CHAPITRE 6

DEBT, SEIGNIORAGE, AND VERNACULAR MONEY:

Many South-countries experienced inflation (and sometimes stagflation) long before "core-economies" (1). The regimes of accumulation are so various in the South that we are going to restrict our reflection to the case of the "Newly Industrializing Countries", more precisely, the countries were some aspects of the "fordist regime" co-exist with more specifically "under-developped" or "peripheral" aspects (hence the label "peripheral fordism" given to these countries in LIPIETZ [1985]).

In fact, the N.I.Cs experienced during the late '60s and '70s a regime of mass production, with a parallel growth of domestic consumption. This growth of domestic consumption was more unequally distributed (e.g.: in Brazil) or more equally distributed (e.g.: Korea). All of these countries anticipated a growth of their exports, and built up productive capacity by purchasing plants and equipments from the core economies, seizing the opportunity ofthe low real rates of interest prevailing in the world credit market during the '70s. Thus, a major difference with "core-fordist economies" is the importance of external debt.

As far as the "rules of the game" are concerned, they present similiarities and differences with core economies. First, the early monopolization of the semi-industrialised economies secured an early "administration" of price-fixing through arbitrary mark-up. In fact, the monopolistic situation of firms in these countries since the period of import substitution (1940-1965) is such that they are able to fix the mark-up according to a goal of profitably, at any stage of the business-cycle. Hence the well-known phenomenon that, from Chile to Brazil, the mark-up increases and inflation accelerates in recessions (RANGEL [1963], FONSECA [1979], OMINAMI [1980]).

Second, the "wage-rule" was theoretically the same as in the core economies: inflation plus annual improvment factor (this was part of the labor legislations of Peron, Vargas and Cardenas !). But in fact, the real wage was much

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TROISIÈME PARTIE (SUR CINQ)

more "downward flexible" than it should have been, according to the law, especially in dictatorial political regimes. On the other hand, the competitive capacity of workers to impose higher wages during booms should not be neglected. Even with huge unemployment and an large informal sector, the formal labor market is not "Lewisian": shortages of "industrial manpower" may appear very quickly. So, during the boom of the NICs (the Seventies), the wage-rule described in chapter 2 could be applied ex-post to "peripheral fordism" as far as the "formal" sector is considered (2).

Hence, in a few words, the "peripheral-fordist" rules-of-the game could be considered as "non explicitly satisficing behaviours", in contrast with the "fordist" ones. There was not a social agreement about the sharing of productivity gains. Thus, conflictual component of inflation, which became common toward the end of the Golden Age of Northern Fordism, has appeared as normal in the NICs since they began to industrialize. This aspect of "South inflation" is certainly the most important part of the subject (3).

The importance of inflation in this type of South-economies was such, from the begining, that its "permissive condition" (the issuing of accommodating credit money) had to follow. But (and this is another difference with core-economies), "zero-inflation" and "exchange stability" never appeared as a norm for the State. On the contrary, the rate of exchange policy was used as an economic tool. Either "real" over-valuation was used in order to import or borrow more easily, or "real" devaluation was used to export more easily. In either case the nominal rate of exchange was not a constraint on the rate of inflation. Thus, inertial component of inflation was not constrained from outside as it used to be in the core economies, and this is another and well known difference.

Other reasons (for exemple, populism) induced the Central Banks of NICs, especially in Latin American countries, to lax-money policy. As a consequence, the moneis of these countries were deprived of their "reserve" function, and of any value as means of payment outside the country. That led to a strong tendency to use the international money (The US dollar) as a "second money" for "high" level monetary functions (reserve and payment functions). This element, mixed with the first characteristic noted above (the debt problem), introduced a major monetary

specificity in South inflations, frequently labelled "dollarisation". This chapter is dedicated to that nexus of problems.

In order to deal with it, I will restrict again the scope of analysis to the peculiar sub-class of the NICs where those characteristics are clearer: Latin-American ones. I will build a "typical" model of this kind of economy and, moreover, I will introduce the possibility for the lack of reserve capacity of national currency to be compensated by some inner mecanism (besides the substitution for dollar). This is particularly the case with Brazil. Hence, I am dealing with monetary aspects of "Brazilian type economies". This does not mean that this chapter may be read as a concrete analysis of the Brazilian case. Rather, Brazil will be used to provide examples for the analysis of a "B-Type", which encompasses most relevent features of inflations in the NICs. Howerver not all of these features exist in Brazil.

In section I, I will define more precisely the features of "B-type" economies and will deal more precisely with the monetary impact of debt services. In secton II, the peculiar nature of money in B-type economies will be presented (especialy in Brazilian experience) and its consequences for the robustness of inflation will be examined. A conclusion will sum-up the complexity of inflationary phenomena in B-type economies.

I - WHAT IS A "BRAZILIAN TYPE ECONOMY"

Here we are going to present a stylization of the Brazilian case, as far as the distributive causes of inflation, are concerned.

First, we have the real and institutionnal determinants of the nominal value added. As in chapter 2, the mark-up and the nominal wages formation express both the mutual indexation of revenues ("inertial" inflation) <u>and</u> the absence of a social compromise about the sharing-out of value-added ("conflict inflation", in Ros's terminology). This is already enough to explain why there is inflation in B-type economies. Moreover, dealing with two or three-digits inflations, we may assume that variations in productivity are second order relative to variations in the Money Expression of Labour (equation V in chapter 2): hence we may take the

productivities of capital and labour as roughly constant (4). But this is not sufficient to characterize B-type inflations. In order to do this, we introduce two other features.

1. There is an external debt; the State has the responsibility for its repayment; and the private agents (through their export activities) earn the foreign curencies which must be mobilized to pay interest and repay principal (5).

2. The State does not levy sufficient taxes on domestic activities to pay for its expenditures and for the nation's debt. So it has to raise additional revenues through seigniorage and additional public debt.

It is not essential that these observations exactly characterize Brazil. As have been said, our intention is rather to provide a schematic explanation of salient aspects of Third World inflationary processes. But let us nevertheless look at Brazil in some detail, in order to justify the label "B-type".

First, a large amount of primary foreign private debt in Brazil was in fact contracted under the pressure of the State in order to finance its own deficit (6). Firms, and especialy nationalized firms, were induced to borrow on international money market more then their needs for import of equipment goods. The Ministry of Planning granted firms licences to import under the condition that they would borrow abroad two or three times the amount of their investment in foreign goods. When the firms used their profits to buy foreign currencies to pay for their debt, the State could mobilize the domestic counterpart to service its internal debt. But, by 1983, the private debt was nationalized and the foreign lenders became explicitely lenders to the State. As a result the external debt is expressed on the one hand as a debt of the country to the outside, on the other hand as a debt of the State to domestic private agents. This latter debt could be paid through taxes, but this did not happen (see point 2 above). Let us see this, using the formalism in COHEN [1987].

Let $D^*(t)$ be the country's external debt, $C(t)$ the amount of privately consumed goods (including investments), $G(t)$ government expenditures, $Y(t)$ the GNP, $i(t)$ the world rate of interest, all this being expressed in real terms. We

have:

Trade balance $TB(t) = Y(t) - (C+G)(t)$

Current balance $= TB(t) - i\, D*(t-1)$

The new country's external debt is increased by this current balance deficit:

$$D*(t) = (1+i)D*(t-1)+(C+G-Y)(t) \qquad (I)$$

Let $T(t)$ be the taxes collected, $D(t)$ the government domestic debt, ϱ the domestic real interest rate. The movements of external and domestic government debt are connected the following way (assuming as in point 1 above that $D*(t)$ is a pure State debt) through time movement of total State deficit (external+domestic):

$$[D(t)-D(t-1)]+[D*(t)-D*(t-1)] = i\, D*(t-1)+\varrho\, D(t-1)+(G-T)(t) \qquad (II)$$

This equation expresses that the variation of <u>total</u> (domestic and foreign) State indebtment is equal to interest payments plus the net real transfer from State to private agents.

By subtracting (VII) from (VI), we have:

$$TB(t) = (T-G)(t)+[D(t)-(1+\varrho)\, D(t-1)]. \qquad (III)$$

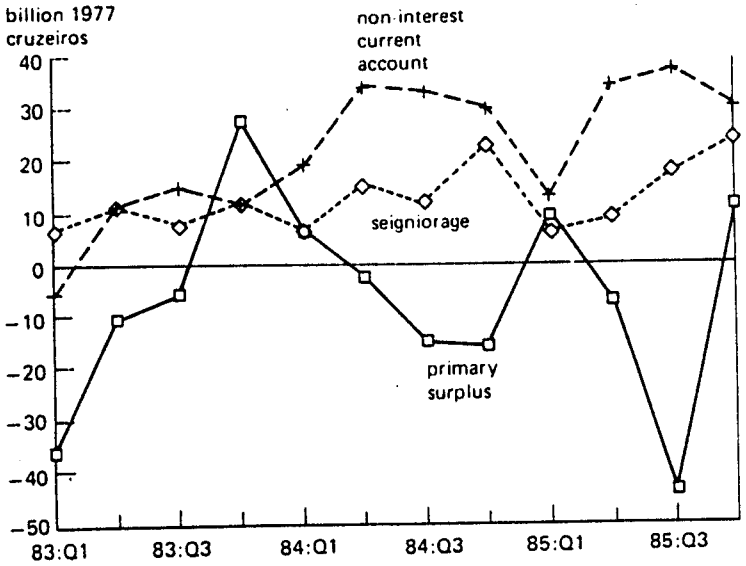
So, any surplus in trade balance must be matched by the sum of government surplus and new domestic debt.

But in our stylization of the "Brazilian type", the first term is likely to be covered not so much by explicit taxes as by a "seigniorage tax", that is the real revenue accruing to the State through inflation. Let us split government surplus into two parts: the one accruing from explicit taxes surplus $Z(t)$ and the

seigniorage S(t). Equation III becomes:

$$TB(t) = S(t)+Z(t)+ [D(t) - D(t-1)] \qquad (IV)$$

COHEN [1987] provides an estimation of this decomposition in the case of Brazil before the "heterodox shock". Figure 1 shows the evolution of TB (Non Interest Current Account), Z and S. It may be seen that, whereas Z varies in erratic manner and is roughly declining since 1983-4th quarter, the seigniorage seems to be correlated with Trade Balance. This expresses the institutionnal mechanism through which money is created as the exporters sell their foreign currencies to the Central Bank.



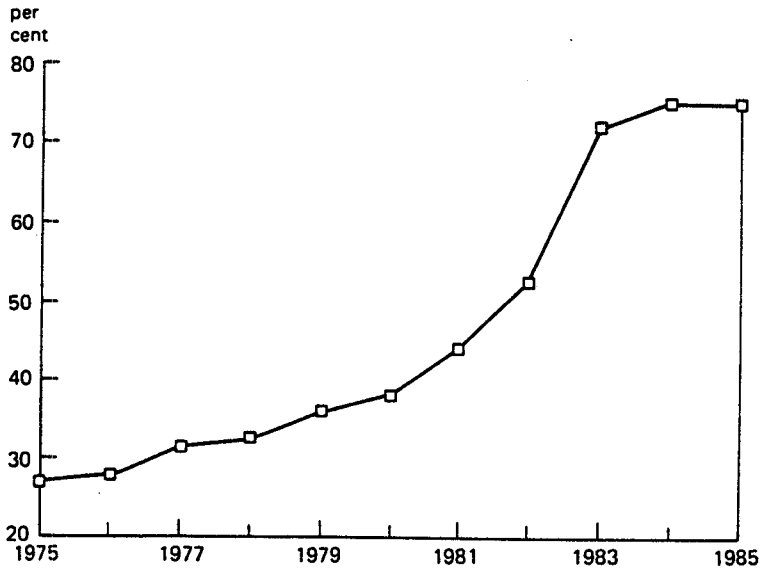
Source: COHEN [1987]. The evaluation of NICA is direct, that of seigniorage as well (according to the methodology in FISHER [1982]). The primary surplus is obtained as a difference according to equation (IV). This equation is thus considered as valid (which is not true, since private agents are also directly indebted to foreign lenders). But it is well known that nobody knows the primary surplus of brazilian State !

FIGURE 1

THE PRIMARY SURPLUS, NON-INTEREST CURRENT ACCOUNT AND SEIGNIORAGE IN BRAZIL, 1983-5

Meanwhile, the total of government debt is shown as widely increasing in figure 2. Evaluating the decomposition of the total current account adjustment from 1983 (1st quarter) to 1985 (4th quarter), D. Cohen finds that

- the seigniorage amounts to 57,5% of the adjustment
- the change in domestic debt amounts to 71%
- the "explicit" (on primany) surplus Z amounts to -28,6%



Source: COHEN [1987]

FIGURE 2
TOTAL DEBT/GDP IN BRAZIL, 1975-85

As a result, 71% of the external debt has been transformed into internal debt, and 29% has been paid by the government, but not out of tax revenues. On the contrary, government has had a primany deficit (during the last years of military power) equivalent to 28,6% of external adjustment. What has been transfered from private to public sector has been transfered mainly through seigniorage. Hence, Indebtedness of the State and inflation appear to be deeply linked to the form of transfer from the nation to foreign lenders. An alternative way would be a direct transfer through explicit tax payments. But the lack of social agreement, which

laies behind inertial and conflictual inflation depicted elsewhere in this volume, is also accountable for the lack of a tax reform. From the begining, fiscal deficit led to foreign indebtedness, and eventually fiscal crisis and debt crisis will increase in pace.

The main consequence of this evolution is a dramatic change in the budget structure. The State debt acquires an autonomy, and the service for this debt becomes a major part of the budget. In 1981 in Brazil, the public deficit accounted for 13.6% of GDP (relative to State expenditures that amounted to 40% of GDP: a "core economy" standard), and public interest payments represented 5% of GDP. In 1985, the share of State expenditures in GDP had remained constant, and the deficit had droped to 8.4% of GDP. But the share of interest on public debt had reached 12.2% of GDP. The ratio of interest to deficit had shyrocketed from 0.37 to 1.45 ! The losers were of course State investments, falling from 9.6 to 4.9% of GDP (SALAMA [1989]: see Table 1).

TABLE 1

COMPONENTS OF BUDGET AS PERCENTAGE OF GDP

	1981	*1982*	*1983*	*1984*	*1985*	*1986*
Deficit of Public Sector	13,6	17,1	8,9	7,7	8,4	16,8
Revenues	26,0	29,9	32,9	33,2	31,7	28,4
Expenditures	39,6	47,0	41,8	40,9	40,1	45,2
Interests	5,0	9,1	14,1	11,6	12,2	18,7
Investments	9,6	8,0	5,7	5,3	4,9	5,3
Interests/Deficit Ratio	0,37	0,53	1,58	1,51	1,45	1,11

Source : Comercio Exterior vol. 37 n°10

To sum-up this section, we may say that, to the usual conflict over the shares of income going to wages and profits (and other rents), external debt service has to be added into the battle over the division of national value added (7). Since there is no national consensus on this sharing-out, State debt takes: the responsibility for the service of the debt, and finances it through domestic public debt. In turn, the State does not dare to introduce an explicit taxation on primary revenues in order to pay for that debt, but finances it through seignorage, which can only exist in a context of inflation.

II - THE MONETARY RIGIDITY OF B-TYPE INFLATION

Now we are to take into account the connection between the "necessity" of inflation and the "necessity" of government indebtedness. Financing foreign transfers and domestic deficit in primary taxation through debt and seignoriage, the State induces private agents to very perverse behaviours. That is: to use the dollars and domestic treasury bills as a currency. Since it is the more interesting case and since it necessarily coexists with the first one, we shall focus on this second case, that of treasury bills.

In order to finance its deficit, the Treasury has to supply attractive paper, that is bills yielding a real interest rate. In a "core-fordist economy", these bills may be monetized by an independant Central Bank, that is exchanged, according to restrictive rules, against official, legal-tender national currency. But the necessary inflation in B-type economy threatens the reserve character of Central Bank money. Hence the flight to dollars. On the contrary, treasury bills yielding real interest rate may be used as means of reserve and payment.

In a B-type economy, we assume that the official currency is used as accounting money for contracts, and as a "vernacular" money for tax, wage payments, and ordinary trade. Treasury bills are used as the "real" money between firms, banks, and the State. By "real" money, we mean that it is used both as units of account, and as a means of storage and of payment, between these three agents. It may be used as a means of exchange and payment, or be exchanged instantly for vernacular money during these operations. Let us label this interest-bearing money

"high money" (8).

High money and vernacular money are of course exchangeable at any time, and at a rate depending of inflation. But there is an "entry barrier" to high money (because of cultural habits, the non-existence of banks in villages and poor neighbourhoods, or because of the indivisibility of bills). So there is a social character in this distinction: vernacular money is also the money of the poorest, high money is reserved for firms, upper and middle classes. And of course both of them could be exchanged againt a thrid money: the dollar, on a more or less "black" market. Yet the existence of a high money is a good incentive to avoid capital flights (9).

What are the consequences of the existence of high money for inflationary processes ? That is the point we are to deal with, and later we come back to the reality of Brazil.

1°) Interest-yielding money: inflationary consequences.

A new type of credit-money thus appears in B-type economies: an interest-yielding money (FARIA [1988]). This is quite different from the core-economies credit-money. In this case, described in chapter 2, there exists a strict hierarchy between money and credit. Two different agents share the responsability for issuing credit-money. First High Street banks aknowledge, prevalidate, the debts (either from the firms or the State). Then Central Banks officialize, pseudovalidate, some claims by exchanging them against a non-yielding money. Money is an unquestionable sign of value but does not yield any interest, ordinary debts yield interest but remain of disputable values (unliquid).

Treasury bills in B-type economies combine the two qualities, while the official currency enjoys neither. So, a single agent, the State, according to its needs, issues the only tokens enjoying the main properties of money. Plus one: it yields interest. Minus one: it differs from the vernacular accounting unit. The one compensate for the other. But this difference and its instability (the ratio of conversion between the unit reserve of value and the unit of account) represents an embedded factor of inflation within the existence of interest-yieding money.

In order to understand this, let us come back to the Money Expression of Labour MEL as defined in Chapter 2, and let us recall that variations of productivity of labour or capital are negligible relative to nominal changes. Now, let us considere that at time t=0 the unit of high money (the Treasury Bill) is equal to the Money Expression of Labour (in vernacular money, e.g.cruzados) MEL (0). This bill yields a nominal rate of interest ϱ. Let us assume for the time being that the monetary authorities fix this rate at a correctly anticipated rate of inflation, so that treasory bill is the exact means of storage of value, no less, no more. At time T, the same bill plus interest thus represents the same purchasing power in value (since it is a reserve money), but its current expression in vernacular money MEL(T) has changed:

$$MEL\ (T) = (1+\varrho)^T\ MEL\ (o)$$

And, since we suppose that π as constant, this value represents the same quantity of commodities, and this equation becomes:

$$p\ (T) = \frac{1}{\pi}\ MEL\ (T) = \frac{1}{\pi}\ MEL(o).(1+\varrho)^T = p_o\ (1+\varrho)^T \qquad (V)$$

for MEL(o)/π represents exactly the price p_o of the product of the unit of labour at time t=o.

So, under our assumptions, the use of an interest yielding instrument of reserve implies an increase of prices equal to the rate of interest on this instrument of reserve. In other words, the financial logic combines with the inertial-conflictual logic of production and distribution. The mixing of the two yields (see equation III and V in Chapter II):

$$p(T) = p_o(1+\varrho)^T = R\ k(T-1) + w\ (T-1)\ l\ (T-1) \qquad (VI)$$

and the connection between the rate of interest ϱ, the mark up R and the nominal wage w becomes very complexe !

Up to now, we have accepted the hypothesis of a pure "deep" inertial plus conflict inflation (involving R and w) imposing itself as a determinant to ϱ. Since ϱ is exactly the rate of inflation, then equation (VI) may be read from the right to the left: it expresses a pure indexation of treasury bills, which may be used as a pure reserve money yielding a zero real interest rate. No further constraint is imposed (by the existence of an interest-yielding form on money) on the general mechanism of indexation at the root of inertial inflation. This is also true if "high money" is the dollar, and if a regular smooth devaluation compensates for the differential betweeen domestic and US inflation rates. But there are several difficulties.

To begin with, the inertial inflation is now embedded in the properties of the high currency (as distinct from the accounting unit). This embeddedness imposes a limit to the efficiency of seignoriage. There is a maximum bound to the real income a government can extract from money creation. The rate of inflation at this maximum is equal to the inverse of the semi-elasticity of money demand with respect to inflation rate (10). According to COHEN [1987], this monthly rate is around 11% in Brazil. The actual inflation rate has been above this limit since the begining of the '80s, on the decreasing side of the "seigniorage tax Laffer curve". But first the amount of money which serves as a basis for this seigniorage tax diminishes with the importance of "seigniorage-free" high money. Second, as we shall see, the interest rate ϱ pushes the rate of inflation upwards, beyond the efficiency limit.

In fact, a deposit in treasury bills is not a pure reserve. It is also supposed to be a form of saving, yielding a real revenue especially if available dollar deposits yield a real interest. Thus, the rate of interest on this debt (ϱ) should be higher than inflation. Then, the causality in equation (VI) may be read from left to right: ϱ imposes itself as leading inflation, because the mark up R should be administered in such a way that productive capital could yield a rate of profit competitive with the revenues accruing from idle reserves ! Several mediatons will compound themselves in this behaviour:

* Financial costs are part of production costs for the firms when they are indebted, and anyway ϱ represents the opportunity cost for committing capital into

production (11).

* The raise in ϱ above actual inflation may be interpreted as a signal that monetary authorities anticipate an acceleration of inflation, thus inducing firms to increase their supply price.

* When the full-cost pricing is directly computed by the firms in a "constant" unit of account, that is dollars or... treasury bills, then the causality in equation (VI) is completely reversed: from the left to the right (12).

In other words, by mixing money and credit, hight money mixes the expectations of the agents who just want to preserve the value of their money and the expectations of the ones who are waiting for a real revenue from their deposit. If the control of capital flows is not efficient, and if ϱ is fixed in order to protect only the value of the deposit, the second group of agents will be induced to move their assets abroad to more remunerating financial markets. So the rate ϱ on high money is mostly bound to be higher than expected inflation... and so, through (VI), it accelerates inflation.

But there is worse. Up to now, it seems that an incomes policy plus a conversion of the bills (in Brazil: OTN, ORTN, LTN, LBC...) that is an exchange of old bills yielding a high interest rate against new bills yielding nominal interest rate corrected by the expected desinflation, could cool-off "deep" and "monetary" inflations. The problem is the connection with the rest of the world, and, as far as inflation is concerned, the rate of change between national accounting unit and the dollar (here again, we may consider the world inflation of second order relative to domestic inflation).

As long as the country keeps a constant "real" rate of exchange through continuous mini-devaluations (according to the tactics of Delfim Neto, the main finance minister of Brazilian dictatorship), we are still inside the "inertial logic". A joint policy of cooling-off inflation, interest rate and devaluation rate together is conceivable. But the necessity to conquest new shares in the world market, in order to improve trade balance, may lead to maxi-devaluations. The problem is that treasury bills are frequently also indexed (more or less) on the

dollar. Thus, as SALAMA [1988] pointed out, the nominal value of bills (expressed in vernacular money) is increased by the rate of real devaluation. And the rate of inflation is increased the same way. This is not because all prices are indexed on dollar (a "dollarization of economy", as in Israël or Argentina), but because the currency is yielding a real interest which has to compensate for the devaluation. As far as money is concerned, a fully B-type economy is not so much "dollarized" as "bondized".

2°) Brazil as a "B-type economy" (13).

From the monetary point of view, Brazil is a very interesting "B-type" economy. Up to 1990, it never experienced a pure and simple "dollarization", that is a dramatic substitution of the dollar for the national currency, with a mere indexation of vernacular prices to the rate of exchange. On the contrary, Brazil fought the decline in the reserve value of its official currency by the consolidation of a national "high" money. This high money cannot be assimilated to "pseudo-dollars" (as SALAMA [1989] puts it). The value of this money (let us call it OTN (14)) in vernacular currency was usually indexed on the national index of prices, independently from the value of dollar, and the Purchasing Power Parity Principle did not appear to be valid in the middle term. So, like other countries benefiting from their national sovereignty, Brazil was able to practice real devaluations or reevaluations. In the same way, the real interest rate on the high money was not the one on the eurodollar (libor plus spread). So, "monetary policy" still had some meaning in Brazil.

In brief, at least until 1990, Brazil still existed as a monetary entity. But the fact that its money was more and more identified with the public debts led to many perverse consequences, all of them hindering the capacity of monetary authorities (Treasury and Central Bank) to fight inflation. In fact, the process of stabiization of the high money is also the process of confusion between money and credit (15), hence of desappearing of monetary policy. During this process, Brazil escaped major capital flights, but fostered inflationary tendencies.