Preventive monetary and macroprudential policy response to anticipated shocks to financial stability

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After the Financial crisis 2008 and recent COVID-2019 crisis the role of macroprudential policies has increased dramatically because Financial crises have shown that financial stability is still an important cause for concern for Central banks. While in the EU and the USA interest rates are already low, which limits the conventional expansionary monetary policy and central banks rely mostly on unconventional tools, emerging countries still have room for expansionary monetary policy. Thus, developing countries face a trade-off between price and financial stability. Hence, to target both aims it is important to understand the optimal interaction between monetary and macroprudential policies. The purpose of this paper is to provide a useful framework for policymakers regarding of joint use of monetary and macroprudential policies.

In this paper we study a three-period model with nominal rigidities and financial frictions. We refer to the first and the second periods in the model as short-run and the third period is a metaphor to a long-run period. In the first period agents are free to choose their allocations (consumption and borrowing decisions), then in the second period a crisis can come with a certain probability. To reduce the severity of the crisis policymaker can use ex-ante macroprudential policy to limit borrowing and monetary policy to stimulate an economy during a recession. In this framework we analyze the optimal coordination between monetary and preventive macroprudential policies seeking to reduce the impact of anticipated shocks.

To do it, we assume the following environment with a continuum of agents who funds three types of firms and receives profits from them. Two of three types are capital-utilizing-firms with different technologies: linear and concave. Linear technology firms are more effective users of capital but they are collateral constrained which are the source of pecuniary externality. This externality influences the equilibrium prices because the firms do not internalize the effects of their private decisions on aggregate prices. Thus, in "normal" times firms borrow too much which leads to inefficient fire-sales during recessions. This is the source of the first inefficiency in our model which motivates using preventive macroprudential policy.

The third type of firms utilizes labour force and operates under fully rigid prices which leads to aggregate demand externality. In usual circumstances agents do not internalise how their private decisions affect aggregate demand which determines the price level in an economy which in the case with rigid prices influences consumption choice.

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Put differently, overborrowing and rigid prices increase the severity of the crisis leading to inefficient allocations. It creates a rationale for using both an expansionary monetary policy and macroprudential policy to target both aims – price and financial stability. Finally, we show that Social Planner who internalize decisions can improve allocation achieving the second-best and reducing the severity of the crisis. Our model allows us to study sector-specific macroprudential policies, spillovers between sectors and interaction between monetary and macroprudential policies.