# 13

# A Dramatic Attack on Inflation

On March 15, 1990, a newly elected president, Fernando Collor de Mello, took office; the next day he announced an ambitious stabilization program, including profound monetary reform. This was a dramatic attack on inflation that entailed canceling a substantial portion of the public debt and an eighteen-month monetary moratorium involving around 70 percent of domestic financial assets. The new president did his best to control inflation. He did not adopt the populist attitudes that had characterized the Sarney administration. Within ninety days it was clear that the plan had failed to meet the expectations of its authors: inflation had returned, much as had occurred with the previous plans, and a recession had begun, in contrast with previous plans. As we saw in Chapter 7, at that time the Brazilian economy was facing hyperinflation for the first time. The rate of inflation in February 1990 was over 80 percent. It was clear to everybody in the country that the new administration would have to take emergency measures. Following the failure of the Summer Plan, the policymaking capability of the Sarney government was exhausted; the government was immobilized. Everyone agreed that the old administration could do nothing. All expectations were directed toward the new government.

In 1989 the economic debate had been intense. Eventually a consensus was formed about the severity of the crisis, its fiscal character, and the need for a profound fiscal adjustment.[1] Because the exchange rate—both during and after the Summer Plan—was overvalued by around 40 percent, a consensus was also established about the need for a devaluation of the cruzado. No agreement, however, was reached on two issues: whether a new price freeze and a moratorium on the domestic debt were necessary.

The debate about income policy divided economists into three groups: (1) orthodox monetarist economists who believed no income policy and no mechanism to neutralize inertial inflation were needed; (2) monetarists who verified the high economic and social costs of orthodox policies in situations of chronic inflation and thus incorporated some neostructuralist ideas about inertial inflation (Blejer and Liviatan 1987; Kiguel and Liviatan 1988); and (3) neostructuralist (and post-Keynesian) economists who believed that in addition to fiscal and monetary policy, profound economic reform should be combined with a stabilization program, in which a new price freeze or some

other form of neutralizing inertia was a necessary first step. The orthodox monetarist view was not considered or seriously espoused in Brazil. Although they would not say so openly, most monetarist economists knew that when inflation has a high inertial component, the economic and social costs of a monetary and fiscal shock that is not combined with some kind of income policy are too high.

The idea of a gradual deindexation of the economy, with decreasing targets of inflation, had more followers. Experience has shown that when inflation is chronic and reaches high levels, gradualist programs are ineffective, and only shock therapy can work (Dornbusch and Fischer 1986; Yeager and associates 1981; and the economists who developed the theory of inertial inflation in Brazil). The unpopularity of freezes with the Brazilian elites, however, given the failure of previous freezes, underlay the attitude of rejecting a new freeze. Theoretically, inertial inflation can be fought gradually. What was forgotten by these economists is that gradualism is possible only when inertial inflation is in its first stages: it is very difficult and implies an enormous social cost when such inflation is higher than one digit monthly; it is impossible when inflation is nearing hyperinflation.

The infeasibility of gradualism when inflation is very high is related to the free-rider issue. Let us hypothesize two situations: one in which inflation is 4 percent a month; and another in which it is 80 percent a month. In both cases the decision is to reduce inflation gradually over a four-month period, dividing inflation by half each month and defining guidelines for this reduction. In the first case the free rider's premium for not following the guidelines is only 2 percent; in the second case it is 40 percent. In both cases the risk is the same. If, instead of developing guidelines, the government decided to impose the gradual path, the same difficulties would arise several times. In fact, these difficulties would be greater because it is easier to control a full freeze than a partial one. In the first case the rule is very simple: prices are supposed to remain the same. In the second the rule may also be clear, but it is very difficult for government officials and economic agents to control: prices are supposed to increase according to a predetermined and decreasing rate.

The debate about the need for a moratorium on the domestic debt focused on two issues: the size of the debt; and its maturity. The proponents of a moratorium said either that the debt was the basic cause of the budget deficit given the amount of interest to be paid or that there was a great probability that economic agents—who were victims of monetary illusion—would spend their financial assets (which were invested in Treasury bills and savings accounts) as soon as they ceased to see huge nominal increases in their indexed financial assets every month. In this case the reduced nominal rate of interest would lead economic agents to consume or to invest out of their financial wealth, thus provoking a great increase in aggregate demand immediately following the price freeze. The Cruzado Plan was presented as an empirical demonstration of this hypothesis.

The first argument on the size of the public debt was very fragile. The domestic debt, although increasing, was not too high. Total Treasury bills represented 6 percent of GDP in 1979 and nearly 13 percent of GDP in 1989. To reach 50 percent of GDP (the total public debt), we have to add around 12 percent of GDP for domestic debt on state-owned enterprises and for states and municipalities and 25 percent of the total public foreign debt.

The interest burden on the domestic debt was indeed high. It averaged around 3 percent of GDP prior to 1989.[2] During that year, with the Summer Plan and the loss of control of an economy that was heading toward hyperinflation, real interest rates paid by the government exploded. The interest paid on the domestic debt jumped to 9.5 percent of GDP (see Table 13.1).[3]

**Table 13.1 Interest Payments by the Public Sector (percentage of GDP)**

| | External Debt | Domestic Debt | Total | Public Deficit |
|---|---|---|---|---|
| 1983 | 3.70 | 3.01 | 6.71 | 4.4 |
| 1984 | 3.89 | 3.30 | 7.19 | 3.0 |
| 1985 | 4.47 | 3.44 | 7.91 | 4.3 |
| 1986 | 2.89 | 2.23 | 5.12 | 3.6 |
| 1987 | 2.62 | 2.17 | 4.79 | 5.5 |
| 1988 | 2.85 | 2.88 | 5.73 | 4.3 |
| 1989[a] | 2.80 | 9.50 | 12.30 | 12.4 |

*Sources:* The total figure for 1989 is taken from Central Bank, *Brazil Economic Program*, vol. 24, March 1990, p. 66. The interest on the foreign debt is estimated, and that on the internal debt is a residue.
*Note:* a. The difference between the public deficit (PSBR in operational terms) and the public-sector interest burden is the primary or noninterest deficit. Only in 1987 and 1989 did Brazil present a primary deficit.

The true problem with the government debt was the very short maturity of the Treasury bills. They were almost fully financed on the overnight money market, showing that the state had lost its creditworthiness as well as its credibility. This fact was presented as a second argument in favor of a domestic moratorium. Economic agents could turn their liquid financial assets into consumption or investments in real assets the moment these financial assets stopped increasing in nominal value. But this was only a possibility rather than a necessity. After the 1987 freeze there was no flight from the money market toward real assets. The costs and risks of such flight are usually very high. If this flight occurs, as happened in 1989 because of fear of hyperinflation and a domestic moratorium, the costs and risks of buying overvalued real assets (the dollar, gold, real estate) are very high. In fact, in these circumstances the degree of economic freedom of economic agents regarding their portfolios is rather small.

Taking these facts into consideration, a group of economists, including myself, refused the idea of a domestic moratorium as a first step—not only because the measure was too risky (a no-return policy) but especially because it could endanger the creditworthiness of the state and confidence in financial institutions. If, after the decision to proceed with a fiscal adjustment and a new freeze, economic agents started to flee from financial assets, sparking an undesired and uncontrollable increase in aggregate demand in spite of the adoption of a rigid but conventional monetary policy (a high interest rate), a domestic moratorium could be added to the stabilization program.

The stabilization plan—the Collor Plan—adopted by the new government on its second day in office (March 16, 1990) included four sets of short-term measures: (1) monetary reform, which included freezing 70 percent of the financial assets of the private sector; (2) a fiscal adjustment; (3) an income policy based on a new price freeze; and (4) the introduction of a floating exchange rate. Medium-term policies included liberalization of foreign trade and privatization.

These short-term measures were important, but the actual emphasis of the stabilization program was on the domestic moratorium, which attempted to control inflation through radical monetary constraint. In this sense, it was a typical orthodox stabilization plan. The heterodox aspect of the plan—the price freeze—was secondary because, first, the conversion tables required to neutralize inertia were not used and, second, the price freeze was suspended almost immediately following monetary reform.

The monetary reform adopted had some similarity to the reforms made after World War II in Japan, Belgium, West Germany, and other European countries, although it included different specific features. Instead of establishing a conversion factor larger than 1 between the old money (the novo cruzado) and the new money (the cruzeiro),[4] around 70 percent of financial assets (M4) were blocked in novos cruzados (which could only be used to pay past debts), whereas 30 percent were immediately converted into cruzeiros.[5] Whereas in Germany reichsmarks ceased to function as a currency, the novos cruzados—in addition to being used to pay debts incurred prior to March 16—were supposed to be redeemed in twelve tranches, with full inflation correction and a 6 percent annual interest rate, after eighteen months.

This 30 percent conversion in cruzeiros was the weighted result of the conversion of 20 percent of all financial assets (money market, time deposits, and even checking account balances) except savings accounts, where the conversion was limited to 50,000 cruzeiros. The same rules were valid for individuals and business firms, whereas in Germany, for instance, firms received—in addition to the deutsche marks corresponding to the

exchange factor—60 deutsche marks per employee (the same minimum amount each individual received).

Why was it decided to impose such a radical domestic moratorium? We saw that if the problem were the possibility of economic agents fleeing from financial assets into consumption, the moratorium could be decided in a second moment if this possibility actually materialized. We were convinced, however, that different fundamental reasons caused the new economic authorities to impose the moratorium. They were confronted with the infeasibility of a drastic fiscal adjustment in a very short time. In addition, they felt the monetary crunch would defeat inflation.

This is the true logic behind the domestic moratorium. The medium-term fiscal adjustment that would provide the needed fiscal surplus was around 7 percent of GDP per annum. This number can be explained in two ways: in fiscal terms; and in national accounts terms. In fiscal terms or PSBR terms, the operational public deficit of Brazil in 1987 and 1988 averaged 5 percent. In 1989 there was an increase to 12.4 percent.[6] But this figure overestimates the permanent deficit, given the exceptionally high interest paid by the state that year. In national accounts terms, we can reach a similar number, considering that public-sector savings were negative by an amount close to 3 percent of GDP and should have been positive by around 4 percent of GDP to be able to finance essential government investment programs. According to this second reasoning, it is clear that we are assuming that the fiscal adjustment required could not impose further reductions in public investment. The fiscal adjustment had to be made by increasing taxes and cutting current expenditures.

The objective should have been to generate a small budget surplus, given that during the transition to stability the government was forbidden to resort to additional domestic or foreign finance. After stabilization the budget surplus would provide the government with some degree of freedom to stimulate aggregate demand and resume growth with stability.

It is fairly clear today that, given the political and constitutional limitations it faced, the new government did not have the power to impose such a fiscal adjustment within the required time. The Constitution establishes the principle of annuity for taxes. In political terms, there was not enough support in Brazil—either in Congress or among the business elite—to increase taxes in the amount that was needed at the time.

Immediately following the shock, it was not easy to figure out the size of the fiscal adjustment embodied in the plan. There is no doubt, however, that this adjustment was sizable. It was not fully permanent. The final cancellation of the public debt involved in the plan amounted to $28 billion—around 7 percent of GDP. In 1990 the Brazilian economy presented a budget surplus, and in 1991 the deficit was virtually zero (see Table 13.2).

**Table 13.2 Budget Deficits Before and After the Collor Plan (percentage of GDP)**

| | Primary | Operational |
|---|---|---|
| 1987 | 1.0 | 5.7 |
| 1988 | –0.9 | 4.8 |
| 1989 | 1.0 | 6.9 |
| 1990 | –4.7 | –1.4 |
| 1991 | –2.8 | 0.2 |
| 1992 | –1.3 | 1.9 |

*Source:* Central Bank, *Brazil Economic Program*, several issues.

This fiscal adjustment was significant. It involved tax increases, reduction of expenditures, and permanent debt reduction. It is true that a stock measure such as a public debt cancellation is no real substitute for a permanent fiscal adjustment; it is also not to be confused with a monetary policy that effectively controls the flow of the money supply. The radical reduction of the stock of money could have some flow (fiscal and monetary) consequences in terms of a reduction of interest paid.

The debt cancellation took place in several ways. Three days of a banking holiday, during which Treasury bills bore no adjustment for inflation, represented an almost 8 percent reduction in the total debt. The capital levy (IOF) represented a reduction of around 9 percent in the stock of government debt. And some reduction was also achieved by not providing a full correction for financial assets in March 1990 (the BTN was limited to a 41 percent increase).[7] This debt reduction in addition to the forced reduction of the interest rate on the frozen public debt led to some interest reduction for the public sector.

The inability of the fiscal adjustment in the Collor Plan to control inflation dramatically confirmed the theory of inertial inflation. According to this approach, the public deficit was not the direct cause of Brazil's hyperinflation. Given chronic or inertial inflation, the public deficit is often a convenient way of validating the money supply expansion that is required by the increase in the transactions demand for money (Bresser Pereira and Nakano 1987:73–79). But when the time for stabilization arrives, there is no easy way to eliminate the public deficit.

A stabilization program usually involves a certain degree of recession of the economy, even if the previous inflation cannot be directly attributed to excess demand. Fiscal adjustment and monetary control have a recessive character, the control of wages indicates a slowdown of economic activity, and the need to maintain a nominal anchor (usually the exchange

rate) requires a previous currency devaluation that is contractory. If a freeze is included in the stabilization plan, weak aggregate demand will facilitate the subsequent price liberalization.

The Collor stabilization program assumed a moderate recession as an objective—or as a necessary consequence. The general and correct idea was that it is impossible to stabilize an economy so deeply unbalanced without some sacrifice. The instrument used to impose this sacrifice was basically the reduction of the money supply. This reduction was so radical and hit businesses so hard that it disorganized production and led the economy into a much deeper recession than expected or desired, without achieving the sought-for control over inflation.

During the first sixty days after the plan was instituted the attention of the public and economists focused on the liquidity issue. First, the sharp reduction of liquidity was said to be both the cause of stabilization and the reason for recession. Second, when the money supply began to increase, it was blamed for excess demand and the resurgence of inflation. My view is, first, that this recession was the result—from the supply side—of the disorganization of production caused by the freeze of financial assets, including working capital, rather than the consequence of the reduction of liquidity provoking a fall in demand. Second, the increase in the money supply that immediately followed was a clear demonstration of the endogenous character of that money supply. And third, the resurgence of inflation cannot be related to this increase. I discuss first the former two points; the last is discussed later.

According to neostructuralist and post-Keynesian economics, the money supply is endogenous.[8] It is basically determined by the demand for money; it accommodates the increase of GDP and validates the rate of inflation. Government budgetary constraint, in a closed economy or a highly indebted economy, requires that the fiscal deficit, $D$, be financed by the net creation of government liabilities: an increase in the money supply, $dM$, and the issuing of Treasury bills, $dB$.

$$D = dB + dM$$

Conventional economics assumes that, in this equation, either $dM$ or $D$ is the exogenous variable. When $D$ is the determining factor, the increase in the money supply is a residuum, given the government's incapacity to finance the deficit adequately with Treasury bills. If this is not necessarily true when moderate inflation prevails, it is clearly invalid when inflation is very high and is chronic or inertial. In this case the money supply—and thus $dM$—is determined by the demand for money, and the increase in government indebtedness is the residuum. In Brazil before the stabilization plan, the Central Bank projected the rate of inflation and passively established the required increase in the nominal supply of money that would balance out the

demand for money, or in other words that would avoid a liquidity crisis. This practice was adopted independent of the orientation of finance ministers and Central Bank governors.

In fact, in the case of Brazil—where in addition to suffering chronic inflation the economy was fully indexed—the endogenous money supply included a portion of the Treasury bills traded on the overnight market, for which the maturity is one night. And the government, to reduce its interest payments and induce financial intermediaries to buy these Treasury bills, guaranteed the automatic and daily repurchase of Treasury bills that did not find buyers among the public. In this way the interest rate was fully determined by the Central Bank, and the money supply remained fully endogenous.

As a consequence, the overnight deposits represented quasi money—a remunerated money at that. The potential money supply was close to *M4* because all financial assets were extremely liquid, but the actual money supply was really composed of *M1* plus a portion of the overnight deposits.

The conventional concept of money supply makes it equal to *M1*. In equilibrium we would have

$$Md = Yp/V = M1$$

where $Md$ is the demand for money, $Yp$ the nominal income, $V$ the income velocity of money, and *M1* the money supply. In a situation of high inflation, $V$ would increase sharply and the conventional supply of money would be much smaller. The actual velocity of money, however, does not increase as much as it seems because the actual money supply cannot be equated with *M1*. The actual money supply, $M'$, should be considered as being formed of *M1* plus a portion, $z$, of the overnight deposits, $B$. The $z$-coefficient, which is smaller than 1, is determined by the rate of inflation and the corresponding nominal demand for money. The higher the rate of inflation, the higher $z$ will be. This share, $zB$, of overnight deposits is the amount of money economic agents in fact use as money. It is also the variable that endogenously equates the actual money supply with the demand for money. In this case the real income velocity of money, $V'$, is smaller than the conventional or restricted definition of money, *M1*.

$$M'd = Yp/V' = M1 + zB = M'$$

In this equation $zB$ represents money the same way *M1* does; it is a means of exchange, as is conventional money. Economic agents habitually use part of their overnight deposits, $zB$, to make transactions. To do so they daily transform $zB$ into *M1*, thus increasing *M1*. Because the recipients of the additional *M1* invest it immediately in overnight Treasury bills, the *M1*

increase is automatically neutralized and disappears from the records—although not from the economic process.

Table 13.3 presents an estimate of the actual money supply as a proportion of GDP for Brazil at three points in time: fifteen days before institution of the stabilization plan and fifteen and forty-five days after institution. The estimation of the actual money supply is rather imprecise, but is not arbitrary.

**Table 13.3 Money Supply in 1990 (percentage of GDP)**

| | February 28 | March 31 | May 14 |
|---|---|---|---|
| M4 (potential) | 29.0 | 9.0 | 14.0 |
| B, overnight deposits | 16.0 | 2.0 | 8.0 |
| Savings accounts | 9.0 | 3.0 | 1.0 |
| Other | 2.0 | 1.0 | 1.0 |
| M1 | 2.0 | 3.0 | 4.0 |
| zB | 12.0 | 2.0 | 6.0 |
| Actual money supply | 14.0 | 5.0 | 10.0 |

The value of the money supply just before the implementation of the plan is somewhat imprecise because the quasi money stock, *B*, from which the actual money supply could be drawn, was very large. I estimated that the actual money supply should be around 14 percent of GDP. To reach this value I used the following data. *M1* was around 15 percent of GDP in the early 1970s, when inflation was moderate but not negligible (20 percent a year), and it was reduced to 2 percent of GDP by the end of 1989 (see Table 13.4).[9] In my concept of actual demand for money, the demonetization caused by the acceleration of inflation is neutralized by the increase in *zB* that is considered part of the actual money supply. But inflation and financial innovations allowed for some reduction in the demand for money from 15 percent of GDP in the early 1970s to 14 percent of GDP in the 1980s. Of this 14 percent, 2 percent was represented by *M1* and 12 percent by *zB*. Because *B* was 16 percent of GDP, I am assuming a *z* of 0.75.

With the moratorium on the domestic debt, the supply of money was reduced drastically. *M4*, which we can understand as a potential money supply, was reduced from 29 to 9 percent of GDP, overnight deposits decreased from 13 to 3 percent of GDP, and my estimate is that the actual money supply decreased from 14 to 5 percent of GDP. In this first moment (March 31) I am assuming that *z* was equal to 1—that is, that 100 percent of the overnight deposits were part of the actual money supply.[10]

Such a reduction was not in the minds of the authors of the plan. They

**Table 13.4 Financial Assets (percentage of GDP)[a]**

| | Monetary Base | M1 | Treasury Bills | Savings Deposits | Time Deposits | M4 |
|---|---|---|---|---|---|---|
| 1970–1974[b] | 4.65 | 15.04 | 5.08 | 1.68 | 3.28 | 25.08 |
| 1975–1979[b] | 3.75 | 11.70 | 6.85 | 5.62 | 4.44 | 28.60 |
| 1980–1984[b] | 2.50 | 6.30 | 5.80 | 8.01 | 4.57 | 24.69 |
| 1985 | 1.56 | 3.73 | 10.39 | 9.20 | 6.17 | 29.50 |
| 1986 | 3.22 | 8.20 | 9.33 | 8.09 | 6.05 | 31.67 |
| 1987 | 2.19 | 4.62 | 10.07 | 9.69 | 4.86 | 29.24 |
| 1988 | 1.39 | 2.76 | 12.22 | 10.75 | 4.11 | 29.85 |
| 1989 | 1.26 | 2.05 | 13.94 | 8.13 | 2.78 | 26.89 |

*Source:* Central Bank, *Brazil Economic Program*, several issues.
*Notes:* a. Annual average, adopting end-of-period positions.
b. Average for these years.

confused the amount of cruzeiros left in the economy (9 percent of GDP) with the money supply. Several newspaper interviews quoted them as saying that in the second semester of 1986, following several months of price stability achieved during the Cruzado Plan, *M1* was 9 percent. Thus 9 percent of the money supply would be enough. In fact, the supply of money—even if we include overnight deposits—was only 5 percent, whereas the demand for money was at least 14 percent. During the period of the Cruzado Plan it was possible to live with a smaller *M1* because an enormous amount of overnight deposits were at the disposal of economic agents.

The effect of this reduction in the money supply on business enterprises was dramatic. It disorganized production. The working capital of enterprises was blocked, causing an immediate termination of activities. The freeze was made without any economic criterion. Thus the disparities in the situation among enterprises were very large. The prospect was that the banks would circulate the cruzeiros, but given the high interest rates, this effort was very limited.

According to a survey conducted by the FIESP, sales by industrial firms in São Paulo in the second half of March 1990 were reduced by around 70 percent. This was caused not only by a lack of money (globally and in terms of sectors of the economy) and the disorganization of the economy but also by psychological factors. The impact on expectation was very negative. Unemployment began to rise almost immediately. Many enterprises sent their employees on collective vacations while waiting for a clarification of the situation. Workers began to accept wage reductions coupled with a shortened work day.

The next month the amount of cruzeiros was increased by various means, reaching 14 percent of GDP by mid-May (16 percent by mid-June).

Part of this increase was under the control of the government, but part was not. The government assumed it would be able to control the increase in liquidity, but the market—taking advantage of the existence of two currencies—was able to increase the amount of cruzeiros, correspondingly reducing the stock of cruzados.

When this began to happen, banks gave notice that they were having difficulty making loans, given a reduced demand for loans. Several analysts and economic authorities concluded that the liquidity problem had been solved, even that at that moment there was excess liquidity that would provoke excess demand and bring back inflation.

As Table 13.3 reveals, in mid-May the potential money supply (*M1* plus overnight deposits) continued to be relatively small (12 percent of GDP), and the actual money supply was below the level that had prevailed prior to the plan (around 10 percent of GDP in May compared with 12 percent of GDP in February). Why, then, was the demand for loans weak? Why was liquidity no longer tight but relatively loose? The increase in the money supply explains part of this change, but the real explanation lies in the lowering of the demand for loans. Given the pessimistic prospect for sales and the high interest rates (around 100 percent a year in real terms), firms were not interested in taking loans.[11] They preferred to reduce production. The demand for loans and the demand for money were reduced in accordance with economic agents' pessimistic expectations.

Recession in this case was not demand-led but supply-originated. Its basic cause was not a reduction of aggregate demand but the disorganization of production. Retail sales were the only indicator that did not point toward recession at the very beginning. Sales increased immediately following the freeze, as had occurred following the three previous freezes. There are some general reasons why this happens. First, although this fact is often overemphasized, with the end of the money illusion, people do tend to spend a little more on consumption. Second, because of either optimism or mistrust of the success of the stabilization, people tend to anticipate consumption. Third, as Helpman (1988) has argued, a price freeze in an oligopolistic economy has an effect similar to that of reducing real prices; thus demand will increase along the demand curve.

The Collor Plan contained three additional explanations for the increase in consumption. First, the loss of credibility of financial assets led people to consume; second, the resumption of consumer credit, which had practically disappeared as a result of hyperinflation, led to an increase in sales of consumer durables; third, the plan implied a real wage increase of 23 percent in March 1990.

This real wage increase took place in March because the government decided that the 70.16 percent February inflation should correct wages the following month, according to the existing wage indexation law. Inflation in

March, however, when calculated taking the end-of-the-month price level against the price level at the end of the previous month (rather than the usual comparison of the average of the entire month against the average of the previous month) was 79.11 percent.[12]

This wage increase could be interpreted as a basic contradiction of the stabilization plan (Sylvio Bresser Pereira 1990). In general, inflation is fought by reducing demand and, if possible, increasing supply. Under the Collor Plan the opposite was done: supply was curtailed through the money supply squeeze; and wages were increased. The problem, however, was less serious because—unlike what happened under the Cruzado Plan and similar to what occurred under the Bresser Plan—real wages had been decreasing in the months before the plan because of the acceleration of inflation. Thus the 23 percent wage increase only compensated for the previous reduction.[13] It did not represent a distributive incompatibility. Firms did not have to increase prices compensatorily.

This increase in consumption was necessarily short-lived, given the rise in unemployment. In May retail sales showed a decline when compared with the corresponding month in the previous year. Given the reduction of production and investments, depressed demand was becoming a generalized fact.

Ninety days after the Collor Plan was launched, recession had taken hold of the economy, and it was fairly clear that inflation had returned. In fact, the slowdown of the economy had begun earlier. GDP growth was already slightly negative in the last quarter of 1989 (–0.3 percent) and was clearly negative in the first quarter of 1990 (–2.4 percent). In April 1990, as a result of the disorganization provoked by the Collor Plan, the FIESP index of economic activity showed a 22.3 percent fall in relation to April 1989; for February and March the corresponding figures were an 8.0 increase and a 6.8 decrease, respectively (see Table 13.5). According to a Getúlio Vargas

**Table 13.5 Indicators of Economic Activity, 1990 (percent change in relation to previous year)**

| | Level of Activity | Level of Employment | Average Real Wage | Installed Capacity Utilization |
|---|---|---|---|---|
| January | 6.2 | 3.8 | –18.8 | 79.5 |
| February | 8.0 | 3.4 | –22.7 | 79.0 |
| March | –6.8 | 2.5 | –10.5 | 72.5 |
| April | –22.3 | 0.6 | –22.4 | 62.5 |

*Source:* FIESP, data for São Paulo industry.

Foundation business survey, the level of capacity utilization of Brazilian industry in April 1990 (62.5 percent) was the lowest since this index had begun to be calculated in the mid-1960s; three months earlier, in January 1990, this index had been over 79 percent. In May, as the economy started to reorganize after the shock, the level of production began to recover, as the first figures on electric power consumption indicated, but the May record increase in unemployment in São Paulo in relation to the previous month (2.4 percent, against a 2.2 percent rate of layoffs during the previous month) suggested that the recovery was limited. That same month, according to the ABDIB, the rate of idle capacity in the heavy capital goods industry reached a 48.6 percent peak against an average of 38 percent during the 1980s. The recessionary trend seemed to be stronger than the recovery impulse.

Inflation had returned (see Table 13.6). Through May, the average inflation compared with average price indices was still showing a decline.[14] Yet any doubts about the resurgence of inflation were dismissed when FIPE's price index for the following months was released. By the end of the year, inflation was approaching 20 percent a month.

**Table 13.6 Monthly Inflation Rate, 1990**

| Month | Percentage | |
|---|---|---|
| January | 74.53 | |
| February | 70.16 | |
| March | 79.11 | (3.3)[a] |
| April | 20.19 | (6.3)[a] |
| May | 8.53 | |
| June | 11.70 | |
| July | 11.31 | |
| August | 11.83 | |
| September | 13.13 | |
| October | 15.83 | |
| November | 18.56 | |
| December | 16.03 | |

*Source:* FIPE/USP.
*Note:* a. The figures in parentheses refer to the end-to-end-of-the-month period.

Why did inflation resurge? There are three explanations—one monetarist, one Keynesian, and one neostructuralist or inertialist. The monetarist and the Keynesian reasoning is founded on the increase in the money supply in the three months that followed the institution of the plan. The neostructuralist analysis is based on relative price imbalances and the corresponding distributive conflict.

The government adopted a naive monetarist policy when it assumed that drastically reducing the money supply would eliminate inflation. In doing so, it forgot that inflation is not a stock but a flow problem. To control inflation, it is necessary to eliminate the budget deficit and control the money supply, not the stock of money. When inflation has an inertial component, as was the case in Brazil, it is also necessary to freeze prices or, more broadly, to promote an income policy that supports (but does not replace) fiscal and monetary policy. For the authors of the Collor Plan the freeze was an accessory measure. The essential part of the plan was the reduction of the money supply, to be followed by the elimination of the fiscal deficit. Inflation, however, had returned before the deficit could be controlled.

The true monetarist explanation for the resurgence of inflation is simple: prices increased again because in the two months following the institution of the plan, high-powered money increased four times. The liquidity increase provoked expectations that inflation would resurge—and rational expectation is a self-fulfilling prophecy. Monetarists do not accept the fact that the money supply has an essentially endogenous, passive character, and they forget that, following hyperinflation, a sudden stabilization provokes a strong increase in the monetary base. For the new classic monetarist, the belief that an increase in the money supply causes inflation has a quasi-religious character. The monetarist rhetoric—which is "true" because it is a part of mainstream economics—says that an increase in the money supply causes inflation; rational expectations theory adds that economic agents will form their expectations according to the "true" theory and, again rationally, will behave according to their expectations, thereby increasing prices. Thus the prophecy becomes self-fulfilling.

The monetarist explanation is implicit in most analysis. Pastore (1990) adopted it explicitly. Excess demand is not required for the resurgence of inflation; an increase in high-powered money is sufficient. For this explanation to be correct, the acceleration of inflation immediately following implementation of the Collor Plan should have been the result of business enterprises deciding to increase their prices as they noticed that the monetary base was increasing. The textile industry, suppliers of personal services, farmers, and the home appliance industry—the first to increase prices after the plan—would have made this decision after assessing the increase in the monetary base.

The Keynesian explanation is more reasonable, but in the present case it accounts for only part of the acceleration of inflation. According to this view, adopted by Toledo (1990), among others, inflation returned because the money supply increase caused excess demand. The halt to inflation as a result of the liquidity shock would have been temporary. As liquidity was restored, demand would recover and inflation would return. In fact, as I have shown, the trend is a result of recession rather than of growth. Retail sales increased in the first month after the plan was implemented, but soon slowed

down. Some firms may have profited from this demand spurt by increasing their prices, but they were few because global demand was dwindling rather than expanding.

The neostructuralist or inertialist explanation for the resurgence of inflation is based on the nature of inflation in Brazil rather than on errors related to the money supply. Inflation in Brazil is inertial, and was very high—in fact, hyperinflation already prevailed—when the stabilization plan was launched. The neostructuralist explanation emphasizes relative price imbalances on the day of the freeze and the corresponding distributive conflict. In Brazil economic agents are used to fighting inflation. They believe increasing their prices is the best way to protect themselves from generalized distributive conflict. On March 16, 1990, when prices were frozen, relative prices were necessarily unbalanced because price adjustments were not synchronized. Thus there was an intertemporal relative price imbalance. Such an imbalance, which can be measured by the dispersion of relative prices, tends to increase with the acceleration of inflation up to the time the economy is fully dollarized.

On the day the freeze was implemented, firms that had just increased their prices gained from the freeze because their markups increased, whereas those that were at the point of raising prices lost. When inflation is chronic, firms that have lost—or think they have lost—as a result of the freeze will increase their prices as soon as possible. Under the Collor Plan, firms felt additionally injured by the retention of their financial assets. This was a second reason prices increased as soon as they did.

Some factors favored the price increase: (1) the increase in consumption expenditures immediately after the freeze; (2) the increase in the money supply, which kept pace with recession; and (3) the hasty liberalization of prices by some oligopolistic industries. These were the opportunities business enterprises had been waiting for. But the price increase would have taken place anyway, given the inertial character of Brazilian inflation. The price freeze and the freeze of financial assets induced a one-month truce, but immediately following the truce, business enterprises began to increase prices. Nobody wants to lose as a result of inflation or a stabilization plan. A few days after the freeze, according to *Gazeta Mercantil,* the leading Brazilian business newspaper, firms "were looking for an index on which they could link their prices." Fearing unemployment, workers halted their demands for a time, but two months after the beginning of the plan they were already making huge demands and receiving wage increases of 20 to 30 percent.[15] Firms that agreed to these wage demands would probably raise prices to offset the cost increases.

It is important, however, to underline that, since 1987, indexation in Brazil has not meant increasing prices only according to past inflation. Economic agents were so worried about not losing as a result of inflation that they either changed the index they utilized to obtain a more favorable

one, or they "indexed" their prices according to their own predictions about the future inflation rate. In other words, they tended to add a risk premium to last month's inflation rate in their price decisions. Because all firms behaved similarly, each individual firm was not concerned that its price increase would not be followed by the competition. Thus inertial inflation was also, paradoxically, an accelerating inflation.