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Some Thoughts on Price Deflation*

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Abstract: Price deflation has long been a bugaboo of economics; cordially hated, reviled and feared by practically everyone. There is some justice in these sentiments when the price deflation comes about as a result of government action. However, there is no warrant for them when they stem from the freely made economic decisions of the masses of economic actors. Then, price deflation is not only not problematic, it is a positive virtue.

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1 Introduction

Price deflation¹ has long been a bugaboo of economics; cordially hated, reviled and feared by practically everyone. There is some justice in these sentiments when the price deflation comes about as a result of government action. However, there is no warrant for them when they stem from the freely made economic decisions of the masses of economic actors. Then, price deflation is not only not problematic, it is a positive virtue. In Section 2 of this paper we discuss money as a productive capital good, and demonstrate that this quality can be enhanced by deflation. Section 3 is devoted to an analysis of deflation, looking at it on the basis of three (3) different assumptions: 1. Full free enterprise in money; 2. Quasi free enterprise: free banking; and 3. Fiat currency. We conclude in Section 4.

2 Money as capital good

It seems curious that virtually all economists are concerned about P-deflation and that the news, information and opinion media seem to consider it either a disaster in itself, or a prelude thereto. As has been noted by others, mainstream economists have a fear of P-deflation that leads such as Governor Bernanke of the Federal Reserve System to state:

Thus, as I have stressed already, prevention of [p-] deflation remains preferable to having to cure it. If we do fall into [p-] deflation, however, we can take comfort that the logic of the printing press example must assert itself, and sufficient injections of money will ultimately always reverse a [p-] deflation (Bernanke, 2002).²

¹ Today “inflation” and “deflation” are commonly used to refer to increases and decreases, respectively, in the general level of prices. Formerly, they were used to refer to increases and decreases in the stock of money. Even that was problematical, as some restricted the term solely to increases and decreases in the stock of non-commodity media of exchange. Therefore, throughout we shall use the terms “P-inflation” and “P-deflation” to refer to changes in the general level of prices. When referring to changes in the money stock, we will make explicit which concept is relevant.

² Stated Rudolf Havenstein, the head of the German Reichsbank in 1923: “The wholly extraordinary depreciation of the mark has naturally created a rapidly increasing demand for additional currency, which the Reichsbank has not always been able fully to satisfy. A simplified production of notes of large denominations enabled us to bring ever greater amounts into circulation. But these enormous sums are barely adequate to cover the vastly increased demand for the means of payment, which has just recently attained absolutely fantastic level, especially as a result of the extraordinary increases in wages and salaries.

Money is a capital good (Barnett and Block, 2005). It is a commonplace in economics that the more productive is a capital good the better it is. As the essence of money is that it is a generally accepted medium of exchange and means of final payment,³ the more productive a money is in terms of this function, the better the capital good it is. This leads us to the issue of the productivity of money.

“Productivity” is used in four different senses: subjective value productivity, pecuniary value productivity, and productivity with respect to the quantity and quality of output. Consider, first, subjective value productivity. The actions that are relevant to money qua money are exchanges. The purpose of every voluntary exchange is to improve the expected well-being of each party thereto relative to what he thinks it would have been if he were to have done something else.⁴ That is, the purpose is to create subjective value or utility. However, as all we can do is ordinally rank alternatives, there is no way to measure value productivity; i.e., all the actor may say is: “I prefer A to B.” He may not say: “I prefer A twice (or any other multiple) as much as B.” Therefore, in terms of productivity all that may be said is that action A is more productive than action B, and there is no way to say that A is twice (or some other multiple) as productive as B. This concept is irrelevant for our discussion.

The running of the Reichsbank’s note-printing organization, which has become absolutely enormous, is making the most extreme demands upon our personnel” (Ringer, 1969, 96; cited in Rothbard, 1983, 73).

³ Most economists usually define money in terms of its essential function as a generally accepted medium of exchange. Because they are guaranteed by financial institutions, a very large number of individuals’ personal notes are more or less generally accepted in exchange for goods and services. It is therefore necessary to include a second essential function of money – as a means of final payment – in order to distinguish it from such notes. We realize that because money is a medium of exchange, some maintain that when an economic actor gives up goods in return for money, in an important sense the exchange is not final, and therefore the money does not constitute final payment, because the money is intended to later be exchanged for other goods. Nevertheless, though that may be the intent of the seller of goods who receives money in exchange therefore, the buyer who pays in money has completed his part of the exchange, and the seller has no recourse against him; to wit: if immediately after the sale, the exchange value of the money fell to zero because, for whatever reason, no one wanted it anymore, the seller would have no recourse against the buyer, or, for that matter, anyone else. This is most easily seen, when money is a commodity; e.g., gold. It is obvious that no one accepting gold coins in an exchange for goods would have any recourse against the buyer should, for whatever reason, the value of gold coins fall to zero immediately thereafter (for the claim that property rights can only apply to things themselves, and not their value, see Hoppe and Block, 2002).

⁴ Every involuntary exchange creates subjective value in the ex ante sense for every coercing party thereto, and destroys subjective value for every coerced party, not relative to the coerced options, but relative to those that would have existed absent coercion. See on this Rothbard (1997).

Pecuniary value productivity is the ratio of the pecuniary value of the output to that of the relevant inputs. For money, this is the ratio of the pecuniary value of the non-money goods whose exchange is mediated in a given period of time to the amount of money stock involved in those transactions.⁵ Note that a change in pecuniary value productivity could be the result of a changes in prices not completely offset by changes in transactions. Because of this, the concept of value productivity is also unsatisfactory for our purposes.

Quality of output productivity is the quality of a given output relative to the inputs used to produce it. This concept is also unsatisfactory for our purposes, in that, in addition to being subjective⁶ (similar to subjective value productivity), it also has the same defect as pecuniary value productivity. Note that a change in quality productivity could be the result of changes in quality not completely offset by changes in transactions. Moreover, changes in quality as they affect productivity do so by affecting prices. Because of this, the concept of quality productivity is unsatisfactory for our purposes.

This brings us full circle to the productivity of money – the quantity of exchanges mediated by a given stock of money, *ceteris paribus*. That is, the greater the quantity of exchanges mediated by a given stock of money, the more productive is money.

In sum, the productivity of the specific capital goods that constitute money is the quantity of transactions that are mediated in a particular period of time with a given

⁵ Consider the quantity equation of money: $MV = PQ = Y$ as per mainstream economics. M is the stock of money, V is the average (transactions) velocity of the stock of money, P is the average price of a transaction, Q is the total number of transactions in a given period of time, and Y is the pecuniary value of those transactions. Then, the value productivity of money is $V (=PQ/M)$. Thus, an increase in value productivity would allow, in the same period of time, the same pecuniary value of transactions to be executed with a smaller amount of capital in the form of money, or the same amount of capital in the form of money to mediate a greater pecuniary value of transactions.

Austrian economists eschew the use of mathematics as unsuitable for the study of human action. However, this does not preclude them from considering the concept of the value productivity of money. Thus, an increase in value productivity would allow an individual, in the same period of time, the same pecuniary value of transactions to be executed with a smaller amount of capital in the form of money, or the same amount of capital in the form of money to mediate a greater pecuniary value of transactions.

⁶ Although there are, depending on the specific good involved, various objective measures of the quality of an output, including even exchange, still, ultimately quality is subjective. Thus, e.g., even if we consider the quality of an exchange to be related so that there would be some objective measure of that aspect of quality, nevertheless, quality is, fully considered, subjective. Is it possible that there could be an inverse relationship in operation here? Yes. This could come about if some market participants desired to prolong the exchange process because, say, of an attraction to the other party[ies].

stock of money. The productivity of money, in that sense, changes only if during that particular time period, *ceteris paribus*: 1) individuals (or firms) change their average holding periods of money in such ways that they do not offset each other, with productivity increasing (decreasing) with decreases (increases) in the holding periods; or 2) the prices of goods change in such ways that they do not offset each other, with productivity increasing (decreasing) with decreases (increases) in prices.

Therefore, *ceteris paribus*, P-deflation increases the productivity of the capital goods that comprise money, and thus is greatly to be desired.⁷

3 Deflation in three different contexts

Milton Friedman (1992, 262) has famously said that, “[Price] inflation is always and everywhere a monetary phenomenon.”⁸ The corollary is, “[Price] deflation, also, is everywhere a monetary phenomenon.” In fact, the very concepts of inflation and deflation are nonsensical in a barter economy. And, this is true regardless of whether inflation and deflation are taken to refer to changes in the general level of prices (or, what is the same, alterations in the purchasing power of money) or in the stock of money.⁹

Before proceeding, it is interesting to ask why one should be interested in monetary deflation, or for that matter, monetary inflation. Certainly in a world of perfect helicopter money¹⁰ neither M-inflation nor deflation¹¹ should be of concern. The reason is that perfectly-anticipated helicopter-borne changes in the money supply would have absolutely no effects on *any* real variable, including subjective ones. Then, the only impact of monetary inflation or deflation would be to cause price inflation or deflation, respec-

⁷ For other defenses of deflation, see Rockwell (2003); Rothbard (1976; 1991) and, Salerno (2003, 2004).

⁸ For Austrians, the crucial distinction is between commodity and fiat money, whereas for the mainstream it is that between real and nominal money. On the latter, see: Friedman, M. 1969, 1.

⁹ The term “money” is used ambiguously, also, in order to avoid confusion, herein it is taken to mean a generally, though not necessarily universally, accepted medium of exchange and means of final payment.

¹⁰ Of course, in the real world perfect helicopter money is impossible, if for no other reason than that real resources would have to be diverted to the production of the new paper money, or storage or destruction of withdrawn money, not to mention the real resources devoted to adjusting the records of nominal values.

¹¹ We assume, *arguendo*, that just as the helicopters can disburse money in such fashion that its effects are perfectly neutral, they can also withdraw it with the same lack of effect on real variables. For a critique of the claim that neutral money can exist in the real world, however, see Cochran (2004), Mises (1998), and Shostak (2003, 2004).

tively; i.e., only nominal variables would be affected. However, it is precisely because real-world monetary inflation and deflation do cause real effects, both distributional and with respect to the allocation of resources,¹² as well as causing booms with attendant crises and busts in the former cases and exacerbating busts in the latter case, that they are of interest.

Although there are and have been many different monetary arrangements or systems, only three (3) are considered herein.

3.1 Full free enterprise in money

Consider, first, a market, commodity money with 100% reserve requirements for demand deposits and banknotes, with no governmental intervention re money and banking, save to enforce the 100% reserve requirement and other contractual obligations, should such prove necessary. Barnett and Block (2004, 48) make the case that: “The optimum quantity of money is . . . whatever amount of gold as coins the free-market process creates.” That is, if the voluntary actions of individuals resulted in a monetary deflation, that would be optimal¹³ as it would indicate they had chosen to divert some of the scarce monetary commodity to more valuable non-monetary uses. In such a situation, the only way the monetary commodity would not be so reallocated would be if governmental intervention prevented it. Obviously, such intrusion would lead to sub-optimality. Moreover, in such a system price deflation could result from monetary deflation, increased hoarding of money, or increased production. Assuming that neither the monetary deflation, nor

¹² This is the main insight of Austrian Business Cycle Theory. On this see Rothbard (1963), Garrison (2001), Cochran (2004), Hayek, (1933, 1935, 1939).

¹³ What is our major interest in this paper: the desirability of price deflation, or the rule for the optimal quantity of money? It might be thought that there is little or no connection between these two concepts, since the first one is dynamic, and the other static. We, however, deny the latter contention, at least under certain circumstances. That is, in our view, it all depends upon whether we are discussing free market or fiat money. If the former, then the optimal amount of money, just as in the case of the optimal amount of chalk or cheese or any other good, is dynamic, not static. The optimal amount of any good, service or item, certainly including money, is the amount desired by the consumers, and this is subject to change. On the other hand, if the latter is under discussion, then our view is that either the optimal amount of this is zero (i.e., we move to free enterprise money), or, if this is somehow precluded, arguendo, then and only then do we embrace a static state of affairs: the optimal amount of fiat currency is whatever amount is now in existence.

the increased hoarding, nor the increased production¹⁴ was the result of governmental intervention, the price deflation would come about as the result of an adjustment of the structure and level of prices to accord with individuals' preferences, precisely what would be expected to occur in a free enterprise economy.

All of which is to say that, from an economic point of view, any deflation, or, for that matter, inflation, whether monetary or price, that results from the voluntary choices of individuals is optimal, and any that results from governmental interference is suboptimal (Rothbard, 1997).¹⁵

3.2 Quasi free enterprise: free banking

Second, posit a market commodity money with free banking¹⁶ in the sense that there is no legal reserve requirement for either demand deposits or banknotes, and without any government intervention re money and banking, save for the enforcement of any contractual obligations, should that prove necessary. Assuming, *arguendo*, that competition would not eliminate any banks choosing to hold only fractional reserves, and also that people would voluntarily accept the fractionally-backed banknotes and checkable deposits as money, the only relevant difference between this situation and the previous one is the possibility of a deflation in the form of a decrease in the sum of banknotes, checkable deposits, and commodity money not held as reserves by the banks.

The same thing can be said in this case as in the previous one. From an economic point of view, any deflation, or, for that matter, inflation, whether monetary or price,

¹⁴ It might seem strange to think that deflation consequent on any increase in production might be sub-optimal; however, if the production were the result of governmental intervention, say taxation on leisure and direct subsidization of production, output of goods might be sub-optimally high, leisure sub-optimally low.

¹⁵ Let us consider an objection to the foregoing. We are offering two criteria that seem to be incompatible: on the one hand "productivity of money as a capital asset", and on the other Rothbard's (1977) assertion that any transaction not-forced by the government is beneficial, while anything forced by it is not. The use of multiple criteria is not *per se* problematical. Certainly one could establish two criteria with respect to the solution of a mathematical problem: 1) it must be correct; and 2) it must use the least possible number of steps. If there is a problem it must be because the criteria lead to disparate results. However, re deflation that is not the case with our criteria. Rather, as we show they yield consistent results. Therefore, unless one disagrees with both of our criteria our results hold.

¹⁶ We assume, *arguendo*, that such free banking is non-fraudulent by virtue of fully informed parties. On this, see Selgin and White (1996, 85-92). For a critique of this position, see Hoppe, et al. (1998).

that results from the voluntary choices of individuals is optimal, and any that results from governmental intervention is suboptimal.

3.3 Fiat currency

The third system is one of inconvertible paper money issued by the government, or by a central bank that has been given monopoly powers re the issue of banknotes, with such banknotes having the quality of legal tender, and a regulated, fractional-reserve banking system. Banks may hold reserves in the form either of banknotes or deposits at the central bank. Two versions of this latter system are considered, one in which the central bank can act as lender-of-last-resort and/or the government provides deposit insurance, and the other in which it can do neither.

Barnett and Block (2004, 40) state:

The optimal quantity of fiat money is zero (Hoppe, Hülsmann, and Block, 1998, 1-50). However, in a fiat-money-using society, the optimal quantity of fiat money is whatever is in existence, and, from an Austrian perspective, that quantity should never be changed, either increased or decreased, save for its complete elimination in shifting to a commodity money.

The reason for this position is straightforward. Any change in the stock of money involves injection and distribution effects, and attendant resource reallocations. Because such effects and reallocations are costly, fiat-money inflation is never warranted. Moreover, the only justifiable reasons for fiat-money deflation are: 1) if it is part and parcel of a process to reinstate a commodity money; or, 2) if it would rectify the injustices brought about both by the introduction of the fiat money system and by subsequent monetary inflation. However, as this last is an impossible task, if for no other reason than a lack of relevant knowledge (Hayek, 1945), only the former remains as a legitimate purpose. Fiat money deflation, merely to reduce the amount of fiat money, without eliminating it entirely, is not warranted because not only would it not remedy past injustices, it would add to them new ones in the form of injection and distribution effects, and consequent misallocations of resources. In such a system, optimal monetary policy would require that the stock of fiat money remain constant, literally in perpetuity. And, in that case, any price

deflation, or, for that matter, inflation, resulting from the otherwise voluntary actions of individuals would be optimal; and, any consequent on governmental intervention would be sub-optimal.

The importance of this distinction cannot possibly be overstated. There are two very different kinds of deflation. The first is that which ensues as the result of the decisions of the millions upon millions of people who together constitute the market. They decide, for their own reasons, to increase their demands for cash balances. Naturally, if the amount of money in circulation is fixed, they cannot all, at least initially, succeed in obtaining this goal. But as each economic actor makes this attempt, the “magic of the market” moves them in this direction. For the attempt to achieve greater cash implies that people are now more likely to sell what they own and to hold on to whatever cash they already have. If everyone does this at around the same time, prices will fall below the level that would otherwise have obtained.¹⁷ At reduced prices, the real value of the extant money stock rises, thus allowing the market participants to attain their purposes.

Deflation emanating from this source is not only non objectionable, it is part and parcel of the market process. To oppose it is to oppose the free decision making on the part of the masses of people in the pursuit of their economic goals. There is nothing whatsoever to fear from general price falls occurring as a result. This is not a “market failure,” nor untoward in any manner, shape or form.

Deflation that occurs as the result of government¹⁸ intervention is entirely a different matter. Here, it is not at all the case that the deflation stems from the voluntary decisions of all. Rather, it is the result of the actions of a few monetary central planners. Since this is not a result of markets, it cannot constitute a “market failure” (Cowan, 1988); rather, it is a “government failure” (DiLorenzo, 2002).

¹⁷ For the view that economic analysis is largely a matter of counterfactual reasoning, see Hülsmann (2003).

¹⁸ According to Friedman and Schwartz (1965) the great depression came about after then Fed chairman Benjamin Strong died, and his successors presided over the fall of the money stock by about one third in a matter of mere months. For an alternative and correct explanation of this event see Rothbard (1963).

4 Conclusion

Deflation sounds horrible to most economists because it evokes the image of the Great Depression during which there was massive deflation. But we have demonstrated the case to the contrary: it enhances the value of money, and is harmless, as these matters go, under three widely differing assumptions, as long as it emanates from the private decision making of market participants, and does not stem from government intervention into the economy.

Is deflation desirable? We take no stand on this issue whatsoever. That is, we do not at all commit ourselves to the claim that deflation is desirable per se. However, it is desirable if it results from *free market activity* based on free market money. The same applies to any other economic consequences of truly free enterprise decisions.

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