



Synthetic commodity money



George Selgin*

Director, Center for Monetary and Financial Alternatives, The Cato Institute, 1000 Massachusetts Avenue NW, Washington, DC 20005, United States

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ABSTRACT

The conventional dichotomy of “commodity” and “fiat” base monies overlooks a third possibility that shares some features of each. This third type, which I call “synthetic commodity money,” resembles fiat money in having no nonmonetary value; but it resembles commodity money in being not just contingently but absolutely scarce. I discuss some actual examples of synthetic commodity monies, and then argue that special characteristics of synthetic commodity money are such as might allow such a money, if properly designed, to supply the foundation for a monetary regime that does not require oversight by any monetary authority, yet is able to provide for a high degree of macroeconomic stability.

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1. Introduction

This paper considers monetary reform possibilities posed by a class of monies that has been overlooked in the literature on monetary economics. Because the monies I have in mind involve features of both commodity money and fiat money, as these are usually defined, without fitting the conventional definition of either type, I refer to them as “synthetic commodity” monies. The special features of such monies, I argue, give them the potential to supply the foundation for a monetary regime that does not require oversight by any monetary authority, yet is able to provide for all such changes in the money stock as are needed to achieve a high degree of macroeconomic stability.

2. Conventional base monies

Effective monetary control is fundamentally a matter of establishing a base-money regime that succeeds in regulating the growth of the monetary base in a manner consistent with the preservation of overall macroeconomic stability. The nature of the banking regime can have some bearing upon the extent to which the base must be capable of expanding to provide for an economy’s overall monetary needs. But an ideal monetary base regime is one that’s able to deliver reasonable stability despite banking innovations.

The search for an “ideal” base money has consequently long preoccupied monetary economists. Generally the search takes as

its starting point the assumption that all base monies fall into one of two categories: “commodity” money and “fiat” money.¹ However, consideration of the attributes conventionally assigned to these types suggests that the conventional dichotomy is false, and, more importantly, that it excludes a class of potential base monies having characteristics that can make them especially capable of supplying the foundation for monetary regimes that are both macro-economically stable and constitutionally robust.

According to the standard definition, “commodity” money consists, as the term suggests, of some useful article of trade, that is, something that has a use other than that of being a medium of exchange,² and that is also *naturally* scarce, in that it commands a positive value in equilibrium, which (assuming competing suppliers) is equal to its marginal cost of production.

“Fiat” money, in contrast, is generally understood to consist of paper notes, or central bank deposit credits readily convertible into such notes, that are useful *only* as exchange media, and command a value in equilibrium far exceeding their zero or near-zero marginal cost of production. It follows that the scarcity of fiat money is not a “natural” scarcity but one that must be contrived. As such fiat money, unlike commodity money, does not lend itself to competitive provision, understood here to entail rivalrous production of

¹ Another dichotomy – that of privately versus publicly supplied base monies – though perhaps no less important, is only of tangential relevance to the main thrust of this paper. Some germane points are raised regarding public-versus-private “synthetic commodity money” in this article’s concluding section.

² That is to say, something “intrinsically” useful, to use the common and terse (if inaccurate) expression.

* Tel.: +1(202)789 5240.

E-mail address: gselgin@cato.org

		Nonmonetary Use?	
		Yes	No
Scarcity	Absolute	Commodity	Synthetic Commodity
	Contingent	Coase Durable	Fiat

Fig. 1. Base money types.

homogenous units, because, as Friedman (1960, p. 7) (among others) has observed, such production would tend to drive its value toward zero:

So long as the fiduciary [fiat] currency has a market value greater than its cost of production. . . any individual issuer has an incentive to issue additional amounts. A fiduciary currency would thus probably tend through increased issue to degenerate into a commodity currency – into a literal paper standard – there being no stable equilibrium price level short of that at which the money value of currency is no greater than that of the paper it contains.

Indeed, because the nominal quantity of fiat money can be increased without resort to more paper and ink, simply by supplying larger-denomination notes than previously, “it is not clear that there is any finite price level” that will constitute an equilibrium (ibid.).

Monopolistic provision is thus a necessary condition for fiat money to command a positive value in equilibrium, and thereby potentially serve as the foundation for macroeconomic stability. But monopolistic provision is not sufficient, for a profit-maximizing monopoly supplier of fiat currency would also find it profitable to expand the nominal stock of such money at a rate far in excess of that required to preserve its purchasing power.³ For this reason, the scarcity of fiat money must be contrived, not merely by monopolizing its production, but by somehow having the monopoly producer supply a less-than profit-maximizing quantity.

The disadvantage of fiat money, relative to commodity money, rests precisely in the fact that its scarcity, being thus contrived, is also *contingent*. A matter of deliberate policy only, it is subject to adjustment at the will of the monetary authorities or, if those authorities are bound by a monetary rule, at that of the legislature. Consequently, although a fiat money can be managed so as to not only preserve its purchasing power over time, but also so as to achieve the greatest possible degree of overall macroeconomic stability, there is no guarantee that it will be so managed, and market forces themselves (as distinct from political ones) offer no effective check against its arbitrary mismanagement.

The history of fiat money, furthermore, makes clear that the risk of severe mismanagement is far from being small, let alone trivial: while more recent experience offers some exceptions to Irving Fisher's (1920, p. 131) claim that “Irredeemable paper money has almost invariably proven a curse to the country employing it,” that experience nevertheless supplies many further instances of the reckless, if not disastrous, mismanagement of fiat standards.

Commodity monies have drawbacks of their own, of course. They are vulnerable to supply shocks – that is, to shocks that shift the base-money supply schedule. In the case of metallic moneys such shocks might consist either in the discovery of new relatively high-yield ore or of lower-cost means for extracting minerals from

known sources. In the absence of positive innovations to supply, on the other hand, the wearing-down of outstanding coins and rising marginal extraction costs will, in a growing economy, result in secular deflation. Changes in the nonmonetary demand for an ordinary commodity can also destabilize a monetary regime based upon that commodity. Had 18th century England been on a copper standard, for example, it might have been plunged into a deflationary crisis by the British Navy's discovery of copper's merits as material for ships' sheathing, which led to a sharp increase in the nonmonetary demand for that metal, and hence in its relative price.

Finally, commodity monies are costly. Friedman (1962, p. 221; also 1960, pp. 4–8) regarded the fact that a commodity standard “requires real resources to add to the stock of money” as the “fundamental defect” of such a standard. And although White (1999, pp. 42–48) has shown that Friedman dramatically overstated the likely resource costs of a gold standard,⁴ the fact remains that a fiat standard is, in principle, capable of having lower resource costs than a genuine commodity standard entailing the actual employment of the money commodity as either a circulating or a bank reserve medium.⁵

3. Synthetic commodity money

The inadequacy of the standard fiat-money commodity-money dichotomy becomes evident upon considering how the conventional definitions of each sort of money actually refer to not one but *two* distinct characteristics: a commodity money has nonmonetary use value *and* is naturally or inevitably scarce; a fiat money has no nonmonetary use value *and* is scarce only by design.

These two-part definitions suggest that the usual dichotomy is but half of a complete classification of conceivable (though not necessarily practical) base-money types, as illustrated in the above two-by-two matrix (Fig. 1):

The matrix shows how the usual dichotomy sets aside the possibility that base money may consist of something that has a nonmonetary use or uses, but is only contingently rather than absolutely or “naturally” scarce. An example would be a durable good which, though capable of being reproduced at zero marginal cost, is rendered scarce by having rights to it, or to the technology needed to reproduce it, assigned to a monopolist charged with restricting

³ For example, using a variable semi-elasticity model of the demand for money (as opposed to the more conventional Cagan approach), Easterly et al. (1995) arrive at an unrestricted seigniorage-maximizing inflation rate of 266 percent per annum.

⁴ To be fair, Friedman starts from the premise that the only “genuine” commodity standards are ones in which money consists solely of the money commodity itself, or of claims fully backed by commodity money. He was led to do so by his belief that the admixture of any “fiduciary” element necessarily introduces an element of monetary discretion into what is ostensibly a commodity-based arrangement. Friedman was guilty then of conflating the consequences stemming from the presence of fractional-reserve commercial banks with those stemming from the presence of fractional-reserve central bank; eventually he revised his opinion (Friedman and Schwartz, 1986). Although Friedman's measure of commodity money resource costs does not apply to the historical gold standard, it does apply to proposals for 100-percent commodity money regimes, including those proposed by Rothbard (1962) and Buchanan (1962).

⁵ In practice, as Friedman (1986) himself eventually conceded, while the direct resource costs of fiat standards may be relatively low, the indirect costs stemming from price-level uncertainty tend to be relatively high.

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