Abstract: Selgin (2009) questions the practicality of 100 per cent 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 per cent 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.
Introduction

Selgin (2009) questions the practicality of 100 per cent reserve requirements as applied to small change. The costs of producing token coins added to the necessity of keeping 100 per cent reserves would be too high and cumbersome for a growing economy. As historical evidence, he offers the episodes of private coinage in 18\textsuperscript{th} century England. Owing to an acute shortage of small change, private minters and mine owners produced small denomination copper 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 per cent reserve banking. 100 per cent reserves in small change, he argues, would only lead to impractically high costs and crippled commerce.

The first section of this paper argues against Selgin’s (2009) particular interpretation of the historical episode of private coinage as embodying fiduciary media. The historical details provided in Selgin (2008) 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) ensuing arguments against 100 per cent reserves in small change irrelevant and opens up some theoretical considerations. This leads to Section 2 where the Misesian typology of money is examined more closely in an attempt to find a clear answer as to what definitively distinguishes money from money substitutes. Though his argument against 100 per
cent reserves in small change is largely based on the historical account\textsuperscript{1}, the focus of
this paper is not one of solely critiquing Selgin (2009).\textsuperscript{2} The last section of the paper
brings together the analysis and concludes with an open question about the nature of
money substitutes.

1. Re-examining the Historical 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’ typology of money first expounded in
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 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 \textit{substitute} for actual money. However money that is valued for
itself cannot meaningfully be a partial or fully backed substitute for itself.\textsuperscript{3} With this
basic framework in mind, we now go over Selgin’s (2009) interpretation and his
rationale for it.

\textsuperscript{1} Selgin(2009) writes : ‘Yet, in the course of researching my book on private coinage during Great
Britain’s Industrial Revolution (Selgin 2008), I became aware of an important, practical challenge to
any 100 per cent money scheme that has been overlooked by participants in the debate thus far.’
\textsuperscript{2} Thornton (2010) critiques Selgin (2009) in a different way by showing an alternative historical
example of free market small change.
\textsuperscript{3} In a trivial sense of the word, everything is a substitute for itself and for other things. This is not the
relevant meaning here.
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 per cent 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 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)

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 of accepting privately minted coins as wages were purely voluntary as noted by Selgin (2009:14), “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.” An important point to note 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 (2009:14) 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. 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 per cent reserves’ of standard money for when they were redeemed.

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

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4 The historical details in Selgin (2009) and Selgin (2008) are taken as fact; the attempt here is to merely question their interpretation.
amount produced and sold would entail very heavy costs on a business. It is also completely immaterial to the issue of keeping 100 per cent 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. 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 than an identical one without it. This does not mean that the car without a buy-back guarantee would not find a buyer or would not be valued for itself on the market. It also does not imply that the car seller must now keep the money he earned from the transaction under lock and key for all time since he promised the buyer to buy the car back at any time. Analogously, such guarantees could exist in the case of commodity money as well, serving to add confidence to its buyers and holders. It would not be necessary for producers to keep ‘100 per cent reserves’, the concept itself would be meaningless in this case. Producers would face an additional business decision by having to ensure they had enough stock to meet redemption demand. This however, has no bearing whatsoever on the debate of 100 per cent or fractional reserves that applies in the case of money substitutes, not money itself. Under this interpretation, Selgin’s (2009) argument against 100 per cent 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 quotes illustrate different instances that suggest the private coins were valued for their
metallic content. The first one refers to an instance when workers refused to accept ‘lightweight’ coins from their master Wilkinson. Selgin (2008: 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 wishes, commercial coins could be lightened only subject to the public’s approval, without which they could not circulate.

The next quote 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% and often rose above \(^5\) that amount. Selgin (2008:236) 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 (2008:12) own definition of token coins provided at the beginning of the book. He writes:

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\(^5\) See Appendix in Selgin (2008).
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)\(^6\)

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 2008:9), while the private Druids were minted at a rate of sixteen pennies per pound of copper making them heavier than their royal counterparts (Selgin 2008:45). The rate was equal to the royal standard in the case of Wilkinson’s pennies (Selgin 2008:54). This suggests that workers had an extra reason for accepting and holding private pennies redeemable in royal pennies, since one got more or an equal amount of copper as one would in the case of 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 regardless, and thus also be classifiable as money substitutes. The fact that metal content was equal to 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: 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, 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.

\(^6\) 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.
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.\textsuperscript{7}

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 metallic content has been presented. As far as the redemption pledges are concerned, there doesn’t 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: 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 analysis and 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 find an answer as to what definitively distinguishes the two. Mises’ (1980) own discussion of token coins as money substitutes is examined as well.

\textsuperscript{7} Again, historical details such as free market competition in coinage are taken as fact and not disputed.
2. Money and Money Substitutes

We now turn to Mises’ distinction between money and money substitutes. As noted above, money substitutes are defined 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 it is valued for its metallic content or not. 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: 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 where private coins were valued for their metallic content and the redemption guarantees on them. Using Mises’ explanation above would not allow their classification as money substitutes since they were valued independently or directly, separate from the claims that they bore. In another paragraph, Mises writes about claims that are being valued separately from being claims and concludes that they must be classified as money under his distinction. 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 (1980:66):

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)

This brings us to Mises’ (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”(Mises 1980:70). 8 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 (1980:68):

8 The relevant passage reads as follows: “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 1980:70)
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’ own characterisation 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’ definition of money and not money substitutes. Semantically, the fact that Selgin (2009) and many others refer to these private coins as tokens and Mises refers to tokens as money substitutes doesn’t automatically imply they are money substitutes. It is the economic significance that matters.

In fact, the entire concept of token coinage itself stands on somewhat shaky ground. The generic definition of a token coin as one with a face value above or substantially above its metallic value is not adequate to reveal the different interpretations that result from different settings. For example, in the historical case above, the metallic content of the private ‘tokens’ surpassed that of government tokens. So, while the government may use coercion to lower the metallic value of coins and yet keep them current by allowing redemption, the market cannot. In the case of government provided coins, the difference between metallic and face value becomes seignorage 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 value⁹ or even market conditions being far from equilibrium. This would just mean that a high rate of profit is being earned in that industry for now. 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.

On a related side note, 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’ 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 don’t 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 where Person A makes a deposit of money with Person B who then issues a claim to that money,

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⁹ In the case of private ‘tokens’ in England, references to their aesthetic beauty and numismatic value abound in Selgin (2008).
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’ strict definition of money substitutes as payable claims to money valued only as claims and not independently themselves.

**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’ (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 those claims that are also valued independently or directly for some reason. A third interpretation is possible, one that was not explored in this paper. 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.
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’ (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. This leads to the last and most general issue raised in the paper, relating to the nature and distinction between money and money substitutes. Given that a deposit contract is not a pre-requisite for a money substitute, one must ask whether any good bearing a redemption pledge and promising to pay money ‘on demand’ is classifiable as a money substitute, regardless of whether it is valued independently or not. If this is correct, one must note that it converts any good with a buy-back guarantee into a money substitute. The underlying good need not even be a monetary good such as a metallic coin, it could be anything from a car to a pen to a house, if all it needs is a ‘redemption pledge’ promising to pay money on demand or a buy back guarantee to classify it as a money substitute. It also probably converts the vast majority of goods bearing these guarantees bought and sold on the market into fiduciary media, since we can be fairly certain that sellers don’t keep all the money earned under lock and key or ‘100 per cent reserves’. Mises’ (1980) own distinction seems to suggest that only those instruments purely valued as claims to money and not independently in any way can be called money substitutes. As pointed out earlier, this distinction is easy to make when there has been a prior deposit contract between two parties. Money substitutes in this sense, however, could still arise without a prior deposit contract, but as was shown above, there would be great difficulty for them to come into circulation.
They could still exist, whether they actually have or not would be an open historical question. Under this meaning, however, a buy back guarantee on a good that has also been valued independently remains just that— a buy back guarantee. The question of keeping ‘100 per cent reserves’ does not arise and one is saved from the economically absurd conclusion of having to classify almost every good ever bought and sold (monetary or not) with such a guarantee as a money substitute.
References:


