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Bank capital and loan asymmetry in the transmission of monetary policy

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Abstract

Utilizing a bank-lending channel framework, we investigate the effects of expansionary and contractionary policy separately on the loan behavior of low-capital and high-capital banks, and between pre-Basel/FDICIA and post-Basel/FDICIA periods. Our results show that low-capital banks are adversely affected by contractionary policy. Expansionary policy, however, is not effective in stimulating the loan growth of low-capital banks. These results are consistent with lending channel predictions, but only hold in the post-Basel/FDICIA period when the capital constraint is stringent relative to the pre-Basel/FDICIA period. These asymmetric policy results have implications for the interaction of monetary and capital regulatory policies.

JEL classification: E5

Keywords: Bank-lending channel; Monetary transmission; Capital regulatory policy

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1. Introduction

The bank-lending channel (BLC) focuses on bank behavior as an integral part of the monetary transmission mechanism. According to the lending channel, monetary policy must be able to shift the loan supply of some banks and some of the borrowers of these banks must be bank dependent. Contractionary monetary policy can decrease loan supply due to credit market imperfections faced by some banks. Expansionary policy increases loan supply due to a lack of constraints on the lending of some banks. Thus, for a given stance of monetary policy, evidence of a BLC arises from the cross-sectional asymmetric loan responses by constrained and unconstrained banks. These effects of policy on loan growth, and eventually on expenditures, complement the usual interest rate/money channel.

A growing subset of BLC models emphasizes bank capital as a relevant constraint that distinguishes a BLC. Contractionary monetary policy is argued to have severe adverse effects on the loans of capital-constrained banks relative to unconstrained banks. For expansionary policy, the lack of a binding capital constraint allows unconstrained banks to expand loans relative to constrained banks. Although the BLC literature stresses these cross-sectional effects resulting from a given policy stance, it also implies a loan asymmetry over different policy stances for a given capital constraint. In particular, the above arguments suggest that the loan supply of constrained banks responds more strongly to contractionary policy than to expansionary policy.[2] Identifying this policy-stance effect on capital-constrained banks may aid in better understanding the effects of monetary policy over the business cycle For example, if a significant portion of the banking system is capital-constrained, contractionary policy may have too severe of an effect on loans and expansionary policy may not be successful in increasing bank loans. This asymmetry could have consequences for the mitigating effects of policy over the business cycle. This emphasis is important since policy-stance asymmetry could explain the well-documented asymmetric effects of monetary policy on nominal GDP.

Empirical studies of the BLC have two major shortcomings. First, while the theoretical literature clearly argues that the effects of contractionary policy on the loans of the constrained banks differ from those of expansionary policy; empirical studies fail to make this distinction. Thus, it is unclear whether contractionary policy, expansionary policy or both drive the empirical results that distinguish a BLC. No empirical study has examined the separate effects of each policy stance in identifying a BLC. Second, the regulatory literature shows strong evidence that the effective capital constraint changed for banks after the implementation of Basel I and FDICIA. Although these changes and their effects on loans through expansionary policy have been recently emphasized in the BLC literature, no empirical studies have considered these effects. A change in the effective capital constraint could affect

[2] It also follows that the loans of the unconstrained banks should behave asymmetrically over the two policy stances by not responding to contractionary policy, but increasing during expansionary policy.