Financial crises and exchange rate policy
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ABSTRACT

This paper studies exchange rate policy in a small open economy model featuring an occasionally binding collateral constraint and Fisherian deflation. The goal is to evaluate the performance of alternative exchange rate policies in sudden stop-prone economies. The key element of the analysis is a pecuniary externality arising from frictions in the international credit markets, which creates a trade-off between price and financial stability. The main result is that depreciating the exchange rate during a financial crisis has a positive impact on welfare, because the stimulus provided by a depreciation sustains asset prices, value of collateral, and access to the international credit markets.

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1. Introduction

Since the financial liberalization wave of the 1980s, several countries have experienced financial crises characterized by sudden arrests of international capital inflows and sharp drops in output, consumption and asset prices. These episodes, known as sudden stops, have sparked great interest in the design of monetary and exchange rate policies in financially fragile economies. Should these economies let their exchange rate float or rather anchor it to a foreign currency? Should monetary policy be concerned only with its traditional objective of granting price stability or should it also care about financial stability?

In this paper, I address these questions focusing on a pecuniary externality originating from frictions on the international credit markets. I present a theoretical framework that shows how the combination of financial frictions and nominal rigidities gives rise to a trade-off between financial and price stability. The main result is that a narrow focus on offsetting nominal rigidities can lead to a sub-optimal monetary policy in sudden stop-prone economies, and that it is optimal to devalue the exchange rate during financial crises to sustain the value of collateral and access to international credit markets.

I study a small open economy with imperfect access to the international financial markets, in the spirit of Mendoza (2010). Domestic agents borrow from foreign investors against collateral. Collateral consists in a physical asset used in production, called land, valued at market price. When the collateral constraint binds a financial accelerator mechanism akin to Fisher’s debt deflation arises: aggregate demand for land falls, the price of land drops and collateral declines. Because of this Fisherian deflation mechanism, when the collateral constraint binds the economy experiences a financial crisis driven by a sudden stop in capital inflows. Moreover, since domestic agents are atomistic they do not take into account the general equilibrium effect of their actions on the price of land and on the value of their collateral. This is the pecuniary
externalities that create scope for policy interventions in the financial markets.

Wages are nominally rigid. During a financial crisis nominal wages fail to adjust downward, potentially worsening the impact of financial turmoil on the real economy. The central bank can mitigate the downturn associated with a financial crisis by engineering an exchange rate depreciation that increases the competitiveness of the economy. Importantly, the stimulus provided by exchange rate depreciation has a positive effect on the aggregate demand for land and on the value of collateral. Through this channel, exchange rate policy affects domestic agents’ access to the international credit markets during crisis events.

I use the model to compare the performance of three alternative monetary rules: a fixed exchange rate rule and two types of floating exchange rate regimes. The first type of float considered is a policy of strict wage inflation targeting. This rule eliminates all the distortions arising from nominal wage stickiness, and corresponds to the price stability rule of closed-economy sticky price models. The second type of float is a financial stability regime under which the central bank is allowed to respond to developments on the financial markets. Under this regime, the central bank depreciates the exchange rate when the collateral constraint binds, sustaining the collateral value of land and access to international financial markets.

The main result of the paper concerns the role of financial frictions in determining the welfare ranking between the wage in

The rest of the paper is structured as follows. Section 2 describes the analytical framework. Section 3 presents the results using numerical simulations. Section 4 provides a sensitivity analysis. Section 5 concludes.

5 I refer to these frameworks as static because they consider economies that last two or three periods, in which the stock of external debt at the onset of a crisis is essentially taken as an exogenous variable.
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