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FINANCIAL REFORM, CONTROL OF INFLATION, AND STATE INTERVENTION: LESSONS FROM THE BRAZILIAN EXPERIENCE

JONAS ZONINSEIN

I. INTRODUCTION

MISDIAGNOSIS and mistreatment of the causes of inflation have been constant characteristics of the multiple orthodox and heterodox stabilization attempts in Brazil. As a consequence of a decade-long stabilization failure, overcoming economic instability and stagnation which are conspicuous outcomes of Brazilian macroeconomic policies, continues to be a crucial challenge in the 1990s.

The Cruzado Plan (1986) and the Collor I Plan (1990) represented the most comprehensive efforts among all stabilization attempts in recent years to stop inflation by directly focusing on the conditions required to overcome the Brazilian public sector's financial exhaustion. In the case of the latter plan, however, policymakers tried to correct what they considered to be the main reason for the failure of the Cruzado Plan: very high and expanding liquidity of indexed financial assets. The Collor I Plan, therefore, put the emphasis on a sharp increase in administrative control of the central bank over the financial circuit in order to drastically reduce liquidity in the economy. Due to its extreme intervention in the financial circuit, the Collor I Plan provided an excellent opportunity to explore the financial reform requisites to address chronic inflation and stagnation in the Brazilian economy.

This paper focuses on the means to overcome stabilization failure in Brazil. It argues that the crucial element which has been missing in all recent unsuccessful attempts to control inflation is the redefinition of the institutional mechanisms that mobilize and channel the funds for supporting the accumulation of productive capital. Stabilization failure is a consequence of inadequate financial policy reform. The specific characteristics of the financial structure of a late-industrializing economy have been overlooked and a naive approach to financial deepening has been a component of all stabilization plans since 1982.

In the following section of this paper, the financial exhaustion of the Brazilian developmental state after 1979 is examined. Stabilization failure in the following year 1979 is examined. Stabilization failure in the following years was then associated with the lack of a comprehensive approach to supersede the shortcomings of the Brazilian financial structure at the moment when the supply of external credit was interrupted in 1982. In the third section, the key characteristics of the financial structure required to activate the investment process in a late-

industrializing country are examined. A simple version of a post-Keynesian model of a financial circuit connected to the investment process is presented, and the institutional conditions affecting the propensity to transform saved income into financial savings are examined with reference to the Brazilian economy. Section IV presents an assessment of the Collor I Plan adopted in March 1990 to stop hyperinflation. Finally, the conclusion summarizes the entire argument of the paper.

II. FINANCIAL EXHAUSTION, POLITICAL DEVELOPMENT, AND HYPERINFLATION

Effective control of inflation requires a mix of policy instruments compatible with the nature of the specific disequilibrium to be eliminated as well as the institutional and structural characteristics in which that process is embedded. The Brazilian economy has experienced since 1985 a continuous threat of hyperinflation, which has been avoided through the implementation of successive heterodox macroeconomic shocks. After the failure of orthodox strategies in the first half of the 1980s, heterodox plans shared the view that fiscal balance, control of money growth, and devaluation of the currency were insufficient measures to stabilize an economy subjected to large volumes of outward transfer of resources. Elimination of indexation mechanisms, wage and price controls, and public debt repudiation or compulsory consolidation of the debt into long-term assets were additional aspects which shared prominence with the stabilization fundamentals (fiscal, monetary, and exchange rate policies).

Like the orthodox attempts of the first half of the 1980s, however, the various heterodox shocks failed to stop inflation. One key ingredient which, since the early 1940s had been used by the Brazilian government to coordinate demands for price and wage readjustments and to make expanding income expectations of the various economic agents compatible with low inflation, was surprisingly missing in every stabilization effort during the post-military regime. This key ingredient was a program contemplating long-term development objectives.[1]

The Cruzado Plan (1986), the Bresser Plan (1987), the Summer Plan (1989), the Collor I Plan (1990), and the Collor II Plan (1991) combined both ad hoc reforms of key institutions supporting the operation of an inflation-prone, market-oriented economy (rules affecting indexation, wage and price controls, the structure of the financial system, external trade regulations, etc.) and the use of traditional instruments like fiscal, monetary, and exchange rate policies. In

[1] Cardoso and Helwege [7] argue that in the 1980s neither heterodoxy (neo-structuralism) nor orthodoxy succeeded in presenting stabilization programs that would address economic growth in Latin America. The absence of growth-oriented components in heterodox stabilization (neo-structuralism) constitutes a basic distinction in relation to classical structuralism. Neo-structuralism assumes that full control of inflation is a requisite for economic growth. Classical structuralism assumes that inflation is an expression of economic growth, and can, therefore, coexist with it. Both theories, i.e., neo- and classical structuralism share the view, however, that what causes inflation (as distinguished from its propagation mechanisms) is the distributive conflict among economic agents.

TABLE I
MONTHLY RATE OF INFLATION

(%)

	1985	1986	1987	1988	1989	1990	1991	1992
Jan.	12.6	17.8	12.0	19.1	36.6	71.9	19.9	26.8
Feb.	10.2	22.4	14.1	17.6	11.8	71.7	21.1	24.8
Mar.	12.7	−1.0	15.0	18.2	4.2	81.3	7.2	20.7
Apr.	7.2	−0.6	20.1	20.3	5.2	11.3	8.7	18.5
May	7.8	0.3	27.7	19.5	12.8	9.1	6.5	22.5
June	7.8	0.5	25.9	20.8	26.8	9.0	9.9	21.4
July	8.9	0.6	9.3	21.5	37.9	13.0	12.8	21.7
Aug.	14.0	1.3	4.5	22.9	36.5	12.9	15.5	25.5
Sept.	9.1	1.1	8.0	25.8	38.9	11.7	16.2	27.4
Oct.	9.0	1.4	11.2	27.6	39.7	14.2	25.8	24.9
Nov.	15.0	2.5	14.5	28.0	44.3	17.4	25.8	24.2
Dec.	13.2	7.6	15.9	28.9	49.4	16.5	22.1	23.7

Source: Fundação Getúlio Vargas, *Conjuntura Econômica,* various issues.

spite of their partial gains in avoiding hyperinflation, these heterodox shocks never succeeded in eliminating an unstable and accelerating inflationary trend. After each shock, inflation was initially reduced. However, once the price-wage controls were discontinued the inflation level increased progressively through stages, until the point where the threshold of hyperinflation was experienced and another shock was introduced, bringing back inflation to lower but unstable levels. Hyperinflation continues today to be the main disruptive threat to the operation of the market economy in Brazil and is further evidence of the collapse of the Brazilian model of industrial development (Table I).

After a decade of stabilization failure, Brazilian economists' conventional wisdom (orthodox as well as heterodox economists alike) now assumes that heterodox stabilization in Brazil failed because the government's promises to eliminate budget deficits were not kept.[2] In spite of minor differences regarding the relevance of the various policy instruments, their analyses converge on presenting political constraints on fiscal balance—resulting from the lack of political will on the part of the executive branch plus the absence of support from the congress—as the crucial factor of heterodox stabilization failure.

This paper adopts an alternative view to assess the stabilization experiments of Brazil's democratic governments since 1985. In spite of their innovative efforts and partial successes, heterodox shocks failed because they did not focus on the requisites for the successful reorganization of the Brazilian developmental state; neither did they consider a growth-oriented approach to financial policy reform as a key element in the attack against chronic inflation. The heterodox critique of orthodox stabilization was incomplete. Elimination of indexation plus price and wage freezes were initially added to the orthodox prescription. As a result, inflation was reduced after each shock and unemployment was avoided.

[2] See, for instance, the two collections of essays edited by Faro [12] [13].

However, heterodox stabilization defeated itself by accepting the orthodox dogma of elimination of the state-private sector partnership in the promotion of growth. Financial resources liberated by the transitory reduction of inflation after each shock were not channeled into productive investment opportunities. Once effective demand expanded after each shock—as it should be given the correct assumptions of the heterodox approach—private sector moneyed wealth, due to the lack of an industrial policy, avoided productive investment and returned to the speculative circuits.

Heterodox plans correctly perceived the need for containing inflation significantly below the levels that orthodox stabilization policy had considered satisfactory in previous years.[3] Heterodox stabilization perceived that full elimination of inflation was a prerequisite for implementing a new model of growth to replace the import-substitution approach to industrial development. In this new model, increasing efficiency, competitiveness, and technological modernization, instead of high rates of accumulation at any cost—supported by foreign credit, inflationary finance, and oligopolistic administration of prices as had happened in 1945–80—would constitute the focus of economic growth.

In order to keep inflation at very low levels, the core components of the heterodox approach in the Cruzado Plan consisted initially of the freeze of prices and wages plus the dismantling of the indexation rules, in order to control inertial inflation. Later on, to compensate for the failures of the initial attempts, measures aimed at the maintenance of an equilibrium in macroeconomic fundamentals (fiscal, monetary, and external sectors) were added in subsequent plans with varying emphasis but without success. Finally, during the Collor government, compulsory consolidation of the government debt and financial sector liabilities was added to the menu of stabilization techniques, again without permanent results in the control of inflation.

Lack of political will and support certainly precluded structural and permanent balance in the fiscal and monetary sectors during the implementation of those heterodox plans, thereby resulting in the failure to control inflation. An explanation of stabilization policy failure should not, however, treat political factors simply as exogenous variables.[4]

Lack of political commitment to fiscal consolidation was due to the fact that the New Republic stabilization plans never envisaged a comprehensive approach aimed at alleviating the financial exhaustion of the Brazilian developmental state. Activation of the investment process, once the initial stage of the shocks was completed and accelerated inflation was transitorily dampened, did not constitute an intrinsic attribute of any heterodox plan. An expanding horizon for economic

[3] The regime inaugurated in 1964 succeeded in reducing the inflation level from 90 per cent in 1964 to 20 per cent in 1968. This level was maintained until 1974 when it jumped to 40 per cent. In 1980, it jumped again to 110 per cent. Between 1980 and 1985, it doubled again to a level of 225 per cent. In spite of the stated principles of price stability, chronic inflation was a permanent aspect of real world orthodoxy in Brazil.

[4] Kindleberger [20] argues that the nature of the underlying society is an essential aspect of hyperinflationary processes and must be dealt with in successful stabilization plans through social engineering.

growth—with its corresponding set of productive investment, employment, and income opportunities plus specific mechanisms to channel into productive investment projects, the funds available after prices and wages were frozen and inflation provisionally controlled—was never defined and made an essential component of business and labor sectors' agenda. As a consequence, the democratic governments after 1985 lacked the bargaining power necessary to mobilize the various social groups and political parties to support a path of negotiated arrangements concerning the readjustment of prices and wages, as well as deepening of fiscal reform.[5]

In Brazil, the public sector commanded the process of capital accumulation from the 1940s until the early 1980s, when the economy stagnated. The public sector (state-owned enterprises included) was directly responsible for most of the investment in infrastructure and basic raw materials, and indirectly, through fiscal incentives as well as credit allocation and subsidies, for the support of private investment.

The success of the Brazilian economy in generating huge trade surpluses since 1981 demonstrates that the productive sector resulting from that long-term accumulation process is efficient and internationally competitive. The measures adopted to deal with the losses in the terms of trade, as well as to generate and rapidly increase the trade surpluses required for the increased service of external debt after 1979, however, are at the root of the negative performance of the public sector, the stagnation of the Brazilian economy in the 1980s and 1990s, and the continuous deterioration of its competitive potential. Due to increases in prices of tradable goods and internal financial costs of the debt denominated in dollars, real devaluation within an indexed environment produced sharp increases in the inflation level. As a result, a deteriorating environment for public sector finances was generated, in which inflationary erosion of tax revenues, delays in the readjustment of prices of goods and services produced by state-owned companies, and increased expenditures on the service of the external and domestic debt—in spite of the efforts of fiscal deficit containment via subsidies reduction,

[5] We are assuming here a background marked by the highly segmented nature of the Brazilian social structure after four decades of deep and accelerated transformation, and another dozen years of stagnation and crisis, as well as by the shallow and unstable political structures that developed since the beginning of the democratization processes in 1945 and 1985. The absence of political muscle of the Brazilian elites clearly differentiates their adjustment experience from, for example, Mexico's case, where a one-party system with a long experience of state apparatus control and the legitimacy given by a framework of formal representative democracy, was able to implement macroeconomic adjustment. The Mexican stabilization sequence in the 1980s included not only an initial stage with the traditional orthodox components, but, in a second stage, an agreement among business and labor organizations, plus the public sector, for negotiated readjustments of prices and wages, and, finally, a plan for a transition to a new model of industrialization expressed in trade and investment liberalization and the North American Free Trade Agreement. In the Brazilian case, the lack of a political backbone like Mexico's PRI (Partido Revolucionario Institucional) plus one of the worst income distributions in the world, successful fiscal reform and stabilization require a growth-oriented and democratically negotiated social pact.

control of salaries, and piecemeal increases in taxation—progressively eroded public savings and investment after 1979.

One crucial link in the financial exhaustion of the Brazilian public sector resulted from the fact that it was in charge of nearly 80 per cent of the external debt, due to the financing requirements of the investment projects of the 1970s and the absorption by the central bank since the early 1980s of a growing proportion of the debt generated originally by the private sector. Given the fact, however, that the public sector only generates a small proportion of total exports, the increases in the trade surplus required to service the external debt produced unbearable pressures on the public sector accounts. Given the non-availability of additional external credit since 1982, the public sector has had to resort to domestic sources of finance to acquire the foreign exchange required to serve its foreign liabilities. When the central bank acquires international reserves from the private exporters, it has to expand the money base. This primary expansion of means of payment could be neutralized if the international reserves were resold to the private sector for the service of the external debt. However, since the public sector (central bank included) is responsible for most of the external debt service, the financing of this service must originate from tax revenues, seignorage, and/or internal public indebtedness. The inevitable outcomes visible after 1982, were the partial substitution of internal debt for external indebtedness, elimination of public sector investment, economic stagnation, excessive expansion of means of payment, and a hyperinflationary underlying trend.[6]

In the final phase of this process, after 1988, the growth of an indexed domestic public debt and the liabilities of the financial system gained its own endogenous dynamics, independent of the original external debt constraint. In this final phase, inflationary expectations—fueled by the generalization of speculative behavior, by the rapidly decreasing government credibility, and by a monetary policy aimed at perfecting the money market, increasing the liquidity of financial instruments, and maintaining a positive real interest rate—constituted the determining factor of inflation.

III. THE FINANCIAL CIRCUIT IN LATE INDUSTRIALIZATION

The financial circuit required to support the accumulation of productive capital consists of two sequential phases.[7] In the first phase, investment in period t (I_t) —in the sense of the first acquisition of productive equipment and buildings by the industrial entrepreneur in period t—must be financed by a certain proportion of the total means of payment available in the previous period (M_{t-1}).

[6] The notion of the financial exhaustion of the Brazilian public sector is discussed in Batista, Jr. [3] [4], Zini, Jr. [28] [29], Cardoso and Fishlow [6], and Pereira [22]. For a formal model of the Brazilian monetary economy, linking inflation, the government budget, and the external balance, see Cardoso [5]. For an analysis of how excessive liquidity of financial assets constrained heterodox control of inflation, see Carvalho [8].

[7] The model presented in this section was developed by Keynes in his work [17] [18] [19] after *The General Theory of Employment, Interest and Money* and Davidson [11].

In order to present the argument in its essential terms, I assume that the financing of investment is completely attended by short-term credit creation, channeled by commercial banks. Since commercial banks are funded by short-term deposits and money market operations, I, therefore, assume that no self-financing for investment purposes is available in the industrial and productive (nonfinancial) units. In addition, I assume that the investment multiplier operates instantly, that no external (to the national economy) credit is available, and that government expenditures and revenues are negligible. This initial demand for means of payment ($F_{t-1} = I_t$) is required to finance the investment expenditures of the productive units from the time that investment decisions are made until the investment decisions are expressed in the production of capital goods (I_t). The production of capital goods generates employment and income (Y_t), from which a certain amount is saved (S_t). On the basis of the liquidity created by commercial banks (F_{t-1}) and channeled to the industrial sector through short-term credit to finance investment expenditures, productive entrepreneurs command the production of capital goods and the process of income generation. By definition, total saving is equal to investment ($I_t = S_t$).

The short-term rate of interest, relevant for establishing the financial costs of the investing productive units, is determined by the total amount of means of payment (M_{t-1}), administered by the monetary authority, and by the total demand for liquidity ($L_{t-1} > F_{t-1}$). In other words, the interest rate is not determined exclusively by the supply and demand of investment finance (defined by the funds required to support the initial production and acquisition of capital goods). Not only investment plans, but also current production, consumption, money and capital markets circulation plans, as well as hoarding will determine L_{t-1}.

In this approach, the role of the commercial banking system and the money market (i.e., the monetary sector of the financial system) is to supply the liquidity required by the enterprises in advance of their current production and investment expenditures. This liquidity will later be transferred to enterprises and family units receiving incomes generated by those initial expenditures and will be held during the period when these units decide how to use the liquidity thereby obtained.

I introduce now the second phase of the financial circuit. At the same time that the initial investment demand for short-term credit (F_{t-1}) takes place, the investing enterprises ought to be negotiating with investment banks and other financial institutions operating in the capital market (underwriters) to mobilize the long-term funds needed to consolidate investment. In this phase, the final (not necessarily permanent) acquisition by one or many (most probably) owners of capital goods takes place. Again, we assume that these long-term funds are mobilized outside of the enterprises that initially invested. Investment banks, other productive enterprises, and the public will provide the funds for consolidation. If existing shareholders of the investing corporations provide the long-term funds, we assume that they are not directly reinvesting the profits retained by their corporations.

Financial consolidation, or funding of investment, takes place in this second phase of the financial circuit when the investing enterprises (which received the

original short-term credit F_{t-1}) issue debentures and shares. The funds required to support the acquisition of these long-term financial assets (financial savings = FS_{t+1}) originate from the income generated by the investment expenditures (I_t). This long-term direct debt (debentures and shares) may be kept in the portfolio of the saving units or capital market institutions. In this last case, a corresponding proportion of the long-term financial assets in the portfolio of the saving units will consist of indirect financial assets issued by capital market institutions.

Which proportion of total savings (S_t) will be used for the funding of investment in period t? We may assume initially that the average propensity to buy long-term debt out of savings equals one. Then,

$$F_{t-1} = I_t = S_t = FS_{t+1},$$

where $FS_{t+1} = \beta S_t$ and $\beta = 1$.

However, if $\beta < 1$, $S_t > FS_{t+1}$. That is, financial savings are insufficient to consolidate the full amount of investment that took place in the previous period. The portfolio of the commercial banks that made the original loans is now out of equilibrium and will have to cut the volume of finance for investment in period $t + 1$. Under these circumstances, the monetary authority may take steps to support an extension of the maturity of the commercial banks' portfolio (by pushing for a reduction in the cost of money market funds, for instance) or to facilitate in the capital market innovations aimed at the increase of the saving units' propensity to expand their holdings of long-term financial assets. Otherwise, both the short-term and the long-term interest rates will increase, thereby inhibiting investment.

An essential part of this model of the financial circuit is that it assumes a developed financial structure, in which capital market institutions participate in the process of credit mobilization and saving units (productive enterprises and families) extensively diversify their portfolios. As a result of capital market's development, long-term financial assets represent a non-negligible proportion of saving units portfolios.

This picture of the financial circuit, however, does not capture some relevant characteristics of late-industrializing economies. The parameter β in the financial savings equation would have a value significantly below one, if we were to assume, as we did above, that domestic credit is the only source of long-term funds. In these circumstances, simple manipulation of the interest rate would not create the incentives to mobilize financial savings in the amount required by the funding (the final acquisition of productive equipment and buildings) of investment. Financial innovations would be the only instrument available to generate the changes required in the flow of financial savings.

The Brazilian case illustrates the nature of the obstacles for the deepening of capital markets in late-industrializing economies and serves as a paradigmatic case of the structural constraints on the mobilization of financial savings in this type of economies. The following three structural factors may explain the shallow market for the voluntary acquisition of long-term direct debt in Brazil: (i) the resistance of the Brazilian industrial elites to transform their family-owned

companies into corporations; (ii) the national firms' need (as well as the possibility) to rely on government guidelines and subsidies to survive competition from financially stronger foreign companies operating in Brazil; and (iii) the preference of private bankers for a fully state-protected financial structure, in order to minimize the risk of their operations and to guarantee their high profitability.

The conventional view, however, is that financial markets tend to be restricted to the operation of short-term financial assets as a consequence of the higher income and capital risks attached to long-term financial holdings in conditions of high inflation and inflation instability. This view represents a partial explanation of a more complex phenomenon. Policymakers' choice of maintaining inflation as a financing mechanism during the last five decades has to be explained. The introduction of the formal indexation of financial assets and other contracts after 1967—when all conditions existed for fully stopping inflation—expresses a more structural and systemic bias against market development of long-term financial instruments. This systemic bias can only be explained on the basis of the institutional and societal factors mentioned in the previous paragraph.[8]

The small volume of voluntary financial savings has been compensated by government-administered channels for the mobilization of long-term funds. In order to promote higher levels of domestic (aggregate) savings and, simultaneously guarantee that the additional savings would be used to fund investment in the private sector, the Brazilian government implemented from 1952 to 1980 a system of industrial credit, known as Sistema BNDES (National Bank for Economic and Social Development system). The creation of this system, plus successive innovations in its structure, sustained a continuous expansion in the supply of long-term funds for the industrial sector until the late 1970s.[9]

Since the early 1980s, however, economic stagnation and the successive failure of multiple stabilization attempts (orthodox as well as heterodox) revealed the structural limitations and lack of elasticity of the credit system supporting productive investment. This state-controlled system was the dominant domestic channel of long-term credit for the industrial sector until today. In its early phase, 1952–64, it was funded by a mixture of fiscal resources. After the financial reforms of 1964–67, compulsory-indexed financial savings resulting from retirement

[8] A theoretical explanation for government intervention in the long-term credit system in late-development countries is suggested by Cho [9] [10]. Cho argues that financial liberalization from interest rate ceilings and allocative controls increase the efficiency of capital allocation. However, equity markets are more efficient in the allocation of credit than debt finance provided by the banking system. Without being able to obtain the full allocative efficiency of capital, the governments of developing countries would settle for a second-best alternative. Cho stresses that with this second-best option, government intervention in the credit market is maintained in order to overcome the deficiencies of a banking system, even a liberated one.

[9] For further discussion on the characteristics of Brazilian long-term credit and financial structure, as well as the limitations on the command of the economy by the state, see Armijo [2], Goldsmith [14], Lees, Botts, and Cysne [21], Tavares [25], Welch [26], World Bank [27], and Zoninsein [30]. According to World Bank calculations, by the end of the 1970s' decade, the BNDES system was supplying 80 per cent of the loan requirements for industrial investment.

and benefit funds for federal government and private employees (PASEP [Public Employee Assistance Program] and PIS [Social Integration Plan]) became its main source of funds. In 1970s, this compulsory source was supplemented by foreign credit and BNDES's operational resources.

The BNDES system funds are channeled into private undertakings in the industrial and agricultural sectors (directly or through private financial institutions), state-owned utilities and industrial corporations, as well as other federal, state, and local government agencies. The priorities and financial conditions for allocating these funds were determined by the government, albeit not always in coordination with sectoral priorities defined by the various ministries and multiple state-owned corporations. In addition, the largest proportion of the disbursements were channeled to the private sector (majority-foreign-owned enterprises are not allowed to obtain credit from official Brazilian institutions), in order to subsidize its formation of capital and defend its market shares vis-à-vis foreign enterprises.

The adoption of this institutional model for long-term industrial credit had three main interrelated consequences. In the first place, the two phases of the financial circuit described above—finance and funding of investment—are collapsed into just one stage. The disbursements by the BNDES system are the dominant source of domestic long-term credit for investment in the industrial sector. Secondly, fiat money cannot be used to support investment decisions. With the exception of foreign credit, all other BNDES system sources depend on domestic income generation and are, therefore, non-autonomous in relation to the process of income generation. They cannot, therefore, be used to counteract the economic cycle and/or the interruption in the flow of foreign credit. Thirdly, lack of coordination as well as competing political priorities within the state apparatus precluded the combined use of the BNDES system, the various ministries' investment plans, and the decentralized system of state-owned enterprises as effective tools for fully supporting the private-public partnership in the different areas of the economy. The pro-cyclical nature of the BNDES system and the lack of unified command over the productive and financial aspects of government intervention in the industrial sector were reinforced when, in order to control chronic inflation, the government began to delay the readjustment of the prices of goods and services produced by state-owned corporations, thereby eliminating the internal source of funds in these undertakings.

This structural weakness of the Brazilian government's intervention in the industrial sector contrasts with the much reiterated argument about excessive government intervention in the economy. Whatever the point of view, if one assumes that state reform is a prerequisite for both control of inflation and economic growth, then any stabilization plan that purports to affect positively the process of productive investment must indicate alternatives to supersede the current system of long-term credit.

Ten years of orthodox and heterodox stabilization failure suggest that transitory control of inflation will not spontaneously generate the incentives required to increase the propensity to transform saved income into financial savings. In addition, stabilization failure suggests that permanent control of inflation cannot

be attained without political negotiations in which the long-term benefits are explicitly agreed upon for different groups in society. Reform of the long-term credit system and a new industrial policy are prerequisites for successful negotiations leading to fiscal reform and stable rules affecting prices and wages. The mix of policy instruments necessary to control chronic inflation must include the overhaul of the long-term credit system with a view to expanding domestic sources for productive investment.[10]

IV. MONETARY DYNAMICS, HYPERINFLATION, AND THE COLLOR I PLAN

The open hyperinflationary process which occurred from July 1989 to March 1990 is an outcome of the public sector's financial exhaustion and excessive indebtedness. What triggered the acceleration of inflation to levels above 50 per cent per month, however, was the end of the Sarney's government in March 1990 (Table I). At that time, the Brazilian government had the lowest level of credibility in five years. After the consecutive failure of three different attempts (with two monetary reforms and three different finance ministers) to control inflation, it was clear to the business community that no political support and no more additional time was available to the Sarney's government for implementing a comprehensive program to stop inflation or to control the public sector deficit.

The only alternative left to Sarney's finance minister at that point was to pursue a tight monetary policy and high interest rates. This approach, however, was inevitably self-defeating. Without a program to control the public deficit, sooner or later the excessive growth of the indexed domestic public debt, reinforced by the increasing amount of its service (Table II), would produce the devaluation of the public debt.

Cardoso [5] identifies two factors in the rapid growth of the domestic public debt. Until 1988, the financing of the external debt service was the key factor for that rapid growth. After 1988, high interest rates—significantly above the Brazilian economy's growth rates—were at the root of the explosive growth of the government domestic debt and interest payments.[11] Given the inability of Sarney's government to generate a significant primary budget surplus, both the

[10] Following Gurley's and Shaw's classical argument about periodic changes in the optimum combination of financial techniques [15] [16], Brazilian policymakers have faced since 1982—when the flow of foreign credit was abruptly interrupted—the challenge of increasing the domestic components of total saving. One crucial component to be expanded in this mix is domestic credit, since it is highly amenable to a decentralized and efficient economic structure. Compulsory mobilization of financial savings (resulting from financial reform) plus the earmarking of specific fiscal sources (resulting from fiscal reform) to the long-term credit channel would represent the decisive component of both redefinition in the optimum mix of financial techniques and successful control of inflation. It can be assumed that if expanded credit is available, the productive sector may rely less on self-finance and the manipulation of relative prices to obtain the investment funds.

[11] As Cardoso [5] stresses, Brazil suspended for a second time the payments of interest and principal on its debt to foreign private institutions in 1989. Real appreciation of the Brazilian currency has taken place since then.

TABLE II
INTEREST ON PUBLIC SECTOR DEBT AND THE PUBLIC DEFICIT IN BRAZIL

(% of GDP)

Year	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	7.19	4.3
1986	2.89	2.33	5.12	3.6
1987	2.62	2.17	4.79	5.5
1988	2.85	2.88	5.73	4.3
1989	2.80	9.50	12.30	12.4

Source: [23].

increase in the amount of the money base and additional issues of indexed public debt were used to roll over the existing debt and pay interest.

However, in order to expand the demand for the public debt—in circumstances of decreasing credibility in the government's capacity to balance the budget and, as a result, increasing inflationary expectations—the government had to accept a continuous reduction in the maturity of its domestic debt, negotiated daily in the money market. As a consequence, the liquidity of the economy expanded well beyond the limits established by the amount of means of payment in circulation, and monetary policy progressively lost its relevance as an instrument for controlling monetary circulation.

From the point of view of money market mechanics, these results were not new. What changed in the late 1980s was the intensity of the indexed money problem. Since its creation in the late 1960s, the Brazilian money market had adopted operational procedures aimed at guaranteeing positive real interest rates on its high liquid accounts. The simultaneous properties of the money market accounts—guaranteed positive real interest rates and high liquidity—represented the basic distortion of the Brazilian financial system resulting from the financial reforms of 1964–67. This distortion, however, was a requisite for the smooth operation of the financial circuit and the productive flows in an economy with high and variable inflation rates. As inflation accelerated in the 1980s, additional innovations had to take place to further accommodate the increase in demand for the liquidity of all voluntarily acquired financial assets (public as well as private).

When the government started to negotiate its debt in the domestic money market, money market accounts (overnight deposits plus certificates with a maturity of up to one month) were issued with a clause establishing a fixed amount of nominal interest, above the expected inflation or past inflation rate, depending on the nature of the instrument. Therefore, money market certificates were endowed with the qualities of being liquid and having no risk of loss in nominal value and income. These certificates were almost equivalent to fully remunerated checking accounts, given their very short maturity. On the other hand, the government very carefully monitored the profitability of money market institutions,

which bought government bonds as well as instruments issued by other financial institutions. Particularly in moments of sharp reduction in the demand for money market certificates, the central bank would transfer the required amount of funds to them, so that financial crises were avoided and the long-term return on the capital of these institutions (in many cases, simply branches or departments of commercial banks or financial conglomerates) would be kept at the levels required by the sustained expansion of the money market operations as well as government domestic indebtedness.

The Brazilian money market operated, therefore, in a distorted way since its origin. It constituted the institutional basis for an indexed currency (a currency fully protected from inflation), whose quantity, due to the high and unstable inflation, could only partially be controlled by the monetary authorities. The access of the public to overnight deposits without any risk of loss of income and capital value, in addition, allowed the amount of means of payment (cash plus checking accounts) to fluctuate freely, following the public's inflationary expectations and its demand for real assets and consumption goods. The fact that in the late 1980s, additional innovations and administrative procedures were introduced in the money market operational procedures to further expand the liquidity of money market accounts—according to which the central bank would buy back at the end of every business day the full amount of public debt that the dealers could not fund in the market; the public could draft any amount of checks directly on their overnight deposits (since they were fully convertible to the checking accounts within short notice); and the time span in which the money market operated was extended to cover almost all whole business hours—were only natural and inevitable developments of its initial characteristics. These innovations and procedures continued to represent only a mechanism of defense for the value of moneyed wealth in circumstances of high and unstable inflation. However, once stabilization failure at the end of Sarney's government became evident, these same characteristics of monetary circulation supplied the means for the unchecked acceleration of inflation.

The Collor I Plan, adopted on the first day the new president, Collor de Melo, took office (March 16, 1990), represented an extreme approach to control hyperinflation and dismantle the distorted monetary dynamics taking place since 1988. It consisted of five sets of initiatives: a monetary reform, a fiscal program, short-term wage and price freeze, trade liberalization, and the privatization of state-owned enterprises.

The monetary reform was, by far, the most important initiative. It represented an attempt to control inflation by introducing a sharp reduction in the liquidity of the economy. The government blocked the old currency (cruzado novo) and introduced a new currency (cruzeiro, Cr$), to be exchanged on a one-to-one basis for the cruzado novo. Approximately 70 per cent of quasi-money in circulation (M4) was blocked in bank accounts for eighteen months.[12] Quasi-money in

[12] Quasi-money = M4 = cash + checking accounts + government bills and bonds in the portfolio of financial institutions + savings deposits in mortgage institutions + CDBs (banking certificates) + bills issued by consumer financing institutions. M4 represents the totality of voluntary direct and indirect financial savings, except shares and debentures issued by

circulation was reduced from Cr$4.55 trillion at the end of February (30 per cent of GDP) to Cr$1.38 trillion at the end of March 1992 (9 per cent of GDP).

The frozen cruzados novos, yielding monetary correction plus 6 per cent interest per year, were to be redeemed in cruzeiros in twelve installments starting in September 1991, but could also be used to pay taxes as well as debt incurred previously to March 16. Unemployed and retired individuals, plus charities were allowed to withdraw cruzeiros from their accounts. However, since there were no specific rules allowing companies to pay wages and working capital, an informal market with significant discount on the face value of cruzados developed. Later on, the lack of mechanisms regarding the short-term needs of companies created intense pressures on the government, leading to an additional weakening of the initial strong control of liquidity.

The stated objective of the Collor I Plan's fiscal measures was the reduction of the operational public deficit from 8 per cent of GDP in 1989 to a surplus of 2 per cent of GDP in 1990. This adjustment in the fiscal accounts would result from an increase in revenues (4 per cent), a cut in expenditures (3.5 per cent), and the sale of real government assets through the privatization of state-owned companies (2.5 per cent). The unanimous reaction, however, of economists outside the government, across the political spectrum, as well as the most vocal members of the business community to the Collor I Plan, was that the specific measures adopted were, from the beginning, insufficient to produce the results planned by the policymakers. The revenue gains were significant only in the first half of 1990, due to the one-time financial income taxes, prepayment of taxes with blocked cruzados novos, and sharp readjustments in prices of goods and services produced by state-owned companies adopted on March 16, 1990. On the side of expenditures, the results were less significant. Expenditures fell mainly because of the reduction of public debt payments (due to the compulsory eighteen-month extension in the maturing of most of the domestic debt) and an initial monetary

financial and nonfinancial companies. M4+shares and debentures issued by financial and nonfinancial companies+compulsory financial assets issued by government—administered pension and welfare funds, represent more than 95 per cent of the total domestic financial assets existing in the Brazilian economy. Given the very small demand of the public for shares and debentures (these are the only financial assets which effectively constitute *voluntary financial savings*), and the inability of the financial sector to issue its own indirect securities with maturities compatible with the funding of investment in equipment and industrial buildings, the government opted in the second half of the 1960s to create pensions and benefits funds for state and private sectors (PIS, PASEP, and FGTS [Unemployment, Benefit, and Retirement Fund]) whose shares were compulsively absorbed by the portfolios of "saving" families. In the normal operation of this long-term credit system, the funds mobilized by these *compulsory financial savings* are transferred to state-owned investment banks and investment branches of state-owned diversified financial institutions (public financial conglomerates). The main state-owned financial institutions operating in the long-term credit channel are the BNDES system (represented by the federal-government-owned BNDES and two dozens of state-owned development banks as well as private investment banks that provide loans of lesser amount) for loans and capital participation in industrial and agricultural companies; the Banco do Brasil, for loans to agricultural sector companies; and Caixa Econômica Federal, for loans to real estate developers.

policy of negative real interest rates. The balance osberved in the fiscal account during the second semester of 1990, however, was based on the use of artificial or short-term devices, like postponement of expenditures and freezes in the salaries of public sector employees. The fiscal adjustment observed during 1990 was not, therefore, a consequence of structural measures (such as permanent cuts in subsidies and fiscal incentives, the sale of government property and reduction in public employment, and improvements in tax collection) aimed at sustaining the public sector balance over the long term.

The Collor I Plan also froze prices and wages for a short period of time (one month). This kind of instrument has been an essential part of all five heterodox plans adopted by the Brazilian government since 1985. Its objective was to minimize the reduction in the level of employment and income in an economy with significant rigidities in the system of relative prices, while the adjustment in the level of aggregate demand takes place. The transitory positive effect of wage and price freeze on the control of inflation was, therefore, fully understood by the authors of the Collor I Plan.

In the areas of foreign trade and investment regulations, the Collor I Plan adopted a neo-liberal, hands-off approach, contradictory to the nature of its financial policy. A floating exchange rate was introduced for trade transactions, in order to reduce the pressures from the external sector on the money base. Foreign trade started to be liberalized with the elimination of subsidies and fiscal incentives on exports, as well as quantitative controls on imports, in addition to tariff reduction. A broad program for the privatization of state-owned enterprises was announced, without definitions or guidelines for the private sector, in terms of a revised industrial policy and a new role for government presence in specific sectors of the economy. The assumption guiding the authors of the Collor I Plan was, therefore, that recovery in the investment rate would depend exclusively on private investors' expectations regarding the inflation rate and the decreased role of the state in the economy.[13]

The initial outcome of the Collor I Plan was quite positive. The monthly inflation rate dropped from 81.3 per cent in March to a level close to 10 per cent between April and September. However, in October, the inflation rate started to increase again. By January 1991, it had returned to 20 per cent per month (Table I), and a new heterodox block of measures was taken (Collor II Plan), with transitory results. A few months later, however, the finance minister in charge of the Collor I and II plans was dismissed, leading to a repetition of the Sarney government saga.

[13] Andrade, Mollo, and Silva [1] and Simonsen [24] stress the contradictory ideological and instrumental nature of the Collor I Plan's short-term (stabilization) and long-term (economic growth) approaches. It is important, however, to note that the main instrument chosen by the new government to stop inflation—a sharp reduction in liquidity—could not distinguish the speculative, the working capital, and the savings components in the portfolio of the private sector. The compulsory freeze in liquidity affected all motives to demand money balances, including the component related to the financing of investment and production plans.

A sharp decrease in the level of economic activity in 1990 was one of the main effects of the abrupt reduction in the stock of quasi-money, which occurred in March 1990. The GDP fell by 4.3 per cent in 1990. This fall took place as a consequence of the Collor I Plan's negative impact on businesses' and families' liquidity levels, which affected both aggregate supply and demand. Accordingly, business expectations regarding long-term returns on their productive investments were adjusted downward.

Subsequently, after May 1990, liquidity levels started to expand again above the level planned by the government. The supply of means of payment expanded by 93 per cent in the second half of 1990, whereas the programed expansion had reached only 14 per cent. Until June 1990, the expansion of liquidity was due to various mechanisms, such as an informal market for trading frozen cruzados into cruzeiros, government expenditures (in cruzeiros) of recently collected taxes paid in cruzados, plus relaxation of the initial tight credit policy in order to overcome extreme situations of lack of working capital n the business sector. During the rest of the year, the government pursued an erratic monetary policy, alternating sharp control of liquidity to control inflation acceleration, with passive acceptance of the increased demand for means of payment, to avoid additional unemployment.

A superficial view of the Brazilian macroeconomic performance in 1990 would focus on the paradox that the reacceleration of inflation was a consequence of the lack of control of the credit and remonetization policies by a government that had put excessive emphasis on the freeze in quasi-money to stop inflation. A deeper view, however, must consider the rather naive approach of the Collor I Plan to financial policy reform. The view of the financial circuit adopted by the authors of that plan eliminated any reference to the institutional channel for transforming liquidity into long-term funds. As an inevitable consequence, the re-injection of money into the economy was driven by the invisible hands of inflationary expectations, and another opportunity was lost to overcome economic instability and stagnation. Instead of the chaotic re-injection of liquidity that took place after May 1990, the financial resources liberated by the compulsory extension in the maturity of the public debt and other financial assets could have been used to jump start the investment process in the economy as a whole. However, the channeling of liquidity to the investment process would have required that the government initially redirect the financial resources under control of the monetary authorities to expand the financing and funding of the public sector's productive investment (including state-owned enterprises) as well as those private sector's investment projects strongly articulated with the former. In a second moment, a redefined platform aimed at launching an investment program focused on modernization, increased efficiency and quality of industrial methods, as well as a selective pursuit of the competitive advantages of the Brazilian economy, would have provided the basis for society-wide negotiations regarding the income and fiscal policies necessary to sustain the control of inflation.

V. CONCLUSION

Among all the programs implemented to control inflation in Brazil since 1982, the Collor I Plan is the one that came closest to addressing the financial distortions that were at the root of inflation. The Collor I Plan shares with the Cruzado Plan a prominent position for the boldness of its attempts to completely eradicate inflation and to eliminate the causes of the public sector's financial exhaustion as well. Both were the most innovative plans in terms of the mix of policy instruments put into action and in terms of their objectives. Both plans—different from all other programs adopted between 1982 and 1992—also initially succeeded in disseminating the hope that an acceptable pattern of price stability would finally be attained in the Brazilian economy.

The Collor I Plan differs, however, from the Cruzado Plan in that in the former, direct intervention by the government in the financial circuit constituted the primary instrument for attacking inflation. Price and wage freezes as well as elimination of formal indexation—key instruments in the Cruzado Plan—were only a secondary tool (in the case of the price and wage freezes) or not adopted at all (in the case of elimination of indexation). The Collor I Plan adopted, nevertheless, a contradictory approach to control inflation. This approach fully expresses the segmented rationality of the Brazilian state, resulting from its deepest crisis since the 1930s. The Collor I Plan was extremely interventionist—to an extent that shocked sectors of Brazilian society throughout the whole political spectrum—in the money and short-term credit markets. Full administrative control over the monetary dynamics of both the public and private sector was transformed into the crucial instrument of its attack on inflation.

The Collor I Plan, nevertheless, adopted all the recommendations of the liberal agenda in its approach to long-term objectives and the role of the state in the process of economic growth. Not only did the government abstain from giving support to the investment programs of the public sector, but also, no general definitions were presented for discussion with the private sector regarding alternative paths for industrial and economic development. Trade liberalization as well as privatizatoin of state-owned enterprises was pursued with a view to controlling inflation, without any consideration of its strategic influence on the path of growth and the structure of the productive sector. The assumption behind this approach was that the private sector would be able to overcome by itself the uncertainties created by a decade of stagnation and instability.

As a consequence of the lack of an economic strategy aimed at redefining and reinforcing the government's permanent influence over the administration of the financial circuit, the initial success in the control of inflation was brief and the policy ultimately failed. Augmented state control over liquidity and monetary policy was not used to promote an increase in financial savings and productive investment. The Collor I Plan assumed that in the area of the investment process, the private sector would this time deliver the required leadership. This assumption proved once again wrong—as it was during the Cruzado Plan, when the govern-

ment bought back from the private sector the volumes of public debt assumed to represent an excessive burden in terms of its service, thereby losing control over monetary and credit policies.

The shortcomings of the Collor I Plan demonstrate the need to forge a more comprehensive strategy to control inflation, in which the financial conditions for jump starting the investment process are specified from the beginning of the attack on inflation, in order to mobilize political support from the various social groups for fiscal consolidation and wage and price controls. The costs of continuous stabilization failure are now evident. The alternative to further deterioration of the social fabric and political decay is an approach in which the financial requisites of the investment process and the strategic role of the state apparatuses in generating an expansive cycle are fully specified.

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