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Economic Stabilization in Brazil

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ABSTRACT

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The economic recovery of 1984 and the democratization of decision-making processes expected to take place in 1985 add new dimensions to the complex problem of designing stabilization policies for the Brazilian economy. This paper addresses some aspects of a program intended to resume growth on a sustainable basis and promote social equity objectives. It discusses debt and fiscal reforms briefly. It concentrates on monetary reform, social pacts, interest rates and exchange speculation. After identifying areas of ignorance, it concludes with a plea for new approaches free from both the illusions of reviving the past and the simplisms of orthodoxy.

ECONOMIC STABILIZATION IN BRAZIL.

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I. Introduction.

Economic stabilization is usually conceived of as the design of short term policies dealing with debt, inflation, fiscal deficits, interest and exchange rates. A short term stabilization plan, however, may be misleading if not grounded on a long term perspective. I will state at the very outset my intuition of the new development model that Brazil is bound to follow.

The development model adopted in the seventies, directed by the state and relying heavily upon external borrowing, is over. External finance is no longer available and the state-led industrialization has already provided the economy with major import-substituting industries. The exhaustion of this development model paves the way for a much more standard capitalist economy. In the new model, economic activity would undergo the typical business cycles of more mature capitalist economies; capital accumulation would dispense with state compulsory schemes; internal finance in the equity form would replace both external and internal finance in the debt form; the private exporting sector would be a permanent dynamic source of growth; and the scope of the State would be confined to social equity and fairness objectives such as the provision of public goods, education, health and transportation.

This intuition that Brazil would fulfill its capitalist vocation in the years to come cannot yet be validated by facts. Nonetheless, the 1984 recovery, which was first denied and then dismissed as a short-lived phenomenon by economists that still think of Brazil in terms of the old model, stands in line with some features of this new development model. To the extent that it signals indeed the timid commencement of a new

* I received useful comments from too many people in Brazil and in the United States to list them here by name, but I am grateful to each one of them. The opinions here expressed are of my own responsibility.

development model, an intriguing coincidence can be found between the step by step liberalization of the political regime and the slow, almost muffled pace of economic changes. In neither dimension of social life, however, is there an inner necessity that would contrive events to develop properly; strategy is needed both to avoid regression in political freedom and to prevent economic decay.

What are the prospects for the new model? I must admit that on a very critical and politically sensitive area I don't, and I venture to say nobody does, know what to do. It is too easy to call for de-regulation, limiting or rationalizing the scope of the state, exploring complementarities and avoiding crowding out between state and private investment, or enhancing productivity and increasing the competitiveness of the private sector. However, it is very hard to put empirical content to any of those seemingly simple words of command. The casting of a new public/private mix in the economy that would escape from being either a minor variant of the status quo or a straight liquidation of state property seems gloomy in present circumstances.

This difficulty is to be interpreted as suggesting the need for creative ideas and solutions if the new model is to take place. The disguised misoneism that pervades much of policy discussions in Brazil is to be removed. Debt, monetary and fiscal reforms are needed. For the first time in 20 years, economic reforms will be decided and implemented by a government endowed with legitimacy and committed to pursuing the dismantling of the authoritarian legacy. The installment of democracy after the sad years of authoritarian regime is good in itself; it would be naive, however, to expect the democratization of decision-making processes to provide by itself the proper solutions to our pressing economic troubles. Democracy helps economic recovery in preventing discretionary manipulation of the rules of the game which account for much of the uncertainty in Brazil; but one cannot rule out the possibility of Congress being undecided, unrepresentative or of Congress taking a revenge against its previous subordination to the Executive power by overcontrolling economic policy or inhibiting private negotiations outside the properly political realm.

II. A Schizophrenic Misconception.

To provide the proper background for debt reform in 1985 it is necessary to understand the constraints posed by the debt crisis on domestic policy. These constraints have been overlooked in what became

an unfortunate common misconception of the behaviour of the Brazilian economy over the past two years.

The success on the trade balance is frequently interpreted as supporting the view that Brazil has already absorbed the burden of external debt; the failure to control inflation and the deficit is taken in turn as a sign of internal disarray and budget disequilibrium. According to this view, the debt problem has faded away. Present difficulties, in this view, have been caused by and large by internal policy mismanagements.

This schizophrenic view that separates out external debt from inflation and deficit problems is hardly tenable. The acceleration of inflation in 1983 resulted from the policies adopted to remedy the external debt crisis. Inflation accelerated along 1983 because of exchange devaluation; because of the decision to deplete buffer stocks for agricultural products in order to enhance exports; and because official financing agencies in the developed world insisted upon increasing the relative price of government goods and services. The impact of the inflation shocks elicited by the debt crisis is illustrated by econometric simulations. Having the 100% inflation of 1982 as the starting point, it is estimated that the 30% real devaluation of the exchange rate alone increases inflation to 180% or 190% equilibrium levels.^{1/} Although counterfactual exercises are always open to serious methodological objections, it can be forcefully argued that, in the absence of the debt crisis, inflation would remain near the 100% level. It is worth reporting that to neutralize the inflationary shock of a modest 10% real devaluation, it is necessary to increase the index of idle capacity by 12,7%.^{2/} In plain words, to counteract by recession the inflationary pressures built in the economic system by the very policies that generated splendid trade surpluses is to practice an act of harakiri.

The same criticism holds true regarding fiscal deficits. It has been argued that deficits testify to the reluctance of Brazil to implement sound policies. But what on the surface seems to be an expression of internal mismanagement, is in fact the internal reflection of the external debt shock that imposed the devaluation of the exchange rate. The real devaluation increased the fiscal deficit by two channels.

The first channel derived from the existence of government bonds indexed to the exchange rate. A devaluation under these circumstances meant a transfer of resources from the government to private bond holders. The second channel originated from the political decision of not letting private firms indebted in dollars to go bankrupt because of the devaluation. Government absorbed the cost of exchange risk through Resolution 432 of the National Monetary Council. In Brazil, as in other Latin American countries 3/, public subsidies were offered to guarantee the performance

of the assets of foreign banks at the expenses of public budget equilibrium.

The intricate connections between external debt, inflation and fiscal deficits bring into light the extent and pervasiveness of the crisis launched by the Mexican Moratorium of 1982. Rather than exempting domestic policy from the responsibility of designing proper adjustment programs, these connections reveal the unfairness of putting the blame solely on domestic policy for not curbing down inflation and fiscal deficits in face of the collapse of credit markets in foreign currencies. The misconception that arises from artificially isolating trade surpluses from the acceleration of inflation and fiscal deficits in the period 1983-1984 parallels that which ascribes the entire responsibility of debt accumulation during the seventies and early eighties to the tardiness of domestic adjustment efforts 4/. In both cases, the impact of external disturbances is underplayed. The resulting one-sided perspective impedes a proper evaluation of domestic policy actions.

III. The Pragmatic Debt Reform.

As to the debt problem, there is no need to elaborate on the dangers of protectionism or high interest rates. Nor is it necessary to criticize the error of insisting that Brazil eliminate import restrictions. These aspects of the debt problem are obvious enough. Much less obvious is the assessment of the debt problem after the experience of 1984.

There exists in this regard a surprising difference in perception between most Brazilians and American experts. In the USA, a near consensus has developed around the notion that the debt problem can be treated as a temporary illiquidity problem. The dominant view dismisses the diagnosis of the debt crisis as being the manifestation of an insolvency phenomenon; accordingly, it validates as appropriate the muddling through strategy of temporary lending (instead of write-downs or straight debt repudiation) adopted by both indebted countries and lending banks 5/. In contrast, in Brazil both government officials and opposition economists view the 1984 experience as keeping the problem in a suspended state. Although there seems to be little agreement on the several proposals put forward to solve the debt problem 6/, the near consensus is that debt reform is inescapable.

This difference in perception of the nature of the debt crisis will be resolved on pragmatic grounds. Pragmatism in this context means simply that one does not react to future events to which any sensible

probability of occurrence can be attached. There are combinations of plausible OECD growth rates, interest rate declines, some fresh lending and domestic export promotion that will sharply reduce the debt to export ratios, allowing Brazil to converge, however slowly, to the entire payment of its huge debt and enjoying modest (by historical standards) growth rates of 3 to 4% per year. But there are alternative scenarios in which the servicing of debt could lead to economic decay for the next two decades without improving effectively debt to export ratios. The novelty of the present situation lies not in lessening the uncertainty in the international environment which has rendered attractive the risk-aversion behaviour adopted by the parties in past negotiations, but from the internal dynamics of Brazilian society. Social demands to resume growth can no longer be ignored. The competitiveness of Brazilian exports will be maintained by keeping the cruzeiro undervalued by purchasing parity guidelines 7/; but lending banks and the IMF can no longer rely on domestic recession to adjust the Balance of Payments.8/ Whether the achievement of growth targets is compatible with the flows of interest payment deemed satisfactory by the lending banks is uncertain. This compatibility hinges crucially upon the behaviour of variables exogenous to Brazilian domestic policy such as interest rates and absorption in developed economies. To the extent that this compatibility holds, a major conflict can be avoided; otherwise, granting Brazil a respite is likely to remain the only alternative left open to lending banks other than facing overt or disguised debt repudiation.9/

IV. Monetary Reform: Lewis Carrol and Beyond.

A long range reform on debt payments is not the only reform needed. Inflation seems to stand in the way of any sustainable economic recovery. The recent Brazilian experience indicates, however, that the supposedly overwhelmingly destructive effects of high inflation may not occur. High inflation impedes neither economic calculus nor the achievement of trade surpluses; and there is little theoretical substance to the notion that a stable rate of inflation, as high as it may be, prevents economic recovery from taking place. Judged from the viewpoint of economic theory, the functioning of the real side of an economy is of necessity invariant to stable inflation. The benefits to be achieved by a sustained reduction in the rate of inflation are well known,10/ but they have to be set against the costs in achieving this reduction. In contrast to the evidence for hyperinflations, which suggests that the inflation reduction can be achieved without dramatic output losses, 11/ in many historical episodes of disinflation after a period of moderate

inflation losses of output were substantial.^{12/} If disinflation is very costly, adjusting to the on-going inflation rate through its stabilization around the level handed down from the past is superior to reducing it to any given figure deemed acceptable by common sense. For if inflation is stable, it can be predicted and becomes therefore neutral from the viewpoint of the functioning of the real side of the economy.

Common sense, however, is at variance with theory. The decrease of inflation is usually viewed as valuable in itself, irrespective of its costs. A program of inflation neutralization can hardly command political support. One possible rationale for the common sense stance is provided by the presumption that high inflation can only find a state of meta-equilibrium. That is, high inflation is inherently unstable; stabilization proposals would only be feasible at low inflation levels. This presumption may be true, but it is not substantiated by theoretical results so far.

Another explanation of common sense views on inflation can be found by noting that people associate inflation with the decline in real wages. That inflation was the instrument through which this decline took place is beyond doubt. But inflation is an outcome of economic processes, not an exogenous causal influence. The drop in real wages is to be attributed not to inflation as such, but to the adoption of restrictive fiscal policies and the devaluation of the exchange rate. The decline of inflation bears no necessary relationship to higher real wages. In fact, much of the conceptual difficulty in designing proper anti-inflation measures, such as a monetary reform, stems from the confusion between inflation control and incomes policy.

It is important to note in this connection that the monetary reform as described below would decrease inflation but not increase real wages. The mishmash of monetary reform designed to desinflation the economy with the social equity objectives of promoting a fair distribution of income and wealth can hardly be justified. From the analytical point of view, one must have two instruments if there are two objectives. The monetary reform deals with inflation; fiscal reform deals with social equity. The monetary reform is a sophisticated way of neutralizing inertial inflationary processes. But before discussing monetary reform, it seems appropriate to capture, at a high level of abstraction and incompleteness, the kernel of the most important proposals to eliminate inflation in Brazil.

The orthodox view has no claim to originality. It holds that inflation is caused by fiscal deficits. The larger the fiscal deficit, the larger is the expansion of money supply and hence the higher the inflation rate. Provided that the deficit is not too large, there will always be an inflation rate such that the accounting equilibrium of government can be maintained. The control of inflation is reduced to the control of the

underlying fiscal deficit. Austerity is the word of command. The evidence that tight money had devastating effects on output but only little effect on prices is interpreted as a temporary phenomena to be eventually reverted provided that austerity measures persist for sufficient time.

The glamour of orthodoxy lies in its simplicity. But simplicity is too narrow a basis for entrusting it with the attributes of truth. Nominal fiscal deficits cannot be taken as a proper measure of the pressure upon inflation simply because they result, to a large extent, from past inflation. Since the principal of government bonds in Brazil is indexed, the higher the on-going rate of inflation, the higher nominal deficits become. Moreover, austerity measures tend to defeat themselves. When government expenditures are curtailed, real income falls and total taxes also decrease. The net effect is positive, but the effectiveness of cutting down government expenditures is to a large extent offset by the fall in taxes. As a consequence, reductions in the fiscal deficit to GNP ratios impose large output losses. And when attention turns to the operational concept of fiscal deficit, that is, government expenditures plus the payment of real interest on public debt minus taxes in real terms, one realizes that fiscal deficit is negligible.^{13/} The typical pattern of Brazilian inflation over time is that of an inflation that moves when a shock, such as a real exchange devaluation, occurs; otherwise, it fluctuates around the average level inherited from the past. This pattern suggests an inertial type of inflation with little room in orthodoxy.

These complexities are not meant to suggest that orthodox policies don't work. The Chilean case shows that even high, chronic and accelerating inflation can be eliminated by orthodox methods. But the Chilean record can hardly be taken as an example to be followed. The complexities of the Brazilian economy ought to be understood, rather than ignored; for this understanding provides a key to disinflation without the frightening output losses brought about by the implementation of austerity measures.

The recognition of the inertial character of inflation led a substantial portion of experts to call for the de-indexing of the economy. The legal status accorded to indexed contracts was held to bestow inertia to inflation. Indexation to the price level was seen as a device that reduced the costs of inflation when inflation was at low levels, as in the early seventies, but that ruled out the possibility of inflation decline for the high levels of the eighties. The meaning of de-indexation, however, varied enormously, ranging from the surprise setting of legal indexation to zero at a given month to a cautious pre-announced path contemplating the gradual elimination of legal indexation after a long period of adjustment.

The indexation question rekindles the debate on disinflation. Several remarks are appropriate. First, it is frequently said that without indexation, the costs of inflation would have been so high that government would have been forced to stabilize well before the three digit level. The argument implicitly assumes, however, that high inflation with indexation is equivalent in an unspecified sense to low inflation

without indexation - an implication which casts doubt on the malefic effects of indexation. Perhaps the proper measure of inflation should allow for the degree of indexation in the economy. Whatever the opinion on this issue, the fact remains that the suppression of legal indexation, apart from major distributive gains and losses associated with the depreciation of financial wealth, would have little if any effect on inflation rates. To ascribe to the legal enforcement of indexed contracts the main role in maintaining inflation is to espouse an overly institutional view of the Brazilian economy. Government enforced laws preventing indexation to the price index would only force private agents to resort to informal indexation mechanisms. The indexation to the dollar would be the most likely replacement candidate.

In fact, the mere announcement of de-indexation would accelerate inflation. The point is that, while compensating changes in almost any financial instrument could preserve the real interest rate offered as its return, the rate of return on passbook savings is fixed by law. As a consequence, the announcement of de-indexing leads to a run on its deposits. The attempt to transform a mass of financial wealth of several times the monetary base into non-financial wealth has explosive inflationary sequelae.

Second, it has been argued that the roles of wage and bond indexation are to be distinguished.^{14/} For while wage indexation cannot be said to influence the behaviour of real wages, indexation of government bonds deprives the economy of an important stabilization mechanism. In non-indexed economies, a rise in the price level reduces wealth because both the real value of money stock and bond stock are depressed. The decline in wealth leads to less demand for goods which counteracts the rise in the price level. If bonds are indexed, this stabilizing mechanism is confined to the stock of money; if the ratio of money to bonds is very small, indexation renders this stabilization mechanism feeble. Yet its weakness is a disguised expression of the inflation problem in the first place. In Brazil, the demand for non-indexed government bonds depends crucially upon prospects for rapid disinflation. When these prospects are cast aside, demand is diverted entirely to indexed bonds. When inflation is deemed to persist, private agents resist lending to the government on terms that give the government the option to repudiate the debt through inflation.^{15/}

Third, the response of agents to inflation by the universalization of indexation schemes takes time. Even in the Brazilian economy, which has undergone processes of chronic inflation for decades and in which the practice of indexing is widespread, indexation is still imperfect.^{16/} The higher the inflation rate, the stronger the incentive to improve the indexation of contracts; but the historical evidence suggests that it is only in hyperinflations that indexation approaches perfection.

This sluggishness in indexing is unfortunate. For if there is no contract that is not perfectly price-level or inflation-contingent, policies that either cause or reduce inflation are costless.^{17/} The secret to the success stories on how hyperinflations end is that during a hyperinflation, all the advantages of longer term nominal contracts or of indexed contracts with long readjustment periods are overridden by the need to revise prices almost continuously. The inertia in inflation by which events that happened six months or even one year ago still bear to the present state of the system disappears. Hyperinflations carry in themselves the seeds of their own destruction - for they force agents to eliminate contracts which are not perfectly indexed. If the path from a moderate inflation to an hyperinflation could be traversed easily, then one obvious anti-inflation strategy is to inflate the economy up to an hyperinflation situation, wait until all sluggishness in indexing disappears and finally promote a monetary reform. Yet the hardships associated to an hyperinflation are obvious enough. In some historical episodes this strategy of waiting for the hyperinflation was in fact adopted ^{18/}; the lesson to be drawn from the historical evidence, however, is not the wisdom of letting the situation deteriorate up to the point in which the expected value of money approaches zero,^{19/} but rather that the conditions for costless disinflation are mature when indexation becomes universal and faultless.

This discussion leads to a somewhat paradoxical conclusion: the best way of de-indexing is to index everything. But before discussing this conclusion and relating it to the neutralization of inflation through stabilization prescribed by theory, it is appropriate to mention the fact that the monetary reform proposals were immediately preceded by complete de-indexing proposals. In the D-day or heterodox shock proposals,^{20/} a social pact would make viable zero inflation by freezing nominal wages, fixing the exchange rate and controlling prices. The freeze was supposed to eliminate the inertial component of inflation. The several freeze proposals were different in many respects, but they all shared the assumption that, instead of abolishing legal indexation, a measure of doubtful effect, the best way to de-index was to stop inflation at once.

The difficulty of freeze proposals is evident. At high inflation there is high volatility of relative prices. A photograph of the economy at any given point of time would exhibit inconsistent relative prices. Inflation becomes inertial when the inconsistency of relative prices in the synchronic dimension is resolved in the diachronic dimension. It is only through time that the fragile inflation equilibrium is obtained. To freeze nominal prices at any given day by legislative fiat would in all probability freeze inconsistent relative prices. If the announced freeze is too short, it does not work because it will be

regarded as transitory; if it is too long, this inconsistency of relative prices as well as any shocks to supply and demand will have to be absorbed by rationing devices. The effectiveness of the freeze is undermined by the fact that agents expect the lifting of the freeze to be followed by strong pressures to restore previous relativities which, even if legal indexation remained prohibited, would revive inflation. The condition for a successful freeze is, of course, an extensive social pact about which more will be said later.

Leaving aside the nearly unsurmountable practical obstacles to the implementation of a successful freeze on wages and prices, there is an aspect of freeze proposals which, although usually unnoticed, provides the clue for the understanding of the monetary reform described below. When wages and prices are frozen, money recuperates its function as a store of value. The losses incurred in keeping money during the freeze period are given just by the real rate of interest. Little reflection indicates that exactly the same result would follow by indexing money. For if wages and prices increase in nominal value, but money is indexed, money recuperates its store of value function exactly in the same way as under the freeze proposal. The demand for indexed money when wages and prices grow at the on-going rate of inflation depends, for a given level of income, only upon the real (and not nominal) rate of interest - in the same way as the demand for non-indexed money when wages and prices are constant by government fiat.

These considerations suggest that the dual counterpart to the freeze proposals is the issuing of indexed money. It is therefore hardly a coincidence that the arguments favouring total indexation in the Brazilian policy debate followed immediately after the statement of the major freeze proposals.^{21/} The mechanics of the monetary reform can be stated simply.^{22/}

On the one hand, all of the contracts would be indexed in the shortest unit of time possible. Non-contingent contracts would vanish; contracts contingent on the price level would be readjusted every month. The one month length period already governs the readjustment of some contracts in the economy; since information on the price level comes with a lag of one or two weeks, one month seems to be a proper length of period. Contracts would be written in terms of the same index.^{23/} The forces of supply and demand may increase, decrease or keep constant the value of any given contract in terms of the price index. The existence of pervasive legal indexation practices in the economy provides a suitable basis for the universal indexation. With the general adoption of monthly indexed contracts, the memory of the economic system is contracted - all that matters for current inflation is inflation over the past month. This shrinking of the memory of the system is the lesson learned from the history of hyperinflations discussed above.

The enhancement of existing indexation schemes is not meant to substitute incomes policy. This is particularly important regarding wages. Wages are now readjusted every six months. Before the acceleration of inflation, the readjustment was annual. The mere contracting of the readjustment period after which nominal wages are increased to compensate for past inflation only results in more inflation. For while the real wage is at its peak level at the moment of readjustment, its average value over the length of the readjustment period depends on inflation. The shorter the length of the period, the higher the inflation rate imposed by entrepreneurs to maintain the real average wage constant.^{24/} The wage readjustment formula envisaged by monetary reform is based on the average real wage in the period preceeding the monetary reform. Restoring nominal wages at the peak level every month would lead to a dramatic acceleration of inflation because of traditional distributive conflicts. In the monetary reform, each overlapping contract is rewritten in terms of the price index based on its average value over the previous period with due allowance to interest rate effects as explained in the next section.

Once the indexation of contracts is accomplished, two strategies can be pursued. One is to impose a gigantic monetary shock. Since the memory of the system is very short, a once and for all drop in inflation tends to perpetuate itself. The difficulty of this strategy lies if there is inertia in the price level (to be distinguished from inertia in inflation rates), the shock provokes a gigantic disruption in production flows. The universal indexation-cum-monetary shock strategy is risky and likely to be very costly. Another strategy, effective and almost painless, is to extend indexation to money.

On the other hand, the monetary reform, in addition to the indexation of all contracts in the shorter unit of time possible, involves the issuing of new money. It is not a matter of cutting down zeros of the old money. The idea is to issue an indexed or inflation-free money - that is a money that would appreciate in terms of the old money in accordance with the price index. During the transition period, old and new money would co-exist. However, it will be in the self-interest of people to exchange the old for the new money because, at 10% of inflation per month, keeping the old money is too costly. The new money, of course, can be held in both cash and demand deposits forms.

The notion of indexed money seems bizarre. Modifications in the existing monetary arrangements have been associated with the long standing issue of payment of interest on reserves. But there is nothing in the nature of money that impedes it from being indexed. The Hungarian Stabilization Plan of 1946 involved the indexing of both deposits and currency.^{25/} Although I was unable to verify primary sources, I was told that the stabilization plan adopted by the Communist Government in China immediately after the take over of power in 1949 also involved the indexing of money. These historical precedents render clear that non-indexed money has no theoretical privilege as the unique fiduciary monetary system possible.

The alleged cognitive complexities that would keep people away from new money are ungrounded - and not only because of the above historical precedents. After years of very high inflation, to comprehend the difference between nominal and real variables has become a survival matter. Common people hold their savings in indexed passbook savings accounts and pay mortgages on indexed loans. Understanding the indexation of money is hardly different from understanding wage indexation. In contrast to the rational expectations models so popular nowadays, the cognitive capacities demanded by the adoption of indexed money lie well within the realm of procedural rationality.^{26/}

In fact, the issuing of indexed money merely unites two separate functions of money. The Brazilian economy uses today as the unit of account the legal indexation parameter (called ORTN). Contracts are written in ORTNs and prices of the industrial sector, by and large resulting from mark-up rules, are revised with varying intervals according to the appreciation of the ORTN relative to the cruzeiro. Land and real estate prices are more and more quoted directly in ORTNs. The variation of the ORTN is equal to the monthly change in the price index.^{27/} The ORTN is the unit of account, but the unit of transaction is still the cruzeiro. Although prices and contracts tend to be quoted in ORTNs, actual transactions require the conversion of ORTNs in cruzeiros. The names proposed for the new money varied considerably, but the underlying concept is in essence the same, namely, to unify the unit of account and the unit of transaction functions.^{28/}

The effect of monetary reform is evident. Because of universal indexation, all contracts change in nominal terms according to the monthly inflation rate. But the new money also appreciates accordingly. In terms of the new money, prices and services are constant but the old money depreciates by the on-going inflation rate. Since the switch from old to new money will be in the self-interest of people, I would expect the switch to take at most a couple of months, and it may be much faster if thoroughly publicized by the government.^{29/} Once the old money disappears, inflation comes down to zero for the simple reason that, measured in terms of indexed money, prices of goods and services are constant.

Is there anything magic to this monetary reform? As inflation persists, the Brazilian economy becomes more and more indexed. Inertia in inflation rates is backed by pervasive indexation schemes. The consecrated therapy is to move backwards to the status quo ante by de-indexing. But chronic inflation processes are generally not reversible without facing large output losses. They cannot be forced to recede along the same path they have been unfolding except at high costs to society. The natural therapy is precisely the opposite: push the process to its logical end by indexing everything. The witchcraft of monetary reform dissipates after realizing that indexation only makes sense in relative terms. In a system in which both contracts and money are indexed, the very notion of indexation is deprived of meaning. Paradoxically as it is, the monetary reform arrives at a completely non-indexed economy by fully indexing the existing one. The paradox of monetary reform is to be appreciated by all lovers of Lewis Carroll. One has to move forward through the Brazilian looking-glass in order to get backwards, to index everything in order to de-index everything.

In addition to eliminating inflation, the monetary reform provides a "windfall" seigniorage gain for the government. Since the demand for money increases,^{30/} government expenditures can be financed without raising taxes or issuing debt.^{31/} If domestic government does not issue indexed money, the seigniorage gain is appropriated by a foreign government to the extent to which the dollar (or the major convertible currencies) are more and more resorted to as a store of value and mean of transaction. In fact, the use of foreign currency was extensive in hyperinflations because foreign currency was a hedge against domestic inflation.^{32/} In other words: the logical end of ever accelerating inflationary processes is indexed money - and if domestic government does not provide it, foreign currency enters into the scene. But in the same way that it is far from being wise to wait for the hyperinflation to promote full indexation, it is foolish to elect to pay seigniorage to a foreign government. A country giving up use of its own currency faces the cost of acquiring the initial stock of foreign high-powered money to make transactions - a cost prohibitive for a heavily indebted country like Brazil. The Israeli Minister of Finance, known world-wide for his proposal of the dollarization of the Israeli economy, was correct in insisting that - provided the three conditions below are met - dollarization eliminates inflation. But dollarization is an inferior solution in that issuing indexed money allows domestic government to internalize the seigniorage otherwise foregone by using a foreign currency.^{33/} A precondition for dollarization to be contemplated is persisting fiscal deficits that would undermine the confidence on the store of value function of new money.

Not every inflation, however, can be effortlessly cured by such a monetary reform. For the only sure effect of monetary reform is to eliminate the inertial component of inflation. If this component is sizeable, a dramatic reduction in inflation is obtained almost immediately. Contrary to common sense, however, I attach little meaning to the level of inflation as such. The crucial issue is the stabilization of the inflation rate after the reform, irrespective of how low it is initially. The three ideal conditions for monetary reform are: (i) an almost purely inertial inflation rate before the reform; (ii) a negligible fiscal deficit in the operational concept before the reform and (iii) rules or institutional arrangements preventing the government from reinflating the economy after the reform. I shall discuss these three conditions in turn.

The first ideal condition is inertial inflation. The inertial character of inflation may derive from several sources. Two of them are worth mentioning with respect to the Brazilian economy. Inflation becomes inertial when the best predictor for future inflation is past inflation itself.^{34/} This predictor is rational, first, when current money supply reacts to previous inflation. This is indeed the case of monetary rules that peg the interest rate at the cost of rendering money supply endogenous. It will be seen below that interest rate pegging is a crucial feature of the real behaviour of the Brazilian economy. This predictor may be rational, second, even if money supply is under control. In this case, inertia in inflation reveals the existence of bubbles. Bubbles raise suspicion from the theoretical point of view, and some formal methods of eliminating them have been proposed.^{35/} However expelled from theory, the bubble explanation is at the root of frequent interpretations of Brazilian inflation as being "psychological". I mentioned these two sources of inertia to stress the fact that inertial processes of inflation do not depend on passive money and do not violate the postulate of rational expectations. The two sources can be proved by a straight classical model.^{36/} Of course, inertia may derive from more traditional reasons stemming from characteristics of industrial organization, adaptive expectations, adjustment costs, etc. In effective demand models, inertia in inflation rates shows that the underlying real economy possesses a multiplicity of equilibria positions. Demand or supply shocks move the economy from one real equilibrium to another; once a equilibrium is reached, inflation fluctuates around the inertial level compatible with this equilibrium.

The importance of having nearly pure inertial inflation before the monetary reform is obvious. Monetary reform is an effective instrument to eliminate inertia. But if inflation is accelerating, the acceleration component would remain unaltered after the reform. To promote a monetary reform when there is excess demand in goods markets or when supply shocks are still pushing the equilibrium level of inflation upwards, is to waste an otherwise powerful stabilization tool. None of these adverse conditions seem to characterize the present state of the Brazilian economy. Nonetheless, it is worth pointing out that inflationary pressures may prop up in the near

future because of bottlenecks in the export sector, 37/ wage explosions, 38/ or a further devaluation of the real exchange rate. 39/ To the extent that these pressures are impending, the postponement of the monetary reform is recommended.

The second ideal condition for monetary reform is a negligible fiscal deficit in the operational concept. This condition assures the government will not be forced to issue new money beyond the actual demand of people to exchange old for new money. The public deficit in the operational concept need not be zero before the monetary reform. Since the demand for indexed money is larger than the demand for old money, there is room for a monetary expansion which may close the previously existing deficit before the reform, provided it is not too large. If the deficit before the reform is too large, agents anticipate the overly expansionist monetary policy to be followed afterwards and the confidence on price stability after the reform is undermined.

The third ideal condition is given by rules or institutional arrangements penalizing the government against reinflating the economy. It may be said that government will not reflate the economy after the monetary reform because of the enforcement that arises from the potential loss of credibility or reputation. Yet it is hard to believe that anybody would believe that the potential loss of credibility connected with cheating on the expansion of the new money will deter government from reinflating the the economy. An inflation shock in the form of a non-anticipated increase in money supply may be tempting to the government because it increases employment and diminishes the size of nominally-denominated public debt. 40/ The seduction of inflation shocks is no secret to private agents. Unless government is restricted in its discretionary powers over the supply of new money, agents anticipate inflation and inflation may occur even if government is sincerely committed to the ideals of monetary reform.

One solution to the problem of avoiding inflation after the reform is to impose a legal ceiling on the expansion of new money, let us say, 10% per year. But how do we know that 10% is appropriate? A more sophisticated solution to the problem of avoiding inflation after the reform is to impose a legal ceiling on a different monetary concept: the sum of the monetary base and deposits in Resolution 432. 41/ The argument runs as follows. If the money market is in excess demand, interest rates increase. The higher differential between domestic and external rates induce a run into 432 deposits which pumps money into the system. Shifts in money demand are in this way accomodated without violating the monetary rule self-imposed by the government.

Another often discussed solution is to "anchor" the supply of new money to the availability of convertible assets such as gold or dollars. It is not clear to me, however, how the "anchoring" is supposed to work. The difficulties stemming from commodity money settings are well known 42/;

and they obviously deteriorate in economies heavily indebted in "anchor" assets. Turning to fiduciary monetary standards, the meaning of "anchoring" remains obscure. The exchange rate in the new money will be constant at its real value prevailing before the monetary reform.^{43/} The adherence to the fixed exchange regime is a trace of continuity between the situations before and after the monetary reform; in both situations, the fixing to the dollar regime neither prevents real devaluations nor impedes the government from inflating the economy. If the rate of monetary expansion after the reform is too high, sooner or later the exchange rate will be revised, but there is nothing in the nature of the fix exchange rate regime that limits government control of money supply. Finally, the "anchorage" schemes based on fully liberalized trade and capital controls, fancy as they are in textbooks, are obviously out of line with the hard reality of the largest indebted country in the world.

Another solution, which I have been cherishing for a long time, is to leave money indexed even after the monetary reform. This solution is perhaps even more audacious than monetary reform itself, but seems to me worth of careful consideration. In the table below, the solution appears with number III.

TABLE I.

		Money	
		Non-indexed	Indexed
Contracts	Non-Indexed	I	III
	Indexed	II	I

History has provided us with economies of types I and II. Since indexation only makes sense in relative terms, the two diagonal positions in Table I describe the same economy I. The current state of the Brazilian economy is II. In suggestive terms, the monetary reform fights inflation by moving from II to I in the horizontal dimension; the de-indexation proposals try to achieve the same goal through the vertical dimension. The 2x2 Table above is not meant to capture in any way the complexities of disinflation processes. Its function is to draw attention to this apparently ignored economy of type III.

In type III economies, money is an indexed liability of government with zero interest rate that serves to make transactions. To simplify matters, assume that there is no other indexed asset in the economy. Money demand responds positively to expected inflation. When inflation exceeds a certain pre-announced critical value, government recompensates holders of money for their losses. Ideally, the indexing of money would apply to both demand deposits and cash, but from a practical point of view it is likely to be limited to demand deposits.

A brief sketch of the properties of economies of type III is appropriate. Consider a supply shock. Agents anticipate inflation; the demand for money increases at the expense of the demand for goods. The inflationary pressure elicited by the supply shock is checked by a deflationary impact of the shift towards money. Consider government printing more money. Depending on the elasticity of money demand relative to inflation, this expansionist money supply would lead to more inflation. But since demand deposits are insured against inflation tax, government is penalized because inflationary finance widens the budget deficit. Gains in inflation tax are to be set against the payment of benefits to holders of demand deposits. Finally, consider an innovation in money demand. If agents demand less money, the price level would rise. If this rise is continuous, an inflationary process is brought about; but the ensuing increase in the demand for money would counteract the inflationary pressure.

This brief sketch suggests that economies without any indexation are not necessarily superior to indexed economies. Economies of type I may be held to be superior to those of type II; but economies of type III should be further investigated before assessing their performance relative to economies of type I.⁴⁴ Going beyond Lewis Carroll, one would index everything to de-index everything as a way of obtaining the proper type of indexation. My conjecture is that the final goal, from the strict viewpoint of inflation control, should be an economy of type III. Properly tuned,

economies of type III would deter to some extent the propagation of supply shocks, make the price level more insensitive to innovations in money demand and penalize the government from purposely easing on monetary targets.^{45/} The final decision between these three generic types, however, should allow for output effects. Output stability may be even more important than price stability. Another conjecture worth stating is that supply shocks are less inflationary but more contractionary in economies of type III than of type I. If this conjecture is correct, the final choice depends on the preference weights attributed to output relative to price stability.

V. Mild and Strong Social Pacts.

Does the monetary reform require a social pact? Social pact is a fuzzy concept. Its avatars in Brazilian politics reflect the peripeteiae of the long transition to democracy. It was used to describe the assembly of civil society in an effort to deprive authoritarian regime of legitimacy; to call for a suspension of class conflicts that could undermine the transition to democracy; to capture the environment of social peace without which military forces would intervene in civilian concerns; to reflect a political process of negotiation between workers and management at the national level; to demand the transfer of economic decision-making powers from Executive to Congress; to halt the advance of left-wing groups; to restore the democratic control of the State; etc.. Given its catch-all nature, the wearing of the concept was unavoidable. Yet I still think it is useful to describe economic policies whose success hinges upon the acceptance of, or lack of retaliation to, losses inflicted upon certain groups of society.^{46/}

No attentive observer of Brazilian inflation would deny the role of distributive conflicts. Since the sum of the demands for shares of national income is larger than one, the several groups try to impose their desired share by increasing the prices of their goods and services. The ensuing inflation is formed by staggered increases in prices in an almost continuous fashion, with relative prices and shares fluctuating at every point of time. A social pact in this connection may be defined as an explicit and voluntary accommodation of desired shares of national product that would render their sum equal to one. With a social pact, no group of society would

resort to increases in prices to close the gap between current and desired shares of national product. Irrespective of the nuances of the concept of social pact in politics, its definition as an explicit and voluntary accomodation of desired shares would command consent among economists. A deeper conceptualization of social pacts as a self-thematization of society is outside the scope of this paper.47/

This "economic" definition, however, is still too broad. I will differentiate between mild and strong social pacts. In a mild social pact, losses are temporary. Compensatory clauses are provided by the social pact itself. In a strong social pact, losses may be either permanent or contingent upon the unfolding of economic processes. In a strong social pact, there is no formal guarantee that losses will be offset. There are, of course, a vast array of intermediate possibilities. For simplicity, I shall refer to almost mild (or strong) social pact to describe a pact closer to the mild (or strong) ideal type. The reason for differentiating between the two ideal types is evident. Economic policies that hinge on (almost) strong pacts are less likely to be succesful than those depending on (almost) mild pacts. If social pacts are needed, the secret to success consists in designing economic policies that narrow the scope of compromises between groups in society. The closer to the mild ideal type, the better.

It turns out that monetary reform requires an almost mild social pact. This requirement derives not from the indexation of money but from the indexation of contracts. An example is useful. Consider a contract of X months. Its real value is 20 at the beginning of the period. At the end of the period, its real value is 10. The fall from 20 to 10 is due to keeping the terms of the contract fixed in nominal magnitudes over the X months period while prices rise continuously. The average real value over the period is 15; it is higher initially but lower as the end of the period becomes nearer. At the beginning of the next period the real value of the contract jumps from 10 to 20 as its nominal value is revised to fully compensate for past inflation. This "saw-tooth" pattern repeats itself every X months.

Monetary reform alters this pattern without hurting the interests of the contractual parties. With the reform, the real value of the contract is constant.48/ If the real interest rate is zero, equalizing pre- and post-monetary reform present discounted values is obtainable by tuning the constant value enforced by the contract to 15. If the interest rate is positive, the constant contract value should be higher than the average real value prevailing before the reform.49/ Equality of present discounted values, however, can only be convincing if the horizon of assessment of costs and benefits extends to 6 months. Under a myopic, one month perspective, the monetary reform is perceived as leading to gains and losses. The real value of 20 expected to hold at the beginning of the period shrinks to 15. The longer the period X, the stronger this myopic illusion becomes.50/

The above example was phrased in a deliberately vague form. A contract may be a wage contract, a loan or business corporate contract. Myopic illusion misperceives monetary reform as expropriating one contractual party to the benefit of the other. The danger lies in the (supposedly) impaired party trying to recover its alleged loss. The impaired party, blind to the future course of events, may demand a restatement of the contract on a 20 basis. But a constant contract of 20 means that its share of the national product after the reform exceeds its pre-reform share based on 15. A generalized attempt to improve relative shares is inflationary. A myopic view of the monetary reform leads to a distributive shock which, being a type of supply shock, cannot be easily neutralized in economies of type I and II, as seen above.

This example shows that a mild social pact is needed. The rewriting of contracts in constant terms involves immediate losses at the beginning of the period. Workers loose; debtors gain. The very setting of monetary reform, however, assures that this losses are temporary. Workers (or debtors) loose (or gain) in getting 15 instead of 20 during the first half of the X months period; but they will be better off (or worse off) under the new system in the second half. In the mild social pact, all groups of society agree in converting their contracts to the new system without attempting to restore the peak real value of contracts under the old system. Without this mild social pact, responses to monetary reform by allegedly looser groups would seriously endanger the price stability desideratum. The social pact at issue encompasses more than rules for setting nominal wages - it applies to prices of goods and services set by management or administered by government as well.

The social pact that renders monetary reform viable, however, exhibits some features of the strong type. First and foremost, losers will be commercial banks because they have gotten an important share of the inflation tax through their noninterest bearing deposit liabilities.^{51/} Concentration in the banking business is also to be expected. The smaller investment banks have so far been quicker than larger commercial banks in circumventing legislation prohibiting payment of interest on demand deposits. As a result, they have flourished with surprisingly high rates of growth. The end of inflation renders this skill obsolete and therefore diminishes, coeteris paribus, their competitiveness vis-a-vis the big commercial banks. Holders of indexed bonds bought at discount also face losses.^{52/}

The interests hurt by monetary reform, however, cannot be expected to be mobilizable against it in an effective way. The attractiveness of monetary reform lies in being a politically saleable way of eliminating inflation. The defect of de-indexation proposals to eliminate inflation resides in demanding a stronger social pact to be successful. Part of this

defect is due to not paying sufficient attention to the complicated process of minimizing distributive gains and losses in disinflation processes to be carried out in democratic contexts. To render justice to the de-indexation proposals, however, it is necessary to point out that they usually have fairness or equity objectives not contemplated by the monetary reform here described. In an economic stabilization program as I see it, fairness falls within the scope of fiscal reform. The disentanglement of disinflation and greater equity goals is the key to minimize the political compromises needed to eliminate inflation. It will be argued in the next section, however, that it does not dispense with a strong social pact in bringing social justice to the distribution of income and wealth.

VI. The Whimsical Fiscal Reform: Two Aspects.

The current fiscal system lacks coherence. It resulted from ad hoc additions made effective by legal decrees which outstripped the boundaries of law under the imperative of modernization needs.^{53/} The often voracious appetite of the State in financing expenditures by non-inflationary means knew no bounds other than the capacity of some interest groups in shifting away the tax burden. Leverage upon the bureaucratic rings of central power proved to be instrumental in shaping the current tax system. Once created, taxes are seldom removed even if their original purpose was already fulfilled or if the expenditure program they were supposed to finance was discontinued. This already chaotic state deteriorated even further under the tax squeeze and recession of recent years. The flourishing of the informal economy based on tax evasion did not affect uniformly tax revenues. Apart from political power, the capacity to avoid taxes began to depend increasingly upon the availability of channels to the informal sector.^{54/} Although the allocation of the overall tax burden is unclear, both the unfairness and inefficiency of the current system are hardly debatable.

Having this chaotic state of affairs as background, the list of tasks that fiscal reform is supposed to accomplish is vast. Ideally, it would eliminate loopholes in taxes that benefit the wealthiest segments of population; it would tie up closely outlays of the public sector to specific taxes to avoid the distortions in the use of public funds; it would change provisions for revenue sharing in order to allow states and

and municipalities greater responsibilities in the provision of public services; it would dispense with taxes in financial intermediation that increase interest rates; it would encourage a greater use of equity as opposed to loan finance; it would redefine the regional burden of taxes in relation to State benefits and expenditures; etc.

The fiscal reform as it emerges from policy discussions in Brazil is indeed fastidious. Two aspects are worth putting into relief. I shall discuss them in turn before moving to interest rates.

First, fiscal reform inflicts real losses upon groups in society. Without a glimpse of the new public/private mix, fiscal reform becomes a zero sum game. For it was seen above that the near equilibrium in fiscal budget is a sine qua non condition for monetary reform. In the absence of clear cut proposals for rationalization of government expenditures, fiscal reform amounts to tax displacement and rearrangement without altering the overall tax burden upon society. Groups that face an increase in their tax incidence have two choices other than accepting a decrease in their product share. The hard one is to enhance effort exertion to restore the share of income enjoyed before the fiscal reform. The easy one is to recall the memories of recent past to increase the prices of their goods and services. The inflationary temptation is stronger than in the case of monetary reform because fiscal reform provides no guarantee of return to the status quo ante. Without a strong social pact, fiscal reform may precipitate a distributive shock which would again endanger the attainment of price stability.

The obstacles preventing the design of strong social pacts are unfortunately more tenacious than commonly realized. The social pact ought to be perceived as bringing about possibilities of growth otherwise unaccessible. It is the perspective of a brighter future that makes current losses palatable. If society perceives itself as having an economy whose functioning is impervious to the social pact, losers have no incentives, apart from altruistic feelings, to endorse or comply with it. The social imaginary plays a crucial role in this connection. It matters little whether the outlook without the pact suggests an economy with unexplored growth potential or already subject to stagnation and decay.^{55/} Incentives are present only when the pact is believed to make a difference which would enable losers to be in some sense better off in the future.

This first requirement for a social pact to be succesful, however, is not sufficient. The second requirement is given by the political representativeness of the interest groups in society. For reasons which extend into the past well before 1964, there are no mechanisms of valid representation of interests in present Brazilian society. With the notable exception of PT, the unrepresentativeness of political parties when judged from the standpoint of economic interest groups is endemic.

The forgetting of economic strategies in the present gerrymandered electoral campaign reveals how far the country is from having economic interests groups endowed with political representation. In present Brazilian society, it is difficult to visualize where the negotiation on the social pact is to take place and who is going to participate on behalf of the several interest groups.

The contrasts between Brazil and Argentina illustrate the distinct role of these two requirements for strong social pacts. The fatalistic social imaginary of Argentina, which puts off as unaccessible growth paths which plain economic argument would indicate as being feasible, renders the fulfillment of the first requirement for strong social pacts much more likely to happen in Brazil. But the amorphousness of political representation in Brazil renders Argentina closer to the attainment of the second requirement. Because of one reason or another, the weaving of social pacts seems distant in both countries.

Second, fiscal reform is often looked upon as an instrument to alter the distribution of income and wealth. The misery caused by the recession launched in 1981 made the quest for fairness and social equity a major policy objective supported by both left and enlightened segments of bourgeoisie and middle classes. Almost any fiscal reform alters the distribution of income and wealth, but the issue here is to alter it in such a way as to improve the conditions of working classes. Again, without a strong social pact the adoption of incomes policy is bound to have inflationary consequences. But suppose for a moment that the stringent conditions for a strong social pact are met. Is this sufficient to launch a major incomes policy program? That the burden of recession was felt most keenly by workers is beyond doubt. Taken by itself, however, this burden just strenghtens the case for expansionist policies seeking the restoration of normal levels of employment and growth. It provides little guidance on the nature and scope of the incomes policy to be adopted.

The stellar role of incomes policy is yet to be substantiated. It is disappointing to verify the scarcity of policy oriented research on distributional issues. The optimal transfer of resources to the poor segments of society can only be assessed within a long-term perspective. Supporters of incomes policy resort to effective demand models in arguing that this transfer is expansionary because it increases the overall propensity to consume. If the key or dynamic sectors are stimulated by demand from the wealthier segments of society, however, incomes policy is detrimental to growth. Capital accumulation proceeds pari passu with income concentration.^{56/} Opponents of incomes policy resort in turn to classical models in arguing that the transfer to the poor is contractionary because it diminishes savings needed to finance

investment. Theoretical issues apart, this argument hinges on the hypothesis of full capacity - an hypothesis hardly accurate in present circumstances in Brazil.^{57/} The perusal of the connections between growth and distribution is crucial for the design of an effective incomes policy.^{58/}

I singled out these two aspects of fiscal reform because they bear on the monetary reform discussed previously. In the absence of a strong social pact, fiscal reform may precipitate a distributive shock; and yet the conditions for such a pact do not seem to be met in present circumstances. The key to the success of monetary reform lies in minimizing the changes in income and wealth distribution necessary to disinflate the economy. It is through a fiscal reform that incomes policy takes place. But the desirable extent and nature of the desired distributive changes are unclear. The pending complexities of fiscal reform also bear on interest rates, as will be seen next.

VII. Obstinate Interest Rates.

In spite of short easy money periods, the most recent one being a 4 months interlude of negative rates in 1983, interest rates have been extraordinarily high since 1981. The ex-post record frequently understates ex-ante real rates because of unexpected accelerations of inflation (in the case of nominal contracts) or unexpected downplaying of ORTN indexes (in the case of indexed contracts). The contraction of the nominal segment of credit markets and the concomitant commitment of Monetary Authorities to equalize the ORTN variation to the monthly inflation rate have approximated ex-post to ex-ante rates in 1984. The minimum real rate for savings was above 6% while the prime rate for lending was well above 25% in real terms. These figures are substantially higher than the ones prevailing in international financial markets.

The pitfalls of sapient stabilization policies based on very high interest rates are well known.^{59/} Structural adjustment, as opposed to recessive adjustment, requires devaluated exchange rates with domestic real interest rates given by current external rates.^{60/} Interest rates in Brazil are too high to support a sustainable growth trajectory.^{61/} In this section, I question the appropriateness of legal interest rates on passbook savings.

The first aspect is given by legal interest rules on passbook savings. The nominal return on passbook savings is given by ORTN variation plus a legal interest rate of 0.5% per month plus tax incentives. Since ORTN variation is given by monthly inflation 62/, the only variable left for adjusting its return is tax incentives. For given tax incentive rules, passbook savings have a legally determined real interest rate of 6.17%.63/ The attractiveness of passbook savings was enhanced recently by extended government insurance on deposits, monthly withdraws schedules and the possibility of opening one account per week. Passbook savings finance the National Housing Banking system. To realize their importance, note that deposits in the system were in 1984 almost twice the outstanding stock of government bonds and several times the stock of high powered money. But before dwelling on the implications of legal interests on passbook savings, two disclaimers are appropriate.

Legal interest rates on passbook savings do not make the Brazilian economy financially repressed. Although a description of the interest rate structure is beyond the scope of this paper, it is crucial to observe that this structure accomodates to the 6.17% parameter. That is, given the plethora of regulations 64/, lending rates depend on banking funding costs and funding costs in turn are determined by the critical condition of not provoking runs on passbook savings accounts. The 6.17% legal parameter is the "anchor" for the entire structure of interest rates. Having 6.17% as its base, the structure of interest rates is moulded by legal instruments: taxes, rules on market segmentation, differential returns on compulsory reserves and priviledged credit lines and restrictions on liquidity and horizon of assets.65/

Legal interest rates on passbook savings do not impede the control of interest rates. An increase in the overnight income tax, for instance, enables the government to raise the pre-tax overnight rate without inducing a shift in the allocation of wealth from passbook savings to overnight assets. Higher interest rates in the overnight market push the rest of the interest rate structure upwards. Given the plethora of regulations, however, the entire interest rate structure can be said to be determined in the last instance by the legal interest rate on passbook savings.66/ Five comments are offered on this often neglected feature of the recent functioning of the brazilian economy.

First, the paramount role of passbook savings in determining the interest rate structure is an unintended consequence of austerity measures. Legal interest on passbook savings existed much before the launching of the austerity program in 1981. But austerity led to a decline of real estate values which feebled the National Housing Banking

system. The fall in real wages forced people to suspend payments on loans. The threat of massive default prevented the National Housing Bank to enforce laws which would enable it to recuperate the real estate offered as guarantee assets on default loans. As a result, austerity measures put the National Housing Bank at the verge of collapse. The sensitivity of fiscal deficit to withdrawals on passbook savings rendered the accommodation of the interest rate structure to the 6.17% parameter the unique viable course of action.

Second, a fiscal reform dispensing with taxes bearing on financial intermediation is capable of reducing the prime rate of interest even without any change in the "anchor" parameter. Of importance are both the explicit taxes on time deposits and intermediation and the implicit taxes on reserve requirements and compulsory credit lines. Since investment depends on interest rates, the connections between fiscal reform and growth prospects become apparent.

Third, reduction in interest rates can also be brought about by altering the 6.17% parameter. The current legal interest rate on passbook savings is arbitrary. Given tax exemptions, the real interest rate on passbook savings goes up to 8%. This rate is substantially higher than comparable rates abroad. The only disturbing consequence of promoting a downward realignment of the entire structure of interest rates around a new "anchor" value of 1%, say, is that holders of long term indexed bonds would earn a sizeable windfall profit.^{67/}

Fourth, money supply is endogenous. Endogeneity is not a consequence of the "anchor" parameter being too high; it is rather a consequence of the existence of the "anchor" parameter itself. The source of endogeneity is the pegging of the overnight rate at levels compatible with the legal interest rate on passbook savings. The pegging was strict during most of the 1984 experience. Monetary Authorities pre-announced the nominal rate based on the forecast of monthly inflation. Because of forecast errors, the ex-post real interest rate in the overnight was seldom compatible with the ex-post sure rate of 6.17% on indexed passbook savings.^{68/} The strict pegging was later replaced by a scheme of critical limits. Monetary Authorities intervened to maintain the fluctuation of the overnight rate within predetermined bounds. In both cases, Monetary Authorities accommodate innovations in money demand. Other sources for endogeneity may exist.^{69/} However important they may be, the unavoidable choice between controlling interest rates versus money supply was decided in favour of the former.

The recognition of interest rate pegging changes the meaning of the frequent "explosions" of the stock of high powered money well above its target value. These "explosions" reflect, firstly, unexpected increases in money demand. Secondly, they reflect the interdependence between monetary and

fiscal policies. To appreciate this point, consider an increase in the taxation on overnight gains. The before tax rate on overnight compatible with the "anchor" 6.17% parameter increases accordingly. Money demand falls; since money supply accomodates, the behaviour of high powered money stock delights a monetarist soul. But the contraction of money supply resulted not from a sovereign act of monetary policy but from tight fiscal policies.

Fifth, interest rate pegging in Brazil is to be distinguished from the case usually addressed by the literature. The well known Sargent-Wallace result 70/ on the indeterminacy of the price level under interest rate pegging was recently shown to be more restrictive than held before.71/ But the Sargent-Wallace literature discusses cases in which Monetary Authorities peg the nominal interest rate with the real rate being kept at its natural level consistent with the natural rate of unemployment. Leaving aside the intricacies of the natural rate concept, few experts will be willing to dispute the argument that real interest rate in Brazil is above the level compatible with the natural unemployment rate or with normal growth.

Keeping the interest rate at abnormally high levels, however, does not prevent the attainment of normal growth. Common sense strictures on high interest rates tend to miss the target. Too high interest rates inhibit private investment. To sustain normal growth, the defficiency of effective demand has to be compensated by fiscal deficits. Thus the proper counterpart to high interest rates is the trade-off between normal growth and fiscal budget equilibrium. Under the two-fold assumption that Brazil cannot afford to depart in the long run from normal growth and that fiscal deficits are eventually financed by high powered money, it is trivial to show that the higher the differential between current and natural rates of interest, the larger inflation becomes along a growth path sustaining natural unemployment rates.72/ From the perspective of a government committed to restore normal growth, it is contradictory to promote a monetary reform without reducing the real interest rate. For sooner or later the monetization of the fiscal deficit needed to stimulate an economy otherwise depressed by too high interest rates undermines the achievement of price stability through monetary reform.

The same argument can be seen by another angle. Too high interest rates imply that the stock of debt outstanding grows faster than output. To avoid expansion in the stock of high powered money, cuts in real wages and expenditures become necessary. Normal growth ceases to be sustainable much before the overwhelming burden of debt renders capital levy or internal debt consolidation unavoidable.73/

VIII. Exchange Speculation as a Self-fulfilling Prophecy. 74/

The role of passbook savings in contriving interest rates and monetary policy has not been discussed in the literature as far as I know of. In this section, I elaborate on exchange speculation as another contriving factor. I will not repeat the arguments that correctly emphasize 75/ the role of Resolution 432 through dollar denominated claims outstanding. For the sake of clarity, I will ignore Resolution 432 and concentrate instead on the signalling function of exchange market premiums.

The literature on black markets has extensively discussed the adjustment process to the current anticipation of a future depreciation of the exchange rate.76/ The recognition of the future gains accruing to dollar holdings leads to an immediate jump in the black market premium. When Treasury bonds are linked to the exchange rate, the premium on these bonds (called ORTN-CC) also reflects the current state of expectations. The likelihood of Treasury not honouring exchange indexation clauses may muddy the visibility of exchange speculation in the bonds market. Similarly, seasonal factors, underinvoicing of exports and fluctuations on the size of illegal export or import business may blur the visibility of exchange speculation through the black market premium. However important the muddy disturbances may be, they seldom prevent speculation from becoming visible. Speculative spurts are revealed to the rest of society by a raise in exchange premiums in black and ORTN-CC markets.

The expression "to the rest of society" in the above paragraph was used deliberately. The "society" relevant for exchange speculation is not monolithic. It is useful to differentiate between inner and outer circles. The inner circle forms expectations rationally. It enjoys (or is presumed to enjoy) inside information. It follows closely the behaviour of the current account of the Balance of Payments. It has access to external financial markets. The larger outside circle is fully aware of its unprivileged condition. The outer circle decodifies the premium on the exchange markets to get information otherwise restricted to the inner circle. Exchange markets reveal expectations of the inner circle as well as disseminate information to the outer circle.

This inner/outer dichotomy is admittedly crude. To a certain extent, it holds true of any speculative market. Yet the recognition of the signalling function of exchange premiums allows one to grasp the self-fulfilling prophecy nature of exchange speculation in face of a large and unsettled external debt.

The nightmare of exchange speculation producing its own confirmation may be described as follows. A given speculative spurt is magnified as outsiders step in exchange markets. The greater the weight of speculators that read the premium as bearing witness to inside information, the larger the magnification effect. The amplification of the initial speculative spurt reverberates on the trade balance. An uncertain environment punctuated by frictional and tense muddling-through negotiations with IMF provides a fertile soil for rumors of exchange devaluation. Decision-makers in the outer circle interpret the raise in exchange premiums as indicating an impending exchange devaluation. Both import anticipation and export postponement follow. The ensuing deterioration in the trade balance reinforces the belief on the necessity of a further exchange devaluation to allow the country to meet the pre-announced trade surplus agreed with (or imposed by) IMF. The adverse cumulative interaction between ever decreasing trade balances and ever increasing exchange premiums eventually imposes a devaluation. The initial speculative spurt proves in this way to be prophetic.

This self-fulfilling prophecy character of exchange speculation in unsettled debt environments explains the otherwise finical concern of Monetary Authorities with premiums in exchange markets. It would be wrong to bestow upon either Monetary Authorities or private speculators systematically superior foresight powers. To the extent to which exchange speculation is rational, its adverse cumulative interaction with the trade balance only accelerates taking the politically costly decision to devalue. But speculation may lack rational basis. In both black markets and ORTN-CC, premiums are very sensitive to rumors of breakdown of negotiations with IMF. Betting on the self-fulfilling prophecy nature of exchange speculation is a favourite game of speculators. The dollar mystique swanks in black markets. In face of irrational speculation, Monetary Authorities ought not yield to it. Since there is no way of avoiding the spillover effects of high exchange premiums on the trade balance, repression is needed to halt the process of exchange speculation before it gets enough momentum to become irreversible.

To repress exchange speculation is to deter it from being visible to outsiders. Since information disseminates through the exchange premium, repressed exchange speculation occurs whenever the premium is kept under control by Monetary Authorities. Repression is implemented either by depressing the demand for, or by enhancing the supply of, dollars or assets indexed to the exchange rate such as ORTN-CCs.

The obvious way to discourage exchange speculation is to keep high interest rates on domestic assets. The domestic interest rate affects negatively the demand for black market dollars or ORTN-CCs. If the domestic interest rate is greater than both the interest rate paid

on dollars invested abroad and the legal interest rate on ORTN-CCs, only expectations of further increases in the premium itself can sustain an initial speculative movement. It is easy to show that the stronger the speculative spurt, the higher should be the domestic interest rate to keep the exchange premium constant. The stricter the pegging of the exchange premium, the smaller the independent setting of interest rates. The trade-off was particularly intense in the case of ORTN-CCs. For since they were by and large financed daily on the overnight market, upward drives in premium had to be counteracted by higher overnight rates. Money supply thus responded endogenously to exogenous changes in expectations.

Another way of repressing exchange speculation is to influence the supply side. Instead of making speculation costly by adjusting interest rates, the premium can be kept constant by accomodating any increase in the demand for ORTN-CC or dollars thorough an enhanced supply. In the case of ORTN-CCs, the cost of the policy of repressing exchange speculation was thus given by the increase in domestic debt linked to exchange rate. If the increase in debt needed to keep the premium under control is smaller than the impact of exchange devaluation on the already outstanding debt of ORTN-CC, accomodating demand induced by the speculative spurt is better than letting the process of exchange speculation produce its own confirmation. In this way, internal debt responded endogenously to exogenous changes in expectations.

In the case of black markets, accomodation of demand requires the depletion of reserves in conversible currencies. Stabilization of black market premiums is likely to pay in spite of the acute shortage of reserves. The point is that without stabilization exchange speculation may damage the trade balance and hence the planned building up of reserves. Since the black market is relatively small, the depletion of reserves to repress exchange speculation is superior than letting the exchange speculation hit the trade balance. To the rumours of disguised intervention of Monetary Authorities in black markets, the old italian adage applies: *se non e vero...*

The lesson to be learned from the experience of exchange speculation after the devaluation of february of 1983 is that it is feasible for Monetary Authorities to repress it. The costs of repression are the endogeneity of money or of debt or losses in reserves. The fact that an apparently irrational speculative spurt have real consequences apart from private gains or losses is only a subtle expression of the costs of adopting a muddling-through strategy on debt negotiations with IMF and lending banks.

There is a further aspect of exchange speculation that deserves notice. Because speculation produces its own evidence by affecting the trade balance, it may be deemed irrational even when it in fact anticipates the real devaluation. But because it is repressible, it may be deemed rational even when it fades away under the weight of high interest rates or accomodating policies. We lack a theory of the optimal exchange rate

over time for countries heavily indebted and subject to severe disturbances caused by exogenous changes in external environment. Without theory, it is impossible to discriminate effectively between rational and irrational exchange speculations.

Current policy discussions in Brazil fail to recognize the need for a dynamic theory of the optimal exchange rate. The dazzling performance of the trade balance in 1984 and the fear of a further acceleration of inflation following a real exchange devaluation based on the 1983 experience put off policy makers from any further change in the real value of the exchange rate. But blind processes of trial and error in setting the real exchange rate are suboptimal. At issue is the proper path over time of the exchange rate. One conjecture worth stating is that it would exhibit a severely devaluated exchange rate in the beginning. As structural adjustment takes place, the real exchange rate would be slowly revised upwards. After the initial large depreciation, a pre-announced rule would specify the conditions under which the exchange rate would appreciate over time.

Only further reflection could vindicate or demolish this conjecture. Purchasing parity arguments, however, based upon either historical evidence or casual observation of prices of goods in a few cities of USA and Brazil are not to be taken seriously. It is to be lamented that they are so deeply rooted in our present habits of thought.

IX. Conclusions.

This paper does not pretend to cover with equal depth all aspects of economic stabilization in Brazil. To identify areas of ignorance is perhaps as important as putting forward specific suggestions. Three critical ignorance areas were singled out: the casting of a new public/private mix, the optimal scope of incomes policy and the optimal pattern of the real exchange rate over time.

The selection of these ignorance areas testifies to my own view of the present state of knowledge relevant to stabilization policies in Brazil. On a more consensual level, one can list areas in which the direction of the reforms to be undertaken is much clearer. External debt and fiscal structure fall within this category. As a result, I would expect most of experts to agree upon debt and fiscal reforms.

In contrast to debt and fiscal reforms, the suggestions here presented on monetary reform and on the reduction of real interest rates are obviously controversial. Equally controversial are the diagnosis of inertial inflation, the discussion of social pacts, the analysis of money endogeneity as deriving from passbook savings and unstable exchange speculation, and the brief retrospect on the role of external shocks in contriving domestic policy. As to these controversial issues, all I can hope for is that skeptical readers abandon the illusions and comforts of old cliches and simplistic thinking habits.77/

The plea for new approaches permeates this paper. Rather than attempting to cure the economic crisis by reviving an idealized past, the ostinato theme that inspires policy suggestions here is that one has to create a new future. The irreversibility of historical time ought to be taken seriously. Instead of a muddling-through strategy that hopes to restore the functioning of credit along lines prevailing in the seventies, the paper argued for debt reform. Instead of defending the resumption of state-led industrialization, the paper argued for recasting the public/private mix. Instead of de-indexation or austerity measures that seek to undo the previous inflationary path, the paper argued for a monetary reform. Time is overdue for the dismantling of the obsolete and procrustean theoretical frameworks that have guided the apprehension of economic reality in Brazil.

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- 1/ See Modiano, E. "Salarios, Precos e Cambio: Os multiplicadores dos choques numa economia indexada", Texto para Discussao no.70, Departamento de Economia, Pontificia Universidade Catolica do Rio de Janeiro, May 1984.
- 2/ See Modiano, *ibid.*
- 3/ See Diaz-Alejandro, C.F. "In toto, I don't think we are in Kansas anymore", mimeo, 1984. Presented to the Brookings Panel on Economic Activity, September 13-14, 1984.
- 4/ For a criticism, see Bacha, E. "External shocks and growth prospects: the case of Brazil, 1973-1989". Texto para Discussao no. 73, Departamento de Economia, Pontificia Universidade Catolica do Rio de Janeiro, July 1984.
- 5/ For a representative statement, see Cline, W.R. "The Issue is Illiquidity, not Insolvency", *Challenge*, July/August 1984.
- 6/ For some recent specific proposals, see Bacha, E. "Latin American debt: a reform proposal" and Correa do Lago, L.A. "A Divida externa Brasileira e o endividamento global dos paises em desenvolvimento: experiencia recente e perspectivas de reescalamento", Texto para Discussao no.74 (August 1984) and no.76 (September 1984) respectively, Departamento de Economia, Pontificia Universidade Catolica do Rio de Janeiro. For a criticism of the muddling through strategy that would be endorsed by most Brazilian experts, see Dornbush, R. "The Latin American Dimension", *Challenge*, July/August 1984.
- 7/ The present exchange regime, in which Brazil belongs to the dollar currency area, is a mixed blessing. Brazil is pegging its exchange rate to a floating dollar. The United States in turn follows a policy mix of tight money and loose fiscal policy, which appreciates the dollar and stimulates domestic activity. Exports to the United States do increase. Yet the competitiveness of exports to other OECD countries is undermined. If present circumstances persist, Brazil may decouple from the dollar area and allow its exchange rate to float against the dollar. For an analysis of the decline of the dollar currency area, see Rosensweig, J. "The decline of the dollar area", mimeo, October 1984. For a discussion of the choice of the proper basket of monies, see Williamson, J. "A survey of the literature on the optimal peg", *Journal of Development Economics*, August 1982.

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- 8/ For a critique of recessionary therapies, see Arida, P. "Austeridade, Autotelia e Autotomia" in P. Arida ed. *Divida Externa, Recessao e Ajuste Estrutural: O Brasil diante da Crise* (Paz e Terra, Rio de Janeiro: 1982). A rigorous treatment is given in Arida, P. and Bacha, E. "Balanco de Pagamentos: Uma analise de desequilibrio para economias semi-industrializadas", *Pesquisa e Planejamento Economico*, april 1984. An english version is available upon request.
- 9/ At the time of this writing, October 1984, the official Brazilian position seems to be that of not asking for fresh lending in 1985. The rewards of this position are twofold. First, it allows manouvering space in the negotiations to demand a reduction in spread and fees. Second, it leads to a reduction in the real value of the external debt due to the erosion of principal caused by inflation in the United States. The drawback is that it imposes a dilemma between depleting reserves and achieving rapid growth. Without loosing reserves in convertible currencies, the present negotiation stand imposes a conditionality on the growth rate: the country can go up to the point of jeopardizing equilibrium in the current account.
- 10/ See Fisher, S. "Towards an understanding of the costs of inflation: II" in K. Brunner and A. H. Meltzer eds. *The Costs and Consequences of Inflation* (Carnegie-Rochester Conference Series on Public Policy, vol. 15, North-Holland: 1981).
- 11/ See Sargent, T. S. "The ends of four big inflations" in R. E. Hall ed. *Inflation, Causes and Effects* (University of Chicago Press: 1982). Sargent's account has been challenged in the Hungarian (by Bomberger and Makinen) and German (by Flood and Garber) cases. Substantial losses, however, did not occur in any case.
- 12/ See Gordon, R. J. "Why stopping inflation may be costly: evidence for fourteen historical episodes" in R. E. Hall ed. *Inflation, Causes and Effects* (University of Chicago Press: 1982).
- 13/ The sad truth is that there are almost as many figures for the operational deficits as there are experts in the field. Apart from the elusive setting of brazilian statistics and the resistance of government officials in making public budget data as they become available, there are deep conceptual problems involved. The suppression of the fiscal deficit in the operational concept is a condition necessary but not sufficient to curb down inflation. Although its actual extent in Brazil in 1984 is unclear, the hope that its elimination would suffice to reduce inflation

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- 13/ (cont.) is unwarranted. If more detail calculations indicate a still sizeable operational deficit, monetary reform should be postponed. Based on official figures, the monetary reform is timely. They indicate a stern deficit control program in effect since 1982 at least. The deficit to GNP ratio was 6.6% in 1982, 2.5% in 1983 and is expected to become a 1.3% fiscal surplus ratio to GNP in 1984. From the viewpoint of the monetary reform, a slightly negative ratio would suffice.
- 14/ See Bruno, M. and Fisher, S. "Israel's inflationary process: shocks and accomodation", mimeo, July 1984.
- 15/ One can easily show that the ratio of indexed to non-indexed government bonds varies according to the expectations of inflation. Central Bank accomodates supply to demand; when inflation is perceived as being either increasing or unstable, auction sales are concentrated on indexed bonds and vice-versa when inflation is regarded as decreasing or stable. Although data is somewhat scanty, the behaviour of curb markets (tipically firm to firm lending and borrowing) seems to be similar.
- 16/ It is worthwhile mentioning that the crawling peg system, which is at this point the most perfect indexation system in existence in Brazil, is set by government fiat. Nominal exchange rates are readjusted four or five times per month, but nominal wages are readjusted in intervals of six months for the private sector and of one year for the public sector. Private contracts tend more and more to be readjusted montly; yet even in business transactions one finds with surprising frequency non-contingent contracts written in nominal terms.
- 17/ See Buiter, W.H. and Miller, M.H. "Costs and benefits of an anti-inflationary policy: questions and issues", National Bureau of Economic Research, Working Paper No. 1252, December 1983.
- 18/ See Bresciani-Turroni, C. "The Economics of Inflation" (George Allen and Unwin; London: 1937).
- 19/ For an interpretation of the probability of monetary reform in terms of "process consistency" properties see Flood, R.P. and Garber, P.M. "An economic theory of monetary reform", Journal of Political Economy, February 1980.
- 20/ The D-day proposal originated with Simonsen. For the heterodox shock, see Lopes, F.L. "So um choque heterodoxo pode derrubar a inflacao", Economia em Perspectiva, August 1984.

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- 21/ The first explicit argument in favour of total indexation was Arida, P. "Neutralizar a inflacao, uma ideia promissora", *Economia em Perspectiva*, September 1984. Lara-Resende built in on the neutralization proposal in "A moeda indexada: Uma proposta para eliminar a inflacao inercial", *Texto para Discussao No.75*, Departamento de Economia, Pontificia Universidade Catolica do Rio de Janeiro, September 1984. He explicated the role of money indexation in disinflation and related it to the traditions of monetary reforms. The indexed money idea was put forward independently by Mesquita Neto, A.A. "Desindexacao em tres fases, Para superar a barreira psicologica" *Gazeta Mercantil*, 08/11/84.
- 22/ The decomposition of monetary reform into two phases, namely, the neutralization phase of synchronized and almost perfect indexation and the indexed money phase, was first sketched in Arida, P. "A ORTN serve apenas para zerar a inflacao inercial", *Gazeta Mercantil*, 10/19/84.
- 23/ I am aware, of course, that from the theoretical point of view it may be preferable to have a different basket of goods for every indexation purpose. But indexation does not prevent relative price changes. If a contract is to have a constant value in terms of basket X of goods, writing it in terms of basket Y means that its value in terms of Y depends on the relative price movements of goods in Y vis-a-vis X. Given the excessive cognitive demands imposed by specific indexation baskets, I prefer the adoption of a single basket, the same that is used for the calculation of the general price index, for all contracts. From a practical point of view, the general price index is to be preferred because it has more credibility than the index of consumer prices. The latter has proven in the Brazilian experience to be much easier to tamper with.
- 24/ See Arida, P. "Reajuste Salarial e Inflacao", *Pesquisa e Planejamento Economico*, April 1982.
- 25/ See Bomberger, W.A. and Makinen, G.E. "The Hungarian Hyperinflation and Stabilization of 1945-1946", *Journal of Political Economy*, October 1983. and "Indexation, Inflationary Finance and Hyperinflation: The 1945-1946 Hungarian Experience", *Journal of Political Economy*, June 1980.
- 26/ See Simon, H. "Rationality as Process and as Product of Thought", *American Economic Review*, May 1978. Rational expectations models assume that agents know the true structure of the economy in forming their expectations, an assumption stronger than rationality per se. See Arida, P. and Lara-Resende, A. "A note on rational expectations", mimeo, February 1977.

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- 27/ Attempts to underplay the legal indexation parameter, in both open and disguised forms, were shown to be detrimental to economic policy. If contracts are meant to be indexed, and quoted in accordance with the legal indexation parameter, fabrication of ORTN indexes just forces agents to compensate for the difference between ORTN variation and the rate of inflation. The situation is somewhat different when there are rumours of misfeance relative to the index of inflation itself, because in this case agents are not sure whether their contracts are in fact indexed or not. Anyway, the move to a pre-announced rule of equating the variation in legal indexation to the montly inflation was obviously correct. It is to be lamented that it took so long for policy makers to realized that playing tricks on private agents is hardly helpful.
- 28/ For some theoretical remarks on the two units, see White, L.H. "Competitive Payments Systems and the Unit of Account", American Economic Review, September 1984.
- 29/ Note that the switch to the new money would be probably faster than the rewriting of all contracts on a montly basis. The reason is that most contracts are of six months. Since they are staggered and overlap in a discrete fashion, waiting for the end of every contract to switch it to the new system would make the overall transition to last approximately six months. A government-sponsored rewriting of contracts, duly backed by law, would fasten the transition considerably.
- 30/ It has been pointed out in several private memos by American experts on Brazil that demand for money becomes unpredictable as monetary reform is enforced. The instability of money demand is, of course, a traditional watershed between monetarists and Keynesians; but I fail to see why money demand would become more unpredictable than it is with the monetary reform.
- 31/ For a statement of this argument in terms of the familiar mundellian framework, see Calvo, G. and Peel, D. "Growth and inflationary finance: variations on a mundellian theme", Journal of Political Economy, October 1983.
- 32/ The volatility of the exchange rate, particularly in the German case, is enormous. This volatility means that foreign currency was far from being a perfect hedge - but remained nonetheless preferred to domestic currency yielding zero nominal return.

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- 33/ For a discussion of benefits and costs of having a national money, see Fisher, S. "Seigniorage and the case for a national money", *Journal of Political Economy*, April 1982.
- 34/ More precisely: inflation in period t is given by inflation in period $t-1$ plus a random term which may or not exhibit serial correlation.
- 35/ See the method of exclusion of extraneous state variables proposed by McCallum, B.T. "On non-uniqueness in rational expectations models: an attempt at a perspective", *Journal of Monetary Economics*, March 1983.
- 36/ For simplicity, consider the usual two equation, full employment IS/LM model in the log form. In the IS, the nominal interest rate minus expected inflation is equal to the full employment real interest rate plus the positive expansion in output induced by non-anticipated inflation. In the LM, real balances depend on nominal interest rates and also upon the positive expansion output caused by surprise inflation. To this simple model, add two money supply rules: one in which current money stock depends on past price level and another in which money stock is constant. It is trivial to show that the rational expectation solution under the first rule leads to inertial inflation. Under the second rule, the rational expectation solution is at least consistent with the phenomena of inertia in the sense that, although not being unique, the solution of the reduction form in terms of inertial inflation would hold if believed by agents to be true.
- 37/ Bottlenecks in the exporting sector may be reached well before the state of general excess demand in goods markets. My concern here derives from admittedly scanty and vague information. High domestic interest rates are not conducive to investment. Moreover, the uncertainty present in the international environment as to the strength of recovery in America and protectionist tendencies in OECD countries adds further weight in favour of postponing additions to existing capacity. If the increase in demand is not matched by investment, Brazil might ironically face the old fashion structuralist inflation so popular during the sixties. The irony is that the old fashioned structuralist inflation spurt provoked by bottlenecks is in part an unintended but predictable result of the adoption of McKinnon-Shaw policies that argue for high real interest rates. See the comments in section VII below.
- 38/ Post-dictorship Argentina is a case in point. See the discussion of social pacts in next section.
- 39/ See the discussion at the end of section VIII below.

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- 40/ Because the natural rate of unemployment is deemed to be above the optimal rate or because inflation tax is deemed to be more acceptable on political grounds than debt repudiation or tax increases.
- 41/ See Simonsen, M.H. "Um esboco de reforma monetaria", mimeo, October 1984. On the role of Resolution 432 in contriving monetary policy, see Dornbush, R. and Moura da Silva, A. paper to appear in Revista Brasileira de Economia.
- 42/ See Flood, R. and Garber, P. "Gold monetization and gold discipline", Journal of Monetary Economics, February 1984.
- 43/ In fact, the real exchange rate depreciates now at the rate of foreign inflation because the government equates the depreciation of the nominal exchange rate to domestic inflation. The slight depreciation ought to be maintained at least because of the planned demise of export subsidies in 1985.
- 44/ The only investigation I know of is Hall, R. "Optimal fiduciary monetary Systems", Journal of Monetary Economics, July 1983. Hall was concerned with the effect of demand innovations on price level stability. The effects of supply shocks and the setting of the government intertemporal budget constraint in economies of type III remain an unexplored territory.
- 45/ Needless to say, there is no design of economic institutions that would survive to mismanagements of economic policy. In this regard, economies of type III stand in the same position as economies of type I or II.
- 46/ I use the generic term "groups" to encompass classes and sectors. A "group" stands for any stable coalition of interests mobilizable for political purposes.
- 47/ On the self-thematization of society, see Luhmann, N. The Differentiation of Society (Columbia University Press; New York: 1982), ch.14.

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- 48/ As an approximation, of course. Since prices rise continuously, stabilization of real values would require instantaneous indexation.
- 49/ Allowing for the interest rate is not a minor detail when it can be as high as 17% for savings. Notice that, because of tax exemptions rules, corporate savings enjoy a rate much higher than personal savings.
- 50/ For a given inflation, the longer the period the higher the difference between average and initial real values. But note that the higher the inflation rate, the smaller the length of contract periods. Most of the contracts in the Brazilian economy have $X=6$.
- 51/ The already small inflation tax may be negative because of indexed bonds. The issue is unsettled and most experts have used the familiar "m dot over p" argument without further justification. It is also true that increases in inflation do not necessarily boost profits in the banking business since the higher profits per unit of demand deposits at zero interest rate is to be weighted against the reduction of demand deposits provoked by the higher inflation. These qualifying considerations do not blur the fact that, ceteris paribus, banking profitability is boosted by inflation relative to a non-inflation situation whenever legal restrictions rule out the payment of interest or indexation on demand deposits.
- 52/ It takes a calculating machine to realize it. Private indexed bonds are usually sold at face value with interest rates determined by market forces. But because of legal ceilings on interest for government bonds, either 6% or 8%, the latter were sold at discount prices. The rate of return on a fully indexed long term bond bought at 90%, say, with 8% of interest is a function of the inflation rate. This is one of the often neglected consequences of legal interest rates in inflationary environments. See the discussion in Section VII.
- 53/ See Faria, J.E. *Retorica Politica e Ideologia Democratica: a legitimacao do discurso politico liberal* (Graal; Rio de Janeiro: 1984). The pressing reorganization of the institutional order required to run an increasingly differentiated and complex economy runs beyond the mere restoration of independence between the three constitutional powers. The challenge is to design an institutional order able to recognize and influence the self-reproduction of inequality in society without departing from liberal ideals.

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- 54/ A detailed account would be misplaced here. The point is that "caixa 2" and "dinheiro frio" schemes are not uniformly accessible to all groups. The likelihood of escaping punishment varies greatly with the scale, nature and frequency of transactions.
- 55/ Needless to say, favourable growth prospects in the absence of the social pact nullify the prouess of interest groups in incurring the transaction costs of weaving the social pact.
- 56/ See Bacha, E. and Taylor, L. "The Unequilizing Spiral: a first growth model for Belindia", Quaterly Journal of Economics, 1976.
- 57/ Note that statistical indexes of idle capacity probably overstate the existing idle capacity from an economic viewpoint. Part of existing capacity embody technologies viable at relative prices which no longer prevail. To produce at full capacity probably impedes superavits in the trade balance. A debt crisis may be thought of as destroying capacity from the economic point of view. Those who associated the hardships of the debt crisis with the effects of a war made a point of more than rethoric interest. In both cases, the stock of capital is dimished. To the extent to which the idle capacity in the economic concept is actually lower than the figures conveyed by engeneering or statistical accounts, the case for lowering interest rates becomes even stronger. See Arida, P. and Lara-Resende, A. "Recession and Interest Rates: Brazil's Industry in the early 1980's", mimeo, December, 1983. A portuguese version is forthcoming in Revista de Economia Politica, December 1984.
- 58/ Recent papers that bear on these connections are Dutt, A.K. "Stagnation, Income Distribution and Monopoly Power", Cambridge Journal of Economics, 8, 1984 and Taylor, L. "A stagnationist model of economic growth", mimeo, September 1984.
- 59/ For some critiques, see Van Wijnbergen, S. "Interest Rate Management in LCDs", Journal of Monetary Economics, 12, 1983 and Buffie, E.F. "Financial Repression, the New Structuralists, and Stabilization Policy in Semi-Industrialized Economies", Journal of Development Economics, April 1984.
- 60/ See the Arida and Lara-Resende paper cited in note 57.
- 61/ The "sustainable" proviso is explained below. Normal growth with interest rates higher than normal is possible but inflationary.

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62/ See note 27 above.

63/ 0.5% compounded over 12 months.

64/ Relevant regulations include taxes on financial intermediation and on savings, market segmentation rules, compulsory demand requirements for pension funds, restrictions on the horizon and liquidity of time deposits, restrictions on the asset positions financed on a daily basis, compulsory applications at below market interest rates, remuneration for compulsory reserves on demand and time deposits, retrieval of income tax schemes, etc.. The ever changing plethoric regulations require a study of its own.

65/ A brief sketch is illustrative. Given the real interest rate of 6.17% on passbook savings, the maximum real interest rate obtainable in the overnight is around 16%. That is, given current tax exemptions rules for passbook savings and taxation on overnight gains, rational savers are indifferent between the two assets if overnight rate is around 16%. If the daily cost of funds is 16%, the return on Treasury bonds financed on a daily basis must be higher, around 18%, say. Since the funding for private banks is deemed riskier than Treasury funding, private banks are forced to sell bonds at a minimum rate of 20% real. But part of the time deposits are compulsory channelled into lending at subsidized rates; another part is retained as compulsory reserves earning fixed interest of 6%. The prime lending rate compatible with 20% for funding exceeds 26% in real terms easily.

66/ The proviso "in the last instance" allows for two facts. First, arbitrage between financial assets is not instantaneous. In particular, it takes time for common people to switch from passbook savings to other assets even when differential gains are sizeable. Second, Monetary Authorities have frequently acted for short periods ignoring the restriction of not losing deposits in passbook savings. My view of the determination of the interest structure in most of the 1984 experience is that of an stable tatonnement around the equilibrium defined by the 6.17% and the almost endless list of regulatory and normative decrees.

67/ Treasury bonds are bought at a discount deemed sufficient to allow financial intermediaries to finance their asset positions on the overnight market. If the overnight rate is lower (or higher) than expected, financial intermediaries make profits (or losses). The longer the redemption horizon, the larger profits or losses caused by unexpected changes in overnight rates are. Most of bonds were

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- 67/ (continuation) bought under the assumption that extraordinarily high overnight rates would hold for the entire life of the bond. A coherent downgrading of the "anchor" parameter would be accompanied by a fall in overnight rates. The prospect of extraordinary windfall gains explains why the lobby of financial intermediaries has been as vocal as the industrial sector lobby in claiming for lower interest rates.
- 68/ Another disturbing factor is the endemic fragility of the market for Treasury bonds financed daily. Increases in interest rates often represent a threat of bankruptcy because of the exposure of financial intermediaries. Needless to say, the benefits brought by decreasing interest rates are silently internalized. The overnight market in Brazil illustrates the social costs of fragile institutional designs in intermediation. See Arida, P. "Contratos implícitos no mercado financeiro: duas sugestões", *Gazeta Mercantil*, 08/16/83. Furthermore, I suspect that the very effectiveness of monetary policy through open market operations is undermined by the repurchasing agreements. For the effect of selling a bond is to replace money for debt and a liability of 24 hours with liquidity guaranteed by the government. That is, one replaces instantaneous purchasing power for debt plus purchasing power available within 24 hours. To the extent to which the relevant concept of liquidity includes money in the next 24 hours, an open market operation is innocuous from the viewpoint of liquidity control but detrimental from the viewpoint of budget equilibrium.
- 69/ The usual argument for endogeneity emphasizes "political pressures". But why would political pressures make monetary policy endogenous while preserving the exogeneity of fiscal policy? One needs a more sophisticated account of the lobby dynamics of groups in Brazilian society to put political endogeneity on a firm basis. The threat posed by popular reactions against cuts in government-sponsored programs of social interest which run exponential deficits (INAMPS, INPS and BNH) may provide a good starting point for a political theory of money endogeneity.
- 70/ See Sargent, T. *Macroeconomic Theory* (Academic Press; New York: 1979), ch.10.
- 71/ See McCallum, B. "Some issues concerning interest rate pegging, price level determinacy, and the real bills doctrine", National Bureau of Economic Research, Working Paper No.1294, March 1984.
- 72/ The proof is in Arida, P. "Inflação e Caderneta de Poupança", mimeo, July 1984.

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- 73/ For a discussion of capital levy, see Martone, C.L. "A questao das dividas e a inconsistencia da politica de ajustamento", Trabalho para Discussao Interna No.11, Instituto de Pesquisas Economicas, FEA-USP, 1984, and Dornbush, R. "A stabilization program for Brazil", mimeo, September 1983. A portuguese version of Dornbush's paper appeared in Revista de Economia Politica.
- 74/ This section draws on Arida, P. "Especulacao Cambial e Politica Monetaria", mimeo, July 1984.
- 75/ Given the rumours of impending changes in the access to Resolution 432, I should perhaps have used the past tense of the verb.
- 76/ For the brazilian case, see Dornbush, R., Dantas, D.V., Pechman, C., Rocha, R.R. and Simoes, D. "The black market for dollars in Brazil", Quaterly Journal of Economics, February 1983. For a general statement, see Collins, S.M. "Expected devaluation with capital restrictions: the role of black markets", mimeo, August 1983.
- 77/ The survival of old cliches and simplistic thinking habits is remarkable. Some of the most prominent beliefs are worth mentioning: the belief on purchasing parity guidelines to set the exchange rate, the beliefs on austere monetary policy or price controls to curb down inflation, the belief on the virtuous effects of high interest rates, the belief on the inner weakness of the private sector to sustain the growth of the economy, the belief that cuts in the public budget are always beneficial, the belief that exchange rate devaluation is always detrimental, etc.. These beliefs are entrenched and daily cultivated in the most diverse political settings. That they have been disproved or at least challenged by the evidence is beyond doubt. But one need not be versed in the philosophy of science to realize that empirical evidence is of necessity construed by intellect. One can almost always amend an ungrounded belief with provisos in order to make it compatible with the evidence. Perhaps more surprising is the fact that these beliefs, having no room in the solid branches of economic literature, are hailed as the incarnation of wisdom accumulated in the past. Their ageless survival, impervious to both historical evidence and advancements of theory, testifies to vested practical interests rooted beyond the world of ideas.