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Money or Money Substitutes? Implications of Selgin's Small Change Challenge

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ABSTRACT: Selgin (2009) questions the practicality of 100 percent reserve requirements applied to small change. He interprets the private coinage of small change in 18th century England as embodying fiduciary media and concludes that requiring 100 percent reserves would have led to very high costs. This paper provides an alternative interpretation of the private coinage episode in England as embodying money itself, not fiduciary media, and uses historical details in Selgin (2008) as support of that interpretation. This leads to a discussion of the Misesian typology of money and his distinction between money and money substitutes.

KEYWORDS: George Selgin, fiduciary media, coinage

JEL CLASSIFICATION: N13, E42, E50

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INTRODUCTION

Selgin (2009) questions the practicality of 100 percent reserve requirements as applied to small change. The costs of producing token coins added to the necessity of keeping 100 percent reserves would be too high and cumbersome for a growing economy. As historical evidence, he offers the episodes of private coinage in 18th century England. Owing to an acute shortage of small change, private minters and mine owners produced small denomination copper and silver coins to pay as wages to their workers. These coins often bore redemption pledges and began to circulate beyond their local realm of issue. These token coins, Selgin (2009) argues, represent an example of truly private fiduciary media, without which the Industrial Revolution may not have taken place. Thus, the problem of supplying small change should be seen as a particular challenge to the defenders of 100 percent reserve banking. 100 percent reserves in small change, he argues, would only lead to impractically high costs and crippled commerce.

This paper does not defend against Selgin's critique from the point of view of 100 percent reserve banking. It attempts to critique the author's interpretation of the particular historical account as well as provide some ensuing theoretical discussion. In particular, the historical details provided in Selgin (2008) and Mises's own typology of money (1980) are used as evidence to show that those private coins could also be interpreted as new money and not unbacked money substitutes. Such an interpretation renders Selgin's (2009) arguments against 100 percent reserves in small change irrelevant and opens the door to a closer examination of Mises's typology of money. Thus, this paper seeks as much to highlight certain issues that arise in the application of Mises's classification of money to coinage as it does to critique Selgin's (2009) particular argument made in favor of fiduciary media.[1] The first section of this paper describes Selgin's small change challenge in more detail and highlights its key features. The second section of the paper argues against Selgin's (2009) particular interpretation

[1] Thornton (2010) critiques Selgin (2009) along slightly different albeit complementary lines by noting that the doctrine of 100 percent reserve banking does not require 100 percent reserve money and that small change need not be full weight, only that they be subjectively valued at full weight.

of the historical episode of private coinage as embodying fiduciary media. This leads to the third section, where the Misesian typology of money is further examined with particular attention to issues relating to the classification and definition of token coins. The last section of the paper brings the analysis together and concludes.

THE SMALL CHANGE CHALLENGE

The starting point of analysis, then, is Selgin's (2009) particular interpretation of the historical episode of private coinage in England. Any interpretation necessarily results from the application of *theory to history*, the theoretical apparatus in this case being Mises's typology of money first expounded in *The Theory of Money and Credit*, 1980 (TMC, 1980 henceforth). Mises distinguishes between money and money substitutes. Money substitutes are defined as claims to money payable on demand that can be either fully backed by money proper (money certificates) or partially backed by money proper (fiduciary media). It follows from this directly that only money substitutes can be either fiduciary media or fully backed certificates; money itself cannot be fiduciary or fully backed. This distinction is a crucial one and is not based in semantics. A payable claim to money that is fully or partially backed can be thought of as a *substitute* for actual money. However, money that is valued for itself cannot meaningfully be a partial or fully backed substitute for itself.[2] With this basic framework in mind, we now go over Selgin's (2009) interpretation and his rationale for it.

Selgin (2009) argues that the privately produced redeemable copper coins of Great Britain were fiduciary media, since it was not practical for producers to keep "100 percent reserves" *and* undergo the costs of mining and minting. The need for keeping reserves arose from the fact that private minters made these coins "redeemable" or "payable on demand" in the standard money of the realm. Selgin (2009) explains his reasoning with this example:

> Suppose that the cost of one dollar's worth of custom-made token coins, including that of their constituent metal, is 50 cents. *Under the 100*

[2] In a trivial sense of the word, everything is a substitute for itself and for other things. This is not the relevant meaning here.

> *percent rule, not only must the retailer bear this cost, but he (or his redemption agent) must keep on hand gold reserves equal to the full nominal value of any tokens placed into circulation*.
>
> Finally, the retailer must pay any fees charged for keeping his gold under safe storage. Even if, following White (reference suppressed) we suppose that the latter fees are as modest as that charged by modern gold storage services, that is, one percent per annum, *it will cost our retailer $1.51 to place just one-dollar's worth of tokens into circulation for one year*. (Emphasis mine)

Thus, it is the *impracticality* or extremely high costs that serve as a hindrance to the keeping of "full reserves" and justify the creation of fiduciary media, in his view.

These coins were produced primarily by mine owners for paying out as wages to their workers, and this was the main channel by which they entered into circulation. Such transactions involving privately minted coins as wages were purely voluntary, as noted by Selgin (2009, p. 14): "the acceptance of private tokens was likewise entirely voluntary. Unlike official coins, they were not legal tender even for the smallest payments, so that people were free to refuse them, whereas they could not legally refuse official or 'regal' halfpennies in transactions of six pence or less." Another point to keep in mind is that these private coins were not issued in return for any kind of deposit made by workers or anyone else interested in acquiring the coins. The relevant exchange was one of work against private coins in the case of wage earners or standard money against private coins in the case of buyers and collectors. Selgin (2009, p. 14) stresses this fact:

> Tokens were typically issued by factory owners and retailers, not in exchange for "deposits" of standard money, but to workers as part of their wages or to shoppers as change…. A retail customer proffering a $10 gold coin in payment and receiving $4 in token coins as change, or a worker offered similar tokens as part of his wages, was not making a "deposit" of gold in any sense of the term, and was not given any reason for supposing that $4 in gold would be put into safe storage on his behalf. Token issuers merely pledged to redeem their tokens on demand for their face value in standard money. Typically, this pledge was indicated on the tokens themselves. For example, the reverses of the first British private tokens, the "Druid" pennies of the Parys Mine Company in Anglesea, Wales, bore a legend declaring "We Promise to Pay the Bearer One Penny." The legend was continued on the coins'

> edges: "On Demand, in London, Liverpool, or Anglesea." Only a very obtuse shopper or worker, or one prone to great flights of fancy, could, upon being offered such tokens as change or in payment of wages, have construed the pledges they bore as indicating any sort of bailment.

To sum up, the main characteristics to keep in mind are; the voluntary nature of private coinage, the complete absence of any sort of deposit contract between the two transacting parties and the existence of redeemability pledges on the coins.[3] Thus, Selgin (2009) interprets the private coins first as money substitutes since they bore redeemability pledges and hence represented claims to money, and further as fiduciary media since it was too costly for minters to keep "100 percent reserves" of standard money for when they were redeemed.

RE-EXAMINING THE HISTORICAL CHALLENGE

An alternative interpretation will now be provided. One could also argue that the privately produced copper coins were money in themselves, commodity money valued primarily for its metallic content, bearing a certain certification or private denomination such as "Druid" or "Willey" along with a buy-back guarantee or "redemption pledge" from the seller. In this sense, private coins were "sold" to workers in exchange for work while the sellers stood to buy them back or redeem them on demand for already existing royal money. Interpreting the "redemption pledge" as a buy-back guarantee for a good sold in a free market transaction changes the implications for keeping "reserves." In this scenario, the amount of inventory that a producer must keep in order to satisfy redemption demand becomes a business decision. It is indeed true that keeping as "reserves" an amount equivalent to the amount produced and sold would entail very heavy costs on a business. It is also completely immaterial to the issue of keeping 100 percent reserves or not that arises in the case of money *substitutes*. If the coins are valued for their metallic content and not primarily for the redemption pledges they bear, then it is more meaningful to classify them as commodity money and not just as pure claims to money.

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[3] The historical details in Selgin (2009) and Selgin (2008) are taken as fact; the attempt here is to merely question their interpretation.

Buy-back guarantees are a commonly observed phenomenon and serve to add value to exchangeable goods bought and sold on the market. For example, a car with a buy-back guarantee would probably sell at a premium compared to an identical one without it. This does not imply, however, that the car seller must now keep the money he earned from the transaction under lock and key, or a "100 percent reserves," for all time since he promised the buyer that he would buy the car back at any time. Indeed, such a practice would entail impractically high costs and lead to heavy losses in any business. Analogously, such guarantees could exist in the case of commodity money as well, serving to add confidence in the eyes of its buyers and holders. Again, it would not be necessary for producers to keep "100 percent reserves" since the concept itself would be meaningless in this case. Producers of the coins (like the car sellers) would merely face an additional business decision by having to ensure they had enough stock to meet redemption demand. Like other entrepreneurial decisions, expectations of future contingencies as well as profit opportunities would be the guiding forces. This need to keep a stock of money on hand to meet redemption demand has no bearing whatsoever on the debate of 100 percent versus fractional reserves and the creation of fiduciary media, which only applies in the case of money substitutes, not money itself. Under this interpretation of the historical episode, Selgin's (2009) argument against 100 percent reserves in small change equates to attacking a straw man.

We now turn to some historical details in Selgin (2008) in support of the interpretation above. First, in order to interpret the private coins as commodity money with a buy-back guarantee, it must be that the metallic value of the coins made up *at least* some portion of the value ascribed to them in exchange. The following quotations illustrate different instances that suggest the private coins were valued for their metallic content. The first refers to a case in which workers refused to accept "lightweight" coins from their master Wilkinson. Selgin (2008, p. 54) writes:

> Instead, he originally assigned his coins, which bore no express denomination, a value of one penny despite the fact that they only weighed half as much as Druid pennies.… *Wilkinson's workers and tradesmen where his works were located refused to accept the great ironmaster's tokens at the rate he assigned to them, forcing him to cry them down, as it were, to*

> *half their originally intended value. Considered as half pennies, the Willeys were as good as their Druid counterparts, and only at this rating did they first gain widespread acceptance*. Wilkinson had inadvertently discovered an important difference between commercial and regal coins: that while the Royal mint could take advantage of its copper coins' limited legal tender status to make them as light as it wished, commercial coins could be lightened only subject to the public's approval, without which they could not circulate. (Emphasis mine)

The next quotation shows that the metallic or "intrinsic value" of the private coins was in fact a substantial portion of the "face value" or redemption value of the coins. In the case of silver tokens, the metallic value rarely fell below 75 percent and often rose above[4] that amount. Selgin (2008, p. 236) writes:

> That silver tokens, considered as mere bits of metal were worth less than their declared values was true enough. But while tokens for general circulation, including most of Morgan's products, contained relatively little metal, *most genuine commercial tokens were relatively heavy: the difference between their face value and their "intrinsic value" was usually between one and three pennies in a shilling, depending on the market price of silver*. Part of this difference—perhaps one penny's worth—covered issuers' minting, carriage and insurance costs. Because the tokens could be redeemed at any moment and were bound to be returned when more official silver coins became available, their issuers could hardly expect to profit from them. On the contrary, if the price of silver fell, token issuers would end up taking a licking. (Emphasis mine)

This suggests it is reasonable to assume that the metallic value of private silver tokens contributed in some way to their valuation. It is interesting that this is at odds with Selgin's (2008, p. 12) own definition of token coins provided at the beginning of the book. He writes:

> A fiduciary or token coin (or, simply, a token) differs from a full-bodied coin in *having a face value that is substantially above* what is referred to, again misleadingly, as the coin's intrinsic worth. (Emphasis mine)[5]

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[4] See Appendix in Selgin (2008).

[5] Though there is no clear definition of what "substantially above" entails, Selgin (2008) is using definitions that apply in the case of government supplied money. Mises (1980), too, talks about token coins as money substitutes but does so only in the context of government-supplied currency. This is explored in further detail below.

In the case of private copper tokens or pennies, the metallic content equalled or surpassed the metallic content of royal copper pennies. The royal standard at the time was twenty-three pennies per pound of copper (Selgin 2008, p. 9), while the private Druids were minted at a rate of sixteen pennies per pound of copper, making them heavier than their royal counterparts (Selgin 2008, p. 45). The rate was equal to the royal standard in the case of Wilkinson's pennies (Selgin 2008, p. 54). This suggests that workers had an additional reason for accepting and holding private pennies redeemable in royal pennies, since one got at least as much copper as one would when given royal pennies. If the tokens were valued solely for being claims to already existing money, there would be no need to offer workers much metallic value, thereby saving on minting and production costs. Pieces of paper would suffice and would circulate and act as money in any case, and thus also be classifiable as money substitutes. The fact that metal content equalled or surpassed the royal standard in the case of private copper pennies again suggests that it was a factor that contributed to their valuation. Here Selgin (2008, p. 302) writes about the higher metallic content as one of the benefits of competition in money production:

> Nor did competition unleash a "natural tendency to the depreciation of the metallic currency" (Jevons 1882, p. 82). On the contrary, most commercial copper coins were heavier than their government counterparts; and although they tended to be lighter over time, the lightening only served to compensate for a rising price of copper and so allowed the private coins to steer clear of the fate that awaits any legally undervalued money.

Again this points to the coins being valued for their metallic worth to a certain extent. If a free market produces more of a good or a certain attribute of a good, we can conclude it is because consumer valuations are being better satisfied this way.[6]

To recapitulate, we have been arguing that the historical episode of private coinage in England can be interpreted as commodity money bearing buy-back or redemption guarantees. So far, evidence to support the claim that the coins were actually valued for their

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[6] Again, historical details such as free market competition in coinage are taken as fact and not disputed.

metallic content has been presented. As far as the redemption pledges are concerned, there does not seem to be evidence that they were the sole reason for workers and others accepting the new coins. The following quote suggests that they were indeed an *additional* reason for people to accept them, serving to add confidence. Selgin (2008, p. 43) writes:

> Whether or not they appreciated the Druid's aesthetic merits, Parys Mine Company employees welcomed them with open palms. What's more, *the coins quickly found their way to the mainland, thanks in part to Williams's astute decision to provide for their redemption* in Liverpool and London as well as in Angelsey itself. (Emphasis mine)

Could it be that coin producers provided for redemption to create confidence in the buyers and holders of their coins and more so since it mimicked the way royal token coinage worked? The opposite and symmetric question is whether workers would have accepted the coins if they did not bear any redemption pledges. It seems one can reasonably answer both these questions in the affirmative, based on the evidence above. Perhaps their circulation would not have been as wide, but privately certified commodity money can definitely exist. The next section examines the Misesian distinction between money and money substitutes closely in an attempt to discover what definitively distinguishes the two.

As noted above, Mises (1980) defines money substitutes as perfectly secure claims to money that are payable on demand, whereas money is the general medium of exchange that can either be commodity, fiat or credit money. A relevant question, in our case, is whether a metallic coin that is valued in some way for its metallic content but also embodies a claim or redemption pledge can be classified as a money substitute. This is the meaning that Selgin (2009) utilizes for classifying private coins in England as money substitutes. Under this interpretation, just the fact that a coin bears a redemption guarantee makes it a money substitute, regardless of whether or not it is valued for its metallic content. Or could it be that only those instruments that are valued solely for being claims to money and not for any other purpose nor in conjunction with anything else, can be classified as money substitutes? This would be in accordance with interpreting the coins as commodity money with buy-back guarantees.

A close reading of Mises (1980) seems to support the latter meaning of money substitutes, that only those instruments valued solely for being claims to money are classifiable as money substitutes. In the chapter explaining the distinctions between various kinds of money, Mises (1980, p. 65) writes:

> It is considerations such as these that have led the present writer to give the name of money substitutes and not that of money to those objects that are employed like money in commerce but consist in perfectly secure and immediately convertible claims to money.
>
> *Claims are not goods; they are means of obtaining disposal over goods. This determines their whole nature and economic significance. They themselves are not valued directly, but indirectly; their value is derived from that of the economic goods to which they refer*. Two elements are involved in the valuation of a claim: first, the value of the goods to whose possession it gives a right; and, second, the greater or less probability that possession of the goods in question will actually be obtained. Furthermore, if the claim is to come into force only after a period of time, then consideration of this circumstance will constitute a third factor in its valuation. (Emphasis mine)

This is in contradiction to the evidence presented above, wherein private coins were valued for their metallic content *and* the redemption guarantees on them. Using Mises's explanation above would not allow their classification as money substitutes, since they were valued independently or directly, separately from the claims they bore. In another paragraph, Mises writes of claims that are being valued separately from being claims, and concludes that they must be classified as money under his categorization. Although he is not referring to coins that are valued for metallic content, it gives us a further hint into the exact meaning of money substitutes. He writes (1980, p. 66):

> Only claims of this sort—that is, claims that are payable on demand, absolutely safe as far as human foresight goes, and perfectly liquid in the legal sense—are business purposes exact substitutes for the money to which they refer. Other claims, of course, such as notes issued by banks of doubtful credit or bills that are not yet mature, also enter into financial transactions and may just as well be employed as general media of exchange. *This, according to our terminology, means that they are money. But then they are valued independently; they are reckoned equivalent neither to the sums of money to which they refer nor even to the worth of the rights that they embody*. (Emphasis mine)

To sum up, this section has argued against Selgin's *interpretation* of the historical episode of private coins as embodying money substitutes and thus, through implication, fiduciary media. Historical evidence suggesting that the coins were valued for metallic content as well as had relatively high metal ratios compared to face value (exactly opposed to what one would expect in "token coins") was offered in support. A closer reading of Mises's classification of money and money substitutes also seems to support the argument made here, whereby only claims to money valued *purely for being claims* are classifiable as money substitutes.

In other words, for Selgin's interpretation to be viable, it must be true that the private coins were only ever valued as claims and in no way for metal content. Arguing that coins valued for metallic content *and* redemption pledges as money substitutes is not only theoretically indefensible, but it also must lead to a seemingly untenable classification of other goods that share the same characteristics. For example, any good (monetary or otherwise, as long as it could be valued independently) with a buy-back guarantee would have to be classified as a money substitute. This would also mean the vast majority of these goods would be fiduciary media, since we could be fairly certain that sellers do not keep all the money earned under lock and key or "100 percent reserves." On the other hand, classifying coins that are valued for metal content along with redemption pledges as *money* simply converts how one interprets the redemption pledge. Under this classification, the redemption pledge becomes a simple buy-back guarantee that functions in the same way as buy-back guarantees do for goods like houses and cars.

A third interpretation is possible, one that was not explored in this section. It could be that at different times or for different people, those coins were valued sometimes as commodity money with buy-back guarantees and at other times as pure claims to money. This would be an open historical question, but would still render Selgin's (2009) interpretation of all small change as fiduciary media ambiguous.

The next section goes over certain general issues that were raised here implicitly and only within a specific historical context.

MONEY AND MONEY SUBSTITUTES

This section puts forth some issues that can be seen to arise while applying the Misesian typology of money to real world monetary phenomena, in particular token coinage.

1. Money Substitutes without a Prior Deposit Contract

The discussion of money substitutes in the literature has usually related to instruments that result from a deposit contract between two parties. In that case, it is relatively straightforward to distinguish money from money substitutes. Selgin (2009), however, refers to private coins in England as money substitutes that arise without any previous deposit contract. Is it possible to have true money substitutes that arise without a deposit contract? Based on Mises's definition of money substitutes as payable and secure claims to money, one must answer in the affirmative and conclude that it is, for nothing in that definition requires that there be a prior deposit contract. However, using his strict definition and excluding coins that are valued for metallic content from this definition, one can imagine the difficulties in the emergence or circulation of claims that do not arise from a prior deposit but also allow for the immediate redemption of money. Imagine a situation where a factory owner issues pieces of paper to his workers in return for work, making those pieces of paper redeemable in standard money at any time. If those pledges are truly redeemable at any time and not only after a certain period of time (this could be due to an informal understanding between the workers and their master, but would result in those pieces of paper being classified as credit money), workers would demand real money in exchange for them immediately. Contrast this with a situation in which Person A makes a deposit of money with Person B, who then issues a claim to that money, making it redeemable at any time. Now, Person A is much more likely to hold onto that claim and attempt to use it as though it were real money, as are other market participants more likely to accept it since it has arisen out of a previous deposit. Whether or not true money substitutes have ever arisen without a prior deposit contract is an open historical question. This is of course using Mises's strict definition of money substitutes as payable claims to money valued only as claims and not independently themselves.

2. Mises's Discussion of Token Coins

This brings us to Mises's (1980) discussion of token coinage. Mises (1980) classifies token coins as money substitutes but also declares that there is "no such thing as an economic concept of token coinage. All that economics can distinguish is a particular subgroup within the group of claims to money that are employed as substitutes for money, the members of this subgroup being intended for use in transactions where the amounts involved are small" (Mises 1980, p. 70). His discussion includes only examples of token money created and sustained by the State. Within his discussion, he applies his own strict definition of money substitutes to show that government created token coins of the past were being solely valued for being claims to money. He writes (1980, p. 68):

> There can be no doubt that the German token coins minted in accordance with the Coinage Act of July 9, 1873, did not in law constitute claims to money. Perhaps there are some superficial critics who would be inclined to classify these coins actually as money because they consisted of stamped silver or nickel or copper discs that had every appearance of being money. But despite this, from the point of view of economics these token coins merely constituted drafts on the National Treasury.

Whether or not Mises's own characterization of token coinage as money substitutes is correct is beside the point. It is his definition or distinction between money and money substitutes that is taken as a starting point of analysis and not the mere fact that the private coins in England were referred to as "tokens" or "token coins." As we have been arguing, the private coins produced in England that were valued for metallic content and redemption pledges fall more consistently into Mises's definition of money and not money substitutes. Semantically, the facts that Selgin (2009) and many others refer to these private coins as tokens, and that Mises refers to tokens as money substitutes, does not automatically imply they are money substitutes. It is the economic significance that matters.

3. Definition of Token Coins as Opposed to Full-Bodied Coins

The generic definition of a token coin is a coin with a face value substantially above its metallic value that nonetheless circulates

at face value owing to a redemption pledge. The purpose of this sub-section is to point to inconsistencies that result from using this definition in differing institutional settings. As pointed out above, the private coins in England actually had metallic content that was close to and often surpassed three-fourths of the face value of the coin, casting doubt on whether those coins are classifiable as tokens at all. However, it raises the question of whether there is a certain number or proportion of metallic value above which coins are no longer classifiable as tokens, and how one is ever to reach a conclusion on what that number should be. Another issue is that in the case of government provided coins, the difference between metallic and face value becomes seigniorage, while that same difference in the case of the market must be interpreted as profit. So even in a true market setting, the face value of redeemable coins may differ significantly from their metallic value, based on aesthetics or numismatic value[7] or perhaps market conditions being far from equilibrium. This would just mean that a high rate of profit is being earned in that industry for now, not seigniorage. Yet, none of these considerations would be at odds with interpreting market created "token coins" as money and not money substitutes. Still, the same definition of token coins applied to a government setting leads Mises to classify them as money substitutes. These passing remarks bring us to the concluding section of the paper.

CONCLUSION

This paper argues against Selgin's (2009) interpretation of private coinage in England as embodying fiduciary media or even money substitutes. It puts forth an alternative interpretation of the private "tokens" as money itself, commodity money with a redemption pledge or buy back guarantee. Mises's (1980) distinction between money and money substitutes is examined closely and historical details from Selgin (2008) are used to support this alternative interpretation. The deciding or crucial factor in Mises (1980) is taken to be that only claims valued solely for being claims to money payable on demand are classifiable as money substitutes, and not

[7] In the case of private "tokens" in England, references to their aesthetic beauty and numismatic value abound in Selgin (2008).

those claims that are also valued independently or directly for some reason.

Apart from the historical episode, this paper also explores some general issues related to money substitutes and token coinage in particular. It was shown that the usual way of defining token coins as coins with a face value substantially above metallic value is not robust to differing institutional settings. That definition in a market setting is more consistent with Mises's (1980) classification of money. However, it leads Mises with his own strict definition of money substitutes, to classify tokens as such in a scenario where they are supplied by the government.

To conclude, the issues discussed here merit further study and are made relevant by the fact that private coinage may once again become a viable alternative in the not too distant future.

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