



# Currency competition: A partial vindication of Hayek<sup>☆</sup>

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## Abstract

This paper establishes the existence of equilibria for environments in which outside money is issued competitively. Such equilibria are typically believed not to exist because of a classic overissue problem: if money is valued in equilibrium, an issuer produces money until its value is driven to zero. By backward induction, money cannot have value in the first place. This paper shows that overissuance is not a problem if agents believe that if an issuer produces more than some threshold number of notes, then only those notes issued up to the threshold will be valued; additional notes will be worthless. This result is very general, applying to any monetary economy in which equilibria with and without valued money exist if the money supply is finite. The paper also compares the allocation achieved by a monopolist to that achieved with competitive issuance in both a search and an overlapping-generations environment. The results depend on the environment considered, but two general conclusions arise. First, it is ambiguous whether competitive issuers can achieve a more

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desirable allocation than a monopolist. Second, with competitive issuance, a licensing agency can always improve on pure laissez-faire and achieve the efficient allocation in the long run.

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Discussion [of my proposal to allow competition in the issuance of outside money]... cannot begin soon enough. Though its realization may be wholly impracticable so long as the public is mentally unprepared for it and uncritically accepts the dogma of the necessary government prerogative, this should no longer be allowed to act as a bar to the intellectual exploration of the fascinating theoretical problems the scheme raises (Hayek, 1990, p. 26).

## 1. Introduction

There is a long literature advocating the competitive issuance of fiat money—money that is intrinsically worthless and inconvertible, and thus an outside money, one that is not a liability of the issuer. Hayek is perhaps the most prominent contributor to this literature, largely thanks to his 1976 book *Denationalisation of Money*. There Hayek describes how an equilibrium with competitive issuance of outside money could come about and argues that such an equilibrium would likely dominate the equilibrium arising when the government monopolizes currency issuance.<sup>1</sup>

This paper evaluates Hayek's position in a formal, general equilibrium monetary model. It establishes the existence of an equilibrium with private issuance of outside money and compares the allocations obtained by monopoly and competitive issuers. There appears to be no general proof of the existence of equilibria when outside money is privately issued. Indeed, it is more commonly argued that such equilibria cannot exist. Hellwig (1985) argues this more generally, while Calvo (1978) and White (1999), among others, appeal to a time-consistency problem that affects any unregulated issuers. Proofs of nonexistence have been provided by Ritter (1995) in a search model and by Taub (1985) and Bryant (1981) in an overlapping-generations (OG) model.

Arguments justifying the nonexistence of equilibria with private issuance of outside currency typically go as follows. If issuing new money is costless and money has some positive value, then an agent with the right to issue money will do so in infinite quantity, thus inflating away the money's value. Hence, in the limit, with an infinite stock of money issued, money has no value, and by backward induction, no equilibrium exists with valued outside money. Time inconsistency is a key feature of this argument because issuers always

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<sup>1</sup>Hayek says that as a practical matter private issuers (banks) would back their currencies with a generally accepted medium of exchange. But he was clearly thinking of such currencies as outside money. This is apparent from the following quotes: "The bank would of course not be legally liable to redeem its notes at [the promised redemption] value....," and "The outstanding notes and deposits of such a bank are not claims on it in terms of some other unit of value; it determines itself the value of the unit in terms of which it has debts and claims and keeps its books" (Hayek, 1990, p. 49, footnote 1, and p. 50, respectively).

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