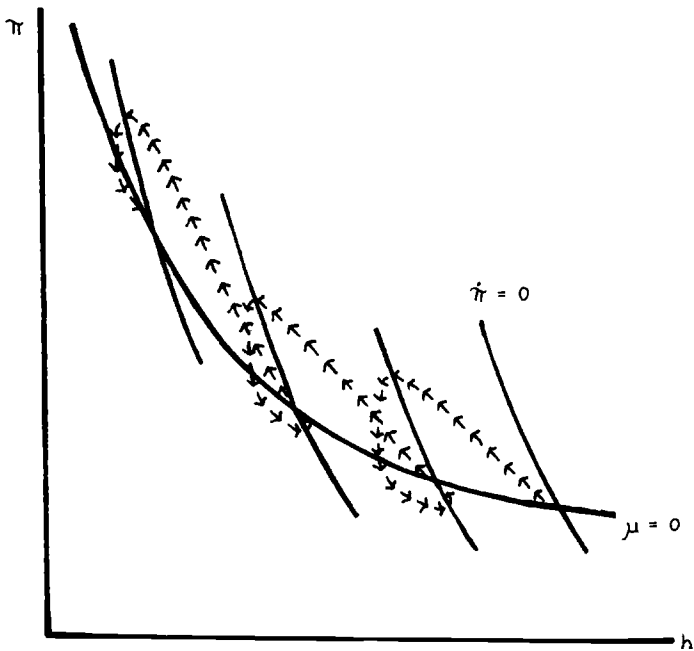


Fig. 4.1 Successive increases in the full employment real interest rate

domestic inflationary impulses. The debt problem went much deeper than the immediate effects of the balance of payments.

#### 4.6 Import Substitution and Export Diversification

From the standpoint of the balance of payments, Brazil was especially vulnerable to the oil, interest rate, and debt shocks because of its longstanding emphasis on import substitution industrialization. There was no margin of substantial competitive imports to be reduced easily. Trade was reduced to little more than 5 percent of total gross product. In addition, Brazil remained very dependent on imported oil. Import substitution had worked in Brazil, unlike many other countries, because of the size of the market; indicators like effective protection typically underestimate the competitiveness of the industrial sector because they generalize exaggerated tariffs to all domestic prices.

By 1964, after more than a decade of grappling with foreign exchange constraint, it was clear that trade liberalization and greater attention to exports were necessary. New and sizable incentives were conceded to exports of manufactured products principally through tax rebates of various kinds and subsidized credit. In 1968 the exchange rate policy was converted to a crawling peg, limiting the variations of real exchange

rates that earlier prejudiced export profitability. Performance improved markedly after 1968, with export receipts more than doubling by 1972. In addition to the diversification into industrial goods, increases in the volume and prices of nontraditional primary exports played an important role. These favorable results gained Brazil access to the Eurocurrency market and underwrote the even more rapid growth of imports that accompanied the economic "miracle."

The surge in the trade deficit in 1974 and continuing imbalance thereafter brought a resurgence of import controls and the ambitious import substitution with debt adjustment strategy described earlier. The appreciation of the real exchange rate was offset by larger export incentives that provoked increased resistance from the industrialized countries, particularly the United States. Export performance was irregular and disappointing over this interval; real growth stagnated between 1973 and 1978, and was an important reason for reliance on continuing debt. Improved terms of trade averted worse. Imports meanwhile were increasingly made up of oil and its derivatives, which went from 10 percent to almost a third of total imports.

Brazil, in common with other indebted countries, was forced into a massive reduction of imports after 1981. It did, however, achieve a large rise in exports in 1984, producing trade surpluses of more than \$12 billion in that year and in the following year. The same pace was followed in the first 9 months of 1986 until the Cruzado Plan unravelled. These results permitted interest obligations to be paid without resort to much new bank borrowing. They also led some Brazilians to the conclusion that high rates of growth could be resumed in the future without fear of again encountering an exchange rate constraint.

Closer analysis of Brazilian import demand and export supply cast doubt upon the validity of such an inference. There is no decisive evidence in favor of structural reduction of import elasticities in the 1980s. Higher rates of sustained growth are therefore likely to encounter much more than proportional import growth, particularly with increases in the investment rate. Relative price elasticities are low, on the other hand, limiting the impact of real devaluation. For exports, while manufactured products show a more than unitary real price elasticity, primary products, still more than a third of the total, are less sensitive. The influence of industrialized country income is also smaller and less reliable for primary products than for manufactured goods. The key point, however, is the large and consistently statistically significant influence of capacity utilization upon both import demand and export supply. Prosperity rapidly diminishes the trade surplus by augmenting imports and reducing exports.

The very favorable performance of the 1980s is thus not yet fully persuasive of Brazil's ability to keep imports down at abnormally low

levels or its capacity to sustain competitiveness with other exporting developing countries. Nor is international trade likely to be the engine of growth that it was before the oil shocks. Over the next few years projections show a rather slowly growing market with weak commodity prices. In order to revive the Brazilian economy, continued efforts to stimulate exports are necessary as well as a better international economic climate.

#### **4.7 Debt and Growth**

The debt problem is not simply one of macroeconomic adjustment, straining the balance of payments, and contributing to fiscal deficits and inflation. The debt problem is also a development problem.

Export surpluses to satisfy external interest obligations that have averaged more than 5 percent of gross product since 1984 imply correspondingly lower rates of investment. The real interest rates needed to restore macroeconomic equilibrium crowd out private-sector capital formation; they do not reduce consumption. This large decline of investment rates and relative constancy of the consumption ratio is widespread, and Brazil is prototypical. Investment averaged 21.6 percent of gross product in 1980–82, and only 17.7 percent in 1984–86.

Such investment rates are incompatible with the sustained recovery needed to absorb new entrants to the labor force, let alone to assure the continuing advances in productivity required to compete successfully in world markets. Only in an expanding economy, moreover, will it be possible to bring the public sector into better balance, and to achieve the increases in domestic saving implied by inevitably smaller future foreign savings. Durable structural reforms do not emanate from either stop-and-go macroeconomic policies or shock treatments intended rapidly to restore equilibrium. Only in an expanding economy will it be possible to service the debt reliably and continuously. A low-growth economic equilibrium in Brazil, especially under welcome transition to democracy, translates into a political and social disequilibrium. The first obligations to go, as the February moratorium already shows, are debt service.

Analyses that limit their scope to projecting the balance of payments are not only frequently overoptimistic about future imports and exports, but also miss the critical importance of the reverse resource transfer burdening an adequate recovery. Enormous trade surpluses are not in Brazil's immediate future. Nor should they be. An efficient international capital market should be expected to channel larger foreign savings to a country like Brazil that has a demonstrated record of sustained growth.

The implication is either larger capital flows or a reduction in external interest payments. Neither seems entirely likely to emerge from simple muddling through. The capital inflows required are large, and there is little indication that they will be forthcoming under present arrangements. Martin Feldstein's calculations for Brazilian net borrowing in *The Economist* (27 June 1987) are made to seem eminently reasonable. Yet the net annual borrowing of \$4 billion needed in the next few years is much greater than achieved in any year since 1982. If capital inflows had been larger, as the Baker Plan was supposed to have accomplished, then there would have been no moratorium, and very probably, a much more successful outcome to the Cruzado Plan.

Feldstein is correct regarding Brazil's capacity to absorb more debt productively and eventually to outgrow it in a world that was certain. Debt-export and debt-product ratios readily improve if modest trade surpluses are sustained and growth rates approximate the interest rate. This is the argument in support of more lending. Even if it were available, however, which remains a large question mark, such a course is not without peril. The problem is the projected 1987 debt-export ratio of 4.7 from which Brazil starts. That leaves Brazil extremely vulnerable to changes in interest rates, higher oil prices, slower industrialized country growth, and domestic policy mistakes. The trouble with muddling through is that the growth rates of developing countries have been the residual adjustment variable rather than a target to which capital flows reliably accommodate.

The case for some debt relief is made by market prices that value Brazilian debt at a discount of up to 40 percent. Such valuations imply an expectation of less than full debt service on outstanding loans. If large voluntary lending were available, Brazil would have an incentive to do better than predicted in order to qualify for needed additional capital. Since it is not, an alternative solution is to substitute a more certain asset, from the World Bank perhaps, yielding less, with the difference passed along in lower debt service to Brazil (and other countries) in return for policy conditionality. Now that banks have begun to adjust more realistically through loan loss reserves and larger capitalization, there is less risk to the financial system. Now that countries have made significant adjustment to the shocks of the last decade, Brazil included, there is the possibility of stimulating a return to needed higher rates of economic development.

## Appendix

### *Brazilian Economic Performance: 1971–86*

**Table 4.2** Real Rates of Growth of Production Year

Year	Gross Domestic Product	Industry	Agriculture
1971	12.0	12.0	11.3
1972	11.1	13.0	4.1
1973	13.6	16.3	3.6
1974	9.7	9.2	8.2
1975	5.4	5.9	4.8
1976	9.7	12.4	2.9
1977	5.7	3.9	11.8
1978	5.0	7.2	-2.6
1979	6.4	6.4	5.0
1980	7.2	7.9	6.3
1981	-1.6	-5.5	6.4
1982	0.9	0.6	-2.5
1983	-3.2	-6.8	2.2
1984	4.5	6.0	3.2
1985	8.3	9.0	8.8
1986	8.2		

**Table 4.3** Rates<sup>a</sup> of Growth of Money and Prices

Year	Monetary Base	Money Supply M1	Augmented <sup>b</sup> Money Supply M4	Wholesale Prices, Internal Supply	
				Total	Foodstuffs
1971	36.3	32.3	n.a.	21.4	30.2
1972	18.5	38.3	n.a.	15.9	16.1
1973	47.1	47.0	n.a.	15.5	12.4
1974	32.9	33.5	40.6	35.4	37.4
1975	36.4	42.8	57.5	29.3	33.0
1976	49.8	37.2	55.3	44.9	50.1
1977	50.7	37.5	49.1	35.5	37.5
1978	44.9	42.2	53.2	43.0	51.9
1979	84.4	73.6	65.1	80.1	84.8
1980	56.9	70.2	69.1	121.3	130.8
1981	78.0	87.2	141.7	94.3	85.9
1982	87.3	65.0	105.7	97.7	98.9
1983	96.3	95.0	150.2	234.0	299.5
1984	243.8	203.5	291.9	230.3	223.7
1985	202.8	328.2	302.4	225.7	
1986	293.5	303.8	102.5	62.6	

<sup>a</sup>December to December of indicated year.<sup>b</sup>Includes time deposits and federal government debt.

**Table 4.4**                      **Balance of Payments and Debt (\$ billion)**

Year	Exports <sup>a</sup>	Imports <sup>a</sup>		Net Interest	Current Account	Net Capital Inflows	Surplus	Level of Reserves	Level of Debt <sup>b</sup>
		Total	Fuel						
1971	2.9	3.2	0.4	0.3	-1.3	1.8	0.5	1.7	6.6
1972	4.0	4.2	0.5	0.4	-1.5	3.5	2.4	4.2	9.5
1973	6.2	6.2	0.8	0.5	-1.7	3.5	2.2	6.4	12.6
1974	8.0	12.6	3.0	0.7	-7.1	6.3	-0.9	5.3	17.2
1975	8.7	12.2	3.1	1.5	-6.7	5.9	-1.0	4.0	21.2
1976	10.1	12.4	3.8	1.8	-6.0	6.9	1.2	6.5	26.0
1977	12.1	12.0	4.1	2.1	-4.0	5.3	6.0	7.3	32.0
1978	12.7	13.7	4.5	2.7	-6.0	9.4	3.9	11.9	43.5
1979	15.2	18.1	6.8	4.2	-10.0	7.7	-3.2	9.7	49.9
1980	20.1	23.0	10.2	6.3	-12.4	9.7	-3.4	6.9	53.8
1981	23.3	22.1	11.3	9.2	-11.0	12.8	0.6	7.5	61.4
1982	20.2	19.4	10.5	11.4	-16.3	7.9	-8.8	4.0	69.7
1983	21.9	15.4	8.6	9.6	-6.8	2.1	-5.4	4.6	81.3
1984	27.0	13.9	7.3	10.2	0.0	0.2	0.7	12.0	91.1
1985	25.6	13.2	5.7	9.7	-0.3	-2.7	-3.5	11.6	95.9
1986	22.4	12.9		9.1				6.8	101.5

Source: *Conjuntura Economica*, various issues, and Banco Central of Brazil, *Monthly Bulletins*, various issues.

<sup>a</sup>FOB.

<sup>b</sup>Registered; excludes interbank liabilities and short-term debt.

**Table 4.5 Investment and Saving Shares in GDP 1970 – 1985**

Year	Gross Domestic Investment <sup>a/</sup> GDP	Non Factor Current Account <sup>b/</sup> GDP	Net Factor Payments Abroad <sup>c/</sup> GDP	Net Foreign Savings/ GDP	Gross National Savings/GDP
1970	21.5	-0.5	-0.8	1.3	20.2
1971	21.9	-1.7	-0.9	2.6	19.3
1972	22.1	-1.7	-0.9	2.6	19.5
1973	22.4	-1.2	-0.9	2.1	20.3
1974	23.9	-5.9	-0.9	6.8	17.1
1975	25.0	-4.0	-1.4	5.4	19.6
1976	23.3	-2.4	-1.6	4.0	19.3
1977	21.3	-0.7	-1.6	2.3	19.0
1978	21.1	-1.2	-2.2	3.4	17.1
1979	20.3	-1.9	-2.6	4.5	15.8
1980	21.1	-2.1	-3.1	5.2	15.9
1981	21.2	-0.3	-4.0	4.3	16.9
1982	21.2	-0.6	-5.1	5.7	15.5
1983	16.9	2.4	-5.7	3.3	13.6
1984	16.4	5.6	-5.7	0.1	16.3
1985	16.3	5.2	-5.4	0.2	16.1

Sources: *Conjuntura Econômica*, various issues, and Banco Central of Brazil, *Monthly Bulletins*, various issues.

<sup>a</sup>Changes in stocks are excluded.

<sup>b</sup>Excludes factor payments.

<sup>c</sup>Includes reinvested profits.

**Table 4.6**                    **Brazilian Foreign Debt and Reserves (\$ billions)**

Year	Medium- and Long-Term (1)	Short-Term (2)	Total Debt (1) + (2)	Gross Reserves	Reserves Net of Liabilities of Monetary Authorities	Ratio of Gross Interest to Exports	Ratio of Debt to GDP
1965	3.644		3.644	0.483	-0.777		
1966	3.666		3.666	0.421	0.412		
1967	3.281		3.281	0.198	-0.617		
1968	3.780		3.780	0.257	-0.488		
1969	4.403		4.403	0.657	0.143		
1970	5.295		5.295	1.187	0.786		
1971	6.622		6.622	1.723	1.413		
1972	9.521		9.521	4.183	3.706		
1973	12.572		12.572	6.416	5.994		
1974	17.166		17.166	5.269	4.870		
1975	21.171		21.171	4.041	3.688	.215	.20
1976	25.985		25.985	6.544	5.657	.206	.21
1977	32.037	3.700 NB	35.737	7.256	6.216	.203	.22
1978	43.511	4.600 NB	48.111	11.895	11.535	.264	.25
1979	49.904	6.200 NB	56.104	9.689	9.443	.351	.24
1980	53.848	10.800 NB	64.648	6.913	5.163	.370	.26
1981	61.411	14.100 NB	75.511	7.507	5.695	.435	.27
1982	70.198	13.067 CB	83.265	3.994	-2.332	.621	.30
1983	81.319	10.313 CB	91.632	4.563	0.086	.469	.45
1984	91.091	10.948 CB	102.039	11.995	5.096	.424	.48
1985	95.857	9.269 CB	105.126	11.608	4.400	.438	.47
1986	101.540	9.032 CB	110.572	6.760	0.771	.449	.42

*Sources:* Banco Central of Brazil and Nogueira Batista (1985).

(1) Medium- and long-term debt outstanding at the end of the year.

(2) Non-registered debt.

NB = Nogueira Batista's estimates.

CB = Central Bank figures.

**Table 4.7** Real Exchange Rates and Terms of Trade (1977 = 1)

Year	(1)	(2)	(3)	(4)	(5)
1970	1.059	1.218	1.620	0.936	0.89
1971	1.059	1.168	1.479	0.932	0.82
1972	1.027	1.126	1.380	0.942	0.87
1973	0.952	1.092	1.085	0.977	0.95
1974	0.929	1.067	0.901	0.978	0.78
1975	0.925	1.034	0.986	0.955	0.76
1976	0.969	1.025	1.056	1.101	0.85
1977	1.000	1.000	1.000	1.000	1.00
1978	0.896	0.916	1.056	1.105	0.86
1979	0.819	0.815	0.986	1.153	0.79
1980	0.766	0.714	0.944	0.951	0.65
1981	0.929	0.866	1.127	0.909	0.55
1982	0.981	0.941	1.296	0.896	0.54
1983	0.812	0.723	1.056	0.811	0.53
1984	0.849	0.723	1.056	0.738	0.58
1985		0.714		0.803	0.55
1986					

- (1) Ratio of domestic wholesale prices to foreign wholesale prices times exchange rate.  
(2) Ratio of Brazilian export prices of manufactures to export prices of competitors times exchange rate.  
(3) Ratio of domestic prices of manufactures to export prices of manufactures.  
(4) Ratio of domestic construction prices to prices of domestic manufactures.  
(5) Terms of trade: export prices divided by import prices.

## Note

1. Selected data relating to Brazilian macroeconomic performance and debt are found in the Appendix.

## References

- Arida, P ersio, and Andr e Lara-Resende. 1985. Inertial inflation and monetary reform. In *Inflation and indexation: Argentina, Brazil, and Israel*, ed. John Williamson. Washington, D.C.: Institute for International Economics.
- Batista, Paulo Nogueira. 1983. *Mito e realidade da d ıvida externa brasileira*. Rio de Janeiro: Paz e Terra.
- . 1985. International flows to Brazil. Mimeo. Rio de Janeiro: Funda  o Get ulio Vargas.
- Cardoso, Eliana. 1987. *Inflation, growth, and the real exchange rate: Brazil and Latin America, 1850–1983*. New York: Garland Publishing.

- . 1987. Latin American debt: Which way now? *Challenge* (May–June): 11–17.
- Cardoso, Eliana, and Rudiger Dornbusch. 1987. Brazil's tropical plan. *American Economic Review* 77, no. 2 (May): 288–92.
- Cardoso, Eliana, and E. Reis. 1986. Deficits, dividas e inflacao no Brasil. *Pesquisa e Planejamento Econômico* (December): 575–98.
- Díaz Alejandro, Carlos. 1983. Some aspects of the 1982–1983 Brazilian payments crisis. *Brookings Papers in Economic Activity* 1: 515–52.
- Dornbusch, Rudiger. 1985. The Larida proposal: Comments. In *Inflation and indexation: Argentina, Brazil, and Israel*, ed. John Williamson. Cambridge: MIT Press.
- . 1987. The world debt problem. New York: The Twentieth Century Fund.
- Dornbusch, Rudiger, and Mário Simonsen. 1987. *Inflation stabilization with incomes policy support*. New York: Group of Thirty.
- Fishlow, Albert. 1988. Tale of two presidents. In *Democratizing Brazil: Problems of transition and consolidation*, ed. Alfred Stepan. Oxford: Oxford University Press.
- . 1984. The debt crisis: Round two ahead? In *Adjustment Crisis in the Third World*, ed. R. E. Feinberg and V. Kallab. Washington, D.C.: Overseas Development Council.
- . 1985. The debt crisis: A longer perspective. *Journal of Development Planning* no. 16: 83–104.
- . 1985. Lessons from the past: Capital markets during the 19th century and the interwar period. *International Organization* 39, no. 3: 383–439.
- Goldsmith, Raymond. 1986. *Desenvolvimento financeiro sob um século de inflação: Brasil, 1850–1984*. São Paulo: Harper & Row do Brasil.
- Simonsen, Mário Henrique. 1983. Indexation: Current theory and the Brazilian experience. In *Inflation, debt, and indexation*, ed. Rudiger Dornbusch and Mário Henrique Simonsen. Cambridge: MIT Press.

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