POST-SCRIPTUM : THE COLLOR PLAN

After the breakdown of the Cruzado Plan, Brazil experienced a gloomy period of complete stagnation in 1988 and 1989, despite its tremendous success as the third net exportator in the world (a surplus of 15 billions dollars a year). With the complete lack of leadership of President Sarney, the two next plans, the Bresser Plan (June 1987 : a soft heterodox one) and the Summer Plan (January 1989: a more orthodox one, with an upspring of the real rate of interest) were "a mere anaesthetic, without a surgery" (GOLDENSTEIN [1989]). But the "super-inflation" itself became a form of less and less powerful anaesthetic.

By super-inflation, brasilian people meant of a form of hyperflation (up to more than 40% a month) were the system of relative prices was still more or less viable: an "indexed hyperinflation" as Bresser Pereira puts it. The monetary condition for it was the stability of the high money. Prices were indexed directly to the rate of interest on public debt according to equation (V). By the end of 1989, this form of indexation became more and more perverse. For instance, this rate was proclaimed in "gross terms", that is in daily term on overnight. The "net rate" is the compound monthly rate (with week-end vacancies deduced), net of tax on overnight deposits. But many price-markers used the gross rate for their mark-up, thus accelerating inflation !

In December, the populist candidate Fernando Collor de Mello was elected with the support of the richest, the upper middle-class, and the poorest. The candidate of the revolutionnary left, "Lula" da Silva, marked 45%. While Collor was to take his charge on the 15th of March, no plan for transition was negotiated with President Sarney. Since Collor had not explained his program, situation became impredictable. In February inflation reached 73% and a proper hyperinflation burst out in the week before the 15th of March. In fact, price makers could suspect that Collor would start with a new price-freezing, so they fixed-up a "shadow" arbitrary supply-price, in order to anticipate the freeze. But the effective bargaining price was still more or less determined by the former mechanisms.

[1990d-en] "Lessons on Inflation from the Golden Age", "Seignorage, the Transfer Problem, and Vernacular Money", in Marglin (ed) Heterodox Shock Experiments UNU / WIDER project. Couverture Orange n°9017.

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CINQUIÈME PARTIE (SUR CINQ)

The plan presented by the Minister of Economy, Zelia Cardoso de Mello, in the evening of the 16th, was a complete surprise. There was a price freezing, but there was also a surgery.

Nothing was said about the foreign debt, but Brazil had been de facto in a moratorium for months. The great surprise was the way the plan delt with the inner public debt. First, as far as <u>flows</u> were concerned, a huge reform of taxation was announced, bearing heavily on revenues of capital, land, and financial assets. Moreover, drastic cuts were announced in public expenditures. Especially, all public subsidies to economic activities were suppressed. Never had the IMF dreamed of such a U-turn from decades of populist "developmentism". The target was to shift from a deficit equal to 8% of GDP to a surplus of 2%. If such a project is achieved, that will be the end of seigniorage financing.

As for the <u>stock</u> of public debt, the most spectacular device was the freezing of all accounts, current, "poupança" and overnight, labelled in New Cruzados (the former vernacular money) and the exchange of a very limited quantity against a new currency, the Cruzeiro. The limit was extremely strict: 50 000 New Cruzados on current accounts and poupança, 25 000 on overnight, that is some hundred dollars ! The remaining assets were frost for 18 months, and would then be exchanged against new Cruzeiros with a rate of interest equal to inflation plus 6% a year.

This last, monetary aspect, is the only relevent in this chapter, but its meaning is far from being clear. Is it the cancellation of the stock of public debt ? Formally no. It is a gigantic compulsary loan, preparing a dramatic overliquidity after 18 months. But many things may happen in this period. If the indexation is underestimated, it will be a real cancellation a part of the public debt, a very heterodox device !

But the immediate effect was purely orthodox: a dramatic liquidity gap. In fact, since, as we have argued, the financial assets were not savings but liquidities (the "high money"), these assets represented the means of currency of households and firms. Moreover, banks attempted to compensate for the lost of their "private seigniorage" by over-frosting their customers' accounts. In the weeks following the plan, the Fisher's law worked out in the marxian-keynesian causality exposed in these chapters. Inflation stopped, some prices fell (expecially by comparison to the shadow supply-prices fixed in the week previous to the 15th of March). But the rigidity of prices prevailed, in front a liquidity cut by 80%. As a result, transactions then production fell by 25% in a month, unemployment jumped up. Barter economy developped (flat against shop, car against telephone line...). In front of the scarcity of Cruzeiros, a dollar glut appeared, inducing a huge real over-evaluation of brazilian money, hindering exportations...

The end of the story will partially depend on the mechanisms of creation of cruzeiros. If firms and households will get the possibility to borrow cruzeiros backed by their frost assets in new cruzados, the depression of April will have been just a mistake of monetary policy. If these assets are considered as totally or partially cancelled, the depression will express the fact that riches are less rich. But effective demand, in the brazilian regime of accumulation, is pulled by the expenditures of the riches and by the revenues trickled down to the poorest from their expenditures. Thus, a new regime has to be invented, based on the direct distribution of revenues to the huge mass of poor wage-earners. But that story is out of the scope of this paper...

FOOTNOTES

1) In fact, many insights on inflation were imported in the first "regulation approach" studies by a Chilian economist, Carlos OMINAMI (C.E.P.R.E.M.A.P. [1977]). In their book, BRESSER PEREIRA and NAKANO [1987] present a brief history of the main concepts of the "structuralist theory of inflation" exposed in Chapter 2 (administered mark-up, indexed wage, endogenous money). Though they could be traced back to Marx through the works of Kaldor, Robinson, Keynes, Kalecki, Schumpeter, Bortkiewicz, they flourished in Latin America in the tradition of E.C.L.A. through the seminal work of I. RANGEL [1963] and through the future "parents" of the Austral and Cruzado plans.

2) On Brazil, see for instance CORIAT and SABOIA [1987].

3) On conflictual and inertial components of inflation, see the other chapters of this book, especially the synthetis by ROS [1990].

4) Yet slowing down of labour-productivity may be an important "exogenous shock" triggering an acceleration of inflation. Besides, the rise of K/L has certainly great responsibilities in triggering inflation through higher mark-up, and in increasing the foreign deficit. This phenomenon is important for equipment-importing countries at the end of "easy substitution" phase. See HAUSMANN & MARQUEZ [1986].

5) Note that this is not the general case, even in Latin America. In Venezuela for instance, oil exports are the basis for the revenues of State, which have to pay for debt of private agents.

6) The process of "statization" of the external brazilian debt, and of indebtment of the State to domestic agents, went through several phases which are described in CAVALCANTI [1987] and BONTEMPO [1988].

Before 1973, and still after the first oil shok, the Monetary Authorities (Central Bank and Treasury) induced private agents and nationalized firms to boorow directly on the international market, then transform the dollars into cruzeiros at the Central Bank, and lend the cruzeiros to the Treasury.

The idea was to increase the borrowing capacity of Brazil, and the reserves of the Central Bank, and to cover the deficit of Government to the nation. In exchange, the Monetary Authorities were assuming the risk of change variations and interest volatility, through indexation of treasury bills (see Section II-2). During the seventies, the direct external debt of the State increased and progressively replaced private debt within a skyrocketing national. After 1983, the service of external debt by the private agents had to be paid to the Central Bank of Brazil, which then took over the obligation to external lender: the Brazil became a de facto "B-type" debtor.

In 1970, the federal debt to the public was \$ 2 billion, and the external net debt of Monetary Authorities (gross debt minus reserves) was minus \$ 750 million. So the Authorities were inducing private agents to increase their external debt in order to increase the foreign reserves of the Central Bank ! As a result, these net reserves reached \$ 5 billion in 1973: this year the State's internal debt was exactly equal to this amount. Then the gross external debt of the State began to increase and reached the amount of reserves in 1978. Internal debt was then \$ 15 billion, and the gross external debt of Monetary Authorities was the same amount. In 1987, the net external debt of Monetary Authorities was \$ 50 billion (out of a gross national debt of \$ 111 billion), and their internal financial debt was \$ 32 billion.

The total net debt of the State (internal plus external) was, in 1970, equivalent to 3% of GNP and 30% of fiscal incomes. These two ratios reached 7.3% and 75% in 1978, and 27% and... 270% in 1987 !

7) For the whole Latin-America, the net annual transfer of capital to the exterior amounts to 4% of the GDP since the beginning of the eighties. This figure is likely to be more than the growth of productivity. Meanwhile, the population is increasing. The "conflictual" contribution of debt service to inflation is thus likely to be very important.

8) A monetarist as BRITO [1979] reached the empirical conviction that the quantity equation holds in Brazil once the monetary mass includes the

treasury bill.

9) As SALAMA [1989] noticed, this may account for the weakness of Brazilian capital flights relative to the argentinian case. Capital flights seem to account for \$ 49 billion out of an external debt of 50 billion in the case of Argentine, but only \$ 15 billion out of \$ 107 billion in the Brazilian (Salama uses the evaluation of the Morgan Bank, World Financial Market, March 1986). Here it appears that there are two incentives for private agents to hold national high money: a limit to access to foreign currencies (the stick) and the interest on high money (the carrot)

10) This is a well known result (see CAGAN [1956]: demonstration in Appendix).

11) This may remind old debates of late seventies - early eighties, in the monetarist turning-point of the crisis in Fordist core-economies. Then, it was discussed wether an increase in the rate of interest would increase the rate of inflation (indexation mecanisms passing-on this increase in costs), or if it would reduce it by reducing the liquidity. In fact, it seemed that between 1979 and 1982 the first effect prevailed. Later, the "monetarist shock" succeeded in destroying indexation, thus leading to a dramatic reduction of inflation. Yet in the late '80s, United Kingdom experiencied again that an increase in interest rate could increase the rate of inflation.

12) This process is paralel to the stages of accelerating inflation, according to a comment of Carlos-Luiz Bresser Pereira on the present chapter: price are first indexed on past inflation, then on expected inflation, then on the nominal rate of interest, this last stage he labels "indexed hyperinflation".

13) The next paragraphs are much indebted to GOLDENSTEIN [1987, 1988], and fruitful conversations with this author.

14) OTN is both the name of a type of treasury bills (Obrigaçao do Tesouro Nacional) and of the index used for the monetary correction of all the

bonds which are not indexed to dollar (through the "OTN Cambial"). So "OTN" may be understood as the unit of account in high money.

15) Or, in our terminology (LIPIETZ [1983]) between prevalidation (by the Banks of the State's purchasing power) and pseudovalidation (of its future revenues by the State which aknowledges and imposes its own debt as means of payment).

16) Obrigaçao Reajustavel do T.N.: Readjustable Treasury Bonds.

17) See Appendix.

18) This private seigniorage, representing an increase of revenus for finance capital, is emphasized by Lidia Goldenstein as a real (conflictual) effect of the monetary process. The direct Tanzi effect consistes in a real transfer to the State when a reduced inflation rate limits the leaks in tax recovering due to lags in bureaucratic process. (See ROS [1990]).

19) Letras do Banco Central (Central Bank Letters). These certificates are attractive for the final holder who uses them as reserve instruments, and also for the big banks whose costs on liabilities (e.g.: current deposits) are inferior to the costs on overnights.

20) Latras do Tesouro Nacional con taxa de Juro Flutuante (Treasury Letters with floating rate: a form of Libor). These titles were protected against inflation, but not liquid.

21) The "agio" on the black market of dollar reached 88%.

22) Because of the inflows of dollars accruing from exports and debt/equity swaps.

23) That may have been the only positive by-effect of the Cruzado Plan and, later, of the Bresser Plan: the real interest rate on treasury bills became nearly null, sometimes negative, because they had been aknowkedged as the normal form of liquid assets (see Table III).

TABLE 3
REAL RATE OF RETURN ON OVERNIGHT
(DEFLATED BY PRICE INDEX IPE, % PER MONTH)

PERIODE	NOMINAL RETURN (1)	I.P.E. (2)	REAL RETURN
JAN.88	16,25	17,96	-1,45
FEV	17,75	16,01	1,50
MAR	16,06	19,28	-2,70
ABR	19,50	17,78	1,46
MAI	18,05	19,53	-1,24
JUN	19,52	24,04	-3,64
JUL	23,88	20,66	2,67
AGO	21,89	24,01	-1,71
SET	24,25	27,25	-2,36
OUT	27,46	26,92	0,43
NOV	26,19	28,79	-2,02
DEZ	29,84	70,28	-23,75
JAN.89	22,71	3,6	18,45
FEV	18,95	6,09	12,12
MAR	20,41	7,31	12,21
ABR	10,58	9,94	0,58
MAI	10,51	24,83	-11,47
JUN	25,77	28,76	-2,32
JUL	31,50	29,34	1,67
AGO	33,21	35,95	-2,02
SET	37,39	37,62	-0,17

NOTES : (1) Net Nominal Variation
(2) IPE : Index of Efective Prices : estimation of the real purchasing power specially computed from Consumer Prices Index.

SOURCE : <u>Analise de Conjuntura Economica</u> n°40, SEADE, Sao Paulo, Nov. 1989.

24) See LIPIETZ [1985], BRESSER PEREIRA [1988].

APPENDIX
ON SEIGNIORAGE

The basic text on seigniorage and hyperinflation is CAGAN [1956]. Cagan deals with seven historical inflations (post-wars Germany, Austria, Hungary, etc...). They are hyperinflations: this may not be the B-type. He shows that the demand of money, which is then roughly equal to the supply (hyper-inflation requiring a nearly perfect elasticity of money-issuing) is still governed by a law which he adjusts econometricly. Then he explains what is seigniorage and proves that the rate of seigniorage reachs a maximum for a computable rate of inflation. Let us first recall these three steps.

1°) <u>Equation of money-demand</u>.

Cagan shows that the real cash (ratio of the end-of-month indexes of the quantity of money M to the price level P) is a function of E, the expected rate of inflation, assumed to be a function of the rate of inflation I :

$$I = \dot{P} = d \log P/dt = dP/(Pdt)$$

Estimated function: $\text{Log } M/P = - a E - b$ (1)

where $$a = -\frac{d \log M/P}{d E}$$

is the opposite of the logarithmic derivative (or semi-elasticity) of the real cash regarding the expected rate of inflation.

2°) <u>The Seigniorage</u>

Cagan supposes that the money is issued by the State. Doing this, the State captures two flows of real revenues in a time dt:

- the real value of new money it issues: $1/P \cdot d M$
- the devaluation of the stock of money already issued, that is of the real balances of private agents on the State: $- d(M/P)$

Cagan assumes that this second flow is first order in comparison to the service of the public debt to private agents (in fact he does not think about B-type high money)

The sum of these two flows is the seigniorage tax S (per unit of time):

$$S = 1/P \cdot dM/dt - d(M/P)/dt$$

or $$S = M/P \cdot dP/(P.dt) \qquad (2)$$

In this (2) form, the seigniorage appears as a tax whose base is the real money M/P and the rate is the rate of inflation I. This is a very elegant definition of seigniorage, especially since the following theorem (3°) is based on this definition. Yet others such as FISHER [1982] restrict the seigniorage to the part accruing to the State through money creation, that is 1/p. dM. The equation (2) does not hold. The choice is difficult: in Fisher's definition, there may be seigniorage without inflation, in Cagan's definiton, there may be seigniorage without money creation ! It the present text, we stick to Cagan's one.

3°) <u>The maximum of seigniorage</u>.

For any stabilized rate of inflation I, expected inflation E equals I and the seigniorage is (through (1) + (2)) :

$$S = I\, e^{-a\, I-b} \qquad (3)$$

S is a function of I, which admits an extremum when :

$$dS/dI = (1 - a\, I)e^{-aI-b} = 0$$

or : $I = 1/a$

Then: $d^2 S/dI^2 = (a^2 I-2a)e^{-aI-b} < 0$

This second derivative becomes positive for $I > 2/a$

The shape of curve (3) is a kind of "Laffer-curve of seigniorage", which is at is maximum when its rate, the rate of inflation, is the opposite of the inverse of the logarithmic derivative of real cash regarding inflation (figure 4).

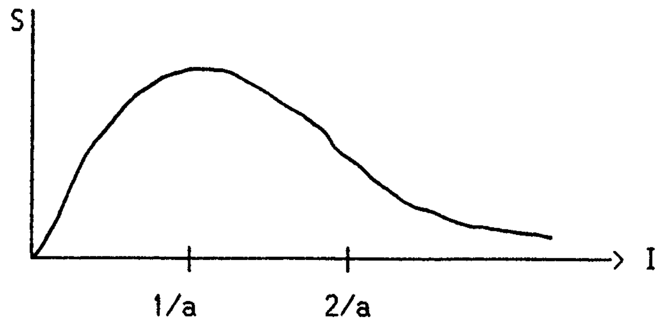

FIGURE 4
THE LAFFER-CURVE OF SEIGNIORAGE

As noticed by COHEN [1987], Brazil is beyond this point. Seigniorage is still positive, but decreasing with inflation. This may be a conventional definition of "hyperinflation".

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