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The effect of bank ownership and deposit insurance on monetary policy transmission

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A B S T R A C T

In this paper we develop a theoretical model with a representative bank whose ownership is shared between state and private sector. The bank faces a risk of failure and provides private and public explicit deposit insurance. Banks owned to a larger extent by the government are more able to counteract a restrictive monetary policy because of their capacity to raise additional volume of deposits. Therefore, the greater the state's share in the bank ownership, the less the impact of a monetary tightening on the level of loan supply.

1. Introduction

The recent experience of countries rising the limits of deposit guarantee or providing full protection for deposits shows the importance of deposit insurance policy in periods of financial instability. Specifically, countries like Belgium, Greece, Luxembourg, Netherlands, Portugal and Spain increased in 2008 the deposit guarantee up to EUR 100,000, whereas Ireland provided a full protection on savers' deposits (Schich, 2008). In Austria, after a temporary provision of unlimited deposit guarantee, the deposit insurance coverage changed to EUR 100,000 in 2010 (Schich, 2008). These series of unilateral adjustments in the limits of deposit-guarantee schemes for several European Union (EU) member countries were followed by the decision of EU Ministers of Finance to raise the common threshold of deposit guarantee from EUR 20,000 to EUR 50,000 in October 2008. Thus, deposit insurance represents a financial safety net commonly used by governments so as to restore depositors' confidence in the banking system and consequently avoid bank runs in periods of financial instability.[1] While the effects of cross-country heterogeneities[2] or cross-bank disparities[3] within a country concerning the deposit-guarantee schemes have been largely discussed in terms of bank competition, their potential impact on monetary policy has been rather neglected. This paper is an attempt to fill this gap by providing a theoretical model that analyzes the impact of government ownership and deposit insurance on monetary policy transmission.[4]

Building on Freixas and Rochet (1997) and Cecchetti and Krause (2005), we show that a greater state share in the bank ownership lowers the effectiveness of monetary policy. More precisely, banks owned to a larger extent by the government can benefit from a more stable deposit base (Micco and Panizza, 2006) and raise additional volume of deposits owing to the provision of a better deposit guarantee. This enables state-owned banks to insulate their loan

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[1] For further discussion on issues related to the extension of the deposit insurance coverage, see Schich (2008).

[2] In October 2008 Ireland adopted an unlimited government guarantee for a period of two years covering all deposits in six main Irish banks. Following this decision, the British Bankers' Association was concerned about a 'distortion of competition' and a competitive disadvantage affecting the banks of the United Kingdom (UK) relative to UK branches of Irish banks, subject to the Irish deposit insurance policy.

[3] Relocations of deposits from commercial banks to state-backed cantonal banks have been observed in Switzerland at the end of 2008 in a context of financial instability.

[4] Note that in this paper we do not examine the capacity of deposit insurance, as a safety net, to restore financial stability. For empirical analyses of the link between deposit insurance schemes and banking system stability see Hoggarth et al. (2005) and Demirgüç-Kunt and Detragiache (2002).

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portfolios against a restrictive monetary policy. Following the bank lending channel (Kashyap and Stein, 1993),[5] a monetary contraction, implying a sale of securities by the central bank through open-market operations, entails a decline in banks' reserves. This leads banks to scale down their lending and pushes firms relying on intermediate finance to cut back on investment. This means that a greater state participation in the bank ownership lessens monetary policy effectiveness and diminishes the wiggle room policy makers have at their disposal to pursue their objectives.

Our paper is related to several empirical studies which emphasize the impact of state ownership[6] on bank lending behavior. There are several views characterizing government motivations in state-owned banks (Sapienza, 2004). First, the social view stresses the social welfare maximization objective of the government-owned firm. Thereby, state-owned banks are expected to supply credit to those firms located in depressed areas, or to (strategic) industries whose credit is rationed by private banks. Secondly, the agency view highlights the lack of incentives that face 'lazy' managers in state-owned banks to grant credit optimally, as they serve their own interests. Finally, the political view argues that politicians may have interest to allocate resources strategically in order to maximize their probability of reelection (La Porta et al., 2002).

In line with the political view, Dinç (2005) compares the lending behavior of government-owned banks and private banks around election periods using data on the ten largest banks of 19 emerging countries and 17 developed economies between 1994 and 2000. He provides cross-country, bank-level evidence that lending in emerging countries is politically driven in government-owned banks, through an increase of loans in election years. However, this result does not hold for advanced economies.

Using a sample of 457 German savings banks from 1994 to 2006 and observations on local elections, Vins (2008) studies the political influence on lending practices of state-owned banks in the German case. He finds that the growth rate of state-owned banks' loans is significantly higher in election periods. This result confirms the findings of Micco et al. (2007), who point out that the rise in bank lending in election periods is driven by the loan supply of state-owned banks.

Micco and Panizza (2006) empirically test the drivers of credit stabilization of state-owned banks with respect to the business cycle, without making any assumption about banks' objectives. Using a large international data set over the 1995–2002 period, Micco and Panizza (2006) regress the growth rate of loans on an interaction variable between the GDP growth, a proxy for macroeconomic shocks, and a dummy indicating the state majority in the bank ownership. The growth rate of loans is also regressed on interaction variables between the GDP growth and other variables controlling for the bank size and foreign ownership. Finally, in order to test the political influence on bank lending, the growth rate of loans is regressed on an interaction variable between the public sector ownership dummy and an election dummy. They show that state-owned banks have a less procyclical lending behavior than private banks. Moreover, the credit lines granted by banks located in developing countries are at least not more procyclical than that of banks established in industrial countries. In their empirical study, Micco and Panizza (2006) aim to explain the smoothing behavior of state-owned banks over the business cycle and to find out the factor to which this behavior can be attributed. The authors cannot determine however if state-owned banks adopt a smoothing behavior because of the political or agency views hypothesis.

Focusing on the German case Foos (2008) shows that within the German banking system, the lending of savings banks[7] is less volatile with respect to GDP fluctuations than that of cooperative and commercial banks. Foos (2008) assumes that this result is consistent with an 'economic support' objective of savings banks.

In contrast to Micco and Panizza (2006) and Foos (2008), this paper does not focus on the lending fluctuations of state-owned banks over the business cycle. Instead, we show that by combining government ownership and deposit insurance, state-owned banks exhibit a credit stabilization pattern with respect to a monetary policy impulse. This finding is consistent with the econometric results of Cecchetti and Krause (2001) reporting that a reduction in state bank ownership is related to a gain in monetary policy efficiency. Note that we do not refer to the social, nor to the agency and political views. In our model the change in monetary policy effectiveness only emerges from the joint presence of a deposit insurance mechanism and government participation in the bank ownership.

The paper is organized as follows: Section 2 presents the theoretical model. Section 3 discusses the results. Section 4 concludes and gives some insights on policy implications that stem from our model.

2. The model

In this paper we use the model proposed by Freixas and Rochet (1997), which adopts an industrial organization approach to the banking industry. Banks collect deposits from households and supply loans to firms. We also borrow from Cecchetti and Krause (2005) the modeling of deposit insurance mechanism and make several similar assumptions. First, there is uncertainty regarding the level of firms' productivity, which can be high or low. The states of nature have important implications for banks' risk of failure. Particularly, the bank bankruptcy occurs only in the low productivity state. The probabilities on firm's productivity and banks' failure are common knowledge for all the agents in the economy. Secondly, banks' ownership is shared between the public and private sectors. Further, financial intermediaries provide public and private explicit deposit insurance, by paying a deposit insurance premium per unit of deposits to the government and into the deposit guarantee fund. Finally, when the bank fails, for the state-owned part of the bank, households get their deposits back as well as the related interests, while for the portion corresponding to the private sector share, households are only reimbursed to the extent of a given maximal fraction of their deposits plus related interests.

Two additional assumptions distinguish our model from Cecchetti and Krause (2005). First, we abstract from capital markets, firms' securities issuance, and bank operations on these markets. In their model, Cecchetti and Krause (2005) consider that firms can finance their investment through both bank loans and equity issuance on capital markets. They show that an increase in explicit deposit insurance or state participation in the bank ownership raises the safeness of bank deposits. This in turns shifts the households' demand from firms' equities to bank deposits, reducing firms' utilization of direct finance, and contracting the size of capital markets. Abstracting from capital markets allows us to dispose of the negative impact of deposit insurance on firms' securities issuance and to focus exclusively on the effect of deposit insurance and bank ownership on monetary policy effectiveness.

[5] The narrow credit channel is part of the credit view, which relies on several assumptions. More precisely, there must be imperfect price adjustment and imperfect substitution between loans and bonds for both lenders and borrowers (Bernanke and Blinder, 1988).

[6] Several papers investigate for the Chinese case the relationship between bank ownership and bank performance (Fu and Heffernan, 2009; Lin and Zhang, 2009), as well as bank prudential behavior (Jia, 2009).

[7] German savings banks are state-owned and have, besides their profit maximization objective, the aim to support the local economy (Vins, 2008).