1°) Passing-on the difficulties

From formula (V), inflation is likely to accelate when productivity growth is slowing down, and/or when money equivalent of labour accelerates. From formula (III), the second phenomenon would follow an increase in the mark-up, and/or an acceleration in the coefficient of capital, an/or an acceleration in the rate of growth of nominal wages (18). So, even without any autonomous increase in the rate of mark-up or the rate of real wage, inflation, in credit money, will be the normal symptom of a decrease in the rate of growth in productivity and/or an increase in the capital/labour ratio. And that is precisely what happened in the erosion of the Golden Age, from 1967 to 1973 (GLYN et al. [1988]). The deep causes of the crisis of the Golden Age were showing (and hiding) themselves through inflation.

We shall come later to the way "efficient causes" at a deep level would assert their negative effect on everyday economic life. But at first glance, inflation looks like a way to defer those effects. Nominal incomes grant claims on current production. If some claims are growing "too fast", some others must be the losers. Obviously, claims fixed in nominal terms (e.g. the debts) are the best candidates for time role. So corporate profits and wages may win together, at least for a while, against "idle capital".

Unfortunatly, in the early 70's and certainly after 1973, a third active partner asserted its rights in the sharing-out of world value-added: rent on the production of raw materials, especially oil rent. The reason for this may have been global overaccumulation during the last "synchronised" boom at the turn of the seventies (the "Ricardo effect"), compounded by the more socio-diplomatic reason of the rise in Third-World nationalism. Anyway, in the institutional-behavioural context prevailing at the time, the rise in rent, instead of being substracted from the share of other incomes, was simply passed into the compound nominal value added of advanced capitalist countries: in the formula (III) defining VA(t), a third term reasserted the validity of Adam Smith's trinity formula !

But since there was no acceleration of the real net product, that resulted again into another fall in labour (and still more in "volume") equivalent of money. Who was to lose? At first, fixed nominal assets; after a while: fixed rents,

[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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DEUXIÈME PARTIE (SUR CINQ)

but from the begining, profits, as we have shorn in a detailed study of profitability (GLYN et al. [1988]).

Here we are to come back to our initial hypothesis: the stability of the laws of formation of the nominal revenues. BOYER and MISTRAL [1978, 2d. ed. 1983] have shown the remarkable rigidity of these laws, in the case of France their robustness to various specifications of the mark-up up to the middle-seventies, despite stagnation. Yet the share of profits appeared to be the weakest rigidity. This is contrary to the common sense of the Phillips curve: the indexation of wages should have been destroyed faster by stagnation.

A first reason for this rigidity (including the case of mark-up) is just the reverse of the argument for limited inflation in the sixties. Agents were not fighting for a maximization of the growth of their income, but for a "satisficing norm". The connection between that norm (R and w') and the "deeper" parameters (r and π') was the loser, since both the "real profitability" and the "real average growth in productivity" are only known post factum by the statisticians. In the 1967-1973 period, erosion in the conditions of growth were far from being acknowledged, and the agents were still behaving "as if" the usual mark-up and the usual growth in real wage could go on as usual.

More precisely, the "hysteresis" of the real wage despite the recession of 1973-1975 and until the late seventies is a serious problem. In his criticism of the Phillips curve, TYLECOTE [1981] gives the following arguments:

* Even with a decrease in the claims of wage-earners, the slow-down in productivity would result in still growing inflation: this is the so-called "shift to North-East of the Phillips curve".

* The stagnation itself interrupted new hiring. Up to then, the growth of individual incomes had been a mixed movement of general improvment and climbing up the hierarchical ladder. Even if the first movement was reduced, the workers were eager to preserve the second. With fewer new entrants engaged, the result was a growth in average wage for the firms.

* A related argument is the growing scarcity of skilled workers with the end of recruiting. Some segments of the labour market were thus preserving their bargaining power.

Let us first notice that Tylecote's two last arguments implied a growing "second segment" in the labour market. This second segment would eventually open a new possibility: rebuild the wage relation around a more "flexible", lower paid norm. But that opportunity will not emerge before the end of the seventies. So let us come back to the period of erosion of the Golden Age and up to the "second oil shock", and add some new arguments.

The fact is that in the seventies the elites (bosses, governments, economic advisers and other policy makers) were far from being convinced that the pattern of development was done for. According to this diagnosis, exogenous shocks disturbed a basically healthy growth, and-faithful to the Keynesian injunctions not to trigger a deflation through a sharp fall in effective demand, the conventional wisdom (especially after the firt oil shock) was to avoid giving any negative further impetus to the crisis. More precisely:

* Redundant workers were not laid-off in line with the reduction of labour required for actual output. In the same way, scrapping of old investments was deferred. These two effects added a short-term decrease in productivity, both of fixed capital and of labour, two elements that fed inflation.

* The indirect wage (the dole) was strengthened both in order to avoid a fall in demand and because of the bargaining power of unions. These incomes without production were once again passed-through in the nominal amount of value-added (19). And, reducing the cost of job-loss, this preserved the bargaining power at the level of direct wage formation, and also (through a demand effect) the capacity to preserve a higher margin on slowering production.

The best result of the survival of the institutionnal and behavioral frame of the Golden Age into its decline was precisely the preservation of its macroeconomic pattern. The sharp collapse of the thirties was avoided. The counterpart was runaway inflation.

2°) The global monetary conditions for overtrading.

The preservation for the mixed real and nominal growth in value added despite the growing difficulties was dependent on an adequate budgetary and monetary policy. Since budgetary laxity prevailed into the seventies (for the same "keynesian" reasons as above), the only limits to inflation could have been monetary ones.

Let us remember: the monetary caution of the sixties was imposed by the Bretton Woods agreement. The United States war to preserve the legitimacy of a "currency principle" (the connection between gold and dollar), and the connection between dollar and secondary national currencies was a bind to monetary laxity in other countries (let alone national preferences for orthodoxy, as in Germany). The whole story between the mid sixties and the late seventies is one of the acknowledgement of credit nature of any currency, inducing to give up any "natural" limit to the devaluation of any single currency.

In fact,during the Golden Age, the dollar had never been an international currency circulating in the place of gold. The fiction of its metallic basis was first a result of the claim of USA for hegemony and the victory of White against Keynes at Bretton Woods (20): having the greatest stock of gold, United States had good reasons to require a metallic basis for the future world currency. It was also a result of the acceptance of that hegemony by other countries. The dollar was accepted as "as good as gold" not because there was a counterpart to it in Fort Knox, but because of the competitive advantage in any US production. Any outside dollar could be usefully exchanged against a desired US commodity.

At the begining, the real problem was the fear of the dollar shortage. In the rise and zenith of the Golden Age, this problem was solved by the coexistence of a structural positive trade balance of United States, and an outflow of credits and various unilateral transfers ("aid", especially military "support") to other countries. The reserves in gold or US dollars in other central banks were growing at moderate rate of 5,3% a year from 1948 to 1960 (DEHOVE and MATHIS [1986]). That was barely sufficient for the growth of international trade. Yet, as early as 1958,

with the recovery of productive and sometimes competitive capacities in Europe, the shrinking in gold reserves of USA provoked a first challenge to the "currency character" of the dollar, at once deflected off by a new improvement in the US trade balance.

But the "Triffin dilemma" [1968] is now clear. The need for new international currencies not to be exchanged against US commodities must be matched by the payment deficits of USA. And these growing deficits would eventualy offset the illusion a sound basis for the privilege of dollar. In 1966, then in 1968, the question becomes pressing with the appearence of a net payment deficit in US balance due to the Viet-Nam War. The outflow of US capital by multinational firms appear as credits that the United States issues to its own benefit. The French government reacts by a demand to make good the nominal gold convertibility of the dollar. The United States Administration reacts by inducing its firms to borrow dollars from foreign holders on the "euro dollar" market. This expedient (whid limits the outflow of US dollar) prevails up to 1971. Then a new major deficit in US payments balance appears. The Triffin dilemma must be solved.

We are not going to recall the terms of the various solutions: go back to a "Banking metallic principle" (gold standard), use another sound key currency (DeutscheMark), create a real international credit money à la Keynes (Special Drawing Rights). The solution was imposed by the United States between 1971 and 1973: full acceptance of the "banking principle" for a pure credit money, the dollar. From that moment, there was no more limit on the creation of new world credit money but the policy of US administration. Other currencies were to "float" around the dollar, according to the differential laxity of their central banks (the Deustche_Mark would rise by 90% against dollar up to 1979).

The new international monetary regime must be well understood. First, it is not the direct outflow of dollars that will feed aggregate world money. It is the creation of "world inside money" on the market of Euro-dollar. Banks dealing with dollars outside the USA have nearly no limitation to the creation of new credit, hence new deposits. Thus, there is nearly no limitation to the mass of international currency matching the needs of the growth of the nominal world value added (expressed in dollars). The rate of inflation in different countries is only

limited by domestic policies. As a consequence, variations in current exchange rates against dollar do not respect any "Purchasing Power Parity" law. Thus, the real exchange rate between commodities may vary, and USA and Japan use the "real devaluation" tool to protect or increase their trade balance.

Yet, it is not true that the "world inside money" escapes from any regulation. In order to understand this, let us come back briefly to the regulation of national credit money. The creation of national "inside money" by High Street banks is limited by two "leaks". First, some debts of banks are exchanged against Central Banks claims at the requirement of customers, or because Central Bank money is the only means of payment in the inter-bank clearing process. Second, regulations on "compulsory reserves" induce banks to exchange their claims against Central Bank money on the money market. These two reasons define a ratio between the "mass" of credits required by the needs of economy and the "basis" of official money issued by Central Bank. Hence the possibility for the Central Bank to limit the supply of and demand for new credits (through an increase on interest rate on money market).

Well, the second reason does not exist in the Euro-market (which is unregulated), but the first leak still exists. Euro dollars are destroyed when a non-resident buys US commodities, unless the seller continue to hold the product of the sale abroad. Moreover the clearing between Eurobanks may require a borrowing from a US Bank. So loose as it may be, there is still a link between Euro-Market and the US market of dollar, which is regulated by the Federal Bank.

In other words: the prevalidation of new requirements in credit-money on the world market is regulated by its pseudovalidation through the availability of dollars inside US monetary system. This US monetary system plays the role of a world central bank.

3°) The end of the Golden Age.

The fact is that from 1971 to 1979, that is during the fall of the Golden Age, the monetary policy of the Fed was very lax. Real interest rates on the US market, hence on Euro-market, were near zero. Any agent in the world could borrow

on Euro-Market to pay for the oil rent, thus defering (at least nominaly) the new sharing out of world value-added. The surpluses of OPEC were lent to the Newly Industrializing Countries. These NICs could thus pay for imports from the OECD. By the end of the seventies, before the second oil shock, that triangular exchange, financed in the Euro-market, resulted in a net balanced situation for the OECD countries and a South-South debt economy, OPEC becoming the creditors of the NICs (LIPIETZ [1985], DEHOVE and MATHIS [1986]).

But the situation was nonetheless unhealthy. The world currency (Euro-dollars) was not only based on a deficit of a key-country (thus mitigating the first side of Triffin dilema). It was mainly based on the unregulated confidence of private banks on the new industrialization of Third World. So the exuberant growth of the mass of Eurodollar was expressing a fall in the labour equivalent (and product equivalent) of the dollar. But the dollar was also a national currency. During the first half of Carter administration this erosion was considered as a good thing: the constant loss in value of the dollar was protecting the US keynesian domestic growth from trade external constraint. The problem is that a key currency cannot lose its value as a reserve for too long, except in the hyper-Keynesian dreams of "euthanasia of rentors".

The "real" economy and asset holders were to be vindicated. The year 1979 (with the second oil shock, the Thatcher shock, and the first Volker monetarist shock) marks the end of the Golden Age, and the begining of floundering between general depression and the emergence of a new pattern. We can now understand how the "opium" of inflation, which up to the late seventies had defered the real problems, turned into a problem in itself, as a reflection of deeper disequilibria.

First, the second oil shock in itself may be understood as the reaction of one group of claimants on world value added (the oil rentors) against the depreciation of their fixed nominal revenues. The "11 dollar a barrel" rule of 1973 had put back the real purchasing power of oil terms of in US manufactures at the level of the end of Korean War, at the onset of the Golden Age. The real devaluation of these 11 dollars would no longer be accepted, since the bargaining power of the oil producers was stronger. The nominal spiral "world prices/oil rent" was likely

to explode, and the Iran-Iraqi war was to be the spark. With the second oil shock, the confidence in the "nominalist illusion" of the rentors disappeared. A new inflationary retaliation from the North might have thrown the world economy from running inflation into hyper-inflation. A new, real answer, was sought: a new, energy saving, model of development.

Second, the preservation of the nominal mark-up cannot be an endless answer to growing capital/output ratio. Besides the wage/profit spiral, a more subtle spiral developed: the <<gross margin/depreciation allowances/price of investment>> spiral. Depreciation allowances were growing in the cash-flow, and yet became more and more insufficient to cover the price of new investments. Moreover, the depreciation allowance share was still undervalued within gross cash-flow by the acceleration in the rise of nominal prices, and thus the net profit exposed to tax was over-valued. Firms had to rely more and more heavily on borrowed funds, with the growing risk of insolvency this entails (THOMAS [1981], LIPIETZ [1983]). At first inflation had limited the cost of investment (through devaluation of the stock of old debts), now it was choking investment (through the rising cost of the flow of new debts). A new model, less capital-intensive, was necessary.

This contradiction of inflation was just the reverse for agents which use money as a reserve: lenders. Even if they were able to pass-on inflation into rates of interest (which was not quite true), they could do nothing as far as the purchasing power of their assets was concerned. And that was true, in particular, for holders of sterling and dollar balances. In 1977, the current balance of USA run once again into deficit (by 14 billion dollars). As ten years earlier, Administration reacted through an increase in the rate of interest in order to capture more floating euro-dollars. In 1979, the runaway from dollar soared again. The Deutsche Mark, and then the Yen, reappeared as rivals (PARBONI [1980]). A new monetary policy was necessary if United States were to keep its hegemony.

We are not going here to examine the new monetary regime and the experiments of new models of development in Advanced Capitalist Countries after the Monetarist shok of 1979-1982 (21). In a next chapter we will turn back to the specificities of "Brazilian-type" economies, by comparison to Fordist-Core Economies, as far as monetary aspects of inflation are concerned.

FOOTNOTES

1) Here we adopt the terminology inspired by the "French Regulation approach" (e.g. LIPIETZ [1983]) presented in MARGLIN & SCHOR [1990].

2) This is for instance Marx's formulation (see LIPIETZ [1983])

3) Obviously, the specification of a direct mark-up on fixed capital is very unlikely. The idea is here only the mark-up, not its form (margin, full-cost pricing, etc...). This form is adopted because of its similarity both with neo-classical formulations and with "real" sharing out of value added. Moreover, we will be approximate in the treatement of intermediate goods.

4) This is aknowledged by many theorisists of credit money, such as Wicksell, Hawtrey, Kaldor, Levy-Garboua and Maarek [1985].

5) Here we identify index of price and index of price of value-added (see note3).

6) According to Marx (Capital vol.1, ch.III) this is true also with metallic money : <<The mass of currencies required in the process of circulation of commodities is already determined by the sum of their prices>>. When there is too much currencies... treasuries develop.

7) Capital, vol 3, p.280-281 (Harmondsworth).

8) The first model of this diffusion theory was presented in Marx, Capital, vol 1, ch XIII. At present, it is known as "Samuelson's viability condition for technical change" (see LIPIETZ [1980]).

9) <<The class which buys is, in our country, the working class. It is necessary that it becomes our wealthy class if we are to sell-off our enormous production>> (Retranslation from the French edition of H. Ford, Le Progrès, Payot, 1930, page 30).

10)For instance: in refrigerators (in the '60s) or home computers (in the'70s).

11) It should be noted that, π' being positive, a zero-inflation already implies a decrease in LEM(t), a "hidden inflation".

12)Tylocote refers to one by R.J. Hall and C.J. Hitch (Great-Britain, 1939), and to one by Kaplan et al. (USA, 1950).

13)In the early XIXth century controversy about the meaning of monetary signs issued by Central Bank and circulating inside the country (but also outside, as far as the Sterling was concerned), the "Currency School" assessed that these signs were circulating unstead of the "real money" (existing gold stocks), and the "Banking School" that these signs of paper were real money, because of their institutional nature. Marx accepted the last position as true inside nations. Keynes was the first to propose a total absence of metallic basis for international money.

14)For a mathematical model of the relation between growth, price setting, and growth in credits, see FOLEY [1982].

15)The Central Bank Money fixes the unit of value. Any deposit in any bank may be used as a store of value or a medium of exchange. But only cash money or a deposit in the Central Bank may has the "legal power to discharge debts, so that a creditor who refuses it may not demand anything else in payment of an existing debt" (the definition of "legal tender money" in GOLFELD and CHANDLER [1988]). Deposits in High Street Banks may clear each other, but after the clearing, remaining inter-banks debts are to be cleared through a new credit or through official money.

16)Because of financial innovations which increase the velocity of money, because of expectations in acceleration of inflation, and so on (GRANDMONT [1983]).

17)Contrary to the theorem of MODIGLIANI-MILLER [1958], firms feel limits to the growth of credits in their liabilities. This desired ratio is reduced by rising interest rates and by doubts about their own liquidity (LEVY-GARBOUA, MAAREK [1985]).

18)From (III) and (IV), we have: $MEL(t) = R\ K(t-1)/L(t) + w(t)$

19)This holds when the indirect wage is financed by social taxes or contributions levied at the level of the firms. Then it compound with direct wage in the price of labour.

20) On the desperate attempt of the british negatiator at Bretton Woods to impose a pure international credit money, see J.M. KEYNES [1943].

21) See LIPIETZ [1985, 1989].