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4 Stopping Inflation

Brazilian inflation is a problem that predates the current debt overhang. Figure 4.1 provides some recent history. In the five years between 1959 and 1964, increasingly populist administrations carried inflation from 10 to 100 percent. By 1968 it was down to 20 percent, a level that persisted until the first oil shock, when inflation jumped to 40 percent. There it remained until 1979. In the five years between 1980 and 1985, the government's failure to absorb the debt and oil shocks in a noninflationary manner pushed inflation from 50 to 220 percent. On 28 February 1986, with inflation at 400 percent per year, Brazil embarked on its second major stabilization effort in twenty-five years.

In this chapter we highlight the main features of the Brazilian inflation process and contrast the two stabilization efforts. The dynamics of Brazilian inflation is best understood by recognizing the interaction of supply shocks and indexation as the main elements in generating acceleration. The two stabilization efforts demonstrate that an incomes policy is an essential ingredient to nonrecessionary stabilization. But they also show that demand restraint is indispensable if disinflation is to be viable and that external conditions make a difference. The 1964 program was gradualist and relied on wage repression to prevent cost forces from pressing on prices. Stabilization was non-neutral in its distributional impact. It was also conducted without concern for debt or the balance of payments. The 1986

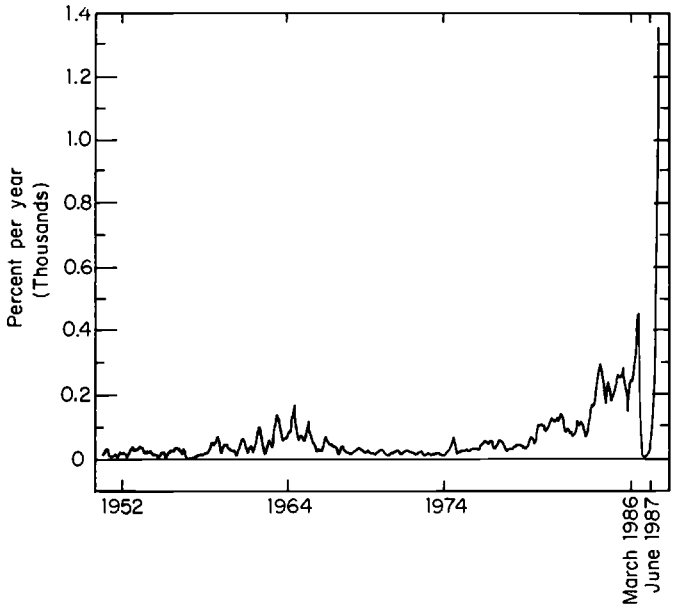

Fig. 4.1 Monthly inflation rate (annualized moving average)

plan was a heterodox shock treatment centered around a continuing price freeze and paid insufficient attention to excess demand and the need for fiscal restraint. Supply was constrained by continuing large resource transfers abroad.

Our closer analysis of the two stabilization programs is preceded by the presentation of a basic model of inertial inflation in the next section.

4.1 Inertial Inflation

Money expansion and velocity behavior are not enough to explain inflation dynamics in Brazil. There is little doubt that, from the demand side, large budget deficits in 1959–64 and 1979–85 supported the inflation process. But assigning them more than an accommodating role would mean neglecting the important contribution of the supply side to inflation and the mechanics of its propagation.

Fischer (1977) and Taylor (1979) have drawn attention to the persistence of price disturbances in a setting of overlapping, long-term wage contracts even under forward-looking, rational expectations behavior and a well-understood program of monetary control. In the Brazilian setting, institutional factors have taken, to a large extent, the place of the relative wage and expectations mechanisms that characterize Fischer-Taylor contracts. From 1968 on, mandatory indexation has been backward looking, periodically readjusting wages and other contracts on the basis of recent experience. Figure 4.2 illustrates how the Brazilian indexation system worked between 1968 and 1986: while the wage legislation corrected wages for past inflation, the exchange rate was readjusted in short intervals by mini-devaluations, and interest rates, bonds, and rents were corrected for price increases through a system of indexation called monetary correction.[1]

Assuming that prices are determined by costs, current inflation depends on past inflation via indexation of wages, the exchange rate, and public sector prices. The output gap or unemployment affects current inflation because it

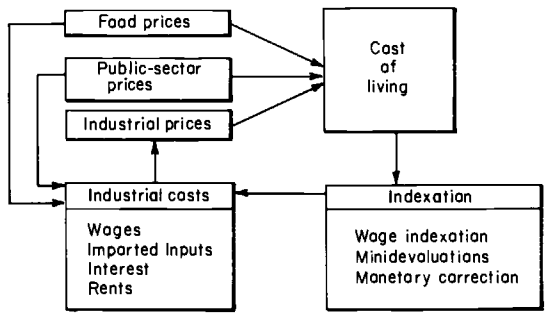

Fig. 4.2 The Brazilian indexation system

influences the marginal costs of firms to the extent that the turnover of the labor force can be used to offset wage adjustment. Independent internal and external factors such as harvests, terms of trade, etc., also have an influence. Combining the effects of indexation, unemployment, and supply shocks, we write the inflation process as:

$$p_t = a\, p_{t-1} + b\, \mathrm{GAP}_t + e_t \tag{4.1}$$

where p is the rate of inflation, GAP is a measure of excess demand, and e is an indicator of supply shocks.

Equation (4.1) shows that indexing plays a central role in projecting past price increases into the future. Where such a process has long been operative, 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 gets permanently embedded in the inflation rate.

The implications of this inflation process are worthwhile emphasizing. First, current supply shocks are automatically transmitted to future periods. A real depreciation, elimination of public sector subsidies, or increases in the price of oil or in indirect taxes or in the real price of agricultural goods raise the current rate of inflation and are transmitted via indexation into increased inflation in subsequent periods. In fact, in order to raise real prices or cut real wages in the presence of full indexation, the frequency of adjustment of exchange rates and public sector prices has to be greater than the frequency of wage adjustments. Only then is it possible to defeat the indexation, cutting the *average* real wage during the adjustment period by stepping up the rate of inflation. Indexation of the financial system, the tax structure, and the public debt means that changes in the inflation rate are automatically and fully accommodated.

Second, a slowdown in the growth rate of nominal spending cannot eliminate inflation from one day to the next. Demand-side policies do not eliminate the cost-inflation captured in the lagged inflation term of equation (4.1). The neoclassical answer, which is to instantaneously recontract the labor force with reduced wages in the face of a shift to a noninflationary monetary regime, is implausible. The presence of inertia is thus a central reason for incomes policy in a stabilization program. Otherwise, only through significant recession can inflation be affected. Statistical estimates of the tradeoff in the Brazilian case show large output costs for small reductions in inflation.

Third, any escalation of inflation initiated by some supply shock is supported by further accommodating endogenous elements that feed the inflation process. One element is the increase in the velocity of money in response to increases in inflation; another is the inflationary erosion of tax revenue. The larger fiscal deficit then implies increased rates of monetary expansion.

Fourth, the inertia of the inflation process implies that contracts that are not explicitly indexed in a backward-looking way, such as short-term loans in the financial system, carry forward-looking inflation adjustments. At any point in time, a given stock of such contracts are outstanding. Their maturity may run as long as six months or one year. Sudden disinflation, by contradicting expectations, would result in an arbitrary redistribution between debtors and creditors.

Finally, an important contributing factor to acceleration of inflation is the mounting pressure to shorten the interval for inflation adjustment of wages, public sector prices, and the exchange rate.

In high-inflation economies, institutional arrangements provide for a periodical resetting of real wages to a peak. The peak real wage occurs at the date of the contract immediately after the nominal wage increase. Subsequently, up to the next adjustment, the real wage is eroded by inflation. Figure 4.3 shows the actual real minimum wage in Brazil over the period 1976–86. At fixed intervals, the real wage increases to a *peak* and then is eroded over the interval between adjustments, reaching a trough just prior to the next adjustment, a year or six months later.

Because the *average* real wage declines with higher rates of inflation, increases in inflation provoke demands for shorter periods of adjustment to prevent adverse distributional effects. This shortening of the adjustment interval in turn increases inflation: in a context of overlapping contracts, the shortening of the intervals means that a larger number of contracts are revised on the same date, pushing up costs and hence inflation. Escalation of inflation to three or four digits invariably involves a shortening of adjustment periods for wage and price setting.

In 1979 the annual adjustment of wages in Brazil was moved to a twice-yearly base. This translated into a supply shock for firms, as discussed in chapter 3. Given the large devaluation, discrete adjustments in public

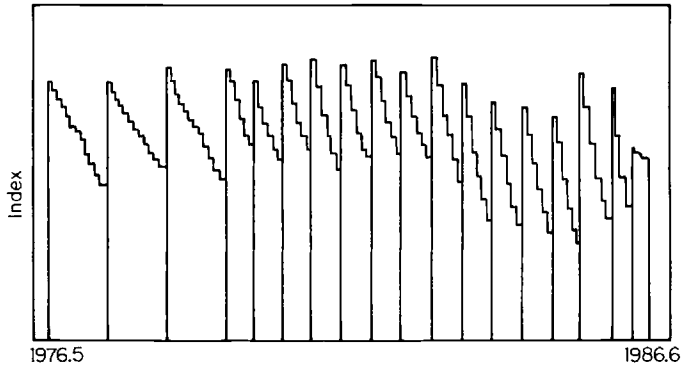

Fig. 4.3 Minimum real wage (monthly data, 1976.5–1986.6)

prices, and the rise in real prices of agricultural products, all at the same time, it is not surprising that inflation rates doubled. Higher inflation in turn further shortened intervals, thereby pushing inflation up once more. By the end of 1985, firms and workers were beginning to move toward cycles of only three months. The government, keenly aware that the transition to ever shorter periods would have hyperinflationary consequences, tried to prevent the generalized legal requirement of three-month intervals. Eventually more dramatic action was needed and occurred in the form of the wage-price freeze of March 1986.

Before we discuss the heterodox shock, however, it is useful to consider the stabilization program of 1965–68.

4.2 Inflation and Stabilization in the Mid-Sixties

Our story begins in the early sixties. The main reason for the sharp increase in inflation between 1959 and 1962 was a rapid increase in demand. Brazil was undergoing a surge in growth driven by the internal market. Between 1957 and 1962, industrial output grew at 11 percent per year. The share of the central government budget deficit in output increased from 2.8 percent in 1960 to 4.3 in 1963, while the share of seignorage in GDP to finance it widened from 3.6 percent in 1959 to 5.7 in 1962. The combination of a 30 percent deterioration of the terms of trade, the lack of external financing, a bad coffee crop in 1963, and adverse climatic conditions leading to an agriculture disaster in 1964 contributed to the inflation problem from the side of supply.

The economic crisis was the vehicle for a military takeover in March 1964. The *Programa de Acão Econômica do Governo* (PAEG, 1964/66) detailed a plan to reduce inflation gradually in three years using fiscal and monetary restraint along with incomes policy. The following were the main aspects of the program:

(a) Sounder fiscal policies led to a gradual reduction in the deficit from 4.2 percent of GDP in 1963 to only 1 percent in 1966. The main instruments of this budget balancing were increases in public sector prices, cuts in subsidies, increased tax collections obtained through an increase in indirect taxes, and better administration to avoid tax evasion. Despite the initial increase in wages for the military and civil servants and an increase in investment expenditures after 1965, the deficit was reduced. Later on, the reduction of real wages also helped the budget.

(b) The exchange rate was devalued by 70 percent at the outset of the program to deal with the external imbalance. Outstanding debt was rescheduled and a large program of external assistance was begun.

(c) Monetary policy was erratic. An initial moderate expansion in 1964 was followed by a tightening in 1965–66. Indexation in financial markets

was used to mobilize domestic saving and to create a market for public sector debt. The black market premium that had reached 60 percent in the last quarter of 1963 was already down to 4 percent by the end of 1964 and oscillated below 1 percent in 1965 and 1966.

(d) Incomes policy took the form of granting wage increases, not in line with past inflation but rather geared to "expected inflation" and past average, not peak, wages. In terms of the inflation model described in equation (4.1), disinflation was achieved by breaking the link between current and past inflation. Wage adjustments became forward looking and limited to an officially imposed, and optimistic, inflation forecast. But the reduction in price inflation fell short, by a wide margin, of the anticipated decline built into wage agreements. The effect was to reduce real wages, although the original claim had been that real wages would remain constant; that is, smaller nominal adjustment would be compensated by lower inflation. The real minimum wage fell by 15 percent between 1964 and 1967. The wage cut made room both for budget balancing and for improved external competitiveness, while at the same time bankrolling a cut in the rate of inflation.

(e) On the price side, the government introduced a program of fiscal, credit, and other incentives to firms that agreed not to raise prices by more than a stated percentage. Allowable cost increases excluded wage awards in excess of those contemplated in the government wage formula. In 1966 firms were promised a 20 percent reduction in excise taxes if they carried out wage increases in accordance with the government wage formula. From 1967 on, price guidelines became more pervasive, falling on most large industrial firms.

This program was successful in reducing inflation without generating a dramatic decline in economic activity. Inflation declined from 144 percent in the first quarter of 1964 to 57 percent in 1965, and then to 38 percent in 1966. Industrial production declined in the first year of stabilization by 5 percent, but then showed a rapid recovery. By 1966 it was already 6 percent above the pre-crisis level.

In 1968 a new strategy of stimulating demand and living with modest inflation was adopted. First, a crawling peg exchange rate policy was introduced to maintain stable real exchange rates and avoid the variability consequent upon discrete devaluations, thus extending indexing. Second, credit became more abundant. Third, in response to public reaction against the wage squeeze, the government revised the wage adjustment rule. The new formula corrected half of any underestimation of future inflation. Real minimum wages continued to fall until 1970, when inflation rates had stabilized at a lower level. A new formula was introduced in 1974 after inflation rates started up again. Wage readjustment then returned to the pattern of backward-looking, catch-up indexation.

The reforms of 1965–68 were the basis for an extended period of strong growth with stable inflation. Between 1968 and 1973, real growth averaged 10 percent per year and inflation declined to only 20 percent. After 1974 and the joint effect of external shocks and domestic overheating, inflation started to increase again, as discussed in chapter 2.

4.3 Inflation and Stabilization in the Mid-Eighties

The Cruzado Plan stopped inflation in March 1986. Less than a year later, in January 1987, interest rates were soaring and the economy was in disarray. Uncertainty was pervasive, fueled not only by the return of the three-digit inflation rate but also by the feeling that the government had lost control over the economy. In this section we describe the Cruzado Plan,[2] and in the next one we examine the factors that contributed to its failure, despite its clever design and appropriateness.

In February 1986 monthly inflation had reached an annual rate of 400 percent. Inflation escalation had become severe with the second oil shock and the shortening of the intervals for wage setting, and was further accelerated in 1983 with the combination of a large real devaluation, an agricultural disaster, and increased prices in the public sector together with reduced subsidies. It was held in place at the expense of a major recession in 1983, as discussed in chapter 3. After a modest recovery in 1984, the new democratic government embarked on a program of expansion in 1985 that carried real growth to 8 percent. Another bad crop introduced supply shocks which, combined with the increase in economic activity, led to rising inflation. As noted earlier, workers' concern over the erosion of real wages created new demand for shortening the interval for inflation adjustment to only three months. Some private firms acceded. Mindful of the dangers of inflation acceleration, and with elections coming later in the year, the government had little choice but to embark on a bold program of heterodox stabilization via incomes policy rather than recession.

The decision did not come as a surprise. Plans for inflation stabilization which tackled the critical difficulty of inertia had been widely discussed in Brazil for more than a year. The Argentine and Israeli precedents were evidence that such plans were practical.

Policymakers believed that past inflationary shocks were being perpetuated in a vicious circle created by indexation. Freezing prices, exchange rates, and wages would create a rupture with the past, thus permitting the economy to rid itself of inertial inflation.

The main obstacle to the price and wage freeze was the absence of synchronization in price readjustments. In 1986 the typical wage contract ran for six months, with different groups of wage earners receiving readjustments at different points in time. Rent contracts ran for either one year or six months. Government bonds were readjusted monthly. Simply freezing wages

and prices on a given day would greatly favor wage earners and entrepreneurs who had readjusted their prices immediately before the freeze. In a like manner, such a step would drastically punish those who were to have received their new settlements the following day. Others would be located along a spectrum whose midpoint would correspond to average real wages and prices; their position would depend upon how recently their nominal wage had been adjusted.

The arbitrary choice of any particular day for a freeze would establish an unsustainable structure of prices and wages. This situation is illustrated in figure 4.4, which shows the main features of wage settlements in Brazil: the semiannual periodicity of readjustments, the staggered dates of readjustments, and the institutionalization of previous wage peaks. Recontracting with full past indexation restores the previous peak of the real wage at the beginning of each period. As prices increase, the real wage is reduced during the next six months until it reaches bottom on the day before the new contract takes effect. The figure shows the behavior of the real wage for six different groups of workers. The first group contracts in January and July, the second in February and August, and so forth. One can see that in each month three groups have their real wages above the mean and three others have theirs below it. Clearly, some workers can enjoy for sometime a real wage above the mean only because the wages of others are below it.

Freezing wages at any one point in time would benefit workers whose wages were above the mean and hurt those with wages below. To avoid this problem, the freeze has to be done in such a way that *all* wages are restored to their average real levels. The new currency facilitated differential conversion of current wages to their average levels of the last six months, as

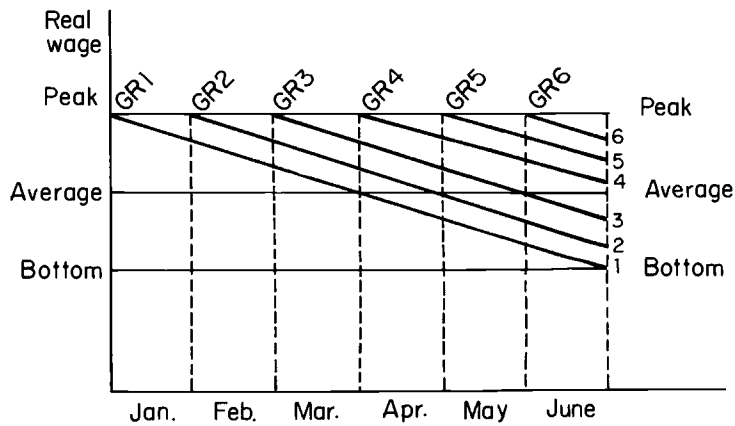

Fig. 4.4 Real wages for six groups of workers with staggered contracts (six-month indexation period)

well as conversion of other contracts. Cruzeiro amounts were converted to cruzados (a new currency, with 1,000 cruzeiros per cruzado) according to specific tables. This translation, along with the coordination of all income recipients, were the central points of the new program.

The key steps of the Cruzado Plan were the following:

(a) Wages were readjusted and frozen. Contracts with several months to go before the regular readjustment were augmented, and contracts that had experienced a recent readjustment were rolled back. As a sweetener, the minimum wage was increased by 15 percent over its past real average, while workers who were paid over the minimum received an 8 percent bonus.
(b) Rents and installment payments were converted into cruzados using their average real value during the previous twelve months and frozen at that level for one year.
(c) All prices and the exchange rate were frozen until further notice.
(d) A *tablita* was devised to compensate for the expected inflation built into extant contracts and thus avoid arbitrary redistribution between debtors and creditors. The new currency, the cruzado, was introduced to help facilitate the readjustment. Starting on 3 March 1986, the cruzeiro would depreciate at the rate of 0.45 percent per day relative to the cruzado.
(e) Indexation, which was central to the process of inertial inflation was virtually eliminated. An *escala movel* (sliding scale), with a 20 percent threshold, was substituted for wages. In financial markets, indexation was maintained only for instruments of more than one-year maturity.
(f) There was a sharp initial monetization of the economy to avoid the Argentine problem of exceptionally high real interest rates. In the first three months following stabilization, the monetary base doubled. Monetary demand was accommodated with the expectation that it was for the purpose of restructuring the composition of financial assets.
(g) On the fiscal side, the tax reform of December 1985 was thought to have laid much of the groundwork for stabilization. The expected revenue gains were calculated to close a budget deficit of 6 percent of GDP. The operational deficit in 1986 was projected to be zero.

External factors favored the program in three respects. The decline in world interest rates reduced the burden of the debt service in the government budget and in the balance of payments. Sharply lower world oil prices made a major contribution in the same direction since oil made up 45 percent of imports. Dollar depreciation in the early part of the program helped provide a gain in Brazilian competitiveness despite a fixed exchange rate. Thus, the program was well timed from the vantage point of the international economy.

4.4 What Went Wrong?

Between February and June, cumulative inflation was zero. Industrial production increased by 12 percent in the first half-year of the program relative to the same period a year before. Between June and November, however, the program took on a life of its own. Fuelled by strong popular support for the price freeze, Finance Minister Dilson Funaro elevated controls to a fetish. The budget was allowed to deteriorate dramatically, the trade surplus disappeared, shortages and black markets became pervasive. But "zero inflation" remained the ministerial obsession. Only one intervening and inadequate adjustment was attempted in July to raise indirect tax receipts.

Among the factors leading to the failure of the Cruzado Plan, the most prominent was the overheating of the economy as a result of expansive wage, monetary, and fiscal policies.

Money growth had already started to accelerate ahead of inflation in August 1985, as shown in table 4.1. The government turned to expansion of the monetary base rather than increases in internal debt to finance its deficit. As real interest rates net of taxes turned negative, economic agents rearranged their portfolios in favor of consumer durables, stimulating output growth, and in favor of real estate, pushing up the price of land (figure 4.5).

Money growth further accelerated after March 1986, as policymakers recognized the need to remonetize the economy following disinflation. Price stability, along with an end to the inflation tax, suddenly increases the demand for real balances. Real interest rates turn sharply positive unless the government engages in a significant monetization. But it is difficult to know how much is enough. One criterion is the level of the real interest rate, the other, the behavior of monetary aggregates. It is difficult to judge the

Table 4.1 **Real Money Stock and Real Interest Rates, Quarterly Average, 1984–86**

Period	Real Money Stock (millions of March 1986 cruzados)		Real Interest Rate Net of Taxes (percent per year on CDs of one-month maturity)
	M1	M4	
1984 I	1.12	6.95	0.37
II	1.09	7.22	5.76
III	1.05	7.69	5.25
IV	1.09	8.41	0.78
1985 I	0.99	8.67	8.10
II	1.05	9.60	54.36
III	1.16	10.11	−9.35
IV	1.34	10.20	−11.15
1986 I	1.52	10.07	−14.32
II	2.90	11.07	14.49
III	3.44	10.08	

Source: *Conjuntura Econômica* and Banco Icatu.

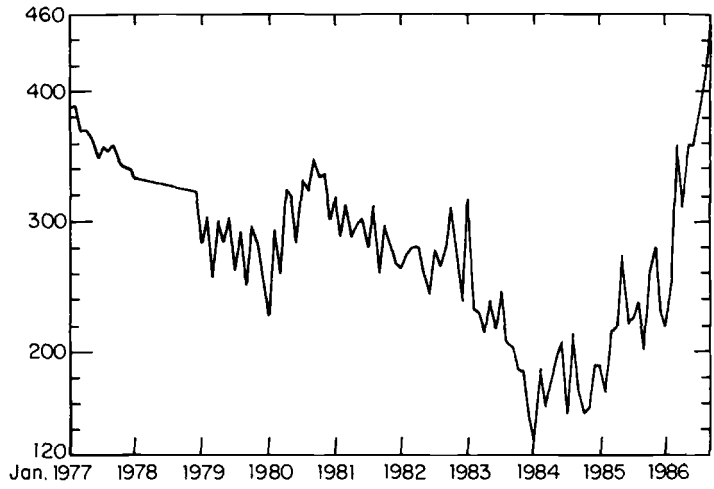

Fig. 4.5 Average real estate prices in São Paulo, 1977–87 (in real dollars per M2)

appropriate level of real balances because financial adaptation to inflation partially destroys traditional linkages between interest rates and real balances. The stability of demand for money under such discontinuous change is dubious. But being too conservative is problematic because high real interest rates in the presence of a large public debt create a fiscal problem. With hindsight one can argue that monetary growth proceeded too fast to assure price stability.

Part of the problem was that low interest rates permitted firms lacking confidence in the program to build up speculative stocks in anticipation of removal of the price freeze. The signs of excess demand and repressed inflation started to pile up, but the policymakers preferred to deny the evidence rather than to give up the fetish of zero inflation for more realistic policies.

The next point concerns fiscal policy. Tax revenues rose disappointingly little due to two features of the tax legislation approved in December 1985: a lowered income-tax-withholding schedule and an increased reliance on taxation of financial assets no longer widely held. Revenues of state-owned companies were hurt by the price freeze, spending ran higher than anticipated, and subsidies that were cut during 1983–84 have since surged back. The public sector wage bill increased in line with the economywide trend.

Must the budget be strictly zero, or even in surplus, for monetary reform to succeed? Or is it possible to finance a small deficit in a noninflationary manner? To a large extent this depends on the growth rate of output, the prospective path of real tax revenues, and the real rate of interest. If output growth is high and the real rate of interest is negligible, there is room for small deficits. But the aftermath of the Cruzado Plan indicates that

public budget deficits in Brazil were too large to be sustainable without accelerating prices. The inflation tax was still necessary to finance planned outlays.

The third issue relates to wage policy. In terms of equation (4.1), the key point of the program was to eliminate catch-up inflation in prices and wages. This was done by the offsetting influences of rolling some contracts back and others up. Thus inertial inflation was simply suspended. But the real wage was increased, the cost of which was borne by a reduction in the profit margins of price-controlled firms.

The increase in real wages promoted by the Cruzado Plan and ratified by the fast-growing economy sustained a consumer boom. During the first six months of 1986, retail sales increased 20 percent compared to the first six months of 1985, a year during which real GDP had increased by 8 percent. By July it was already obvious that the economy was overheated. Acute shortages, especially of meat and milk, commanded the headlines of every newspaper. Black markets for all sorts of goods started to flourish. Supply restrictions, to force price changes, aggravated the situation.

Minor adjustments in the program were made in late July through increases in very special excise taxes. They were claimed to be large enough to solve the budget problem, yet small enough to be eliminated from the official price index to keep from influencing the wage trigger. Credibility of the plan started to dwindle.

The government promise to maintain the price freeze contributed to their landslide election victory in November. It was immediately followed, however, by a second round of much larger excise tax increases, whose objective was to raise 4 percent of GDP in revenue. The package included price increases of 100 percent on beer and cigarettes, and an 80 percent price increase on cars and car parts. This latter increase, on top of the 30 percent increase in July, turned Brazilian cars from the cheapest into the most expensive in the world.

Once again the government tried to eliminate these excise tax increases from the price index on the grounds that the products did not enter low-income expenditure baskets, but this time they encountered strong resistance. The government was implicitly trying to reenact the 1964 program of real wage cuts to restore the external balance and the budget. But the absence of fiscal austerity and the constraints of a democratic regime put severe limits on such an exercise.

The November reforms also reintroduced partial indexation, creating a new system of daily corrections of the exchange rate and tying interest payments on savings accounts and other financial instruments to the short-term interest rate. It was a harbinger of what was to come. In February 1987 the prohibition of indexation for contracts of maturity shorter than one year was abolished. Brazil once again had to live with inflation, but under less favorable circumstances.

4.5 Comparing Two Experiments

During the 1964 stabilization the preceding high inflation with no indexation had reduced the real value of the public debt to less than 4 percent of GDP (figure 4.6). In the 1986 stabilization, by contrast, prevailing indexation and high real interest rates had left a significant handicap of a combined debt/income ratio of foreign and domestic debt of 50 percent. The large debt and insufficient budget improvement led to expectations of a need for inflationary finance. Rising nominal interest rates and a widening black market premium registered signals of doubt about the viability of the program.

By January 1987, inflationary expectations had become extreme. The removal of long adjustment lags in wages, which previously had been an element of short-term stability in anchoring price increases, meant that inflation could accelerate dramatically. This possibility was reinforced by the *escala movel* which potentially could put wage adjustments into the express lane. Under such an arrangement, the frequency of adjustment becomes very sensitive to the inflation rate and feeds back upon it. Self-fulfilling prophecies did not take long to verify themselves. In February the freeze was formally removed and prices exploded. Although the exchange rate was being devalued on a daily basis by then, the black market for dollars stood at a premium of more than 100 percent. The short-term interest rate reached 33 percent per month.

Seeing the two Brazilian stabilization programs together teaches three key lessons. First, incomes policy is a valuable means for achieving disinflation.

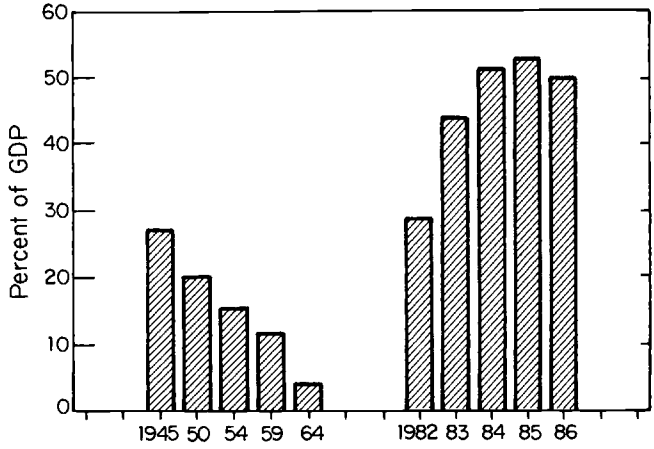

Fig. 4.6 Net debt of the public sector as a percentage of GDP
Notes: 1945–64: Total debt (external and domestic) of central and local governments (Goldsmith 1986). 1982–86: Net debt of the public sector including public enterprises (Banco Central do Brasil, *Brasil: Programa Economico*, 1986).

It helps avoid dramatic unemployment. But incomes policy by itself is not enough. Without careful fiscal policy, the disinflation is not viable. With a boom, price stability is very temporary. Moreover, incomes policy is difficult to implement in a neutral fashion. In 1964 wage repression was part of the price for disinflation. In 1986 there was a redistribution from firms to workers implicit in the rise in real wages. But firms were able to react to defend themselves and, in the process, made the price freeze an increasingly costly option.

The second lesson concerns indexation. Indexation in the presence of supply shocks is a source of inflation propagation. But it also dampens the shocks. An economy with long adjustment periods has an inflation process that is protected against rapid acceleration. Indexation of assets reinforces the element of stability. In the 1964 episode, indexation was reinforced and broadened. In 1986, by contrast, it was eliminated altogether and replaced by a wage-adjustment trigger without a cap. The threat of setting off the *escala movel* led to efforts to purge the price index at a significant cost to credibility. Financial assets were indexed to the short-term interest rate in November because expectations had turned adverse. Such setting led to a highly volatile atmosphere in which inflationary expectations easily became the driving mechanism for actual inflation. The sharp deceleration of inflation in mid-1986 was thus replaced by an explosion of prices at the beginning of 1987.

The third lesson concerns the debt overhang. In 1964 it was irrelevant. In 1986 it was prominent. There was much less margin for maneuver in order to finance government deficits in a noninflationary fashion. There was less import capacity to make up for domestic shortages or to make long-term investment and technological updating attractive. There was no ability—even with initially abundant international reserves—to use the international accounts to compensate for internal excess demand. The death knell of the Cruzado Plan was, not surprisingly, sounded by the moratorium on external interest payments.

5 External Debt, Budget Deficits, and Inflation

In January 1987 Brazil faced an external debt of $103 billion, amounting to more than one-third of GDP. Debt service requirements remained onerous, and a precarious trade balance was on the verge of provoking a moratorium. The inflation front did not look any better. Table 5.1 shows the numbers for