Monetary policy with asset-backed money ☆

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Abstract

We study the use of asset-backed money in a neoclassical growth model with illiquid capital. A mechanism is delegated control of productive capital and issues claims against the revenue it earns. These claims constitute a form of asset-backed money. The mechanism determines (i) the number of claims outstanding, (ii) the dividends paid to claim holders, and (iii) the structure of redemption fees. We find that for capital-rich economies, the first-best allocation can be implemented and price stability is optimal. However, for sufficiently capital-poor economies, achieving the first-best allocation requires a strictly positive rate of inflation. In general, the minimum inflation necessary to implement the first-best allocation is decreasing in capital wealth.
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1. Introduction

The end of Bretton Woods in 1971 ushered in the era of fiat currencies. This decoupling of currency from a commodity standard raised many issues among economists, such as price-level determinacy, the optimal rate of inflation, and most importantly, who should be in charge of the monetary system – the government or the private sector? Friedman (1969), Klein (1974, 1976), and Hayek (1976) argued strenuously that privately managed monetary arrangements were feasible and would lead to the best economic outcomes. Under this system, a commodity-backed private currency would pave the way to price stability – that is, zero inflation. The main point of contention was whether or not it is essential in such a system for a government to provide a monopoly currency. In short, the debate centered on whether a government fiat currency offers unique advantages.

The inflation of the 1970s rekindled this debate in the 1980s, as reflected in the work by Barro (1979), King (1983), Wallace (1983), Sargent and Wallace (1983), and Friedman and Schwartz (1986). Again, the discussion on private monetary systems focused on commodity money backed by gold or silver. However, Fama (1983) argued that asset-backed claims were sufficient and actually offered advantages over a specie-backed currency. According to this arrangement, the financial intermediary would not issue liabilities redeemable in specie, since the claims would be *equity* claims. The financial intermediary was simply a conduit for transferring the returns on the underlying assets to the claim holders. Nevertheless, Fama argues that due to information and computation costs, fiat currency would still be needed for "hand-to-hand" transactions. While the Great Moderation and the decline in worldwide inflation since the early 1980s caused the profession to lose interest in this topic, the recent financial crisis has led to renewed public debate on the necessity of having a government fiduciary currency, most notably from the "End the Fed" supporters in the United States.

Although the literature on privately managed monetary systems focuses on many dynamic issues such as price stability, surprisingly, none of this work has used choice theoretic, dynamic general equilibrium models.[1] Much of the analysis is static, purely intuitive, or focuses on historical episodes. Another problematic issue is that the underlying frictions giving rise to the need for currency were not well specified. This was an obvious problem recognized early as evidenced by Helpman's (1983, p. 30) discussion of Fama's paper:

> The argument for an uncontrolled banking system is made on efficiency grounds by means of the frictionless neoclassical model of resource allocation. But this framework does not provide a basis for arguing the desirability of price level stabilization. If indeed stabilization of the price level is desirable, we need to know precisely what features of the economy lead to it. Then we have to examine whether such features make an uncontrolled banking system desirable. This problem is of major importance, but it is not addressed in the paper.

Modern monetary theory has made clear progress in addressing Helpman's critique of Fama's work by specifying the frictions needed to make a medium of exchange essential for trade.[2]

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[1] Notable exceptions are Sargent and Wallace (1983), who study a commodity money economy in an overlapping-generations framework, and Berentsen (2006), who studies the private provision of fiat currency in a random matching model with divisible money.

[2] These frictions include a lack of record-keeping (public communication of individual trading histories) and a lack of commitment.