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Optimal capital controls and real exchange rate policies: A pecuniary externality perspective ☆

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ABSTRACT

A new literature studies the use of capital controls to prevent financial crises. Within this new framework, we show that when exchange rate policy is costless, there is no need for capital controls. However, if exchange rate policy entails efficiency costs, capital controls become part of the optimal policy mix. When exchange rate policy is costly, the optimal mix combines prudential capital controls in tranquil times with policies that limit exchange rate depreciation in crisis times. The optimal mix yields more borrowing, fewer and less severe financial crises, and much higher welfare than with capital controls alone.

1. Introduction

In response to the global financial crisis and its costly aftermath, a new policy paradigm emerged in which old fashioned government policies such as capital controls and other restrictions on credit flows became part of the standard crisis prevention policy toolkit (the so-called macro-prudential policies). A few, large emerging market economies experimented with these tools. And even the traditionally conservative IMF changed its orthodox views on capital controls, advocating the use of such measures when other tools are not available or have run their course of action—see Blanchard and Ostry (2012) and IMF (2012).

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The key rationale underpinning the use of capital controls is financial stability.[1],[2] The financial stability motive is the focus of the influential contributions of Korinek (2010) and Bianchi (2011).[3] Their analysis is based on variants of a common theoretical framework proposed by Mendoza et al. (2002) and Mendoza (2010). In this framework, the scope for policy intervention arises because of a pecuniary externality stemming from the presence of a key relative price in the collateral constraint faced by private agents. In this environment, prudential interventions (i.e. before a financial crisis occurs) may be desirable because they can make agents internalize the consequences of this externality on their individual decisions. Capital controls in this setting can discourage financial excesses, reduce the amount that agents borrow, thereby lowering the probability of a financial crisis, and hence enhance welfare.

In this paper, we provide an integrated analysis of alternative policy tools that can be interpreted in terms of fiscal, monetary and macroprudential policies using the same model economy studied by Bianchi (2011). A first main finding is that, when financial stability is the sole motive for policy intervention, the optimal policy design aims at supporting the value of the collateral and hence the agents' borrowing capacity during crises times. In this context, policies that support the real exchange rate (or more generally collateral price support policies) during a financial crisis dominates by a large margin prudential controls on capital flows from a welfare point of view. The dominance of price support policies relies, perhaps unrealistically, on the assumption that they are costless to use. Indeed, under the assumption that supporting the value of collateral during crisis times is costly, it becomes optimal to combine price support policies with macroprudential policies such as capital controls.

In our analysis, then, the rationale for macroprudential policies relies on the extent to which price support policies are cost-effective rather than the amount that agents borrow in the unregulated economy during tranquil times. This novel element emphasizes the interaction between ex-ante (normal times) and ex-post (crises times) policy interventions: when price support policy is fully effective in crises times (i.e. it is able to address the pecuniary externality distortion at no other cost) there is no scope for ex-ante policy intervention. However, if the policy is costly in crises times, it is optimal to adopt capital controls during normal times as a way to limit the occurrence of the crises, combined with price support policies in crises times to mitigate their severity. A second main finding is that the optimal combination of ex-ante and ex-post policy interventions achieves welfare gains of 1.10% of tradable consumption relative to the unregulated economy, which is much higher than the typical value found in the literature.

The vehicle to convey our messages is the same model economy used by Bianchi (2011). This is a two-sector (tradables and non-tradables) small open, endowment economy with an occasionally binding international borrowing constraint. Quantitatively, this model has been successful in reproducing the business cycle and the crisis dynamics properties of a typical emerging market economy. In this class of models, a financial crisis event (also labelled a Sudden Stop in capital or credit flows) occurs when the constraint binds. In our model, the value of total current income generated both in the tradable and non-tradeable sectors limits borrowing, denominated in units of tradable consumption. When the borrowing constraint binds, the decline in the relative price of non-tradables generates a balance sheet effect and leads to a Fisherian debt-deflation spiral.

In this economy, there is a well defined scope for government intervention, but there are multiple instruments or tools with which policy could be conducted. The pecuniary externality arises from the fact that individual agents do not internalize the aggregate effect of their borrowing decisions on the relative price of non-tradable goods, which is the price that enters the collateral constraint. There are three types of taxes that can be used to correct it: a tax/subsidy on foreign debt or a tax/subsidy on tradable consumption and a tax/subsidy on non-tradable consumption. The tax on foreign debt is usually interpreted as a capital control, while taxes on either tradable or non-tradable consumption can be interpreted as a real exchange rate interventions because they affect directly the relative price of non-tradables.[4] Our policy analysis considers all three instruments and studies their relative effectiveness in welfare terms. Differently from the existing literature, this paper conducts the policy analysis following a Ramsey optimal taxation approach, assuming that the government budget is always balanced.

The paper first studies the Ramsey problem when capital controls are the only policy tool available, and the government budget constraint is balanced through lump-sum transfers/taxes. Consistent with Bianchi (2011) and Korinek (2010), in this case, the finding is that it is Ramsey optimal to limit the amount that agents borrow in normal times, while no action is needed during crises times. The reason why capital controls are not used by the Ramsey planner in crisis times is that, in this model, they cannot affect the allocation when a crisis occurs (i.e. when the borrowing constraint binds). Thus, in this setting,

[1] Blanchard and Ostry (2012) make explicit reference to the pecuniary externality perspective when motivating the IMF's view on the use of capital controls: "*If there are external effects from foreign borrowing (think of amplified crisis risks for the country, where the risks are not internalized by the borrower), then capital controls can act as Pigouvian taxes and constitute an optimal response at the country level, helping agents to internalize the external effects of their borrowing*".

[2] Historically, as documented by Magud et al. (2011), capital controls have been adopted for fear of capital flows reversal, fear of excessive risk taking, and to contain asset price bubbles. Other traditional reasons include concerns for competitiveness and monetary policy independence—see more on these below.

[3] See also Lorenzoni (2008), Bianchi and Mendoza (2010), Jeanne and Korinek (2012), Jeanne and Korinek (2013) and Benigno et al. (2013).

[4] The interpretation of the relative price of non-tradables as the real exchange rate is standard in the literature. See for instance Bianchi (2011), Caballero and Lorenzoni (2014), Mendoza et al. (2002), Korinek (2010), and Jeanne (2012). Alternatively, the consumption taxes (subsidies) could be interpreted more literally as domestic fiscal policy tools.