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Ruling out speculative hyperinflations
The role of the government

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Abstract

In this paper we show that if the government can levy taxes to back the currency, speculative hyperinflations are ruled out as equilibrium outcomes. This is so even though convertibility is never observed in equilibrium. The only observational difference between a pure fiat money economy and a convertible economy as the one described in this paper is the potential of the former to exhibit speculative hyperinflations. The lack of empirical support for those speculative paths can be taken as evidence against interpreting modern economies as pure fiat money systems.

Key words: Speculative hyperinflations; Convertibility; Fiat money
JEL classification: E42; E52

1. Introduction

> 'Inconvertibility means that it is known with certainty that the issuer does not now, and will never in the future, stand ready to convert fiat money into a commodity. Viewed this way, fiat money systems have, I think, been rare... ...now, restoration of convertibility seems unlikely. So, and perhaps for the first time, theories of inconvertible money are of practical importance.' Wallace (1980)

In this paper we develop a monetary model in which the existence of a monetary authority with well-specified preferences and policy instruments is

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enough to rule out all speculative hyperinflationary equilibria. The most important feature of the model is that in equilibrium the monetary authority does not stand ready to convert the currency. This is consistent with the lack of empirical support of speculative hyperinflation equilibria in modern inconvertible monetary economies.

Speculative hyperinflation equilibria (SH) are a common feature of fiat money models with rational expectations. This does not depend on the way money is introduced in the model. Obstfeld and Rogoff (1983) showed that SH arise in money-in-the-utility-function models, while Woodford (1984) and Sargent (1987) showed it using an overlapping generations model and a cash-in-advance model respectively. Instead, it is the rational expectations hypothesis, embodied in all those models, that is responsible for the existence of these bubble equilibria.[1]

In spite of being an outcome of monetary models, it has proven very difficult to establish the empirical relevance of the SH. A wide empirical literature, started by Flood and Garber (1980),[2] tested the hypothesis of a speculative component in the German hyperinflation of the twenties. Imrohoroglu (1993) contains a summary of the results on the literature, concluding that while there seems to be evidence against the hypothesis, this evidence is not conclusive, because some of the tests performed could not reject it.

One may argue about the existence of a speculative component in a particular episode for very few countries in monetary history, but the stationary equilibrium of the models mentioned above seems to fit much better than the SH the main features of modern monetary systems. Hyperinflations themselves, let alone the speculative ones, are very rare phenomena and only occurred in countries where the inflation tax seemed to be the only available choice to finance government expenditures. Those fundamentals play no role on the existence of the speculative hyperinflations in monetary models. There is no theoretical reason in standard monetary models that explains why speculative hyperinflations, if there was ever one, only occurred in countries with serious fiscal imbalances.

The difficulties in establishing the empirical relevance of these equilibria was the motivation behind a literature that, as in this paper, investigated ways of modifying the models in order to rule them out. Obstfeld and Rogoff (1983) show that if the government backs the currency all speculative equilibria are ruled out. Wallace (1981) obtains a similar result with a hybrid fiat-commodity

[1] We would like to stress that our analysis is restricted to divergent bubbles in the price level. Other convergent bubbles or bubbles in other asset prices are not considered in our analysis.

[2] Work in this area includes Burmeister and Wall (1982, 1987), Hamilton and Whiteman (1985), Casela (1989), and Imrohoroglu (1993).