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## **Bad money and distributive conflict: is stagflation coming back after the great depression?**

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### Abstract

The paper argues that the world economy might experiment inflationary pressures (or restrictive policies aimed at fighting them) when the economic depression triggered by the financial crisis is stabilized. The primary cause is that bad money has been (endogenously) delivered which did not lead to a proportionate increase of real wealth, thereby creating an artificial purchasing power into the economic system. According to Keynes and Post Keynesians 'true inflation' develops when the quantity of effective demand increases at full employment, but financial 'inventiveness' proved to be capable of creating the possibility for houses and assets prices to inflate whatever the level of unemployment is. If the ongoing reinforced regulations get to limit the artificial increase of assets prices, the circulating bad money may trigger a generalized inflationary process. Public deficits have been seriously damaged during the depression; in addition, authorities have provided the required liquidity to the banking system in exchange of private bad debt, part of which might have turned out irrecoverable. The paper also points out that this amounts to a collectivization of private losses, which carries lasting difficulties in terms of a trade-off between inflation and *higher* unemployment. Some general policy principles are suggested to relieve the post crisis growth regime of the bad debts/bad money plague.

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"Some means must be found for withdrawing purchasing power of the market; or prices would rise until the available goods are selling at figures which absorb the increased quantity of expenditures – in other words the method of inflation." *John Maynard Keynes, 'How to pay for the war', 1940 (CW, vol.9, p. 378).*

## 1. Introduction

Important amounts of credit-money have been created in exchange of private debts that cannot be recovered as debtors have failed. According to the truistic Fisher's 'equation of exchange', increases in the money quantity do not fuel inflation in a safe economic context, for the credit money in this case finances real income generating projects. In the current context, however, large amounts of money have been (endogenously) created which have no real counterpart (to which we refer as 'bad money'). Until the autumn 2009, no inflationary pressures have been observed because of the strong increase in the liquidity preference and money holding. But, when the depressive phase of the crisis ends, if the prudential regulation does not fail to prevent a new bubble in the assets pricing, holders will probably seek to substitute goods for money much more rapidly than the increase in real income, thereby allowing for inflationary pressures.

The paper argues that the mechanism of inflation in this case is similar to the one which is involved in financial or housing bubbles. It is related to the excess of purchasing power bad money carries<sup>1</sup>. That is, the primary cause in this case is a demand-pull mechanism, not a cost-push one, although factor costs -capital goods, oil, indexed wages... -must simultaneously be impacted if the production prices are to be increased. Hence, while the Post Keynesian literature usually emphasizes cost-push inflation in the presence of unemployment and demand-pull inflation at full

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<sup>1</sup> Keynes (1940) and Minsky (1986) dealt with such an inflationary mechanism, though in different contexts. Keynes focused on the excess purchasing power induced by the money earnings distributed to workers that produced arms (not commodities) during WWII. Minsky on the other hand put forward the inflationary pressures owed to the huge amounts of liquidities that must be pumped into the capitalist system in order to avoid or get out of a great depression.

employment, the paper puts forward the possibility of a demand-pull inflation in the presence of unemployment, owing to the limited speed of capital accumulation and productive capacity accumulation. Such a mechanism may also be interpreted in terms of distributive conflict, in accordance with the Post Keynesian approach to inflation, for it develops because money holders claim the right to get a proportionate share of the wealth produced in the economy (which is insufficient at previous prices).

The depression has seriously damaged public deficits. Also, in order to rescue the financial system, authorities have provided banks and non-bank institutions with liquidity in exchange of private bad debt, part of which might have turned out irrecoverable. This amounts to a collectivization of private losses which raises the question of who is going to bear the burden. The paper argues authorities will therefore be faced with hard choices in terms of a trade-off between inflation and *higher* unemployment, which could hinder the recovery trajectory. The paper is organized as follows. Section 2 develops the theoretical argument on excess/bad money and the possibility of a demand-pull inflation process below full employment. Section 3 discusses the reasons why it did not happen until autumn 2009, and the way inflationary pressures could propagate after the current great depression. Section 4 explores the hard choices authorities are going to be faced with and suggests general principles which are likely to relieve the post crisis growth regime of the bad debts/bad money plague.

## 2. Bad money and demand-pull inflation below full employment

'The view that *any* increase in the quantity of money is inflationary (unless we mean by *inflationary* merely that prices are rising) is bound up with the underlying assumption of the classical theory that we are *always* in a condition where a reduction in the real rewards of the factors of production will lead to a curtailment in their supply' (Keynes, *GT*, p. 304). There are many things in this quotation, but let us first emphasize two ideas comprised in the first part of the sentence: i) the quantity of money does affect the price of goods and ii) an increase in the quantity of money may increase the price of goods without being inflationary, which also means that inflation may (although it need not) be caused by an (excess) increase in the quantity of money<sup>2</sup>.

Increasing prices of goods and services are the normal consequence of any increase in the production under conditions of decreasing factor productivity (in the short run). It goes along with a decrease of the real factors costs provided the factors

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<sup>2</sup> Excess money here does not refer to an excess of the supply over the demand for money, which would be inconsistent with the Post Keynesian approach to endogenous money, where the money supply sticks to the demand; it refers to the notion of 'bad money', as defined in the previous section.

rewards are not increased simultaneously in the same proportion. As workers are more likely to be able to impose strong wage indexation when the economy is working at full employment, it is rather in such a context that Post Keynesians usually consider the possibility that a demand-pull inflation process becomes 'true inflation'<sup>3</sup>. Until this point, as suggested in the quotation above, a reduction in the real rewards of the factors of production caused by rising prices will *not* lead to a curtailment in their supply.

The Post Keynesian literature on inflation also emphasizes the possibility that inflation develops before full employment as a result of a cost-push process with indexation. This may be triggered by a conflict over the distribution of income or an increase in the price of imported resources like oil (Davidson 1994, p 143)<sup>4</sup>. However, cost-push inflation can only develop provided the central bank satisfies the additional demand for money induced by cost pressures, thereby avoiding an increase in interest rates. Notice that in this case, even if there is unemployment, money is endogenously supplied to allow firms to pay higher nominal rewards to the previously hired factors, not to allow them to hire new factors and produce additional output. If on the contrary monetary authorities aim to avoid inflation, they do not prevent the rise of interest rates and its depressive impact on effective demand, which releases inflationary pressures as far as unemployment and depressed activity temper the distributive conflict<sup>5</sup>. Hence, as far as cost-push inflationary pressures only develop when the central bank allows them to pass on effective demand, it turns out that there is a demand side in any cost-push inflation story<sup>6</sup>.

Excess money, which also supposes an easy money policy, is basically a demand-pull inflationary process, with the specific feature, however, that it may happen before full employment<sup>7</sup>. In normal times, endogenous money cannot produce inflationary pressures before full employment for the pumped liquidity contributes to finance productive projects which revenues assure that no excess money circulates. The case for true demand-pull inflation before full employment therefore is a case for troubled times where the money supply and the related purchasing power pumped over some period do not find the corresponding value of goods and services at previous prices.

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<sup>3</sup> 'When a further increase in the quantity of effective demand produces no further increase in output and entirely spends itself on an increase in the cost-unit fully proportionate to the increase in effective demand, we have reached a condition which might be appropriately designated as one of true inflation.' (Keynes, 1936, p 303).

<sup>4</sup> As far as taxes take part of the production cost, inflation can also be related to a private/public conflict over the distribution of income.

<sup>5</sup> This is what Davidson (2006) referred to as 'incomes policy of fear'.

<sup>6</sup> Trivially, there is also a cost side in any demand-pull inflation story, as 'inflation in the flow-supply prices of producibles is everywhere and always a rise in somebody's income' (Davidson 1994, 143).

<sup>7</sup> Such a demand pull process has also a distributive conflict side: the incompatible claims for goods that results, at previous prices, from the excess amount of money.

It is true that in *The General Theory* the 'critical point' is rather assimilated to full employment, but "there is nothing in [*The General Theory*] which actually impedes understanding of the conjunction of unemployment and inflation" (V. Chick 1983, p 280). In the series of *The Times* articles, Keynes (1937) expressed his concern with possible inflationary pressures owing to the government proposal to finance rearmament partly by means of borrowed money. The rate of unemployment at this time was about 12% in the UK. In the present context, Keynes's way of thinking invites us to consider the possible inflationary effects of excess money owing to the fact that the expansion of productive capacity is limited because of the limited speed at which the capital accumulation can be conducted<sup>8</sup>, not because productive resources are going to be allocated to the production of arms.

This resembles the problem Keynes (1930) dealt with in terms of Commodity or Capital inflation (or deflation), when spot prices increase relative to flow-supply prices<sup>9</sup>. In normal circumstances, such a discrepancy between spot and flow-supply prices sends a signal to producers in such a way that the production is reduced when the spot prices are below the flow-supply prices (a contango), while it is increased in the reverse case (backwardation). In both cases, the spot price eventually rejoins the flow-supply price, so that only temporary capital inflation/deflation arises, but as Davidson (1994, p. 143) suggested, though he did not discuss the possible reason, spot price "can affect [...] changes in flow-supply prices" and thereby produce what Keynes called 'income inflation'. A reason why the normal process of backwardation might fail and eventually induce an increase in the flow-supply prices is that, when the liquidity preference goes back towards the pre-crisis level, producers will hardly provide within normal delays the elevated amount of goods which is necessary to absorb the total amount of liquidity pumped in the economy. Indeed the corresponding capacity of production did never exist, since much money did feed the demand for housing and financial assets, not the demand for a flow-supply of goods<sup>10</sup>. Therefore, expectations of future increases of the flow-supply prices are

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<sup>8</sup> In addition, the existing capacity have suffered during the crisis.

<sup>9</sup> See Davidson 1994, p. 142

<sup>10</sup> M. Hayes (2006, p 211-213) also suggests a "theoretical link between the quantity of money and the price-level of output, via liquidity-preference and the liquid capital-goods employed in production, which does not assume full employment". According to the author, "[...] stocks of liquid capital-goods may come to command a liquidity premium under conditions of uncertainty and low money interest rates", which increases the demand for those stocks of liquid-capital goods as a hedge against possible "losses through price volatility and disruption in production, as a result of shortages of capital-goods at particular point in the supply chain". Note that, again, the reason why a 'backwardation' of the (spot) prices of those stocks of capital-goods would not operate is not discussed. But above all, there is an important difference with respect to the inflationary process under consideration in the present paper, since in Hayes mechanism "the quantity of money has no direct significance here; the shift in the hierarchy of liquidity-preference arises from the low rate of interest on money".

likely to feed precautionary and speculative demand in the spot markets by those who, instead of financial and real assets, hold large amounts of money.<sup>11</sup>

### 3. Why inflationary pressures did not happen yet and how they could propagate

So far, we have identified a demand-pull inflation mechanism which can transmit to the flow-supply price below full employment. The mechanism however may be inhibited if a new bubble takes place, or if money is massively hoarded, as in the depressive phase of the crisis. In order to put this in terms of the 'equation of exchanges', let us divide transactions in two separated categories: the one related to the flow of goods produced over the period considered (Q), and the one related to the stock of existing goods and assets (A):<sup>12</sup>

$$MV=PT=P_QQ+P_AA$$

Hence, a sustained increase in M, as compared with a moderate increase in the nominal income  $P_QQ$ , is perfectly conceivable as far as the money value of assets  $P_AA$  is allowed to increase accordingly.

Now, when the money value of assets  $P_AA$  collapsed during the financial crisis, the flow-supply prices of goods did not explode. The reason is that, during the depression, the liquidity preference and demand for money shifted hugely and absorbed the whole amount of the circulating money, thereby shoving the money velocity down. The relation between an upward shift in the liquidity preference and a fall of the velocity of money may be stated formally if one considers that Keynes's monetary equilibrium equation:  $M = L_1(P_QQ)+L_2(r)$  combined with the 'equation of exchange' above. Since  $PT/V = L_1(P_QQ)+L_2(r)$ , we get the velocity of money as an increasing function of the money value of transactions and a decreasing function of the money demand:  $V = PT/[L_1(P_QQ)+L_2(r)]$ . Accordingly, a shift of the function  $L_2$  (given the interest rate), that is an increase in the liquidity preference aimed at

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<sup>11</sup> Keynes dealt with a similar, though not identical, problem in his 'How to pay for the war', when the excess purchasing power as compared with the production of commodities (which was amputated by the production of arms) carried the important potential inflation his program was aimed at avoiding. He clearly distinguished those times from normal circumstances: "This is a great change from peacetime experience.[...] We have been accustomed to a level of production which has been below capacity. In such circumstances, if we have more to spend, more will be produced and there will be more to buy. Not necessarily in the same proportion. Supply for immediate consumption may not increase as much as demand, so that prices will rise to some extent. Nevertheless, when men were working harder and earning more, they have been able to increase their consumption in not much less than the same proportion (Keynes, 1940, in CW vol. 9, p 375)."

<sup>12</sup> When  $PT$  is assimilated to  $P_QQ$ , it is implicitly assumed that money only serves to buy the flow-supply of goods, a very unrealistic –though usual– assumption.

preserving savings from increased uncertainty, produces a decrease in  $V$ .<sup>13</sup> Hence, going back to the 'equation of exchange' above, although  $M$  had been increased and  $Q$  and  $P_A A$  were decreasing during the crisis,  $P_Q$  did not increase and even decreased because banks and private agents increased hugely their money holding instead of spending.

But when the depression stops and the economy is stabilized or starts recovering, which supposes the financial system recovered the public confidence, the liquidity preference normally returns towards the pre crisis level (though maybe to a higher level), while the transaction motive adjusts to the depressed level of the economic activity. Hence, assuming that  $V$  and  $Q$  are not higher than their pre crisis level, while  $P_A A$  is much lower, the equation of exchange yields:  $P_Q' \gg P_Q$ , that is, the price of the flow-supply of goods is likely to be pushed up, unless the prudential regulation fails to prevent another speculative bubble<sup>14</sup>, so that  $P_A' A' \gg P_A A$  (or a doubtful (very) strong economic recovery takes place:  $Q' \gg Q$ ).

As inflation is an increase in the production prices, the demand pull process must impact some factor cost/reward directly or indirectly. This may result directly from the spending of excess money in those durable goods (like buildings) or natural resources (like oil) that are involved in the production process. But it may be also the magnifying effect of an indexation of the factors reward on the increasing cost of living. At the beginning of the process, such an indexation is likely to take place after the increased cost of living has been observed, but if the primary cause of inflation is not removed rapidly enough, indexation may take place in advance, as far as inflation is expected to hold in the future.

It is true that inflation did not develop after the 1929 financial collapse, but this was concomitant to the prolonged high unemployment economies experimented then. Indeed, inflationary pressures can always be repressed if authorities are prepared to pay the cost. During the 2007-2009 crisis, accommodationist monetary policies took place instead of the rough mechanism of the gold standard, and authorities seem to have learnt the importance of prolonging their support to the economy. As a matter of consequence, the depressive phase could be weaker and shorter than it was during the nineteen thirties (though further financial turmoil remains plausible). But this is not to say that all problems vanished, for authorities will remain faced with the pernicious effects of the excess purchasing power, and this could arm the recovery process durably as discussed in the next section.

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<sup>13</sup> Notice that during the collapse  $V$  must have fallen more than  $M$  had increased, since  $P_Q Q + P_A A$  clearly decreased.

<sup>14</sup> A new bubble could postpone the problem by concentrating the inflationary pressures again in the financial sector, until the next crisis ... Inflationary pressures in the flow-supply of goods are not a necessary outcome of excess/bad money.



#### 4. Bogged down policies

The quantity of bad money has been increased both before and during the financial crisis, when authorities rescued the financial system by means of money pumping in exchange of private debts, financial support, nationalizations and ad hoc institutions aimed at recycling bad debts. Banks and private agents therefore have accumulated important reserves at low cost during the rescue episode. Although authorities claim that they are withdrawing all this excess liquidity without any trouble, there is some doubt left, for a proportion of this liquidity has been pumped in exchange of bad debts, some of which may have turned out unrecoverable because of the depression. Central banks in this case can hardly withdraw completely the excess high powered money (thereby putting bad/irrecoverable debts into circulation again) without harming the fragile financial system. The good thing is that banks can offer easy credit-money at low rates when private agents start borrowing again to finance new projects; the thorn of the rose is that banks and other lenders also can accommodate the additional demand for money involved by the increasing factor cost if inflation develops. Of course, central banks have technically the capacity of removing inflationary pressures, but the social cost of a restrictive policy may appear excessive in a context of financial fragility and high unemployment.

The magnitude of the inflationary pressures (or the magnitude of the measures that could be adopted in order to fight them) depends on authorities capacity to withdraw the bad money and related excess purchasing power rapidly enough as to offset the decrease of the liquidity preference. The optimistic scenario is that bad debts become good debts thanks to a very rapid general economic recovery which would improve substantially the private financial situations. In this case, meanwhile bad debts become safe, authorities (including central banks, governments and the ad hoc institutions that have been created in order to withdraw and recycle bad debts) can effectively withdraw liquidities in exchange of the debts they hold without endangering the financial system.<sup>15</sup>

Unfortunately, there is place for less optimistic views (Asensio & Lang, 2009). If authorities cannot get rid of some significant amount of the unrecoverable private debts, because of the pernicious effects it would have on the financial system, private losses would be transferred to the public sector, which budget also suffered from low tax revenues. This raises the question of how the burden is to be distributed in this case. There are two sources of the collectivization process in this respect: the one initiated by central banks acceptance of bad debts as collaterals in refinancing operations, and the one initiated by the governments (direct or indirect) purchases of bad debts, besides the decrease in tax revenues.

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<sup>15</sup> In this scenario, if the liquidities withdrawing process is not rapid enough as to offset for the decrease in liquidity preference, temporary inflationary pressures may develop until it is achieved.

As regards central banks, the collectivization process may develop in two different ways. The first one consists in letting the inflation process go on (rather than implementing an 'income policy of fear'), until the real value of debts has depreciated enough to compensate for the value of the stock of unrecoverable debts (to the detriment of creditors). This solution preserves the economic activity and employment, while the alternative solution of a monetary policy aimed at stabilizing the price index puts the burden on unemployed (and debtor, as interest rate increases).

The collectivization of private losses by the governments is also subject to the inflation/unemployment dilemma, but redistributive effects differ. One possibility is to increase taxes so that fiscal revenues increase enough to balance the government purchase of unrecoverable private debts and offset the fiscal losses the economic depression generates. As government purchases of unrecoverable debts do not support economic activity at all, while taxes certainly reduce the private demand for goods and services, this solution eventually puts the burden on unemployed (and taxpayers). If on the other hand current taxes do not compensate totally for the unrecoverable debts purchase and fiscal losses (which means an increase in public debt or a decrease in public capital holdings), unemployment rises to a lesser extent, and some inflation develops.

The process of collectivization of private losses therefore is likely to induce fiscal and monetary responses that would hardly support the economic activity and could on the contrary have depressive effects. Even if inflation and budget deficit were preferred, it would only spare restrictive measures such as tax and/or interest rates increases. At best, stagflation would ensue. Hence, there is no way out.

Unrecoverable debts, whatever they are held by private or public agents, mean that somebody will support the burden, either by means of debt depreciation (inflation) or by means of increased unemployment, with different distributive effects depending on the way the process goes on.

There are two types of measures authorities could take in order to relieve the economic recovery. First, the 'cheap money' policy should not be discarded provided the credit-money finances safe (non inflationary) economic investments. The danger would rather be that a restricted credit policy put the burden of past mistakes on current safe economic projects. Investments that improve the productive capacities are of course to be encouraged, since the root of the problem is the insufficient productive capacity.

As the speed of the capital accumulation and productive capacity development is likely to be slower than the liquidity preference decrease towards its pre-crisis level, it is not assured at all that monetary policy alone can successfully get rid of the problem. This suggests that governments may helpfully adopt the kind of debt management policy Keynes advocated in his time in order to reduce the long-term interest rates (Tily 2006, 2007). In addition, government could borrow important

amounts from private money holders<sup>16</sup>, and then start progressively financing public investments and fiscal incentives for private investments, spreading expenditures over time so that the productive capacity of capital goods never is overwhelmed.

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<sup>16</sup> This amounts to transfer private purchasing power to the future in the spirit of the 'deferred pay' Keynes (1940) advocated.