

BRAZILIAN DEBT: A REQUIEM FOR MUDDLING THROUGH

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ABSTRACT*

Brazilian Debt: A Requiem for Muddling Through

This paper investigates the roles played by the global macroeconomic environment and by Brazilian policy in shaping the Brazilian debt crisis, and assesses the prospects for Brazil's sovereign debt after five years of the 'muddling-through' strategy. We first examine Brazilian debt from a historical perspective and then consider the experiences of the 1970s. Between 1978 and 1982, Brazil's current account shifted by \$13 billion towards deficits. This shift can be explained, for the most part, by the slowdown in exports, increased real interest rates and high real oil prices. Our estimates suggest that between 1978 and 1982, \$35 billion (75% of Brazil's total net debt accumulation) can be accounted for by the adverse external environment. We then review the period 1982-7 and highlight four factors which contributed to the failure of the muddling-through strategy: higher than expected real interest rates, the failure of commodity prices to rise from their low 1982 levels, the unexpected difficulties due to the transfer problem, and the diminishing enthusiasm of creditors for the strategy. We conclude by discussing policies which, we argue, would better serve the long-term interests of Brazil and its creditors.

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NON-TECHNICAL SUMMARY

When the debt crisis erupted in Mexico in 1982, and shortly thereafter elsewhere in Latin America, observers were divided on its origins. Some argued that the world economy was at an extraordinary low, with economic activity more depressed than at any time since the Great Depression, interest rates at their highest levels in decades and the real price of commodities sharply depressed. As a result, there was an expectation of an eventual recovery, which would bring cyclically rising manufacturing exports, rising real commodity prices, declining real interest rates and an early fall of the dollar. This suggested that the burdens of debt service would almost surely diminish as the world economic situation improved. Others argued that debtor countries had severely mismanaged their economies: overvalued exchange rates, pervasive budget deficits, unproductive spending and capital flight had absorbed scarce foreign exchange resources and prevented improved trade performance and debt service. There was little agreement on the relative importance of these two factors. Officials in the US saw the mess in the debtor countries as *the* cause of the debt crisis. Latin American observers, by contrast, gave little weight to domestic mismanagement and saw world macroeconomic developments as the predominant source of the crisis.

This paper investigates the roles played by the global macroeconomic environment and by Brazilian policy in shaping the Brazilian debt crisis and assesses the prospects for Brazil's sovereign debt. The state of moratorium and the disarray in the Brazilian economy raise doubts about the 'muddling-through' strategy of the past five years. That this strategy has failed is not in question: Brazil's debt/GDP ratio today is far higher than it was in 1982. The rescheduling that is now under way cannot disguise the fact that the process over the past five years was highly undesirable from any longer-run perspective, even though it may have served the short-run interests of the creditors. We first examine Brazilian debt from an historical perspective. We then review the period 1982-7 and analyse why the muddling-through strategy failed. We conclude by discussing policy options which, we argue, would better serve the long-term interests of Brazil and its creditors.

While history cannot be depended upon to repeat itself, today's debt crisis in Brazil runs parallel to earlier developments. Brazil went into debt in her very infancy: the history of the Brazilian empire is one of budget deficits, financed by external and domestic borrowing. Taxes and other revenues during the time of the empire covered only 30% of total expenditures: the rest was financed by debt. The Republic inherited this debt in 1889 and its early years were marked by financial crises related to debt service difficulties. Debt crises returned in the

1930s, in a fashion which parallels that of the 1980s. There was a plethora of capital available for loans in the decade preceding each of these crises — the 1920s as well as the 1970s. These two decades of economic prosperity were then followed by the deadly combination of terms of trade deterioration and cessation of capital flows. In the 1930s, there were twelve years of partial default before a permanent settlement could be reached. History therefore suggests that some years must pass before the current debt problem will be solved.

Brazil's experience in the 1980s does not conform to the common image of domestic mismanagement, capital flight, overvaluation, or massive inefficiency in the public sector. Increased interest rates and sharply augmented debt burdens are the most immediate causes of the foreign exchange shortage. If not for the Mexican crisis, rolling-over of debts and some domestic restraint might well have made Brazil's problems dissolve.

Between 1978 and 1982 Brazil's current account shifted by \$13 billion towards deficits. This shift can be explained, for the most part, by the slowdown in exports, increased real interest rates and higher real oil prices, without taking into account factors such as the impact of reduced real commodity export prices. Our calculations reveal that between 1978 and 1982, \$35 billion, or 75% of Brazil's total net debt accumulation can be accounted for by the adverse external environment.

External shocks therefore explain much of the debt accumulation, but this does not, of course, imply that Brazilian policy during this period was always correct. The fundamental error is well illustrated by Delfim Neto's memorable phrase: "Debts are not paid, debts are rolled." Relatively permanent shocks need adjustment, however, not financing; the Brazilian policy mistake, if any, was failure to adjust to such shocks. But then in 1982, it should be remembered, everyone was convinced that the world economic shock was transitory.

Today the muddling-through strategy, even with Baker plan enhancements, is widely considered a failure. Its failure cannot, however, be ascribed to slow growth in industrialized countries. The 1982 IMF economic outlook anticipated an average growth rate of 2.2% in the period 1984-6, while the actual growth rate was in fact 3.1%. But there were four other factors which clearly diverged from the 1982 scenario.

First, real interest rates were expected to decline much further than they did. The outlook was for real interest rates to average only 2% in 1984-6. In fact, they averaged 5.4%. Given the sensitivity of major debtors to an increase in interest rates this represents a major deterioration in the outlook.

Second, real commodity prices were expected to recover from what was thought to be a cyclical low. In fact, they kept on falling even from their 1982 levels and

by early 1987 the real price of non-oil commodities was at its lowest level since the 1930s. The decline was not cyclical, but rather an irreversible decline in real commodity prices due to capacity expansion and to commodity-saving innovation and substitution on the demand side.

Third, there was the unexpected (but historically well known) 'transfer problem'. This phrase describes the problems that result from the attempt to transfer resources representing a significant share of GDP from debtors to their creditors. There are three aspects of the transfer problem that are relevant to Brazil's experience. First, the effort in the budget to service debts (including interest) strains budgetary resources and leads to inflationary money creation. If domestic debt is issued to acquire the resources for external debt service, then this accumulation merely postpones the problem of debt and deficits. Second, the effort to transfer resources abroad requires a depreciation of the real exchange rate, which is itself inflationary. It is more inflationary the more sticky are real wages. The third aspect of the transfer problem concerns the manner in which the transfer is financed on the resource side: the required trade surplus may come from reduced consumption (public or private) or from reduced investment. In the case of Latin America, investment has declined, and this has led to concern about sustainable growth. The notion that the transfer to creditors could be financed by asset sales, thus apparently avoiding *any* crowding-out, is an illusion.

Fourth, the cohesion of the creditor cartel is increasingly tested by diminishing hopes of an early return to normal, and confidence in the muddling-through strategy is much reduced.

We use the Domar model of debt dynamics to assess the impact of world and country-specific developments on the likely evolution of Brazil's debt. Feldstein has recently used this framework to suggest that the case of Brazil is viable, in the sense that a non-interest trade surplus of 2.5% of GDP would be fully consistent with a declining debt ratio. Our simulations of the debt dynamics model suggest that a high non-interest current account surplus can compensate for the effects of high real interest rates and real depreciation. In this sense the debt problem need not inevitably worsen. The crucial issue, however, is the difficulty of generating non-interest surpluses large enough to offset the effects on the debt of high real interest rates in the presence of capital outflows. To a large extent this depends on the macroeconomic outlook, and this in turn depends on fiscal and external balance adjustment in the United States.

A favourable scenario for Brazilian debt resembles that of 1973-4 and involves large decline in the dollar, continued world economic growth and a decline in real interest rates, combined with a rise in commodity export prices (as a result of the dollar decline). This scenario has become more plausible in the aftermath of the recent worldwide decline in asset markets, which exposed pervasive financial fragility. Adding up all the aspects of this favourable scenario, Brazil could do

very well. Commodity price increases would help export revenue, and continued growth would support growth of manufactures exports; lower interest rates (certainly in real terms) would reduce debt service burdens. We estimate that the dollar depreciation would raise export earnings by increasing the dollar prices of primary commodities (by about half the magnitude of the depreciation). This increase in commodity prices would be lasting, and would apply to at least half if not more of Brazil's exports. If reinforced by lower interest rates it would bring about a major deceleration in debt accumulation directly and would make it easier to generate trade surpluses.

Our discussion of the transfer problem highlighted the domestic costs of bringing about, in the budget and in the external balance, a premature transfer of real resources towards the creditors. The costs take the form of depressed living standards, hyperinflation, sharply reduced investment, and hence the prospect of reduced long-term growth opportunities. The insistence over the past five years on cash collection has aggravated these transfer problems.

We argue that there are ways in which the long-term interests of debtors and creditors can be reconciled. A scheme that recycles a large part of the interest payments into Brazil would do away with the need for trade surpluses and the resulting crowding-out of investment. It thus makes it possible to have investment and growth, and yet provide creditors with debt service, albeit in investments that cannot be repatriated for the time being.

This could be achieved by adopting the following procedure. A much reduced trade surplus, of perhaps 1% of GDP, would be used to service a minor part of the debt, mostly that of governments and multilateral agencies, and to provide resources to buy out (via auction) small banks who are willing to accept deep discounts. The major part of the debt would be paid in Baker certificates — cruzados which are in part automatically re-lent to the government to finance public sector investment and in part freely disposable to finance loans or acquisition of assets in Brazil — but which cannot be transferred out of Brazil. In combination with a serious fiscal reform, this shift in debt servicing would restore normal growth and investment, and so provide the best possible prospect for the ultimate transfer of resources to the creditors.

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BRAZILIAN DEBT: A REQUIEM FOR MUDDLING THROUGH¹

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This paper investigates the outlook for Brazilian debt after a five year period of muddling-through. The state of moratorium and the disarray in the Brazilian economy raise doubts about the strategy of the past five years. The rescheduling that is underway does not detract from the fundamental fact that willingness and ability to service the debt are in question. In addition, the rescheduling does not change the fact that the process over the past five years was highly undesirable from any longer run perspective, even though it may have served shortrun interests of the creditors.

We develop our discussion by first taking a look at Brazilian debt history. This is a useful exercise to play out a sense of "deja vu". From there, we proceed to a review of the period between 1982-87 and an analysis of why the debt muddling through strategy failed. That the process failed is not in question, since Brazil's debt/GDP ratio today is far higher than it was when the crisis first started.

The following part of the paper investigates the world macroeconomic outlook and uses it in the context of the debt dynamics model to analyze alternative scenarios. The paper concludes by stating policy options more

consonant, than the current strategy, with the longterm interests of Brazil and her creditors.

1. BRAZILIAN DEBT RETROSPECTIVE

While history cannot be depended upon to repeat itself, today's debt crisis runs parallel to earlier developments in the 1930s. First there was a plethora of capital available for loans in the decade preceding each of these crises -- the 1920s as well as the 1970s. These two decades of economic prosperity were then followed by the deadly combination of terms of trade deterioration and cessation of capital flows both in the early 1930s and 1980s. With the 1930s crisis, there were 12 years of partial default before a permanent settlement could be reached. If the parallel is valid, years must pass before the current debt problem will be solved. Figure 1 shows the path of GDP per capita in the two periods. Included in the figure is an early 1960s crisis that pales in comparison with the other two.

Brazil went into debt in her very infancy. The history of the Brazilian empire is one of budget deficits, financed by external and domestic borrowing. Minister Ouro Preto's report on the budget situation at the time of the proclamation of the republic shows that taxes and other revenues during the time of the Empire covered only 30 percent of total expenditures. The rest was financed by debt which the Brazilian republic then inherited.

When the Brazilian Republic was declared in 1889, the external public debt already amounted to 33 million pound sterling. Ten years later, with a debt of almost 50 million pounds, the first debt crisis was brought

THREE RECESSIONS

LAST PEAK BEFORE RECESSION - 100

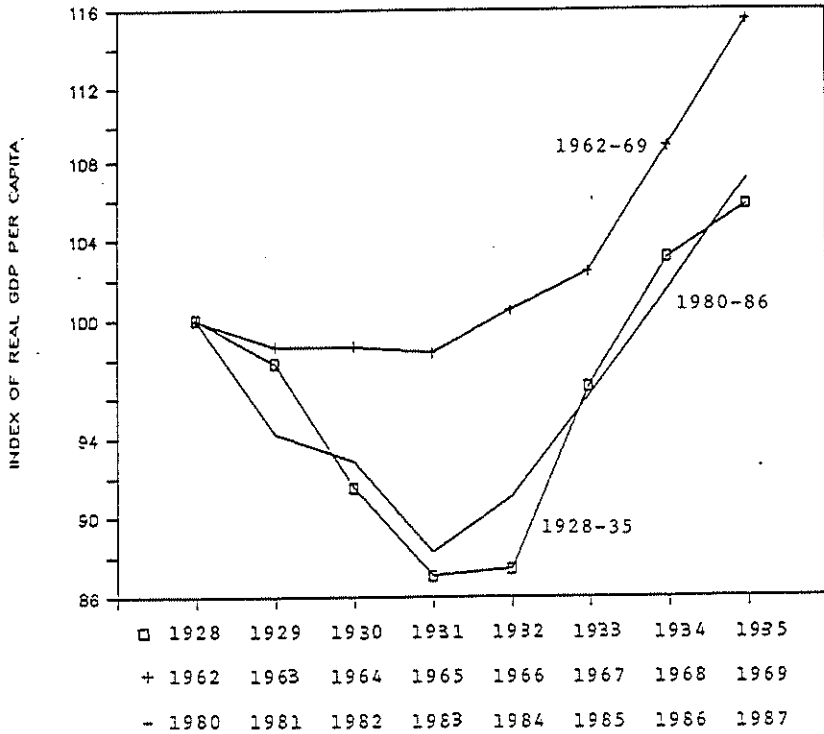


FIGURE 1

about by falling commodity prices and a halt to international lending in the aftermath of the Baring crisis.

The cessation of capital flows in 1889 meant that the deficit had to be financed by money creation. And the money supply was, indeed, increased. Where there is money, there is a feast, and the banquet lasted until 1892. Those were the years of the Encilhamento. With large inflation rates, financial instability and deterioration of the terms of trade, the situation could not last long. The whole affair culminated with the 1898 Funding Loan, whose conditionality terms were no better than those imposed by an IMF agreement. Taxes were increased and the finance minister, Murinho, rapidly proceeded to destroy paper currency.

The 1898 solution was the first of a series of reschedulings and "new money" packages which then were called "funding loans". By 1911 the debt increased to 145 million pounds; the second debt crisis, as well as the second funding loan, was imminent. Finance minister Rivadavia Correa noted:

"In finance the essential fact is that debts are paid with funds obtained from new loans. This has been the rule for us already many years. What is new is that this time the loan is made by the same people to whom we owe the overdue interest."²

Brazil did not miss out on the Twenties. The first American issue was sold in 1921. Prior to World War I, Brazil had raised her foreign loans in London. Sixty percent of the external obligations outstanding in 1930 was still denominated in sterling. By then, the external debt had risen to 250

2 Apud Claudionor de Souza Campos, Divida Externa, Rio: 1946, our translation.

million pounds (more than \$ U.S. 1 billion) and it was time for yet another debt crisis, a moratorium, and shortly afterwards the third funding loan. But in the next few years regular debt service, even with a restructuring, could not be maintained. As a result of the depression, service was interrupted in 1931-32. Application of part of the reduced funds available for debt service to the market purchase of bonds, depreciated by the default, became common.

In barely 40 years, the bondholders were forced to accept three voluntary abatements of their contractual claims, marked by the fundings of 1898, 1914 and 1931. In February, 1934, a "readjustment plan" named after finance minister Osvaldo Aranha, was put into effect. It effected a unilateral scaling down of payments. In previous difficulties, a funding loan provided the extra resources to partially satisfy existing creditors. This was the first time that debt service terms were unilaterally reduced, and some payments suspended.

Starting in November 1937, there was a complete suspension of debt remittances. Brazil's dictator Getulio Vargas explained:

"We stopped the service of the external debt, moved by circumstances beyond our control. This does not mean the rejection of earlier commitments. All we need is time to resolve difficulties that we did not create and to readjust our economy, transforming potential wealth in resources that will permit us to repay, without sacrifices, our creditors. Gone are the days when our obligations were written abroad, at the discretion of banks and intermediaries." ³

Not until 1940, with the help of the War, was partial debt service resumed, under a modified version of the previous schedule. This involved a further cut the original rates of payments.

3 Quoted by Valentim Boucas, Historia da Divida Externa, Rio: 1950, our translation.

In late 1943 Brazil implemented a unilateral exchange offer to consolidate debt service in a manner that is highly suggestive of possibilities today. The American press reacted with sympathy, as shown in an article in Barron's:

"In retrospect, we find that Brazil always paid on its foreign obligations when it was able to do so".⁴

Not everybody, however, would agree with such a statement. A notable exception appeared in The Economist:

"The whole story (of the Brazilian reschedulings) confirms the belief, expressed here more than once, that Brazil's intention has throughout been to escape from her obligations as lightly as possible and that she was enabled to do so by persistent disagreement between the representatives of America and Britain, and by the inability or unwillingness of the British authorities to play any effective part in securing reasonable terms".⁵

The 1943 plan consolidated the entire Brazilian debt, stretched the maturities by 40-60 years, and adjusted down both principal and interest. Creditors were offered a choice between two plans:

▲ Plan A: There would be no reduction of principal, but interest rates were reduced from more than 6.5 percent to 3.375 (and less) with a

4 Barron's National Business and Financial Weekly, April 20th, 1942, p.18.

5 The Economist, December 18th, 1943, p.817, "Squeezing the Lender". In the following issue, December 25th, pp.833-34, The Economist further criticizes the Brazilian settlement and states: "...the British authorities were unwilling or unable to put any pressure on the Brazilian government in favor of a less inequitable settlement. And it is an open secret in the City that the reason for the authorities' reluctance was the fact that Washington would not permit it... To put the question quite bluntly, the British holder of Brazilian obligations has been made to sacrifice to Pan-Americanism... There are higher things at stake than Brazilian bonds. Least of any journal in the country would The Economist object to anything that smooths the path of British-American cooperation, even it involves some sacrifice. If this is Washington's idea of a fair bargain, there is nothing to be done but to acquiesce."

provision for a sinking fund. Debt service (interest plus sinking fund) amounted to between 2.9 to 5.1 percent.

• Plan B: For every \$1000 of original bonds, bond holders would receive a cash payment of between \$75 and \$175, a new bond with a face value of \$800 (and \$500 in some cases), and a coupon reduced to 3.75 percent. The bonds had no fixed maturity but were entitled to a sinking fund. Interest plus sinking fund amounted to a combined debt service rate of 6.4 percent. In addition, the Brazilian Government guaranteed the service of state and municipal bonds assenting to plan B, should the individual obligors fail to make the required remittances.

Dollar issues constituted only about one-third of the foreign indebtedness of Brazil. The bulk of the obligations consisted of sterling loans, and the amount of service funds allotted to British creditors represented the 65.8 percent of total debt held to them.

Once again, Barron's and The Economist disagreed as to which of the plans offered better terms. The Economist believed option A, retaining the whole of the nominal capital, was the better option to take in the case of bonds with a low market value.⁶

Barron's stated that much more favorable treatment was available under option B which could be accepted only through the last day of 1944. It also explained the reason why option A was offered at all considering that option B was far superior. Since the creditors were given one unfavorable and

⁶ The Economist, December 23, 1944, p.852.

one favorable choice with a time limit, the numbers of assents were probably higher than they would have been otherwise. And Brazil, no doubt, would find it worthwhile to offer better terms for its external creditors if the external debt could be cut down from \$837.7 million to \$521.5 million, assuming 100 percent acceptance of option B.⁷

By early 1946, 78 percent of bond holders had assented to the exchange offer. Plan A had been chosen by 22 percent of the bond holders and 56 percent had opted for Plan B. Figure 2 shows the monthly maximum price in New York of a Brazilian bond⁸ with original terms of 6.5 percent interest and 1957 maturity. After 1943 the price refers to the same bond, now stamped for Plan A, interest adjusted to 3.375 percent and the maturity stretched to 1979. Throughout, the price is expressed as a ratio of the price of a 30 year U.S. government bond with a 6.5 percent coupon. The interesting point, here, is that after the 1943 downward adjustment in terms, with repudiation threats removed, the bond actually increased in value. From a rock bottom in 1940, prices increased over the next ten years more than sevenfold, yielding a compound rate of return (interest plus capital gains) of 125 percent per year! As a result Brazilian loans are seen as unusually attractive. This analysis, however, leaves out the financial consequences for widows and orphans who sold out at the bottom.

Brazil's debt problems did not end in 1943. New debt difficulties emerged in the early 1960s and again in the 1980s. Figures 3 and 4 show the

⁷ Barron's, January 31, 1944, p.8.

⁸ Weekly prices of Brazilian Bonds are found in The Commercial and Financial Chronicle.

PRICE OF BRAZILIAN BOND RELATIVE TO PRICE OF US LONG-TERM BOND

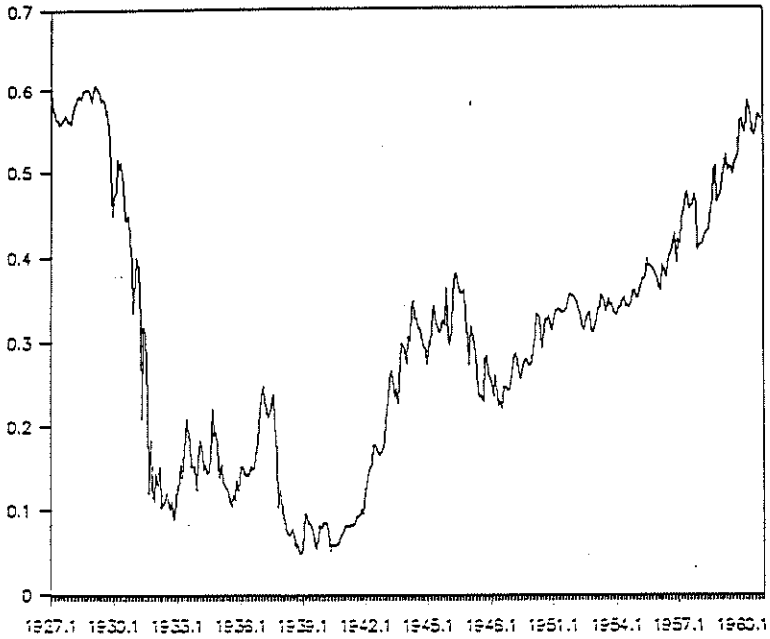


FIGURE 2

real debt per capita and the debt/export ratio⁸ between 1929 and 1986. The relatively low and decreasing levels of external debt recorded in the first post-war quinquennium are a legacy of the pre-war experience. The 1943 plan helped reduce the size of the debt from its peak level of more than one billion dollars in the early 1930s to some 600 million in 1946. In addition, a strong post-war recovery in Brazil's export prices postponed the need to explore new sources of external credit.

In the early 1950s, however, the country experienced huge trade deficits. They resulted primarily from the relaxation of import controls to permit stockpiling of materials during the Korean War. Those imports were initially financed by commercial arrears which, in the following year, were refinanced by short and medium term loans. By 1953, the external debt had doubled to more than one billion dollars.

By now, a new entry of capital in order to finance an ambitious industrialization drive had become necessary. Total capital inflows, both direct investment and loans, increased sharply after 1955, especially with suppliers credits. At the end of 1961, a time of political unrest, the external debt stood at double its level in 1955 and the country was ready for one more external crisis. As the economic situation deteriorated, capital inflows virtually ceased. The World Bank, previously an important source of official resources for Brazil, did not authorize a single loan between 1960 and 1964.

⁸ Sources are given in the Appendix.

REAL DEBT PER CAPITA

1929-1986

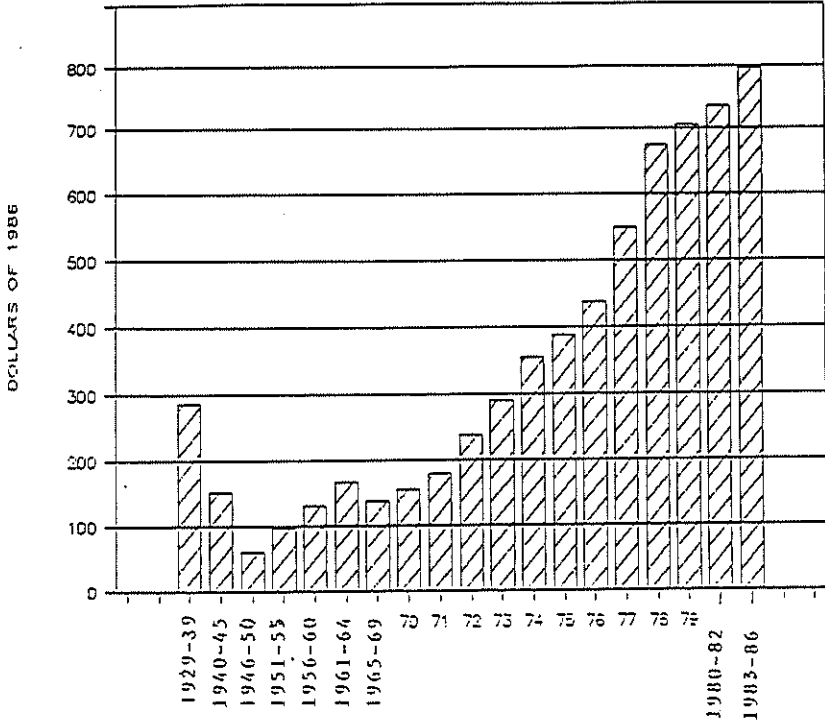


FIGURE 3

DEBT/EXPORT RATIO

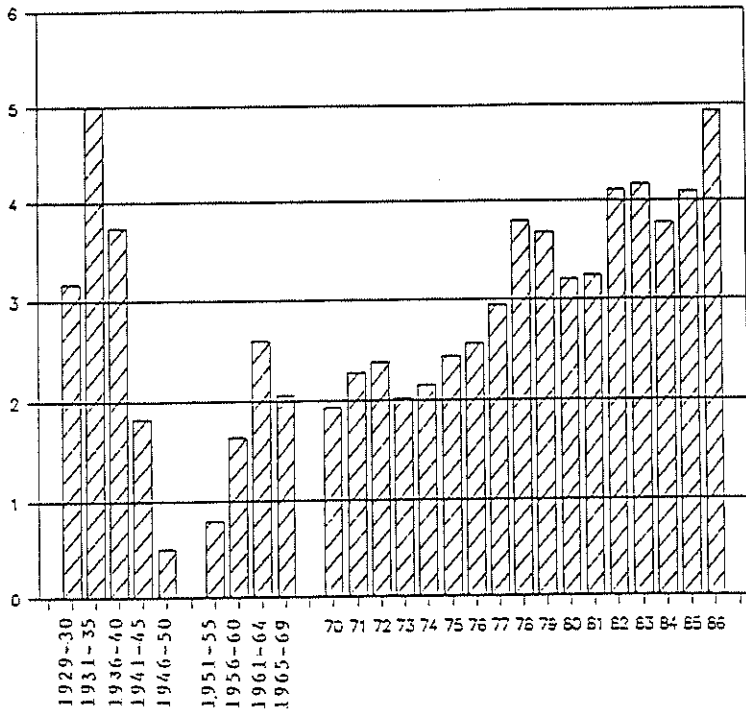


FIGURE 4

Debt rescheduling and new credits⁹ became available after the military coup in 1964. Thereafter, the government consciously embarked on a policy of tapping private capital markets to underwrite rapid expansion.

Two main features distinguish the postwar evolution of Brazil's balance of payments on current account. First, this balance was almost continuously unfavorable. Between 1950 and 1986, there was a surplus in only 8 of these 37 years. Second, the deficit on current account, which was relatively small until 1969, increased sharply after 1970.

The existence of a large deficit on current account up to 1983 was regarded as normal, since developing countries are importers of capital. The deficits rose sharply after 1970 and pointed out to problems that were starting to develop.

2. THE ORIGINS OF THE 1982 CRISIS AND MUDDLING THROUGH

When the debt crisis erupted in Mexico in the summer of 1982, and shortly after in all of Latin America, crisis handling was based on three premises:

First, the world economy was at an extraordinary low: economic activity was more depressed than at any time since the great depression. Interest rates were at their highest levels in decades. The real price of commodities were sharply depressed, and the dollar was overly strong.

⁹ Bitterman (1973) provides a description of the 1961 and the 1963-64 consolidations.

Recovery of the world economy was certain. As a result, there was an expectation of cyclically rising manufactures exports, rising real commodity prices, declining real interest rates, and even of an early fall of the dollar. This favorable perspective for the world economy suggested that the burdens of debt service would almost surely vanish.

Second, debtor countries had mismanaged their economies beyond belief; overvalued exchange rates, pervasive budget deficits, unproductive spending and capital flight had absorbed scarce foreign exchange resources and stood in the way of better trade performance and debt service ability. Using resources more efficiently, of course, implied that debt service would not necessarily be at the cost of reduced standards of living.

Third, a return to voluntary lending could only be envisaged if debtor countries made the best efforts to cooperate with the system, adjusting and serving debts to the fullest extent possible. Debtor countries accepted to do the utmost to promote a return of voluntary lending, so as to be in a position to call on foreign saving for development finance. There was no doubt that foreign lenders would unquestionably resume lending, once creditworthiness (defined objectively in terms of debt ratios) was restored.

These three premises were quite uniformly the elements in crisis diagnosis. Different observers disagreed, however, on weights assigned to each of these considerations. Characteristically, officials in the U.S. saw the mess in the debtor countries as the cause of the debt crisis:¹¹

11 Statement by Ciro DeFalco, U.S. Treasury, to a Conference cosponsored by the Joint Economic Committee and the Congressional Research Service Dealing with the Debt Problem of Latin America, p.76.

"..the debt crisis just did not happen in 1982 or was not the result of the increase in the oil price shock of 1979-80 or the rise in the dollar exchange rate. The cause of the debt crisis had its domestic origins in the economic policies of the debtor countries and so what we are seeing and what we will continue to see is a change in these policies -- budget deficits, excessive government spending, government interference in the markets, price controls and so on..."

Latin American observers, by contrast, gave far too little weight to their own dramatic mismanagement and the resulting debt accumulation. World macroeconomic developments, shown in Table 1, are seen by them as the outstanding source of problems.

Table 1: Aggregate World Macroeconomic Indicators

	Real Commodity Prices (1980=100) ^a	Libor % p.a.	Inflation ^b % p.a.	World Activity ^c % p.a.
1960-69	115	5.2	1.0	6.2
1970-79	115	8.0	11.4	3.4
1980	100	14.4	13.0	0.0
1981	96	16.5	-4.1	-7.0
1982	89	13.1	-3.5	-3.3
1983	98	9.6	-3.3	3.3
1984	101	10.8	-2.5	6.5
1985	88	8.3	-0.4	3.0
1986	72	6.9	13.7	1.0
1987	63	6.8	12.8	2.2

^a Measured in terms manufactures export prices of industrial countries. ^b Rate of increase of industrial countries' unit export values. ^c Industrial production.

Source: IMF and Economic Commission for Latin America

The Brazilian Case

Brazil's case is interesting in that it does not meet the image of capital flight, overvaluation or massive inefficiency in the public sector.¹¹ Increased interest rates and sharply augmented debt burdens are the most immediate cause of the foreign exchange shortage. If not for the Mexican crisis, rolling over of debts and some domestic restraint and cleaning up might well have made the problems dissolve into the background.

Table 2 shows the impact of external shocks on the Brazilian external balance. Between 1978 and 1982 the current account shifted by \$13 billion toward deficits. That shift is explained, for the most part, by the impact of the slowdown in exports, the increased real interest rate and higher real oil prices. These calculations do not even include the impact of reduced real commodity export prices or the interest on the extra debt due to the shocks.¹²

11 See Dornbusch (1985), Simonsen (1986), Cardoso and Fishlow (1987).

12 For an alternative calculation, broadly consistent with the estimates reported here, see Dornbusch (1985). It is shown there that in the period 1978-82 a \$34.9 billion increase in debt, compared to the counterfactual scenario, can be attributed to higher oil prices and increased interest rates. This number is virtually identical to the estimate in the text, although arrived at in a very different fashion.

Table 2: Contribution of External Shocks to Debt Accumulation: 1978-82
(Billion dollars)

	Oil (1)	Export Volume (2)	Interest Rates (3)	Total Debt Shock	Net Debt Outstanding
1978					36.2
1979	1.8		0.3	2.1	46.4
1980	5.7	0.6	1.1	7.4	57.7
1981	7.1	1.4	2.5	11.0	68.0
1982	6.1	2.4	5.9	14.4	83.5

Note: The calculations are based on the 1978 oil price, 1978 real interest rates (in terms of the U.S. deflator) and export performance based on deviations from an export regression.

Source: Eliana Cardoso and Albert Fishlow, The Macroeconomics of the Brazilian External Debt, Chicago University Press, forthcoming, Table 3.1.

The table shows that between the years 1978 and 1982, a cumulative sum of \$35 billion -- three quarters of the total net debt accumulation -- can be accounted for by the adverse external environment. The fact that external shocks can explain so much of the debt accumulation does not, of course, imply that there was no Brazilian policy mistake involved.

The policy mistake is well explained by finance minister Delfim Neto's memorable phrase: "Debts are not paid, debts are rolled". Nonetheless, relatively permanent shocks need adjustment, not financing. The Brazilian policy mistake, if any, was failure to adjust to external shocks. But then in 1982, everybody was busily explaining how the world economic shock was transitory.

What Went Wrong with Muddling-Through?

The muddling through strategy of 1982 was predicated, as discussed above, on a progress that would come fast, visibly and without extreme costs for either borrowers or lenders. Cline (1984), who was foremost in setting out a framework and forecasts, saw Brazil, in particular, as one of the countries with a favorable outlook in its ability to return to creditworthiness. Table 3 shows forecasts for Brazil laid out by Cline (1984) in 1983. The baseline scenario assumed the following 1983-86 averages: a growth rate of industrial countries of 2.6 percent, \$30 a barrel of oil, Libor at 9 percent, and a cumulative ten percent dollar depreciation.¹³ The Cline forecast of 1983 for Brazil is shown in Table 3.

Table 3: Cline's 1983 Forecasts for Brazil and Actual Outcome
(Billion \$, except as noted)

	Current Account ^a	Non-interest Current Account	Interest ^a	Debt ^b Increase	Debt/Exports ^c
Cline Forecast	-3.4	5.8	9.2	4.1	2.0
Actual	-3.0	8.0	10.8	27.3	4.2

^aAnnual average 1983-86, ^bCumulative increase in total debt, \$ bill., 1982-86
^cRatio of net debt to exports.

Source: Cline (1984), Table 3.3, IMF and Banco Central.

Although the current account deficit averaged approximately what had been predicted, the debt accumulation and the increase in the debt/export

13 The actual 1983-86 averages are: 3.5 percent growth, \$24.5 a barrel of oil, Libor at 9 percent and 8 percent cumulative dollar depreciation.

ratio are far larger than forecast. Important differences in the debt accumulation arise from the fact that Brazil experienced large capital outflows (in part connected with debt-equity swaps) whereas the Cline scenario anticipated substantial inflows. More recently capital flight has become an additional source of capital outflows. The large discrepancy between the actual debt/export ratio and Cline's forecast arises from the fact that Cline assumed a doubling of the value of merchandise exports, while it was in fact the 1986 level is only 10 percent above that of 1982.

It is clear that Brazil's return to voluntary lending is not on schedule. Even though in 1986, a return to the capital market seemed a possibility, at least in the rhetoric of the creditors, the chances today are once again quite remote. The state of moratorium and domestic disarray is one that would disabuse any lender of the notion that the debt strategy is on course.

Developments of the past five years evolved very differently from the 1982-83 expectations. Today the muddling-through strategy, even with Baker plan enhancements, is widely considered a failure. Interestingly, the problem was not with growth in industrialized countries. The 1982 IMF economic outlook, to use a specific benchmark, anticipated a growth rate in the base scenario of 2.2 percent on average in the period 1984-86, when the actual growth rate was in fact 3.1 percent. But there were four factors which clearly diverged from the 1982 scenario.¹⁵

15 See IMF World Economic Outlook, April 1982 for the initial scenario.

First, real interest rates were expected to decline much further than they did. The outlook was for real interest rates to average only 2 percent in 1984-86 (using the U.S. GNP deflator to measure inflation). In fact, however, they averaged 5.4 percent. Even in 1987 they still uncomfortably exceed the early expectations. Given the sensitivity of major debtors to an increase in interest rates this represents a major deterioration in the outlook. (This is compounded by the fact that Brazil's spreads did not in fact decline unlike in other major debtor countries.) The chief reason for high interest rates was seen to be the U.S. budget deficit.

Second, real commodity prices were expected to recover from what was thought to be a cyclical low. In fact, however, they kept on falling even from their 1982 levels. By early 1987 the real price of non-oil commodities was at the lowest level since the 1930s. It had become increasingly clear that much of the decline was not cyclical, but rather an irreversible decline in real commodity prices due to capacity expansion, and to commodity-saving innovation and substitution on the demand side. In the case of agricultural goods in particular, the immense productivity growth and increasing self-sufficiency of many traditional importers, as well as price support policies in industrial countries, had led to worldwide oversupply.

Third, there was the unexpected (but historically well known) "transfer problem". This is the catchall phrase that describes problems that result from the attempt to transfer resources representing a significant share of GDP from debtors to their creditors.¹⁶ There are three aspects of the

16 See Fraga (1985), Dornbusch (1986, 1987), and Webb (1987) for a discussion of the transfer problem in relation to debt service and for comparisons between the experience of Weimar Germany and Brazil.

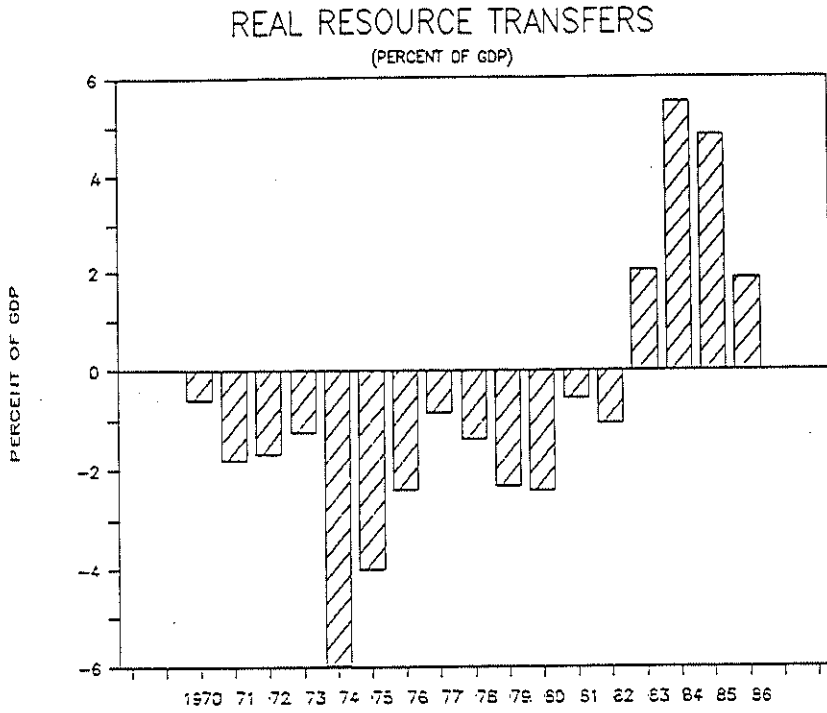


FIGURE 5

transfer problem that deserve emphasis. First, the effort in the budget to service debts (including interest) rather than roll them, strains budgetary resources and leads to inflationary money creation. If domestic debt is issued to acquire the resources for external debt service, then the domestic debt accumulation foreshadows debt and deficit problems that are merely postponed. Second, the effort to transfer resources abroad requires an improvement in competitiveness which is itself inflationary. It is more inflationary the more sticky real wages are. Moreover, these two factors interact: the need to depreciate the real exchange rate in order to transfer resources abroad, raises the real cost of debt service measured in terms of the domestic tax base.

The third aspect of the transfer problem concerns the manner in which the transfer is financed on the resource side: the required trade surplus may come out of reduced consumption (public or private) or out of reduced investment. When investment declines, as has been the case in Latin America, there is a concern about sustainable growth. The notion that the transfer could be financed by asset sales, thus apparently avoiding any crowding out, is an illusion, of course, as Simonsen (1985, 1986) has forcefully pointed out.

Finally, cartel fatigue is now pervasive. The precarious cohesion of the creditor cartel is increasingly being tested as reschedulings are becoming open-ended and the mirage of an early return to normal fades away. Differences between large and small banks, and now even between large and medium-sized banks, are becoming starker. Differences are also apparent between European

Banks, those in Japan and the major U.S. banks. Congress increasingly takes the view that the current handling of the debt problem is not in the public interest. Staffs of the multinationals, though perhaps not management, admit openly to the implausibility of muddling-through. Every new rescheduling is said to be the last that could possibly be done, but the next one is already on the calendar. Banks have openly declared that they are on the way out, that new money now has to come from the tax payer:¹⁶

"..official bodies and their controlling governments, should recognize that the roughly 50-50 split between private and official funds typical of many past new money packages for the debtor countries may not be a workable norm for the future, nor is indefinite reliance on "involuntary" lending by banks. Realism demands an increased share of new money be furnished by official sources during the next several years."

While the previous four factors have undoubtedly worked to the detriment of a steady, smooth disappearance of the debt problem there has been one favorable factor, namely oil prices. Oil prices, in Brazil's case, provided an important offsetting good news. From the level of \$34 in 1982, world oil prices declined to an average of only \$25 in 1983-86. By 1987 the \$18 price remained far below the 1982 peak. The favorable oil price helps explain how, in 1985, the entire Brazilian interest bill could be paid out of trade surpluses.

16 Quoted from Morgan Guaranty World Financial Markets, June/July 1987, p.2

The Current Situation

The situation today is well-captured by the state of moratorium and by the deep discount for Brazilian debts in the secondary market.

Table 4: The Discount in the Secondary Market for Brazilian Debt
(Cents per dollar, selling price)

7/85	1/86	7/86	1/87	5/87	7/87	9/87
75	75	73	74	64	57	39

Source: Salomon Brothers

Much of the problem with the external debt today reflects the disastrous state of domestic macroeconomics and an unwillingness to pay. The objective ability to service debts, in the long run, is much less in question than the willingness of the government to perpetuate the political and economic mistake of continuing the muddling-through strategy.

One of the important questions in deciding on a debt strategy for the next few years (assuming there is enough concentration and political leeway) must involve, once again, an assessment of the world macroeconomic and trade policy outlook. We turn next to these issues.

3. DEBT DYNAMICS AND THE WORLD MACROECONOMIC OUTLOOK

The model of debt-dynamics, in the tradition of Domar and Avramovic, can be used to assess the impact of world and country-specific developments on external debt. Feldstein (1986a, 1986b) has recently used this framework to

suggest that the case of Brazil is viable in the sense that a noninterest surplus (as a fraction of GDP) of 2.5 percent would be fully consistent with a declining debt ratio.

The basic debt dynamics model focuses on the ratio of debt to GDP. The debt/GDP ratio evolves accordingly to the familiar equation:

$$(1) \quad x_t = \alpha x_{t-1} - \sigma - \delta \quad ; \quad \alpha = 1+r+d-y$$

where:

- x is the ratio of debt to GDP;
- r is the effective real interest rate on debt adjusted for US inflation;
- d is the rate of real depreciation of the domestic currency;
- y is the growth rate of domestic income;
- σ is the non-interest current account surplus as a ratio of GDP;
- δ is the non-debt-creating capital inflows as a ratio of GDP;

The equation highlights three separate determinants:

The first factor (α) captures the automatic component of debt accumulation. The effective real interest rate is the Libor rate plus spread adjusted for U.S. inflation. If the real interest rate plus the rate of real depreciation exceed the Brazilian growth, then the debt-GDP ratio will rise. The equation emphasizes high U.S. real interest rates, large spreads, large real depreciation, and sluggish growth as sources of debt accumulation, relative to GDP. Of course, real depreciation and growth also affect the non-interest current account, which we consider presently.

The non-interest current account surplus, σ , is an essential determinant of debt accumulation. Other things being equal, the higher the non-interest surplus the lower the rate of increase of the debt-income ratio. The

in part on the external environment. The ease with which a country can generate a non-interest surplus consistent with domestic growth, moderate inflation, and high investment is the key issue in the debt discussion today.

Third, non-debt-creating capital flows can reduce the rate of debt accumulation. Direct investment inflows would reduce the rate of debt increase. By contrast, repatriation of foreign investment and capital flight add to the debt/GDP ratio.

The Feldstein (1986,1987) analysis focused on a situation where a country with Brazil's characteristics sustains a non-interest current account surplus equal to 2.5 percent of GDP. With a debt income ratio initially equal to 0.4 and a real interest rate of 6 percent the debt income ratio will steadily decline as long as there is some growth and non-debt-creating capital flows are zero. This argument seems to establish a rather strong presumption that the debt problem will vanish in time. But, of course, the basic assumption is that three conditions must be met: the country must generate non-interest surpluses, the real interest rate cannot be too high relative to output growth, and there needs to be a mechanism for financing the portion of interest payments that is not supported by the non-interest current account surplus.

Figure 6 shows the historical series for the Brazilian debt/GDP ratio, as well as three scenarios for the 1987-1999 period.

◆ Scenario I: $\alpha = 0.03$ and $\sigma + \delta = 0.01$.

In this outlook the combined real interest rate and real depreciation rate are high relative to the rate of growth of income. The scenario might be one where real depreciation is required, and growth is sluggish because of

external constraints. The country, however, runs a surplus on the non-interest current account. The sum of this surplus and non-debt-creating capital flows equal 1.0 percent of GDP. Even so, the debt-GDP ratio rises from the 1986 level of 41 percent to 44 percent by 1999. This is a scenario where an unfavorable world economic environment leads to a deterioration of debt even with some efforts toward debt service. The debt service effort is simply not enough to make up for the bad environment.

- Scenario II: $\alpha = 0.06$ and $\sigma + \delta = 0.025$.

In this case the world economic outlook is significantly worse than in scenario I, and \underline{a} is accordingly higher. But the debt service effort added to non-debt-creating flows is so substantial -- 2.5 percent of GDP -- that it more than compensates. Accordingly, a moderate debt reduction is possible, leading to a 1999 debt ratio of 39.4 percent.

- Scenario III: $\alpha = 0$ and $\sigma + \delta = 0.025$.

In this case real interest, real depreciation, and domestic growth offset each other. The world economic environment is sufficiently favorable that there is growth at home, and little or no depreciation. Thus there is no automatic accumulation of debt. With a debt service effort of 2.5 percent of GDP there is a dramatic debt reduction to a ratio of only 8.1 percent in 1999.

These simulations give some idea of the importance of the non-interest current account surplus. High non-interest surplus can compensate for the effects of high real interest rates and real depreciation. In that sense there is no debt problem that must get fatally worse. The active issue, here, is how difficult it is to generate non-interest surpluses large enough to finance the

DEBT-GDP RATIO: ALTERNATIVE SCENARIOS (PERCENT)

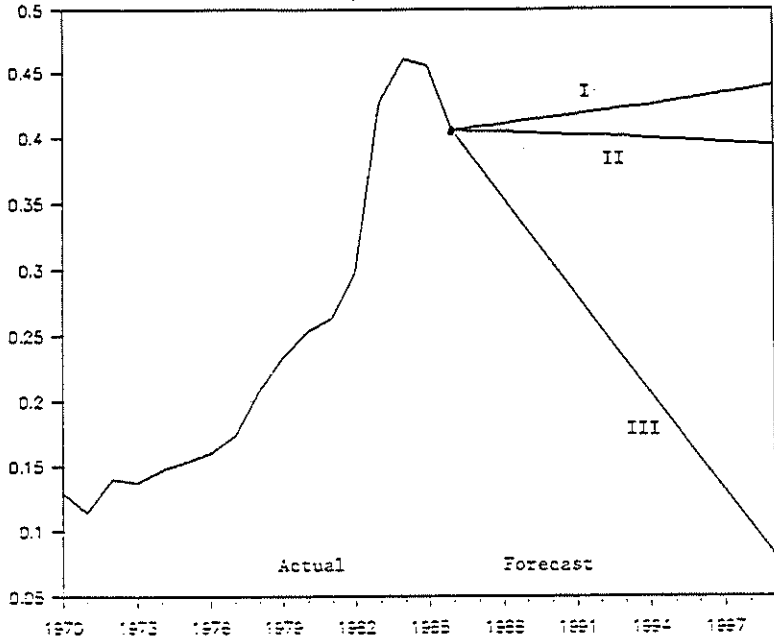


FIGURE 6

difficult it is to generate non-interest surpluses large enough to finance the debt effects of high real interest rates in the presence of capital outflows. We return to this question below. In the meantime we consider whether the world's macroeconomic outlook offers the perspective of an improvement or deterioration.

The World Macroeconomic Outlook

The most recent IMF economic outlook is shown in Table 5. The table highlights a relatively flat external environment: sustained growth, a minor improvement in real commodity prices, and no significant decline in real interest rates.

Table 5: The 1987 IMF World Economic Outlook
(Average annual percentage change)

	1983-87	1987	1988	1989-91
Indust. Countries' Growth	3.2	2.4	2.6	2.9
Real LIBOR ^a	5.3	3.9	3.6	4.0
Manufactures Prices	5.2	12.8	3.8	3.0
Oil Prices	-8.2	27.6	3.5	3.0
Commodity Prices	-0.9	-1.0	4.0	4.2

^a Using the U.S. GNP deflator.

Source: IMF World Economic Outlook. October 1987

The general scenario in Table 5 conceals the very substantial differences that arise under alternative assumptions about U.S. fiscal and external balance adjustment. We now explore two basic scenarios, one favorable the other unfavorable from the point of view of a debtor country.

The favorable scenario involves a large decline in the dollar, continued world economic growth, and a decline in real interest rates combined

with a rise in commodity prices. This scenario has become significantly more plausible in the aftermath of the worldwide decline in asset markets which exposed pervasive financial fragility.

The favorable scenario might come about as follows: Contrary to early expectations, the stock market decline does not bring about a major slowdown of the world economy. Congress and the President agree on a multi-year, significant deficit reduction package. The confidence effects of this program in asset markets brings about a rise in asset prices and a decline in long-term interest rates. The monetary authorities support the fiscal contraction by maintaining real interest rates at the current or lower levels. The reduction in interest rates leads to a massive decline in the dollar, the extent of which is only arrested when foreign monetary authorities likewise cut interest rates. Lower interest rates worldwide, continued growth, and a steep fall in the dollar would inevitably bring about a major increase in the dollar prices of commodities. If U.S. fiscal correction includes a significant gas tax, and OPEC feels weak, oil prices in dollars might show little increase.

Adding up all the aspects of this favorable scenario, Brazil could do very well. Commodity price increases would help export revenue, and continued growth would support growth of manufactures exports; lower interest rates (certainly in real terms) would reduce debt service burdens. This scenario has many of the features of 1973-74 which was immensely beneficial for debtors. It is worth noting that the dollar decline works through two separate channels. First it raises the dollar value of debt denominated in European currencies and in Yen. But these debts only account for 30 percent of the total, and hence the

effect is limited even for a major dollar decline. But there is also an increase in the dollar prices of primary commodities, and hence of export earnings.

A dollar depreciation would raise dollar prices of primary commodities by about half the depreciation. This would be a lasting increase in commodity prices, applying to at least half if not more of exports. This effect is accordingly very powerful because it is recurrent. If reinforced by lower interest rates it can bring about a major change in the international setting to slow debt accumulation directly and by greater ease in running non-interest surpluses. Interest rates are crucial because 75 percent of Brazilian debt service is geared to short term money market rates.

The alternative scenario was more likely before the crash, but is not totally implausible even today. In this scenario concern over exchange rates leads the Federal Reserve to raise interest rates sharply. Growth slows down worldwide. Any fiscal correction would further aggravate this outlook. Moreover, high interest rates and the slowdown would exert a dampening effect on commodity prices in dollars.

In concluding on these scenarios associated with U.S. adjustment, there are genuine possibilities for a major change in the international environment. Specifically the favorable scenario might lead to a melting away of debt income ratios if the world economy is willing to accept a fair amount of inflation. But there is an offsetting point that has not received much attention: that is the counterpart to U.S. adjustment. Will Japan and Europe lose their surpluses? And if so, what is the impact on their imports from developing countries? Will debtor countries like Brazil have to make a major

contribution? There is serious risk here of inconsistency. U.S. trade improvement and a dramatic improvement of debtor country credit worthiness are basically inconsistent, unless extremely low real interest rates and high real non-oil-commodity prices become the central facts in the coming years.

The other important risk which remains is protectionism. There is no question, however, that in the context of protectionism any legitimacy of debt collection would simply evaporate.

4. CONSTRUCTIVE POLICY ALTERNATIVES

The discussion of the transfer problem highlighted the domestic costs of bringing about, in the budget and in the external balance, a premature transfer of real resources toward the creditors. The costs take the form of depressed living standards, hyperinflation, sharply reduced investment, and hence the perspective of reduced long term growth opportunities. The insistence on cash collection of the past five years has aggravated these transfer problems to the maximum extent. Even in Brazil, where foreign resources had on balance been wisely invested, at least until the late 1970s, the costs are totally apparent. The trade off between immediate growth and debt service is there for anyone to see.

Are there ways in which the longterm interests of debtors and creditors can be reconciled? The answer is yes! A scheme that recycles a large part of the interest payments into the country does away with the need for trade surpluses and the resulting crowding out of investment. It thus makes it possible to have investment and growth, and yet provide creditors with debt service, albeit in investments that cannot be repatriated for the time being.

Practically, this could be achieved by adopting the following procedure. A much reduced trade surplus of perhaps 1 percent of GDP would be used to service a minor part of the debt, mostly to governments and multilateral agencies, and to provide resources to buy out (via auction) small banks who are willing to accept deep discounts.

The major part of the debt would be paid in Baker certificates -- cruzados which are in part automatically re-lent to the government to finance public sector investment and in part are freely disposable to finance loans or acquisition of assets in Brazil. The only restriction on the disposal of Baker certificates or the investments they generate is that they cannot be transferred out of Brazil. In combination with a serious fiscal reform, this shift in debt servicing would restore normal growth and investment, and thus, provides maximum assurance of an ultimate transfer of resources to the creditors.

This scheme basically gives Brazil some years to restore a normal macroeconomy before resuming resource transfers abroad. It emphasizes that debt service is ultimately best guaranteed by investment and growth. The Baker plan, while nominally committed to this target, failed because it overstressed early debt collection at the expense of investment.

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APPENDIX

Table A-1. External Debt

Period	Total Debt (Billions of Current dollars)	Real Debt per Capita (in dollars of 1986) ^e	Debt/Income ^f Index 1970 = 100
1929-39	1.190 ^a	287	582.3
1940-45	0.855 ^a	153	255.8
1946-50	0.600 ^b	60	81.9
1951-55	1.227 ^c	96	107.4
1956-60	2.201 ^c	131	123.5
1961-64	3.545 ^c	168	133.5
1965-69	3.755 ^c	138	103.1
1970	5.295 ^c	156	100.0
1971	6.622 ^c	179	105.9
1972	9.521 ^c	239	129.4
1973	12.572 ^c	291	141.3
1974	17.166 ^c	355	162.2
1975	21.171 ^c	389	173.1
1976	25.985 ^c	438	181.9
1977	35.737 ^d	551	224.2
1978	48.111 ^d	675	268.4
1979	56.104 ^d	706	268.2
1980	64.648 ^d	712	254.0
1981	75.511 ^d	742	280.7
1982	83.265 ^d	751	288.6
1983	91.632 ^d	779	314.8
1984	102.039 ^d	815	319.3
1985	105.126 ^d	795	294.9
1986	110.572 ^d	798	280.6

Sources: ^a Marcelo de Paiva Abreu, "Brazilian Public Foreign Debt Policy, 1931-1943", Brazilian Economic Studies, n.4, IPEA: Rio de Janeiro, 1978, Table 1 figures were converted to dollars. ^b John T. Donnelly, "External Financing and Short-Term Consequences of External Debt Servicing for Brazilian Economic Development, 1947-1968", The Journal of Developing Areas, April 1973, pp.411-430. ^c Banco Central do Brasil: Long and Medium Term Debt. ^d Banco Central do Brasil, Long, Medium and Short-Term Debt. ^e Nominal debt deflated by U.S. implicit price deflator for GNP, The National Income and Product Accounts of the U.S., U.S. Department of Commerce. Brazilian population before 1950 from Villela e Suzigan, Politica de Governo e Crescimento da Economia Brasileira- 1889-1945, IPEA/INPES, Rio de Janeiro, 1973. After 1950, IMF, International Financial Statistics. ^f Obtained by dividing the index of the real debt per capita by the index of the real GDP per capita.

Table A-2 Brazilian Debt and Deficits
(% of PIB)

	1982	1983	1984	1985	1986
PSBR ^a	15.8	19.9	23.3	27.5	10.8
Operational Deficit ^a	6.6	3.0	2.7	4.3	3.7
Total Debt/PIB	28.8	45.0	47.7	49.2	46.9
Resource Transfer Abroad	-1.4	2.0	5.4	4.8	2.3
Share of External Debt in Total Debt (%)	55.5	64.1	60.4	59.3	59.11

^aPublic sector borrowing requirement, % of PIB, ^b % of PIB
Source: Banco Central and Ministerio da Fazenda

Table A-3 Brazil: 1987 Structure of the External Debt

	Bill. \$	Percent
Total	110.4	100.0
Official Institutions	28.3	25.6
Int'l. Organizations	13.7	12.4
Governments	14.6	13.2
Private Lenders	82.1	74.4
Banks	75.0	68.0
U.S. Banks	(22.2)	(20.1)
Other	7.1	6.4

Source: Banco Central

Table A-4 Debt/Export Ratio

Year	Ratio	Year	Ratio
		1965	2.3
1929	2.5	1966	2.1
1930	3.8	1967	2.0
1931	5.3	1968	2.0
1932	5.5	1969	1.9
1933	5.0	1970	1.9
1934	4.5	1971	2.3
1935	4.7	1972	2.4
1936	3.9	1973	2.0
1937	3.4	1974	2.2
1938	4.0	1975	2.4
1939	3.7	1976	2.6
1940	3.7	1977	2.9
1941	2.6	1978	3.8
1942	2.3	1979	3.7
1943	1.9	1980	3.2
1944	1.3	1981	3.2
1945	1.0	1982	4.1
1946-50	0.5	1983	4.2
1951-55	0.8	1984	3.8
1956-60	1.6	1985	4.1
1961-64	2.6	1986	4.9

Source: Table A-1, Banco Central, and Malan et al., *Politica Economica Externa e Industrializacao no Brasil, Relatorio de Pesquisa*, IPEA, Rio de Janeiro, 1977.