Exchange rate regimes, banking and the non-tradable sector

Enrique Kawamura

Universidad de San Andrés, Vito Dumas 284, Victoria, Buenos Aires (1644), Argentina

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Abstract

This paper presents a small-open-economy, two-good version of the Diamond and Dybvig model with cash constraints to analyze the implications on banking of different exchange rate regimes and monetary policies. I show that fixed exchange rates with a Central Bank providing liquidity in local currency imply Pareto efficiency, with conditions for a run equilibrium stronger than in the literature. In a flexible exchange rate regime, multiple equilibria may not be eliminated. In particular, for very an expansive monetary policy there exists an equilibrium where a fraction of patient consumers purchases dollars in the interim period, which constitutes a partial currency run. A dollarized banking system without international short-run credit may also implement the efficient allocation under certain conditions.

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1. Introduction

As part of the recent debate in Emerging Market countries, the relationship between the performance of the banking sector and the choice of exchange rate regime was one of the most important dimensions of that discussion. Those in favor of flexible exchange rates point out that the combination of a nominal peg and the absence of a lender of last resort may trigger a bank run due to banks illiquidity. In turn, those who defend fixed exchange rates emphasize how loose monetary policy may prevent the development of a financial system due to lack of credibility. This debate is far from being closed at this point.

Some of the answers to the discussion sketched above may depend on the real effects of monetary factors. Those effects, in turn, depend on the transaction arrangements that are present in the economy. An important part of the theoretical macroeconomics literature (starting from Lucas, 1980) emphasizes this point by focusing on the transactions role of money assuming the use of cash to purchase commodities and services. This issue is even more crucial in cases where each non-tradeable and tradeable goods represent an important share of the country’s GDP, as observed in most open economies.\(^1\) In such a case the way in which transactions are organized and the role that money plays in such transactions may have a key impact on the (equilibrium) allocations.

This paper intends to capture these facts by building a model in the spirit of the traditional Diamond and Dybvig (1983) framework combining two important new features. In this economy agents are ex-ante identical but in the second period they are all subject to preference shocks, some will consume early and some in a later period. One novelty of this model is the introduction of a non-tradeable good in addition to a tradeable good. The second novelty is the assumption of cash-in-advance constraints that force agents to purchase each commodity with local currency (pesos). Thus, this model proposes a treatment of money as an explicit means of transaction, a well-known alternative to the money-in-the-utility function assumption.\(^2\)

As stated above, the inclusion of two goods forces to carefully specify the transaction arrangement. In his traditional paper, Lucas (1982) assumed a two-country model where each agent needed country \(i\)'s currency to purchase country \(i\)'s (tradeable) good. That assumption may be called separation of currencies for purchasing commodities. This paper proposes a different market segmentation. I assume that agents must use pesos to purchase both commodities, but that there are two perfectly separate market sessions, one for each good. Thus, when the market for one good is open for trade, the other is closed and vice versa. I call this a (time) separation of market sessions. One reason for this assumption is that this is an only-three-period model with some agents consuming earlier than others. Given that these agents will have no (ex-post) incentives to bring cash between consecutive periods, this transactions arrangement allows for the use of local currency for transactions without any need of an intertemporal accumulation of money. On the other hand this assumption also allows implementation of the first-best allocation even with cash constraints, a feature that cannot be obtained in the traditional infinite-horizon, cash-in-advance models.

\(^1\) For example, the degree of openness in countries like Argentina (about 24%), Brazil (20%) and Russia (40%) reveals that non-tradeable goods are far from being negligible in their respective GDP.

\(^2\) It is worth noting that this paper does not intend to explain why money is used for transactions, rather, it uses it to explain new features of equilibrium in economies with two commodities.
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